



# County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING  
STEVEN E. WHITE, DIRECTOR

## Planning Commission Staff Report Agenda Item No. 4 October 10, 2024

**SUBJECT:** Unclassified Conditional Use Permit Application Nos. 3734, 3802, 3803 and 3804 Key Energy Storage Project and associated Environmental Impact Report No. 8189.

The project proposes to construct, operate, maintain and provide for the future decommissioning of a battery energy storage facility on approximately 260-acres, along with a new approximately 2,500-foot-long 500-kilovolt transmission line to connect with the existing PG&E Gates Substation located north of the project site. The project is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District.

**LOCATION:** The project site is located on the south side of W. Jayne Avenue, between Interstate 5 and S. Lassen Avenue (State Route 269), and approximately 3.8 miles southwest of the City of Huron. The project site comprises approximately 260-acres of three parcels totaling 318-acres. APNs: (085-040-58, 085-040-36, and 085-040-37). (Sup. Dist. 4)

**OWNERS:** Michael Dresick, Trustee of the (Ann Dresick Family; and, Rebecca Kaser, Trustee of the Rebecca L. Avellar Living Trust

**APPLICANT:** Key Energy Storage, LLC

**STAFF CONTACT:** Jeremy Shaw, Planner  
(559) 600-4207

David Randall, Senior Planner  
(559) 600-4052

### RECOMMENDATION:

1. Move to:

- Determine that the Final EIR was reviewed and considered by the Planning Commission; and
- Determine that the certification of the Final EIR reflects the Planning Commission's independent judgement; and

- Determine and accept the proposed revision to Mitigation Measure 3.10-2 as a superior Mitigation Measure.
  - Adopt the CEQA Findings of Fact and certify that the Environmental Impact Report (EIR) No. 8189 prepared for the Key Energy Storage Project processed under Unclassified Conditional Use Permit Nos. 3734, 3802, 3803 and 3804, as complete and adequate in conformance with the California Environmental Quality Act (CEQA);
2. Move to determine that the required Findings can be made based on the analysis in the Staff Report and move to approve Unclassified Conditional Use Permit Application Nos. 3734, 3802, 3803 and 3804, subject to the Mitigation Measures, Conditions of Approval and Project Notes listed in Exhibit 1; and
  3. Direct the Secretary to prepare a Resolution documenting the Commission’s action.

**EXHIBITS:**

1. Mitigation Monitoring and Reporting Program, Conditions of Approval, and Project Notes
2. Location Map
3. Existing Zoning Map
4. Existing Land Use Map
5. Site Plans and Elevation Details
6. Applicant’s Operational Statement
7. CEQA Findings of Fact
8. Reclamation Plan
9. Pest Management Plan
10. Draft EIR No. 8189 (on attached CD or available online with Staff Report)
11. Draft EIR Appendices (on attached CD or available online with Staff Report)
12. Final EIR No. 8189 (on attached CD or available online with Staff Report)
13. Revised Mitigation Measure 3.10-2: Traffic management Plan

**SITE DEVELOPMENT AND OPERATIONAL INFORMATION**

| <b>Criteria</b>          | <b>Existing</b>  | <b>Proposed</b> |
|--------------------------|--|-----------------|
| General Plan Designation | Agriculture  | No Change       |
| Zoning                   | AE-40 (Exclusive Agriculture, 40-acre minimum parcel).                                     | No Change       |
| Parcel Size              | APN 085-040-58: 158.24 acres<br>APN 085-040-36: 80.34 acres<br>APN 085-040-37: 80.34 acres | No Change       |

| <b>Criteria</b>         | <b>Existing</b>   | <b>Proposed</b>  |
|-------------------------|---|--|
| Project Site            | Historical agricultural uses on the project site have included dry farming on two of the three subject parcels. (APNs 085-040-36 and 085-040-37) and irrigated farming on the third parcel (APN 085-040-58). More recently, on-site land uses have included irrigated orchard crops (citrus and almonds) (APN 085-040-58), non-irrigated winter wheat (APN 085-040-37), and fallowed land (APN 085-040-36). | Construct, operate, maintain, and provide for the future decommissioning of an energy storage system, project substation, and gen-tie line.  |
| Structural Improvements | None  | The project would consist of a lithium-ion battery storage system composed of battery cells assembled in a series of modules. Energy storage system enclosures would be made of steel or aluminum and would house the batteries, the storage system controllers (i.e., inverters and transformers), and the HVAC and fire protection systems. The project also would construct an approximately 5.4-acre (fenced) project substation in the northeast portion of the project site along W. Jayne Avenue. |
| Nearest Residence       | The closest residence is located on West Jayne Avenue, approximately 3,300 feet west of the project site.   | No Change  |
| Surrounding Development | Land uses surrounding the project site include the PG&E Gates Substation directly north of the site; solar facilities to the north and southwest; a small substation at the project site's northwest corner (not within the project site); and agriculture to the east, south, and west.  | No Change  |
| Operational Features    | N/A   | See above "Project Site"   |

| <b>Criteria</b>    | <b>Existing</b>   | <b>Proposed</b>  |
|--------------------|---|--|
| Employees          | No permanent employees, periodic agricultural labor employed during intermittent farming operations | Peak daily workforce would be up to approximately 150 workers for project construction and decommissioning/site restoration activities. Once operational, the project would require limited personnel to visit the project site. Up to 5 workers may be needed for annual maintenance activities.  |
| Customers          | N/A   | None: The project would not receive customers.   |
| Traffic Trips      | Negligible trips from agricultural operations   | Project construction and decommissioning/site restoration would require up to 300 daily vehicle trips (150 trips each, inbound and outbound). During project operation, up to 10 daily vehicle trips infrequently may be required.   |
| Lighting           | None  | Exterior security lighting would be installed in areas necessary for operations, security, and safety. All exterior lighting would be directed downward and shielded to minimize its impact on surrounding properties and nighttime light pollution. Lighting would be activated through a motion sensor or manual switch and would be on only when personnel are in the area. |
| Hours of Operation | N/A   | The project would operate 24/7 and be remotely operated and monitored.   |

**EXISTING VIOLATION (Y/N) AND NATURE OF VIOLATION: N/A**

**ENVIRONMENTAL ANALYSIS:**

As stated in CEQA Guidelines §15121(a), “An EIR is an informational document which will inform public agency decision makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.” An EIR is not intended to recommend either approval or denial of a project: Its primary purposes are to disclose the potential environmental impacts of the project and to document the evaluation of methods for agencies to avoid or reduce environmental harm by adopting feasible project alternatives or mitigation measures.

In addition, CEQA Guidelines §15151 contains the following standards of adequacy:

*An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.*

As required by CEQA Guidelines §15120(c), an EIR shall:

- Provide a sufficiently detailed project description;
- Describe the existing environmental setting;
- Identify and evaluate potential environmental impacts of the project, including the cumulative effects of the project in combination with the impacts of other existing or proposed activities in the vicinity;
- Describe feasible mitigation measures that could minimize the project’s significant adverse environmental impacts; and
- Describe a range of reasonable alternatives to the project that would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives.

CEQA does not require evaluation of all possible alternatives, only evaluation of “a range of reasonable alternatives” to encourage both meaningful public participation and informed decision making (CEQA Guidelines §15126.6[a]). “The discussion of alternatives need not be exhaustive, and the requirement as to the discussion of alternatives is subject to a construction of reasonableness. The statute does not demand what is not realistically possible given the limitation of time, energy, and funds” (*Residents Ad Hoc Stadium Committee v. Board of Trustees* (1979) 89 Cal.App.3d 274, 286; see also CEQA Guidelines §15126.6[f][3]). In addition, as stated by the court in *Village of Laguna Beach, Inc. v. Board of Supervisors* (1982) (134 Cal.App.3d 1022, 1029), “Absolute perfection is not required; what is required is the production of information sufficient to permit a reasonable choice of alternatives so far as environmental aspects are concerned.”

Key Energy Storage, LLC submitted an application for an Unclassified CUP for the project on December 3, 2021. County staff determined that preparation of an EIR was necessary. The EIR was prepared in compliance with CEQA (Pub. Res. Code §21000 et seq.) and the CEQA Guidelines (14 Cal. Code Regs. §15000 et seq.). Technical analysis was conducted, and public

comment was solicited and considered to ensure that potential environmental impacts of the project were evaluated and disclosed in the EIR. A summary of the steps of environmental review and public comment process is provided below:

- A Notice of Preparation (NOP) was prepared for the project, and circulated to all trustee agencies, responsible agencies, and interested parties beginning on July 25, 2022 for a 30-day review (scoping) period that ended on August 24, 2022. The NOP was also posted for the same time period in the Office of the County Clerk.
- A Notice of Completion for the Draft EIR was filed with the State of California Clearinghouse on September 20, 2023.
- A Notice of Availability of the Draft EIR was published in the Business Journal on September 21, 2023, and was posted on the County's website. A notification of the document's availability was mailed to the Project's distribution list to inform individuals, organizations, and agencies that previously expressed interest in the Project.
- The Draft EIR was circulated for review and comment during a 60-day period (extended from 45-days) that began on September 21, 2023 and ended on November 21, 2023.
- The Draft EIR was made available for public review at the Fresno County Main Library Reference Department, Huron Public Library, the County Public Works and Planning offices, and on the County's Internet website.
- Copies of the Draft EIR were provided, upon request, to responsible trustees and other federal, state, and local agencies expected, or known, to have expertise or interest in the resources that the Project may affect.
- Copies of the Draft EIR, or notices of the Draft EIR's availability, were sent to organizations and individuals with special expertise on environmental impacts and/or who had previously expressed an interest in this project or other activities.
- On June 27, 2024, the Final EIR was provided to Tribes, agencies, organizations, and members of the public who were included on the project's distribution list. Printed copies of the Final EIR were made available for public review at Fresno County Main Library Reference Department, Huron Public Library, the County Public Works and Planning offices, and on the County's website.

The EIR found that the Project would have:

No impact regarding:

- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation

Less-than-significant impact regarding:

- Aesthetics
- Agricultural and Forestry Resources
- Air Quality
- Energy
- Greenhouse Gas Emissions
- Wildfire

Less-than-significant impact with the implementation of Mitigation Measures regarding:

- Biological Resources
- Cultural and Tribal Cultural Resources
- Geology, Soils, and Paleontological Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise and Acoustics
- Transportation
- Utilities and Service Systems

The EIR found that the Project would have no significant and unavoidable impacts.

**PUBLIC NOTICE:**

Notices were sent to 25 property owners within one-quarter-mile of the subject parcels. This exceeds the 300-foot minimum notification requirements prescribed by California Government Code §65091 and County Zoning Ordinance §874.6.020(B).

**PROCEDURAL CONSIDERATIONS:**

A proposed amendment to a Mitigation Measure that was included in the EIR can be approved by the Planning Commission as long as it is determined to be equal or superior to the original mitigation.

An Unclassified Conditional Use Permit (CUP) may be approved only if the Four Findings specified in Fresno County Zoning Ordinance §842.5.050(B) are made by the Planning Commission.

The decision of the Planning Commission on an Unclassified CUP Application is final, unless appealed to the Board of Supervisors within 15 days of the Commission's action.

## **BACKGROUND INFORMATION:**

Key Energy Storage, LLC (Applicant) filed an application for unclassified Conditional Use Permits Nos. 3734, 3802, 3803 and 3804 to construct, operate, maintain, and provide for future decommissioning of the Project on an approximately 260-acre site located 4 miles southwest of the City of Huron, approximately 1,700 feet northeast of Interstate 5 (I-5), immediately south of West Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to existing Gates Substation, which is owned and operated by PG&E.

The project would consist of batteries using lithium-ion and/or iron-flow storage technology. Onsite support facilities would include a collector substation; power conversion systems including bi-directional inverters, transformers, and associated connection lines; heating, ventilation, and air conditioning (HVAC) units; fencing; access roads; a supervisory control and data acquisition (SCADA) system; and security lighting. Diesel generators may be needed temporarily during construction for substation purposes, or to power water pumps for an existing on-site well.

To interconnect the project, the Applicant would construct, operate, and maintain a new 2,500-foot-long 500-kilovolt transmission line between the project site and PG&E's Gates Substation. This line would be installed on new lattice steel towers, each up to 200 feet tall and would be spaced at approximately 500-foot intervals.

If approved, the proposed Conditional Use Permits would have an anticipated 40-year operational life span, during which the project would be constructed in phases, operated and maintained, and ultimately decommissioned. Project construction would occur separately under four permits; each construction phase would likely last between 14 and 24 months, depending on the type of battery option chosen. The total duration of project construction is anticipated to take approximately six (6) years, and may require the application for time extensions for one or more of the CUP's.

The operation and maintenance (O&M) periods for CUP 3734 and CUP 3802 are projected to begin in 2025 and 2026 respectively. It is assumed that all permits would be in operation by 2032. Decommissioning and site restoration for each phase would occur over a 12-month period. CUP 3734, CUP 3802 and CUP 3803 would be constructed on APN 085-040-58; CUP 3804 would be constructed on APNs 085-040-37 and 085-040-36.

Historical agricultural uses on the project site have included dry farming on two of the parcels (APNs 085-040-36 and 085-040-37) and irrigated farming on the third parcel via an on-site well (APN 085-040-58). More recently on-site land uses have included irrigated orchard crops (citrus and almonds) (APN 085-040-58), non-irrigated winter wheat (APN 085-040-37), and fallowed land (APN 085-040-36). Dirt roads form the eastern, western, and southern project site boundaries with the paved West Jayne Avenue forming the northern boundary.

Existing utility infrastructure is located throughout the project site. An existing groundwater well is located in the northwest portion of the project site. One PG&E electrical line runs north to south along the northwest side of the project site, and two PG&E-owned high-voltage transmission lines run north to south along the entire east side of the project site. Underground oil, gas, and water pipelines are found in the center of the southern half of the project site.



**Finding 1: The site for the proposed use is adequate in size and shape to accommodate the use, and all yards, spaces, walls, fences, parking, loading, landscaping, and other features required by this Chapter, to adjust said use with land and uses in the neighborhood.**

|          | <b>Current Standard: AE Zone District</b>   | <b>Proposed Operation:</b>  | <b>Is Standard Met (y/n)</b> |
|----------|---|---|------------------------------|
| Setbacks | <p>Front: 35 feet.<br/> Side (each): 20 feet.<br/> Street side: 35 feet.<br/> Rear: 20 feet.<br/> Reversed corner (street side): 35 feet.<br/> (§808.2.040, Table 2-3)</p> <p>As per the County Solar Electrical Generation Facilities Guidelines (2017):</p> <p>Projects must work to achieve a minimum 50-foot buffer from the edges of the property boundaries to the closest structural improvements or equipment (excluding fencing). The required setbacks will be included in this buffer.</p> | <p>A Minimum 50-foot setback from property lines will be implemented as required for all structural improvements, including equipment.</p>  | <b>Yes</b>                   |
| Parking  | <p>The required parking area for commercial business office, and professional use shall be provided on the parcel with the structure or uses being served, or on a contiguous parcel in the same zone. (§828.3.030[G])<br/> For a facility that is not open to the public, 1 space is required per 2 employees, based on the maximum number of employees on duty at any one time. (§828.3.040, Table 3-7) If four or fewer parking spaces are required for a specific project, then the parking</p>   | <p>Parking would be provided on-site. Operations structures would include an adjacent parking area of sufficient size to accommodate any employee vehicles for intermittent maintenance visits.</p> <p>The proposed facility will be unmanned, and mostly monitored remotely.</p> | <b>Yes</b>                   |

|                         | <b>Current Standard: AE Zone District</b>   | <b>Proposed Operation:</b>   | <b>Is Standard Met (y/n)</b> |
|-------------------------|---|--|------------------------------|
|                         | space for the disabled shall be 17 feet wide but does not need to be marked or reserved exclusively for the disabled. (§828.3.050[F]) |  |                              |
| Lot Coverage            | None (§808.2.040, Table 2-3)  | N/A  | N/A                          |
| Space Between Buildings | 6 feet (§808.2.040, Table 2-3)  | No buildings are proposed.   | Yes                          |
| Wall Requirements       | Walls shall be provided and maintained between different zones (§822.3.050)   | N/A. No dividing walls are present or proposed on the project site.  | N/A                          |
| Fencing Requirements    | N/A<br>AE zones excluded from maximum fence height requirements. (§822.3.050 Table 3-2)   | The project site would be surrounded by a 7-foot-tall chain-link security fence with an additional foot of three-strand barbed wire extension at the top. In addition, the on-site substation would be surrounded by an approximately 8-foot-tall perimeter security fence with an additional foot of three strand barbed wire extension at the top. | Yes                          |
| Septic Replacement Area | 100 percent (LAMP §101.6)   | Septic system will conform to Local Area Management Plan (LAMP) requirements.  | Yes                          |
| Water Well Separation   | Building Sewer: 50 feet<br>Septic Tank: 100 feet<br>Dispersal Field: 100 feet<br>Seepage Pit: 150 feet                                | Project will comply with the minimum distances outlined in Table 101.8 of the LAMP and adhere to applicable Fresno County Code requirements.   | Yes                          |

**Reviewing Agency/Department Comments Regarding Site Adequacy:**

No comments specific to the adequacy of the site were expressed by reviewing Agencies or Departments.

**Finding 1 Analysis:**

The County’s “Solar Facility Guidelines” approved by the Fresno County Board of Supervisors were last amended on December 12, 2017. In these Guidelines Item 5 requires “a buffer between the proposed solar facility and adjacent agricultural operations.” Consistency with this Guideline has been interpreted to mean a minimum 50-foot buffer from the edges of the project boundaries to the closest structural improvements or equipment, excluding fencing. The 50-foot buffer includes the required yard setbacks. The submitted site plans demonstrate that the proposed infrastructure would be set back from the surrounding properties to sufficiently buffer adjacent agricultural operations.

Adherence to a Site Plan Review (SPR) pursuant to Chapter 854.5 of the County Zoning Ordinance has been included as a Condition of Approval (see Exhibit 1). This would ensure compliance with the setback requirements and other design standards. Conditions of the SPR may include, but are not limited to, the design of parking and circulation areas, access, onsite grading and drainage, septic conformance with LAMP requirements, fire protection, landscaping, signage and lighting.

**Recommended Conditions of Approval:**

None

**Finding 1 Conclusion:**

Finding 1 can be made based on the above information, the 260-acre site is adequate in size and shape to be able to conform to County Standards and not adversely impact surrounding properties.

**Finding 2:** **The site for the proposed use relates to streets and highways adequate in width and pavement type to carry the quantity and kind of traffic generated by the proposed use.**

|                              |     | Existing Conditions                                    | Proposed Operation   |
|------------------------------|-----|--|--|
| Private Road                 | No  | West Jayne Avenue is a public road                     | No change  |
| Public Road Frontage         | Yes | Northern most parcel has frontage on West Jayne Avenue | No change  |
| Direct Access to Public Road | Yes | Northern most parcel has access to West Jayne Avenue   | Primary driveway access from the public roadway network would be provided along West Jayne Avenue. |

|                                     |     | Existing Conditions  | Proposed Operation   |
|-------------------------------------|-----|--|--|
| Road Average Daily Traffic (ADT)    |     | <ul style="list-style-type: none"> <li>- I-5 between West Jayne Avenue and SR 269: 35,000 vehicles per day</li> <li>- West Jayne Avenue: 3,450 vehicles per day</li> <li>- SR 269: 2,000 vehicles per day</li> </ul> | (Construction) <ul style="list-style-type: none"> <li>- 378 additional trips</li> <li>- 540 additional trips</li> <li>- 70 additional trips</li> </ul> |
| Road Classification                 |     | <ul style="list-style-type: none"> <li>- I-5 and SR 269: Major Highways</li> <li>- West Jayne Avenue: Local Road</li> </ul>  | No change  |
| Road Width                          |     | 32 feet  | No change  |
| Road Surface                        |     | Asphalt paved  | No change  |
| Traffic Trips                       |     | Typical Agriculture  | See above for construction trips   |
| Traffic Impact Study (TIS) Prepared | Yes | TIS prepared for Key Energy Storage Project by ESA, dated February 2023.   | Limited additional trips following construction (Maintenance only)   |
| Road Improvements Required          |     | N/A  | Mitigation Measure 3.10-2 (Exhibit 1) requires an approved traffic management plan.  |

**Reviewing Agency/Department Comments Regarding Adequacy of Streets and Highways**

Road Maintenance and Operations Division: Due to the volume of trucks during the construction period, the applicant should be required to construct a 0.2-foot, hot mix asphalt overlay on Jayne Avenue from Interstate 5 extending across the subject parcel frontage, approximately 1.54 miles east of Butte Avenue. The overlay shall be constructed in advance of any significant on-site work. Engineered plans for the overlay shall be submitted for review and approval by the Road Maintenance and Operations Division.

No other comments specific to the adequacy of streets and highways were expressed by reviewing Agencies or Departments.

**Finding 2 Analysis:**

The project site would be accessible from West Jayne Avenue and the preexisting agricultural access roads that border and bisect the project site. No driveways directly onto a State Route are proposed. All access points would meet applicable California Department of Forestry and Fire Protection standards as well as County standards. Gravel access roads approximately 20 feet in width would be constructed around the perimeter of the project site and 10-foot-wide aggregate base access roads would be constructed between blocks of enclosures. The final

design of access roads and driveways would be subject to Fresno County Fire Department review prior to construction.

Post completion of the Draft EIR and Final EIR documents the Applicants and the County Road Maintenance Division collaborated on revised language for Mitigation Measure 3.10-2 included in Exhibit 1, the Strikethrough and underlined additions are shown in Exhibit 13 of the Staff Report. The revised mitigation is superior to original language, as it provides a specific scope, methodology and timing for making repairs to the public roadway to mitigate the impacts from construction of the project rather than utilizing more generalized less defined method of requiring that the applicant enter into a secured agreement with the County to fund undefined road repairs after construction.

**Recommended Conditions of Approval:**

**Mitigation Measure No. 3.10-2:** As part of the required construction Traffic Management Plan for the project will be required to construct an asphalt overlay along Jayne Avenue, prior to issuance of development permits.

**Finding 2 Conclusion:**

Finding 2 can be made based on the above information that the streets, highways, are adequate for the traffic generated by the proposed use with adherence to the Conditions of Approval and the Mitigation Measures.

**Finding 3:** **The proposed use will have no adverse impact on abutting property and surrounding neighborhood or allowed use thereof.**

**Surrounding Parcels**

|       | Size:  | Use:   | Zoning: | Nearest Residence:    |
|-------|--|--|---------|-----------------------|
| North | 82.64 acres<br>185.79 acres                              | PG&E Gates Substation<br>Agricultural land and solar farms | AE-20   |                       |
| South | 335.99 acres   | Orchard  | AE-40   | 11,500 feet southeast |
| East  | 645.40 acres   | Row crops of fallow fields                                 | AE-20   | 17,000 feet east      |
| West  | 82.84 acres<br>80.00 acres<br>92.27 acres<br>64.09 acres | Orchard<br>Orchard<br>Solar array<br>Solar array           | AE-40   | 3,300 feet west       |

**Reviewing Agency/Department Comments:**

No comments specific to land use compatibility were expressed by reviewing agencies or departments.

**Finding 3 Analysis:**

Historical agricultural uses on the project site have included dry farming on two of the parcels (APNs 085-040-36 and 085-040-37) and irrigated farming on the third parcel via an on-site well (APN 085-040-58). Surrounding land uses in the area consist primarily of agriculture production in field crops and orchards to the north, east, west, and south of the project site. Solar energy uses exist west of the project site. The PG&E Gates Substation is located northeast of the project site.

The EIR found that the Project would have a less-than-significant impact on aesthetics. This includes the project's potential to degrade the existing visual character or public views of the site and its surroundings. West Jayne Avenue is not a scenic Highway. Interstate 5 which is approximately 1,700 feet to the southwest is designated as a scenic roadway. However, the General Plan Policies relating to scenic roadways relates only to land adjacent to them, not at a distance. The view of the proposed facility, if visible from Interstate 5, would not be distinctly different from the existing landscape. Dust and other air emissions are proposed to be controlled such that a less-than-significant impact would result. Further, construction-related noise impacts to nearby residences would be reduced to a less-than-significant level through preparation and implementation of the Construction Noise Reduction Plan required by Mitigation Measure 3.14-1.

The Applicant has prepared an Integrated Pest Management Plan (Exhibit 9) and Reclamation Plan (Exhibit 8) in compliance with the Fresno County Solar Facility Guidelines. The draft reclamation plan is included in the Draft EIR as Appendix B1 (Exhibit 11). If the Project is approved the draft reclamation plan will be updated and the required reclamation and cash escrow agreements that guarantee the future reclamation will be submitted to the Board of Supervisors for approval. A final reclamation plan would be in place before development permits are issued. The County requires, and the Applicant would provide funds equal to the estimated cost of implementing all activities associated with returning the Project site to its original state.

The Solar Facility Guidelines require documentation of historical information on the agricultural use of the property, crop yield information, the source of water, the soil type, information on improvements and site buffering, the submittal of a Reclamation Plan and pest management information.. The Applicant has provided this information.

**Recommended Conditions of Approval:**

None

**Finding 3 Conclusion:**

Finding 3 can be made based on the above information, and with adherence to Mitigation Measures and recommended Conditions of Approval, attached as Exhibit 1, the proposed use will have no adverse effect on abutting property and surrounding neighborhood, or the permitted use thereof.

**Finding 4:     The proposed development is consistent with the General Plan.**

|  |   |
|--|---|
| <p><b>Relevant Policies:</b></p>   | <p><b>Consistency/Considerations:</b><br/> <b>See Exhibit 11, Appendix I1, Consistency with Fresno County General Plan, for additional details.</b></p>   |
| <p><b>Policy LU-A.1:</b> <i>The County shall maintain agriculturally-designated areas for agriculture use and shall direct urban growth away from valuable agricultural lands to cities, unincorporated communities, and other areas planned for such development where public facilities and infrastructure are available.</i></p>  | <p><b>Consistent.</b> The Project site is zoned AE-40 (Exclusive Agricultural, 40-acre minimum). As indicated in Section 816.2(D) of the Fresno County Zoning Code, permitted uses in AE districts include electrical transmission and distribution.</p>  |
| <p><b>Policy LU-A.2:</b> <i>The County shall allow by right in areas designated Agriculture activities related to the production of food and fiber and support uses incidental and secondary to the on-site agricultural operation. Uses listed in Table LU-3 are illustrative of the range of uses allowed in areas designated Agriculture.</i></p>   | <p><b>Consistent.</b> The Project site is AE-40 (Exclusive Agricultural, 40-acre minimum). As indicated in Section 816.2(D) of the Fresno County Zoning Code, permitted uses in AE districts include electrical transmission and distribution.</p>  |
| <p><b>Policy LU-A.3:</b> <i>The County may allow by discretionary permit in areas designated Agriculture, special agricultural uses and agriculturally-related activities, including value added processing facilities, and certain non-agricultural uses listed in Table LU-3. Approval of these and similar uses in areas designated Agriculture shall be subject to the following applicable criteria:</i></p> <ul style="list-style-type: none"> <li><i>a. The use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics;</i></li> <li><i>b. The use should not be sited on productive agricultural lands if less productive land is available in the vicinity;</i></li> <li><i>c. The operational or physical characteristics of the use shall not have a detrimental impact on water resources or the use or management of surrounding properties within at least one-quarter (1/4) mile radius;</i></li> <li><i>d. A probable workforce should be located nearby or be readily available</i></li> </ul> | <p><b>Consistent.</b> The General Plan’s illustrative list of uses typical of nonagricultural uses allowable with a permit in an area designated Agriculture is sufficiently similar to uses proposed by the Project (such as administration offices, equipment storage and maintenance, and electrical and wireless communication infrastructure). Further:</p> <ul style="list-style-type: none"> <li>(a) the proposed energy storage use would provide a needed service to the surrounding agricultural area (e.g., increase local energy storage capacity at the Gates Substation to address the limitations of the electric grid and make it more resilient to disturbances and peaks in energy demand) that cannot be provided more efficiently within urban areas and that requires location in the proposed non-urban area (see DEIR section 2.4, <i>Project Purpose and Objectives</i>, p. 2-6).</li> <li>(b) No less productive land is available in the vicinity (see DEIR section 4.2.1.1, <i>Alternative Sites</i>, p. 4-4 et seq.).</li> <li>(c) The operational or physical characteristics of the use would not have a detrimental impact on water resources or the use (see DEIR section 3.11, <i>Hydrology and Water Quality</i>, p. 3.11-1 et seq.) or management of surrounding properties within at least one-quarter (1/4) mile radius. (see DEIR Figure 2-2, <i>Project Site</i>, which shows energy and agriculture uses within 0.25-mile of the</li> </ul> |

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| <p><b>Relevant Policies:</b></p>   | <p><b>Consistency/Considerations:</b><br/> <b>See Exhibit 11, Appendix I1, Consistency with Fresno County General Plan, for additional details.</b></p>   |
|  | <p>Project site; see also DEIR Section 3.3, which concludes that the Project would not cause a significant unavoidable impact on agriculture resources). (d) A probable workforce would be located nearby or be readily available. See DEIR Section 2.5.6.2, <i>Construction Workforce and Schedule</i>, which explains that Project construction is anticipated to employ a maximum of 150 on-site personnel. Once operational, the Project would require limited personnel to visit the Project site. The Project site would be remotely operated and monitored 7 days a week through the proposed supervisory control and data acquisition system. Routine maintenance and one annual maintenance inspection are expected to occur as described in Section 2.5.7, <i>Energy Storage System Operation and Maintenance</i>. Based on consistency with each of these criteria, the County finds the Project to be consistent with Policy LU-A.3</p> |
| <p><b>Policy LU-A.13:</b> <i>The County shall protect agricultural operations from conflicts with nonagricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.</i></p>   | <p><b>Consistent.</b> The Project would maintain a 50-foot open space buffer between project infrastructure (excluding fences) and adjacent agricultural operations and would implement a reclamation plan to return the site to a state of readiness for agricultural use after Project decommissioning.</p>   |
| <p><b>Policy LU-A.14:</b> <i>The County shall ensure that the review of discretionary permits includes an assessment of the conversion of productive agricultural land and that mitigation be required where appropriate.</i></p>  | <p><b>Consistent.</b> The Project site is zoned AE40 Exclusive Agricultural. Under the Conditional Use Permit the conversion is discussed in the EIR, and provisions are provided under the reclamation plan to return the project site to its original agricultural condition following decommissioning of the project.</p>  |
| <p><b>Policy LU-A.15:</b> <i>The County shall generally condition discretionary permits for development within or adjacent to agricultural areas upon the recording of a Right-to-Farm Notice, which is an acknowledgment that residents in the area should be prepared to</i></p> | <p><b>Consistent.</b> The Applicant will be required to record with the County recorder a Right-to-Farm Notice indicating that adjacent agricultural operations shall not become a nuisance due to the changed condition of the Project site.</p>   |



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| <p><b>Relevant Policies:</b></p>   | <p><b>Consistency/Considerations:</b><br/> <b>See Exhibit 11, Appendix I1, Consistency with Fresno County General Plan, for additional details.</b></p>   |
| <p><i>accept the inconveniences and discomfort associated with normal farming activities and that an established agricultural operation shall not be considered a nuisance due to changes in the surrounding area.</i></p>   |   |
| <p><b>Policy LU-A.19:</b> <i>The County shall encourage landowners to participate in programs that reduce soil erosion and increase soil productivity. To this end, the County shall promote coordination between the Natural Resources Conservation Service, Resource Conservation Districts, UC Cooperative Extension, and other agencies and organizations.</i></p> | <p><b>Consistent.</b> Section 3.8, <i>Geology, Soils, and Paleontological Resources</i>, includes an evaluation of potential erosion-related impacts. The Project would comply with a Construction General Permit, and the implementation of a Stormwater Pollution Prevention Plan (SWPPP) would limit the impact of construction-related soil erosion by enacting best management practices (BMPs). This is to address sediment control and limit erosion, such as installation of silt fencing and implementation of temporary sediment disposal measures. In addition, the Applicant-proposed erosion and sediment control and pollution prevention measures described in Draft EIR Section 2.5.9.3. This would be enforced during construction to reduce the possibility that substantial erosion or loss of topsoil could result. Operation of the Project would not include activities that are likely to cause erosion.</p> |
| <p><b>Policy LU-A.20: Water Resources.</b> <i>The County shall adopt and support policies and programs that seek to protect and enhance surface water and groundwater resources critical to agriculture.</i></p>   | <p><b>Consistent.</b> The impact of the Project on surface water quality would be less than significant with mitigation incorporated. The surface water movement and infiltration is not expected to change significantly. Mitigation would ensure that any contaminated soils caused or encountered by the Project would be properly removed and disposed of in accordance with all applicable federal, state, and local regulations. This would prevent adverse water quality effects from the management of contaminated materials. Additionally, the Project would have a less than significant impact on groundwater supplies and groundwater recharge, which is summarized in Section 3.11, <i>Hydrology and Water Quality</i>.</p>   |

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| <p><b>Relevant Policies:</b></p>  | <p><b>Consistency/Considerations:</b><br/> <b>See Exhibit 11, Appendix I1, Consistency with Fresno County General Plan, for additional details.</b></p>   |
| <p><b>Policy LU-A.23 Farmland Conversion:</b> <i>For discretionary land use projects that are not directly related to or supportive of agricultural uses and which propose the permanent conversion of twenty acres or more of Prime Farmland, Unique Farmland or Farmland of Statewide Importance (as designated by the Farmland Mapping and Monitoring Program) to nonagricultural uses, the County shall consider and adopt feasible measures including, but not limited to:</i></p> <ul style="list-style-type: none"> <li>• <i>Acquisition of conservation easements at a 1:1 ratio for lands lost to nonagricultural uses.</i></li> <li>• <i>Fee title of agricultural mitigation land that may be held by a third party or the County.</i></li> <li>• <i>In lieu fees paid to the County that may be used to acquire future mitigation property.</i></li> <li>• <i>Mitigation banks.</i></li> </ul> <p><i>The County may exempt projects from agricultural mitigation requirements when it has been determined that conversion is occurring pursuant to a local groundwater sustainability plan, or the project is for housing which is predominately for persons of low or moderate income as defined in section 50093 of the Health and Safety Code. Further, the County may exempt discretionary land use projects from agricultural mitigation requirements if it finds that the loss of agricultural land caused by the proposed conversion is outweighed by specific overriding economic, legal, social, technological, or other benefits of the conversion, as contemplated by section 21081(b) of the Public Resources Code.</i></p> | <p>The project is anticipated to have an approximate 40-year operational life, after which, the project will be required to implement an approved reclamation plan to restore the land to its pre-project agricultural state; or, future project proponents may seek additional discretionary approval for a new project on the land. However, the conversion of agricultural land is not considered to be permanent. Given the requirement for reclamation through a Board Approved, financially secured agreement with the County, the land is to be restored to its pre-project condition following the cessation of operations. Therefore, no mitigation for the conversion of agricultural land is required.</p> |
| <p><b>Program LU-A.E:</b> <i>The County shall continue to implement the County’s Right-to-Farm Ordinance, and will provide information to the local real estate industry to help make the</i></p>   | <p><b>Consistent.</b> The Applicant would be required to record with the County recorder a Right-to-Farm Notice indicating that adjacent agricultural operations shall not become a</p>   |

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| <b>Relevant Policies:</b>   | <b>Consistency/Considerations:</b><br><i>See Exhibit 11, Appendix I1, Consistency with Fresno County General Plan, for additional details.</i> |
| <i>public aware of the right-to-farm provisions in their area. (See Policy LU-A.15)</i> | nuisance due to the changed condition of the Project site. See discussion under <b>Policy LU-A.15</b> above.                                   |

**Reviewing Agency Comments:**

Policy Planning Unit, Development Services and Capital Projects: Pursuant to Fresno County Williamson Act Program guidelines, the use of land enrolled in the program is limited to commercial agriculture and certain other compatible uses adopted by the Board of Supervisors. Energy generating facilities are not included on list of compatible or conditionally compatible uses.

The northernmost 160-acre parcel is enrolled in the Williamson Act Program under Contract No. 2068. Because energy storage facilities are not considered a compatible use on Williamson Act Contract Landed; therefore, if the project is approved, the subject parcel identified as Assessor’s Parcel No. 085-040-58S must be removed from the Williamson Act Program through contract cancellation. The cancellation must be considered by and approved by the Board of Supervisors to be effective. A Condition of Approval will be included requiring that the project proponents complete the Williamson Act Contract cancellation process.

No other comments specific to General Plan Policy were expressed by reviewing Agencies or Departments.

**Finding 4 Analysis:**

As discussed in the table above and in DEIR Appendix I1 (Exhibit 11), the project as conditioned is consistent with the Fresno County General Plan.

**Recommended Conditions of Approval:**

The project parcel identified as APN No. 085-040-58S must be removed from the Williamson Act Program through a contract cancellation prior to issuance of any development permits.

**Finding 4 Conclusion:**

Finding 4 can be made based on the above information. Staff believes the proposed development is consistent with the General Plan with the condition that the project parcel under Williamson Act Contract is removed from the contract through cancellation.

**PUBLIC COMMENTS:**

The County received comments on the Draft EIR from the three organizations listed below. Responses to all the comments were provided in Chapter 2 of the Final EIR. There were no comments on the project from the public outside of the comments on the Draft EIR.

- Adams Broadwell Joseph & Cardozo on behalf of California Unions for Reliable Energy (“CURE”)

- Defenders of Wildlife
- Pacific Gas and Electric Company (PG&E)

**OTHER AGENCY COMMENTS:**

The County also received comments on the Draft EIR from four agencies:

- California Department of Conservation, Geologic Energy Management Division (letter dated September 27, 2023).
- California Department of Transportation.
- San Joaquin Valley Air Pollution Control District.
- Westlands Water District

**SUMMARY CONCLUSION:**

Based on the factors cited in the analysis the proposed EIR is appropriate and the required Findings for granting a Conditional Use Permits can be made. Staff therefore recommends approval of Unclassified Conditional Use Permit Nos. 3734, 3802, 3803 and 3804, subject to the recommended Mitigation Measures with the proposed revision of Mitigation Measure 3.10-2, and the proposed Conditions of Approval.

**PLANNING COMMISSION MOTIONS:**

**Recommended Motion** (Approval Action)

1. Determine that the Final EIR (FEIR) was reviewed and considered by the Planning Commission, and represents their independent judgement;
2. Determine and accept the proposed revision to Mitigation measure 3.10-2 as a superior mitigation measure.
3. Move to adopt the California Environmental Quality Act (CEQA) Findings of Fact and certify that Environmental Impact Report (EIR) No. 8189 prepared for this project is complete, adequate, and in conformance with California Environmental Quality Act;
4. Move to determine that the required Findings can be made based on the analysis in the Staff Report, and move to approve Unclassified Conditional Use Permit Application Nos. 3734, 3802, 3803 and 3804 subject to the Mitigation Measures, Conditions of Approval, and Project Notes listed in Exhibit 1;
5. Direct the Secretary to prepare a Resolution documenting the Commission’s action and direct staff to file a Notice of Determination for the Project.

**Alternative Motion** (Denial Action)

- Move to determine that the required Findings cannot be made (state basis for not making the Findings), and move to deny Unclassified CUP Nos. 3734, 3802, 3803 and 3804; and
- Direct the Secretary to prepare a Resolution documenting the Commission’s action.

**Mitigation Measures, Recommended Conditions of Approval and Project Notes:**

See attached Exhibit 1.

JS:

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Exhibit 1

**Mitigation Monitoring and Reporting Program**  
**Key Energy Storage project Unclassified conditional use permit nos. 3734, 3802,3803 and 3804; and**  
**Environmental Impact Report No. 8189**

| Impact  | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility                         | Monitoring Responsibility   | Timing   |
|---|--|---|---|--|
| <b>Aesthetics</b>   |  |   |   |  |
| <p><b>Impact 3.2-2:</b> The Project would not create a new source of light and glare that would adversely affect day or nighttime views in the area.</p>  | <p><b>Applicant-Proposed Measure 2.5.9.1, Glare and Lighting:</b> To reduce potential impacts on aesthetics from nighttime lighting and daytime glare, the Applicant proposes to provide the minimal amount of lighting required for safety, and a security lighting system that would be motion-activated (rather than timed to remain on from dusk to dawn); and shielding or directing lighting downward to minimize off-site impacts, including on nighttime skies.</p>              | <p>Project owner or its designee</p>                  | <p>Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee.</p> | <p>During construction, operation, and decommissioning</p>                               |
| <p><b>Impact 3.2-3:</b> The Project would not cause a cumulatively considerable contribution to any significant adverse impact on aesthetic resources.</p>  | <p>Implement Applicant-Proposed Measure 2.5.9.1; see measure text, above.</p>  | <p>See Applicant-Proposed Measure 2.5.9.1, above.</p> |   |  |
| <b>Biological Resources</b>   |  |   |   |  |
| <p><b>Impact 3.5-1:</b> The Project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans,</p> | <p><b>Mitigation Measure 3.5-1, Protection of San Joaquin Kit Fox:</b> Preconstruction surveys shall be conducted by a qualified biologist for the presence of San Joaquin kit fox dens within 14 days before the start of construction activities. The surveys shall be conducted in areas of suitable habitat for San Joaquin kit fox. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days before</p> | <p>Project owner or its designee</p>                  | <p>Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee.</p> | <p>Preconstruction surveys to occur within 14 days prior to construction; protection</p> |

| Impact   | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility | Monitoring Responsibility                                | Timing  |
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| <p>policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.</p> | <p>that portion of the site is disturbed. If no potential San Joaquin kit fox dens are present, no further mitigation is required. If the qualified biologist observes potential dens and determines, in consultation with the Project owner and the County, that avoidance is feasible (as defined in CEQA Guidelines Section 15364), buffer distances shall be established before each phase of construction activities consistent with the USFWS [1999] <i>Standardized Recommendations for Protection of the San Joaquin Kit Fox</i>.</p> <p>If avoidance of the potential dens is not feasible, the following measures shall be implemented prior to ground disturbance within 100 feet of the den to avoid potential adverse effects on the San Joaquin kit fox:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent coyotes, foxes, or other animals from reusing them during construction per USFWS (1999) guidance.</li> <li><input type="checkbox"/> If the qualified biologist determines that a potential non-natal den may be active, an on-site passive relocation program shall be implemented prior to ground disturbance within the established buffer with prior approval from USFWS. This program shall consist of excluding San Joaquin kit foxes from occupied burrows by installing one-way doors at burrow entrances, monitoring the burrow for 72 hours to confirm that usage has been discontinued, and excavating and collapsing the burrow to prevent reoccupation. After the qualified biologist determines that the San Joaquin kit foxes have stopped using active dens within the</li> </ul> |                               | <p>Could include coordination with CDFW and/or USFWS</p> | <p>measures to be implemented during construction and decommissioning</p> |

| Impact | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility        | Monitoring Responsibility   | Timing  |
|--------|--|--------------------------------------|---|---|
|        | <p>Project boundary, the dens shall be hand-excavated as stated above for inactive dens.</p>   |                                      |   |   |
|        | <p><b>Mitigation Measure 3.5-2, Worker Environmental Awareness Training and Best Management Practices for Biological Resources.</b> During construction, operation and maintenance, and decommissioning of the facility, the Project owner and/or contractor shall implement the following general avoidance and protective measures to protect San Joaquin kit fox and other special-status wildlife species:</p> <ul style="list-style-type: none"> <li>• Prior to initiation of ground-disturbing activities and for each phase of construction or decommissioning activities, the Project owner or its contractor shall implement a worker environmental awareness program (WEAP) to train construction personnel on how to recognize and protect biological resources on the Project site. The WEAP training shall include a review of the special-status species and other sensitive biological resources that could exist in the Project area, the locations of sensitive biological resources and their legal status and protections, and measures to be implemented for avoidance of these sensitive resources, highlighting nesting birds protected under the MBTA, San Joaquin kit fox, and Swainson’s hawk. The WEAP training shall indicate the appropriate steps to be taken if a special-status species is observed, which may include work stoppage and coordination with CDFW and USFWS.</li> </ul> | <p>Project owner or its designee</p> | <p>Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee. Could include coordination with CDFW and/or USFWS</p> | <p>WEAP training to occur prior to initiation of ground disturbing construction; all new construction personnel shall receive WEAP training prior to commencing work on site; wildlife avoidance measures to be implemented during construction</p> |



| Impact | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility | Monitoring Responsibility | Timing |
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|        | <ul style="list-style-type: none"> <li>• The Project owner shall limit areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. All proposed impact areas, including solar fields, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging before construction to avoid special-status species, under the guidance of a qualified biologist. Construction-related activities, vehicles, and equipment outside of the impact zone shall be avoided. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.</li> <li>□ To prevent inadvertent entrapment of wildlife during construction, all excavated, steep-walled holes or trenches with a 2-foot or greater depth shall be covered with plywood or similar materials at the close of each working day or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected by construction personnel for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow them to escape. If a special-status species is trapped, USFWS and/or CDFW shall be contacted immediately.</li> <li>• All construction pipes, culverts, or similar structures with a 4-inch or greater diameter that are stored at a construction site for one or more overnight periods shall be thoroughly inspected by</li> </ul> |                               |                           |        |

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|  | <p>construction personnel for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist has been consulted and the animal either has moved from the structure on its own accord or has been captured and relocated by the qualified biologist. If the trapped animal is a special-status species, USFWS and/or CDFW shall be consulted before relocation.</p> <ul style="list-style-type: none"><li>• Before moving vehicles and equipment parked on the site, construction personnel shall inspect the ground beneath the vehicles and equipment for the presence of wildlife.</li><li>□ Vehicular traffic shall use existing routes of travel. Cross-country vehicle and equipment use outside of the Project properties shall be prohibited.</li><li>□ A daytime speed limit of 20 miles per hour shall be enforced within all construction areas. Night-time construction shall be minimized to the extent possible. If work is conducted at night, a night-time speed limit of 10 mph shall be enforced for protection of wildlife.</li><li>□ A long-term trash abatement program shall be established for construction, operation, and decommissioning and shall be submitted to the County. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to wildlife such as common raven (<i>Corvus corax</i>), coyote (<i>Canis latrans</i>), and feral dogs.</li><li>□ Workers shall be prohibited from bringing pets (excluding service animals) to the Project site and from feeding wildlife in the vicinity.</li></ul> |  |  |  |
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| Impact | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility | Monitoring Responsibility  | Timing  |
|--------|--|-------------------------------|--|---|
|        | <ul style="list-style-type: none"> <li>Intentional killing or collection of any wildlife species shall be prohibited.</li> </ul>   |                               |  |   |
|        | <p><b>Mitigation Measure 3.5-3, Protection of Nesting Birds:</b> If construction is scheduled to commence outside of nesting season (September 16 to January 31), no preconstruction surveys or additional measures are required for nesting birds, including raptors. During the nesting bird breeding season (February 1 to September 15), to avoid impacts on nesting birds in the Project site and immediate vicinity, a qualified biologist shall conduct preconstruction surveys of all potential nesting habitat within the Project site where vegetation removal or ground disturbance is planned. The survey shall be performed within the site and shall also include potential nest sites within a 0.5-mile buffer around the site in areas where access to neighboring properties is available or visible using a spotting scope. Surveys shall be conducted no more than 10 days prior to each phase of construction activities. If construction is halted for 10 days or more, the area shall be re-surveyed prior to resuming work.</p> <p>Surveys need not be conducted for the entire Project site at one time; they may be phased so that surveys occur shortly before a portion of the Project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer around active nests (e.g., 500 feet for common raptors; 0.5 mile for Swainson's</p> | Project owner or its designee | Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee. Could include coordination with CDFW and/or USFWS | If construction is scheduled during nesting season (Feb. 1-Sept. 15) preconstruction nesting bird surveys to be conducted no more than 10-days prior to construction; buffer to be established prior to construction, if active nests are found |

| Impact | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility | Monitoring Responsibility  | Timing                                  |
|--------|--|-------------------------------|--|---|
|        | hawk; 100 feet for passerines) shall be established and no construction within the buffer shall be allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of the qualified biologist in coordination with CDFW.   |                               |  |   |
|        | <p><b>Applicant-Proposed Measure 2.5.9.3, Erosion and Sediment Control and Pollution Prevention:</b><br/> Project activities would comply with all applicable San Joaquin Valley Air Pollution Control District rules and regulations, including Rule 9510 (Indirect Source Review) and Regulation VIII (Fugitive Dust Rules). Dust control merits further attention on the Project site because <i>Coccidioidomycosis</i>, more commonly known as <i>Valley Fever</i>, is highly endemic in Fresno County. Valley Fever is primarily a disease of the lungs caused by the spores of the <i>Coccidioides immitis</i> fungus. The spores naturally occur in soils in this region, can become airborne when the soil is disturbed, and can subsequently be inhaled into the lungs. The potential exists for both dust and cocci spores to be stirred up during work activities that disturb the soil, such as digging, grading, or other earth-moving operations or vehicle operation on dirt roads or during high winds, and thereby to expose construction workers and others to the potential of contracting Valley Fever. To reduce the potential for causing or exacerbating exposure to dust and the cocci spores, the Applicant proposes to do the following:</p> | Project owner or its designee | Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee. | During construction and decommissioning |

| Impact | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility | Monitoring Responsibility | Timing |
|--------|--|-------------------------------|---------------------------|--------|
|        | <ul style="list-style-type: none"> <li><input type="checkbox"/> Minimize soil disturbance where feasible (e.g., by limiting trenching and excavations).</li> <li><input type="checkbox"/> Provide effective awareness training on Valley Fever to construction personnel and all other on-site personnel before the person begins work (and annually thereafter) that is reasonably anticipated to cause exposure to substantial dust disturbance, where “substantial dust disturbance” means visible airborne dust for a total duration of 1 hour or more on any day.</li> <li><input type="checkbox"/> Use water-based dust suppression or appropriate soil stabilizers on Project roads during construction and decommissioning activities as well as during any time (including the O&amp;M phase) when more than 10 vehicles are using unpaved interior accessways.</li> <li><input type="checkbox"/> Provide enclosed air-conditioned cabs for vehicles that generate dust and ensure that workers keep windows and outside air vents closed.</li> <li><input type="checkbox"/> Stabilize all spoils piles by tarping or other methods.</li> <li><input type="checkbox"/> Suspend outdoor work during heavy winds.</li> <li><input type="checkbox"/> Keep break areas and eating areas clean and protected from sources of dust to limit potential contamination of drinks and food.</li> <li><input type="checkbox"/> When feasible, keep workers upwind of digging and other dust-producing activities.</li> <li><input type="checkbox"/> Use vacuums equipped with high efficiency particulate air (HEPA) filters, water, wet towels, or other wet methods to clean soiled equipment, tools, and surfaces and avoid the use of</li> </ul> |                               |                           |        |

| Impact | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility | Monitoring Responsibility | Timing |
|--------|--|-------------------------------|---------------------------|--------|
|        | <p>compressed air, dry sweeping, or other methods that create dust when cleaning.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Provide personal protective respiratory equipment when exposure to dust cannot be avoided.</li> </ul> <p>Other Project design features to minimize impacts on water quality include the following: No outdoor storage areas are proposed; no exterior wash-down areas are proposed; no on-site repair or maintenance bays or fueling areas are proposed; pest management would occur only as described in Section 2.5.9.6, Pest Management; and water quality controls would be maintained on an ongoing basis and periodic inspections would be conducted to ensure proper performance. Project construction would result in more than 1 acre of soil disturbance. As a result, the Applicant would prepare, file, and implement a storm water pollution prevention plan (SWPPP) in accordance with the State of California's General Permit for Stormwater Discharges Associated with Construction Activities (2022-0057-DWQ). The SWPPP would include measures to limit erosion and off-site transport of pollutants from construction activities. The plan would designate best management practices that would be followed during construction to help stabilize disturbed areas and reduce erosion, sedimentation, and pollutant transport.</p> <p>Further, the Project has been designed consistent with Low Impact Development standards such as minimizing impermeable surfaces and using gravel surfacing where possible instead of hardscape surfaces. Impermeable surfaces are broken into individual areas that would drain through gravel that</p> |                               |                           |        |

| Impact  | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility                         | Monitoring Responsibility   | Timing   |
|---|--|---|---|--|
|   | <p>would help maximize infiltration and to disperse flows, and through bioretention swales that would further slow runoff and facilitate infiltration. Retention basins are proposed as described in Section 2.5.4.5, Stormwater Facilities. See Figure 2-3 and Figure 2-4.</p>  |   |   |  |
|   | <p><b>Applicant-Proposed Measure 2.5.9.5, Wildlife-Friendly Design Features:</b> Hollow vertical tubes (e.g., chain-link fencing posts) on the Project site would be capped to prevent potential entrapment of birds or other small species. Further, the design of new overhead transmission and communications lines and structures would follow the most recent Avian Power Line Interaction Committee (APLIC) guidance to reduce the potential for avian injury and mortality from collisions and electrocution. At the time this Draft EIR was prepared, that guidance included <i>Suggested Practices for Avian Protection on Power Lines</i> (APLIC 2006) and <i>Reducing Avian Collisions with Power Lines</i> (APLIC 2012). The proposed use of motion-activated security lighting (rather than lighting that would remain on from dusk to dawn) would further reduce adverse impacts to nocturnal species, potentially including foraging, sheltering, mating and reproducing, communicating, and migrating behaviors.</p> | <p>Project owner or its designee</p>                  | <p>Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee.</p> | <p>During construction and operation, and decommissioning of the project</p> |
| <p><b>Impact 3.5-2:</b> The Project would not interfere substantially with the movement of any native resident or migratory fish or</p> | <p>Implement Applicant-Proposed Measure 2.5.9.5; see measure text, above.</p>  | <p>See Applicant-Proposed Measure 2.5.9.5, above.</p> |   |  |

| Impact   | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility                                   | Monitoring Responsibility  | Timing   |
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| wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. |  |   |  |  |
| <b>Impact 3.5-3:</b> The Project would conflict with General Plan Goal OS-E, which protects wildlife resources.                          | Implement Mitigation Measures 3.5-1, 3.5-2, and 3.5-3, see text of measures, above.  | See Applicant-Proposed Measures 3.5-1, 3.5-2, and 3.5-3, above. |  |  |
| Pests within the Project site.   | <b>Applicant-Proposed Measure 2.5.9.6, Pest Management:</b> The Applicant has prepared a draft integrated pest management (IPM) plan that includes pest control measures to minimize the likelihood of pests (including weeds) within the Project site and to maximize the ability to reduce the current pest population, if present. A copy of the draft IPM plan is provided in DEIR Appendix B2, <i>Draft Integrated Pest Management Plan</i> , which explains that the plan “promotes the use of a range of preventative and non-chemical approaches to control pest populations and stave off infestation. If an infestation with unacceptable impacts occurs, thereby warranting additional treatment, IPM protocol favors the use of least-toxic pesticides. The targeted application of a toxic pesticide is allowed only after all other reasonable non-toxic options are exhausted.” | Project owner or its designee                                   | Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee. | During construction, operation, and decommissioning of the project |



| Impact  | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility        | Monitoring Responsibility   | Timing  |
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| <b>Cultural Resources</b>   |  |                                      |   |   |
| <p><b>Impact 3.6-1:</b> Ground-disturbing activities associated with the Project could cause a substantial adverse change in the significance of a newly discovered historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5.</p> | <p><b>Mitigation Measure 3.6-1: Cultural Resources Awareness Training.</b> The Project Applicant shall retain a qualified archaeologist during each construction phase to carry out all mitigation measures related to archaeological and historical resources.</p> <p>Prior to the start of any ground-disturbing activities for each construction phase, the Project Applicant shall ensure that the qualified archaeologist has conducted cultural resources awareness training for all construction personnel participating in Project ground-disturbing activities. Additional cultural resources awareness trainings will be conducted for new construction personnel participated in Project ground-disturbing activities who may join the Project after the start of each construction phase. A Native American-designated representative shall be invited to attend and provide additional materials during each training. The training shall include an overview of potential cultural resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified archaeologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. A sign-in sheet shall be completed, retained by the Project construction contractor for the duration of Project construction to demonstrate attendance at the awareness training, and provided to the County upon the completion of Project construction.</p> | <p>Project owner or its designee</p> | <p>Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee.</p> | <p>Prior to and during construction and decommissioning</p> |

| Impact | Mitigation Measure / Applicant-Proposed Measure   | Implementation Responsibility | Monitoring Responsibility  | Timing   |
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|        | <p><b>Mitigation Measure 3.6-2, Inadvertent Discovery of Cultural Resources:</b> In the event archaeological materials are encountered during Project construction activities, the Project construction contractor shall immediately cease any ground-disturbing activities within 100 feet of the find. The qualified archaeologist (and a Native American–designated representative if the resource is Native American–related) shall evaluate the significance of the resources for California Register of Historical Resources eligibility and recommend appropriate treatment measures to the County and the Applicant. Per CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist (in coordination with a Native American–designated representative if the resource is Native American–related) shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric, tribal cultural resources, or Native American in nature. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the County and to the Southern San Joaquin Valley Information Center. Construction can recommence based on direction of the qualified archaeologist with the County’s agreement.</p> | Project owner or its designee | Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee. | Prior to and during construction and decommissioning |

| Impact  | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility                          | Monitoring Responsibility  | Timing                                  |
|---|--|--|--|---|
| <p><b>Impact 3.6-2:</b> Ground-disturbing activities associated with the Project could cause a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources, as defined in Public Resources Code Section 21074(a).</p> | <p>Implement Mitigation Measures 3.6-1 and 3.6-2, see text of measures above.</p>  | <p>See Mitigation Measures 3.6-1 and 3.6-2, above.</p> |  |   |
| <p><b>Impact 3.6-4:</b> The Project would contribute to a less-than-significant cumulative impact on cultural resources and tribal cultural resources.</p>  | <p>Implement Mitigation Measures 3.6-1 and 3.6-2, see text of measures above.</p>  | <p>See Mitigation Measures 3.6-1 and 3.6-2, above.</p> |  |   |
| <b>Geology and Soils</b>  |  |  |  |   |
| <p><b>Impact 3.8-4:</b> The Project would not result in substantial soil erosion or loss of topsoil.</p>  | <p>Implement Applicant-Proposed Measure 2.5.9.3; see measure text, above.</p>  | <p>See Applicant-Proposed Measure 2.5.9.3, above.</p>  |  |   |
|   | <p><b>Applicant Proposed Measure 2.5.9.8, Compliance with Applicable Laws and Standards:</b> The Applicant would comply with all applicable laws and standards, which may include but would not be limited to those governing the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The use, storage, and disposal of hazardous materials, specifically:</li> </ul> | <p>Project owner or its designee</p>                   | <p>Fresno County Department of Public Works and Planning, Development Services Division,</p> | <p>During all phases of the project</p> |

| Impact | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility | Monitoring Responsibility | Timing |
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|        | <ul style="list-style-type: none"> <li>- U.S. Department of Transportation regulations found at Code of Federal Regulations (CFR) Title 49, Part 172 (49 CFR 172) and 49 CFR 173, which include requirements for hazardous material transport licensing, packaging and containment standards, labeling, and other protection measures to prevent hazardous-materials incidents during transport and to facilitate response in the event of an incident involving hazardous materials.</li> <li>- Requirements of the California Highway Patrol, California State Fire Marshal, U.S. Environmental Protection Agency, and California Department of Toxic Substances Control. These include the requirements to submit and maintain a Hazardous Materials Business Plan and be subject to periodic inspections by the Certified Unified Program Agency (here, Fresno County's HazMat Compliance Program) for safe operations related to hazardous materials.</li> <li><input type="checkbox"/> Worker training and safe work practices, such as would occur under a comprehensive hazard communication program pursuant to 29 CFR 1910 to ensure that construction workers are knowledgeable in the identification and proper handling of hazardous materials to avoid spills or other upset conditions that could otherwise result in unsafe exposure.</li> <li><input type="checkbox"/> Air quality, such as the San Joaquin Valley Air Pollution Control District's indirect source rule and fugitive dust regulation.</li> </ul> |                               | and/or its designee.      |        |

| Impact   | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility        | Monitoring Responsibility   | Timing   |
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|  | <ul style="list-style-type: none"> <li>• Water quality.</li> <li>• Energy storage systems more generally.</li> </ul> <p>Compliance with these requirements would avoid or reduce potential adverse environmental impacts related to soil, air quality, surface water and groundwater quality, human health, fire related risk, and other environmental considerations.</p>   |                                      |   |  |
| <p><b>Impact 3.8-8:</b> The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p> | <p><b>Mitigation Measure 3.8-1, Paleontological Monitoring:</b> The qualified paleontologist shall oversee paleontological monitoring of all excavation at depths at or greater than 10 feet in previously undisturbed sediments. Monitoring shall be conducted by a paleontological monitor meeting the standards of the SVP (2010). If a paleontological resource is found, regardless of depth or setting, the Project contractor shall cease ground-disturbing activities within 50 feet of the find and contact the qualified paleontologist. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any significant fossils encountered and recovered shall be catalogued and curated at an accredited institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository. The qualified paleontologist shall prepare a report documenting</p> | <p>Project owner or its designee</p> | <p>Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee.</p> | <p>During construction and decommissioning</p> |

| Impact   | Mitigation Measure / Applicant-Proposed Measure   | Implementation Responsibility                  | Monitoring Responsibility  | Timing   |
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|  | evaluation and/or additional treatment of the resource. The report shall be filed with the County and with the repository.  |  |  |  |
| <b>Impact 3.8-11:</b> The Project would not cause or contribute to a significant cumulative effect to paleontological resources.   | Implement Mitigation Measure 3.8-1; see measure text, above.  | See Mitigation Measure 3.8-1, above.           |  |  |
| <b>Hazards and Hazardous Materials</b>   |   |  |  |  |
| <b>Impact 3.10-1:</b> The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.   | Implement Applicant-Proposed Measure 2.5.9.6; see measure text, above.  | See Applicant-Proposed Measure 2.5.9.6, above. |  |  |
|  | Implement Applicant-Proposed Measure 2.5.9.8; see measure text, above.  | See Applicant-Proposed Measure 2.5.9.8, above. |  |  |
| <b>Impact 3.10-2:</b> The Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the energy storage system and release of hazardous materials into the environment. | <b>Mitigation Measure 3.10-1, Soil Management Plan:</b><br>The Applicant shall require that its contractor(s) develop and implement a soil management plan before the start of any ground-disturbing activity. The soil management plan shall describe the hazardous materials that may be encountered (specifically, the previously noted areas that may have contaminated soil); the roles and responsibilities of on-site workers and supervisors; training for site workers focused on the recognition of and response to encountering hazardous materials; and protocols for testing the soil to evaluate the proper handling, removing, | Project owner or its designee                  | Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee. | Prior to and during construction and decommissioning |

| Impact | Mitigation Measure / Applicant-Proposed Measure   | Implementation Responsibility | Monitoring Responsibility | Timing |
|--------|---|-------------------------------|---------------------------|--------|
|        | <p>transporting, and disposing of all excavated materials in a safe, appropriate, and lawful manner.</p> <p>Prior to issuance of grading permits, soil shall be tested for total petroleum hydrocarbons near the on-site agricultural wells and pumps, fuel ASTs, turbine oil ASTs, diesel powered agricultural engines, and engine oil ASTs under the supervision of a professional geologist or professional engineer. In addition, soil shall be tested at four locations in a grid pattern and analyzed for pesticides and metals. The County shall review the results of the soil sampling to determine if any additional investigation or remedial activities are deemed necessary. No work shall resume in that area until the County has provided written authorization that the area does not warrant any additional action. If concentrations of contaminants are identified in areas of the Project site and are confirmed to pose a potential risk to human health and/or the environment by a qualified environmental specialist, contaminated materials shall be remediated either prior to or concurrent with construction. Remediation shall generally include a management plan which establishes design and implementation of remediation. Cleanup may include excavation, disposal, bioremediation, and/or any other treatment of conditions subject to regulatory action. All necessary reports, regulations and permits shall be followed to achieve cleanup of the site. The contaminated materials shall be remediated under the supervision of an environmental consultant licensed to oversee such remediation and under the direction of the lead oversight agency. The remediation program shall also be approved by the</p> |                               |                           |        |

| Impact   | Mitigation Measure / Applicant-Proposed Measure   | Implementation Responsibility                         | Monitoring Responsibility   | Timing  |
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|  | <p>County. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation, the environmental consultant shall prepare a report summarizing the project, the remediation approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests.</p>   |   |   |   |
|  | <p>Implement Applicant-Proposed Measure 2.5.9.2; see measure text, above.</p>   | <p>See Applicant-Proposed Measure 2.5.9.2, above.</p> |   |   |
| <p><b>Impact 3.10-4:</b> The Project could impair implementation of or physically interfere with emergency response or emergency evacuation.</p> | <p><b>Mitigation Measure 3.10-2: Traffic Management Plan.</b> At least 30 days prior to the issuance of construction or building permits, including for the initiation of on-site work to install power lines across West Jayne Avenue, the Project owner and/or its construction contractor shall prepare and submit a traffic management plan to the Fresno County Public Works Department and Caltrans District 6, as appropriate, for approval. The traffic management plan must be prepared in accordance with both the <i>Caltrans Manual on Uniform Traffic Control Devices</i> and <i>Work Area Traffic Control Handbook</i> and must include, but not be limited to, the following elements:</p> <ul style="list-style-type: none"> <li>□ A temporary traffic control plan that addresses traffic safety and control through the work zone, including during temporary lane closures (if needed) to accommodate materials delivery, transmission line stringing activities, or any other utility connections.</li> </ul> | <p>Project owner or its designee</p>                  | <p>Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee.</p> | <p>Traffic Management Plan to be prepared prior to construction and implemented during construction; road repair to be implemented following construction, as applicable to approved agreement.</p> |



| Impact | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility | Monitoring Responsibility | Timing |
|--------|--|-------------------------------|---------------------------|--------|
|        | <ul style="list-style-type: none"> <li><input type="checkbox"/> Identification of the timing of deliveries of heavy equipment and building materials and duration of proposed road closures or obstructions.</li> <li><input type="checkbox"/> Requirement for designated construction staff to be assigned as flaggers to direct traffic into and/or through temporary traffic control zones, as needed.</li> <li>• Requirement to place temporary signage, lighting, and traffic control devices if required, including but not limited to appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic and to advise of alternate routes.</li> <li><input type="checkbox"/> Measures to ensure access for emergency vehicles to the Project site.</li> <li><input type="checkbox"/> Maintenance of access to adjacent properties.</li> <li><input type="checkbox"/> Specification of construction-related vehicle travel and oversize-load haul routes, minimization of construction traffic during the a.m. and p.m. peak hours, distribution of construction traffic flow across alternative routes to access the Project site, and avoidance of residential neighborhoods to the maximum extent feasible.</li> <li><input type="checkbox"/> Requirement to obtain all necessary permits for the work within the road right-of-way or the use of oversized/overweight vehicles that would utilize County-maintained roads, which may require escort by the California Highway Patrol or a pilot car. Copies of the approved traffic plan and issued permits shall be submitted to the Fresno County Divisions of Public Works and Planning.</li> </ul> |                               |                           |        |

| Impact | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility | Monitoring Responsibility  | Timing  |
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|        | <p>The traffic management plan elements listed above would reduce the potentially significant effects of short-term and intermittent construction-related congestion caused by construction vehicles/equipment on local roadways.</p> <ul style="list-style-type: none"> <li>□ Due to the anticipated volume of truck traffic associated with construction of the project, the applicant shall be required to construct a Hot Mix Asphalt (HMA) overlay on Jayne Avenue from Interstate 5 and extending across the project frontage, approximately 1.54 miles east of Butte Avenue. The overlay shall be constructed prior to issuance of any development permits.</li> </ul>  |                               |  |   |
|        | <p><b>Applicant-Proposed Measure 2.5.9.7, Emergency Action Plan:</b> The Applicant recognizes that energy storage facilities, unless properly constructed, maintained, and operated, can create hazards for firefighters and emergency responders with the possibility of explosions, flammable gases, toxic fumes, water-reactive materials, electrical shock, corrosives, and chemical burns. As such, the Applicant proposes to construct and operate the facility in accordance with all applicable statutes, regulations, and other requirements, including by developing an emergency action plan in advance of construction to train local emergency response personnel during development and operation of the facility. The plan would be completed in accordance with existing state regulations (Health and Safety Code Section 25504(b); 19 Cal. Code Regs. 2731; 22</p> | Project owner or its designee | Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee. | During construction, operation, and decommissioning |

| Impact   | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility                | Monitoring Responsibility | Timing |
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|  | Cal. Code Regs. 66262.34[a][4]). The contents of the emergency action plan would comply with existing state regulations, would be developed in consultation with the fire department and energy storage system supplier, and would include defined roles and responsibilities and training for local first responders. |  |                           |        |
| <p><b>Impact 3.10-5:</b> The Project would not cause or contribute to a significant cumulative hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving a release of hazardous materials into the environment.</p> | <p>Implement Mitigation Measure 3.10-1, see text of measures above.</p>  | <p>See Mitigation Measure 3.10-1, above.</p> |                           |        |
| <p><b>Impact 3.10-6:</b> The Project would not cause or contribute to a significant cumulative hazard due to physical interference with emergency response or emergency evacuation.</p>  | <p>Implement Mitigation Measure 3.10-2, measure text, above.</p>   | <p>See Mitigation Measure 3.10-2, above.</p> |                           |        |

| Impact  | Mitigation Measure / Applicant-Proposed Measure   | Implementation Responsibility                  | Monitoring Responsibility  | Timing                           |
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| Metal Corrosion   | <b>Applicant-Proposed Measure 2.5.9.4, Corrosion Protection:</b> Signage, fencing, and other outdoor structures would be designed to last the life of the Project. Corrosion protection would be provided, if determined to be needed, by selecting thicker metal posts, using galvanized metal posts (with sacrificial anode coating), or installing a cathodic protection system (electrical corrosion controls). | Project owner or its designee                  | Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee. | Prior to and during construction |
| <b>Hydrology and Water Quality</b>  |   |  |  |                                  |
| Impact 3.11-1: The Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. | Implement Mitigation Measure 3.10-1; see measure text, above.   | See Mitigation Measure 3.10-1, above.          |  |                                  |
|   | Implement Applicant-Proposed Measure 2.5.9.3; see measure text, above.  | See Applicant-Proposed Measure 2.5.9.3, above. |  |                                  |
| Impact 3.11-4: The Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.               | Implement Mitigation Measure 3.10-1; see measure text, above.   | See Mitigation Measure 3.10-1, above.          |  |                                  |
| Impact 3.11-8: The Project would not cause a cumulatively considerable  | Implement Mitigation Measure 3.10-1; see measure text, above.   | See Mitigation Measure 3.10-1, above.          |  |                                  |

| Impact  | Mitigation Measure / Applicant-Proposed Measure   | Implementation Responsibility        | Monitoring Responsibility   | Timing  |
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| <p>contribution that could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.</p>   |   |                                      |   |   |
| Noise   |   |                                      |   |   |
| <p><b>Impact 3.14-1:</b> The Project could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.</p> | <p><b>Mitigation Measure 3.14-1, Nighttime Noise Reduction for Construction Activities.</b> Prior to issuance of construction permits for the project, the Project Applicant shall submit to the County for approval a construction noise reduction plan to be implemented by all contractors as a condition of contract. Contents of the plan should include at a minimum:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Maintain all construction tools and equipment in good operating order according to manufacturers' specifications.</li> <li><input type="checkbox"/> Limit use of pile drivers and major excavating and earth-moving machinery to daytime hours.</li> <li><input type="checkbox"/> Equip any internal combustion engine used for any purpose on the job or related to the job with a properly operating muffler that is free from rust, holes, and leaks.</li> <li><input type="checkbox"/> For construction devices that utilize internal combustion engines, ensure the engine's housing doors are kept closed, and install noise-insulating material mounted on the engine housing consistent with manufacturers' guidelines, if possible.</li> </ul> | <p>Project owner or its designee</p> | <p>Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee.</p> | <p>Prior to and during construction, operation, and decommissioning</p> |

| Impact   | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility                  | Monitoring Responsibility  | Timing   |
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|  | <input type="checkbox"/> Limit possible evening and nighttime shift work to low-noise activities such as welding, wire pulling, and other similar activities, together with appropriate material handling equipment such that noise levels at 50 feet are less than 80 dBA |  |  |  |
| <b>Transportation</b>  |  |  |  |  |
| <b>Impact 3.18-1:</b><br>Construction of the Project would generate a temporary increase in traffic volumes on area roadways, which could conflict with a program, plan, ordinance, or policy addressing the circulation system. | Implement Mitigation Measure 3.10-2; see measure text, above.  | Project owner or its designee                  | Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee. | Prior to and during construction and decommissioning |
| <b>Impact 3.18-4:</b> The Project would not result in inadequate emergency access.   | Implement Applicant-Proposed Measure 2.5.9.7; see measure text, above.   | See Applicant-Proposed Measure 2.5.9.7, above. |  |  |
| <b>Impact 3.18-5:</b> The Project could cause a cumulatively considerable contribution to a significant cumulative impact to transportation.   | Implement Mitigation Measure 3.10-2; see measure text, above.  | See Mitigation Measure 3.10-2, above.          |  |  |

| Impact   | Mitigation Measure / Applicant-Proposed Measure  | Implementation Responsibility | Monitoring Responsibility  | Timing   |
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| <b>Wildfire</b>  |  |                               |  |  |
| <p><b>Impact 3.20-4:</b> The Project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildfire.</p> | <p><b>Applicant-Proposed Measure 2.5.9.2, Fire Protection:</b> The Applicant would implement the following fire protection, prevention, and detection measures and design features. Fire protection systems for each phase of the Project would be designed in accordance with the 2022 California Fire Code (California Code of Regulations [Cal. Code Regs. Title 24, Part 9) or the version of the Fire Code that is current at the time of construction.</p> <p>The Project could install lithium-ion batteries and/or iron-flow storage technology. Enclosures for either technology would be unoccupied. Flow batteries are generally not flammable and do not require fire suppression systems. Flow battery tanks would be designed to have containment in the event of a failure.</p> <p>To mitigate potential hazards, redundant separate methods of failure detection would be implemented. Remote alarms would be installed for operations personnel as well as emergency response teams including voltage, current, and temperature alarms from the battery management system. Other protective measures are proposed to include ventilation, overcurrent protection, battery controls to operate the batteries within designated parameters, temperature and humidity controls, smoke detection, and maintenance in accordance with manufacturer guidelines. In addition, an emergency response plan would be implemented as described in Section 2.5.9.7, <i>Emergency Response Plan</i>.</p> | Project owner or its designee | Fresno County Department of Public Works and Planning, Development Services Division, and/or its designee. | Prior to and during construction, operation, and decommissioning |

| Impact | Mitigation Measure / Applicant-Proposed Measure   | Implementation Responsibility | Monitoring Responsibility | Timing |
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|        | <p>The Project's proposed fire protection design would comply with Section 1206 Electrical Energy Storage Systems, which adopts the National Fire Protection Association (NFPA) Standard for the Installation of Stationary Energy Storage Systems (NFPA 855). Depending on technology, Underwriters Laboratories (UL), an independent engineer's test method, would certify that the batteries to be used in this Project, if it is approved, are manufactured in accordance with UL-9540A, an industry-standard Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems. UL independently tests equipment for compliance with the latest fire safety code requirements. This test method was developed to minimize the risk of thermal runaway to address safety concerns about battery storage equipment raised by fire departments and building officials in the United States. Compliance with these standards and certification includes a Battery Management System design that detects high temperatures at the battery cell or battery module level and automatically shuts down the battery rack. Furthermore, installation of battery units would follow manufacturers' specifications for the spacing of batteries and clearance distances to further prevent a thermal runaway event. Each unit would also be equipped with thermal management systems. Power to the thermal management system would be provided through a connection to the on-site station service transformer with connection lines installed above and/or below ground and would be equipped with an uninterruptible power supply as described in Section 2.5.4.6.</p> |                               |                           |        |



| Impact | Mitigation Measure / Applicant-Proposed Measure                        | Implementation Responsibility                  | Monitoring Responsibility | Timing |
|--------|--|--|---------------------------|--------|
|        | Implement Applicant-Proposed Measure 2.5.9.7; see measure text, above. | See Applicant-Proposed Measure 2.5.9.7, above. |                           |        |
|        | Implement Applicant-Proposed Measure 2.5.9.8; see measure text, above. | See Applicant-Proposed Measure 2.5.9.8, above. |                           |        |

\*MITIGATION MEASURE – Measure specifically applied to the project to mitigate potential adverse environmental effects identified in the environmental document. Conditions of Approval reference recommended Conditions for the project. The term Applicant is synonymous with the term developer.

| Conditions of Approval   |   |
|--|---|
| 1.   | Development and operation of the project shall be substantially in accordance with the Site Plans and Operational Statement submitted to the Planning Commission.   |
| 2.   | The project parcel identified as APN No. 085-040-58S must be removed from the Williamson Act Program through contract cancelation prior to issuance of any development permits.   |
| 3.   | Prior to the issuance of development permits, the Applicant shall record with the County recorder a Right-to-Farm Notice indicating that adjacent agricultural operations shall not become a nuisance due to the changed condition of the Project site. |
| Project Notes  |   |
| <b>The following Notes reference mandatory requirements of Fresno County or other Agencies and are provided as information to the project Developer.</b> |   |
| 1.   | Construction plans, building permits and inspections are required for all proposed improvements on the property.  |
| 2.   | Use Permit Nos. 3734, 3802, 3803 and 3804, will become void unless there has been substantial development within two years of the effective date of this approval, or there has been a cessation of the use for a period more than two years.           |
| 3.   | Prior to initiating construction, the developer shall be required to contact Underground Service Alert (811) to allow Westlands Water District staff to locate and mark its facilities prior to commencement of grading or construction activities.     |

| Project Notes |   |
|---------------|---|
| 4.            | <p>Per Article 19 Rules &amp; Regulations of Westland Water District, the proposed water sources are on-site groundwater wells and through a Municipal &amp; Industrial (M&amp;I) water agreement secured with the District. The District will make available up to five (5) acre-feet annually per 160 acres for solar developments. If the Applicant's annual water use is expected to exceed the aforementioned amount, the Applicant must submit a supplemental M&amp;I Water Application to the District and identify the source of water to be made available to meet the incremental increased use.</p>  |
| 5.            | <p>The project shall comply with California Code of Regulations Title 24– Fire Code and “Prior to receiving FCFPD conditions of approval for the project, the developer shall submit construction plans to the County of Fresno Public Works and Planning for review. The project may also be annexation into the Community Facilities District No. 2010-01 of the Fresno County Fire Protection District.</p>  |
| 6.            | <p>To address public health impacts resulting from the project, Fresno County Department of Public Health, Environmental Health Division (Health Department) requires the following:</p> <ul style="list-style-type: none"> <li>• Facilities that use and/or store hazardous materials and/or hazardous wastes shall meet the requirements set forth in the California Health and Safety Code (HSC), Division 20, Chapter 6.95, and the California Code of Regulations (CCR), Title 22, Division 4.5.</li> <li>• Any business that handles a hazardous material or hazardous waste may be required to submit a Hazardous Materials Business Plan pursuant to the HSC, Division 20, Chapter 6.95.</li> <li>• All hazardous waste shall be handled in accordance with requirements set forth in the California Code of Regulations (CCR), Title 22, Division 4.5.</li> <li>• Should any underground storage tank(s) be found during the project, the applicant shall apply for and secure an Underground Storage Tank Removal Permit from the Health Department.</li> <li>• All abandoned water wells and septic systems on the subject parcels shall be properly destroyed by an appropriately licensed contractor. .</li> <li>• Any underground storage tank(s) found during construction, shall be removed with an Underground Storage Tank Removal Permit from the Health Department.</li> <li>• Prior to destruction of agricultural wells, a sample of the upper most fluid in the well column should be sampled for lubricating oil. The presence of oil staining around the well may indicate the use of lubricating oil to maintain the well pump. Should lubricating</li> </ul> |

## Project Notes

oil be found in the well, the oil should be removed from the well prior to placement of fill material for destruction. The "oily water" removed from the well must be handled in accordance with federal, state and local government requirements.

- Should the structures have an active rodent or insect infestation, the infestation should be abated prior to demolition of the structures to prevent the spread of vectors to adjacent properties.
- In the process of demolishing the existing structures, if asbestos containing construction materials and materials coated with lead-based paints are encountered, contact the San Joaquin Valley Air Pollution Control District.
- If the structures were constructed prior to 1979 or if lead-based paint is suspected to have been used in these structures, then prior to demolition work contact the California Department of Public Health, Childhood Lead Poisoning Prevention Branch, at (560) 620-5600, United States Environmental Protection Agency, Region 9 at (415) 947-8000, State of California, Industrial Relations Department, Division of Occupational Safety and Health, Consultation Service (CAL-OSHA) at (559) 454-5302.

# LOCATION MAP

CUP 3734

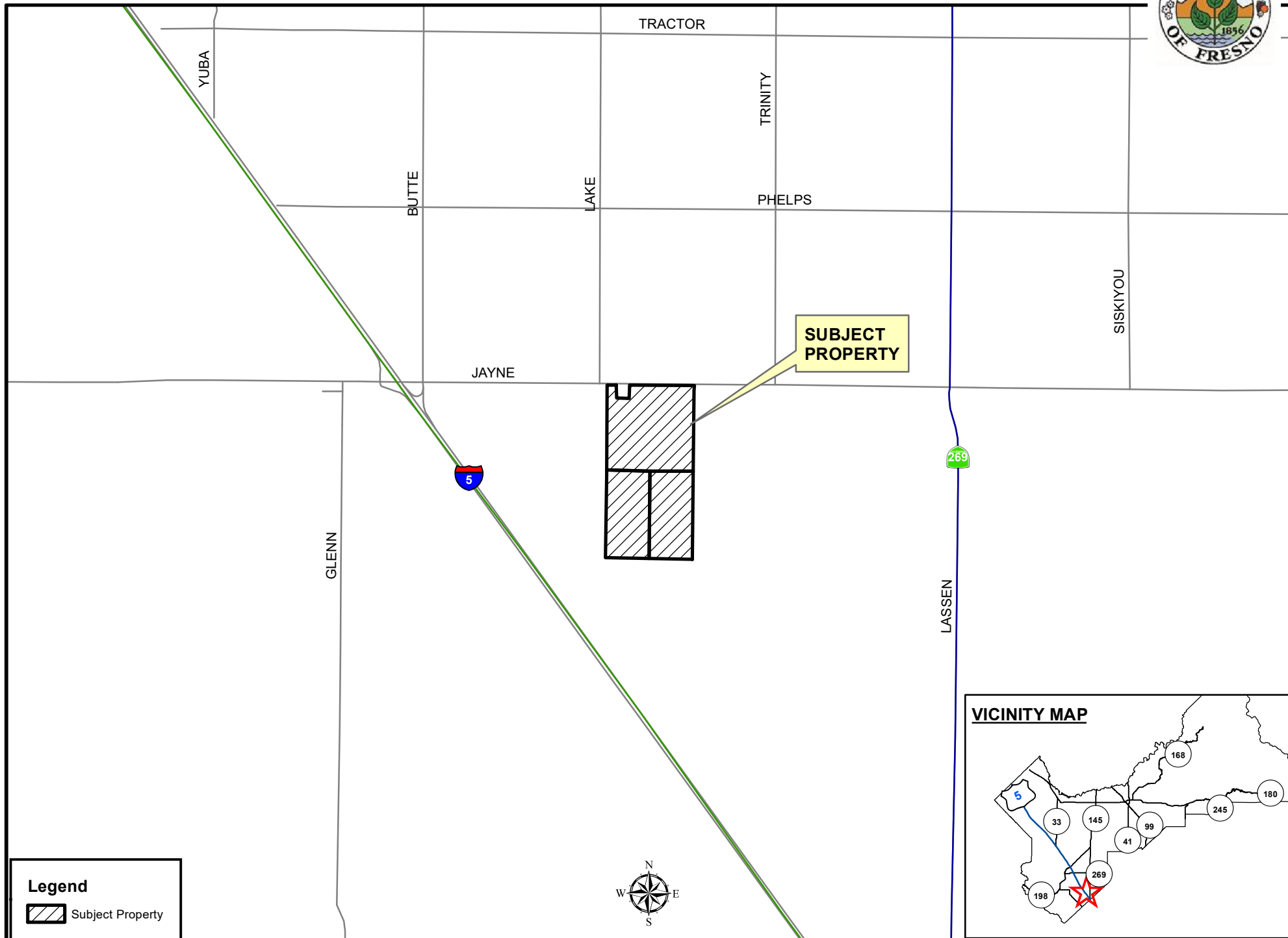



Exhibit 2

**Legend**

 Subject Property

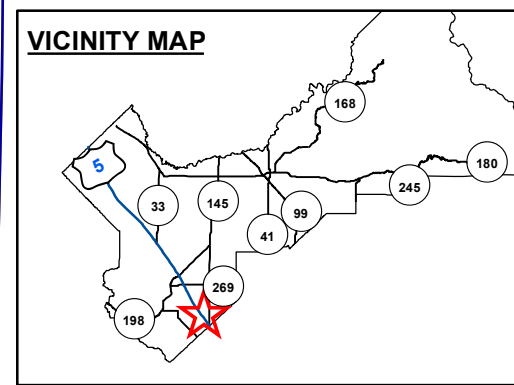


Exhibit 3  
**EXISTING ZONING MAP**

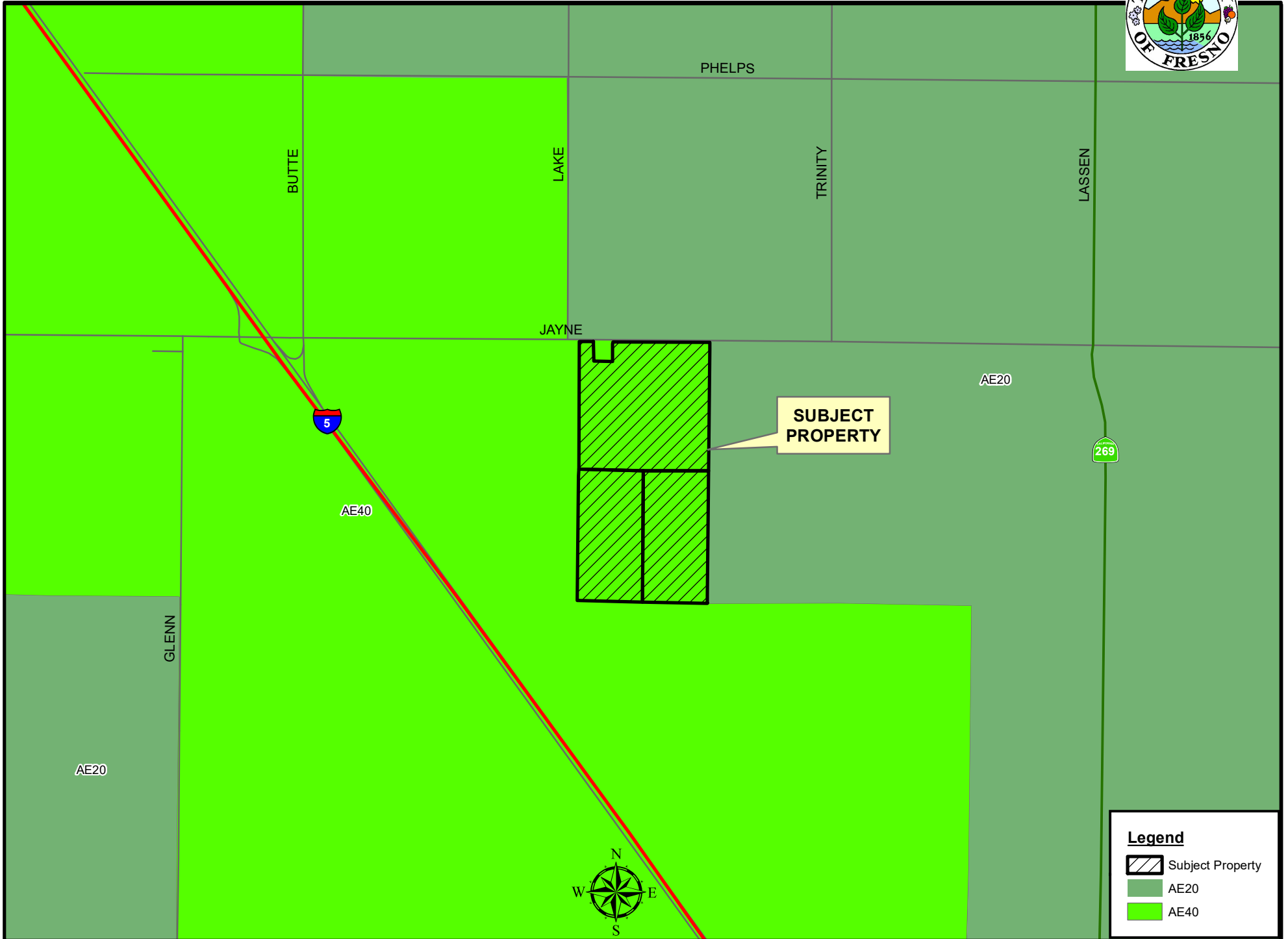
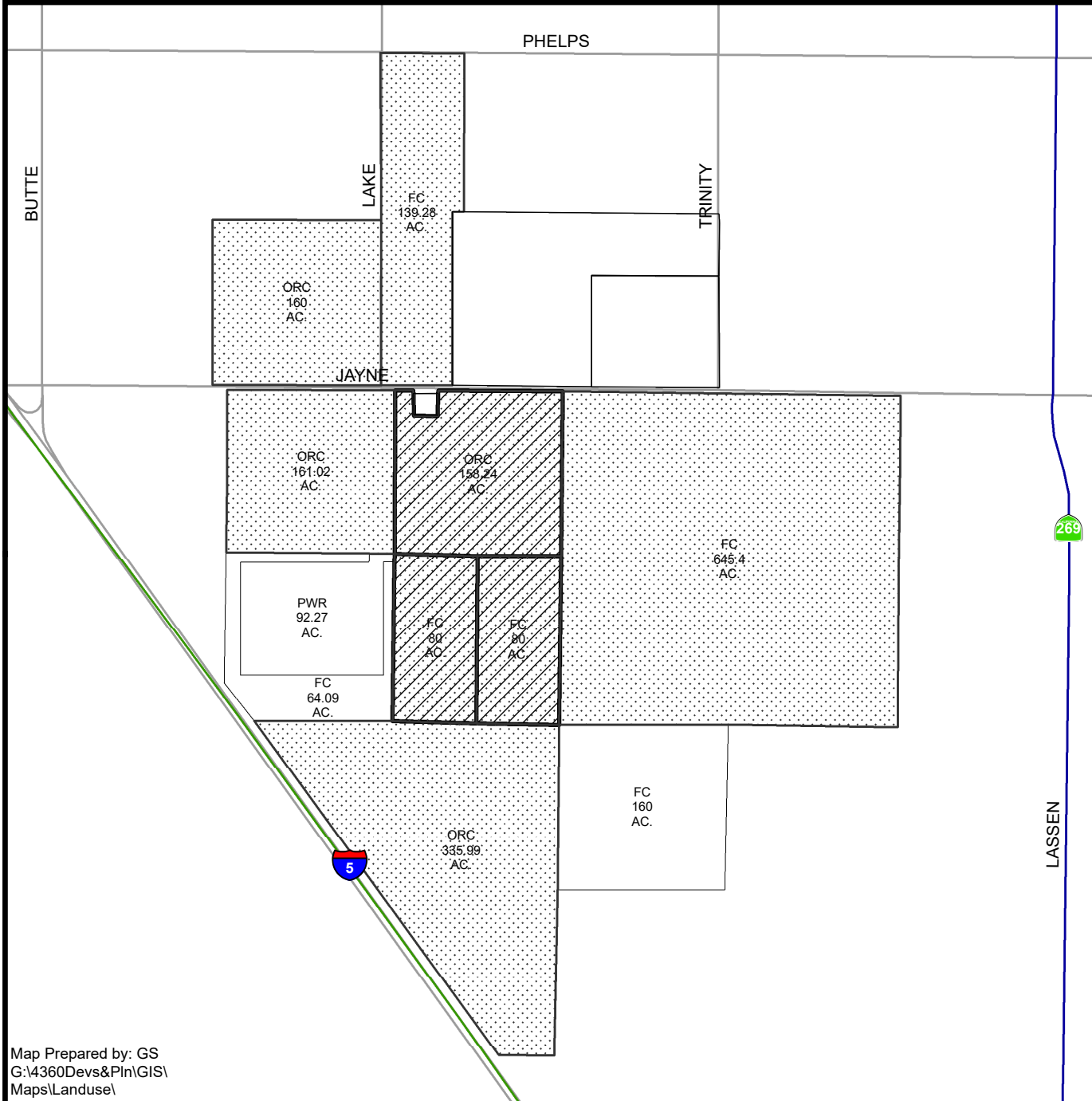


Exhibit 3

# EXISTING LAND USE MAP

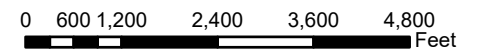
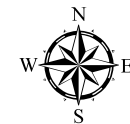
CUP 3734



| LEGEND                      |  |
|-----------------------------|--|
| FC - FIELD CROP             |  |
| ORC - ORCHARD               |  |
| PWR - POWER GENERATION SITE |  |
| V - VACANT                  |  |

LEGEND:

- Subject Property
- Ag Contract Land



Department of Public Works and Planning  
Development Services Division

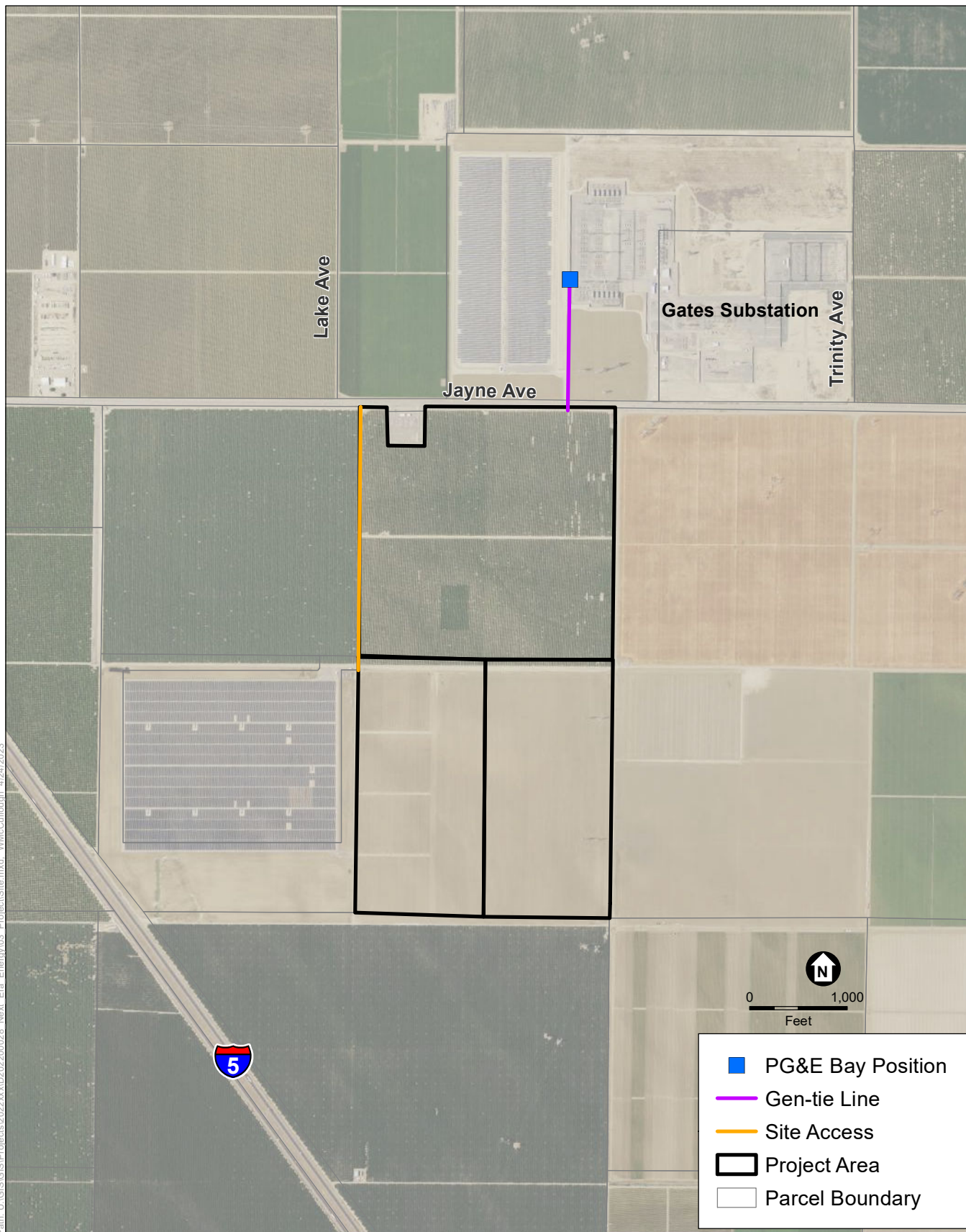
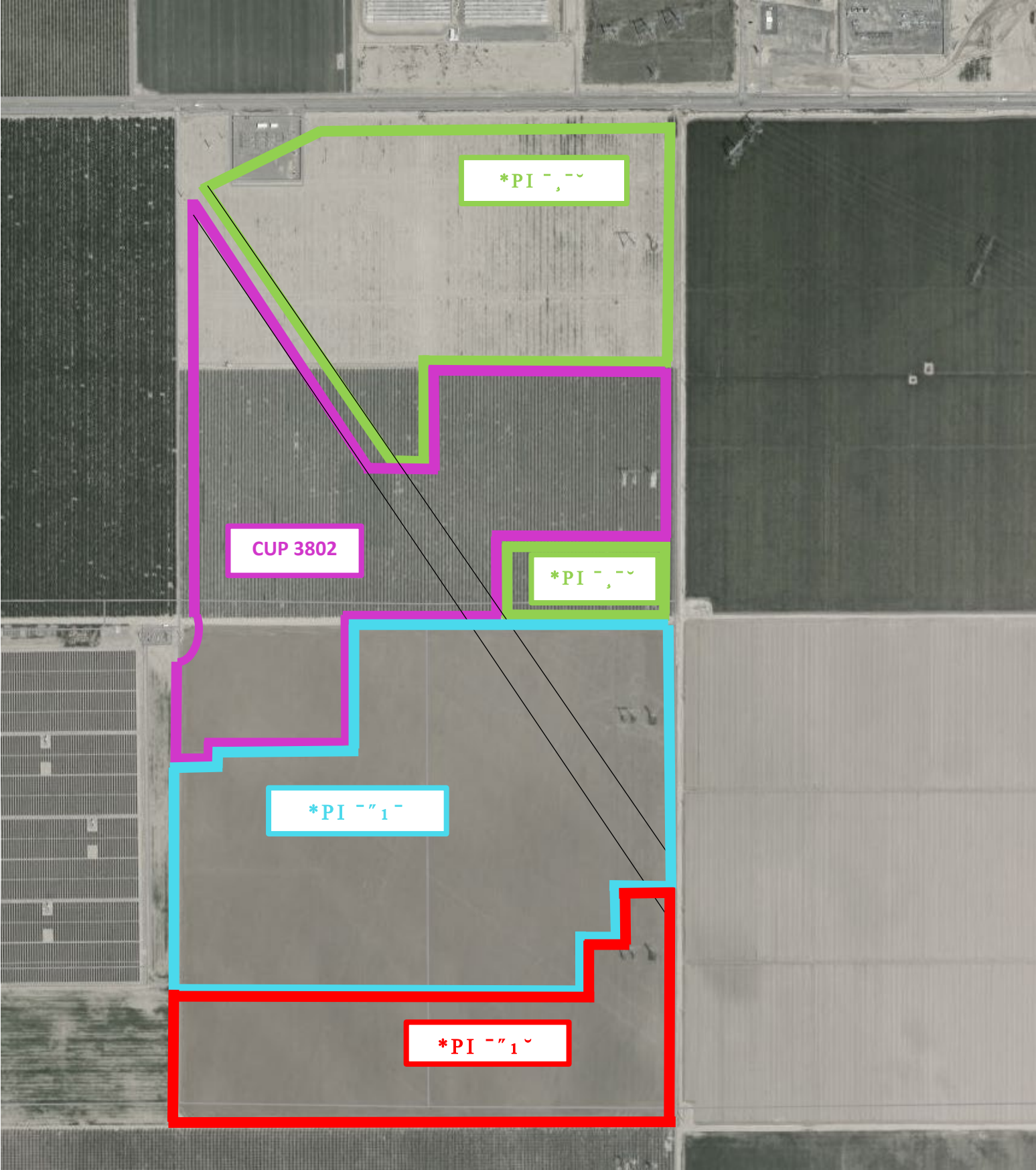


Exhibit 5a

Key Energy Storage Project

Project Site

Path: U:\GIS\GIS\Projects\2022\xx\AD2022000028\_Next\_Era\_Energy\03\_Project\Site.mxd, W:\Cullough\_4/24/2023



\*PI 1, 2

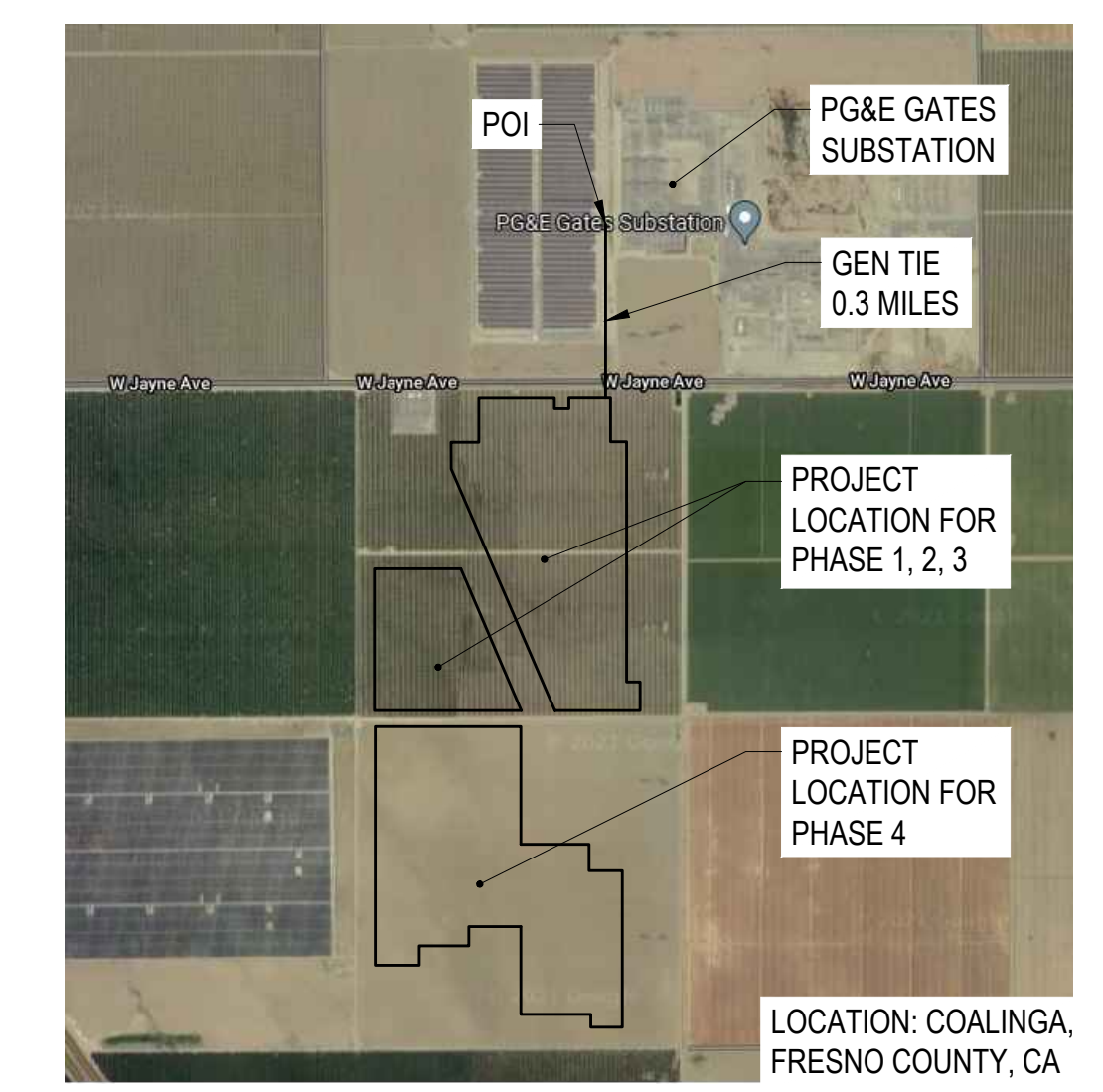
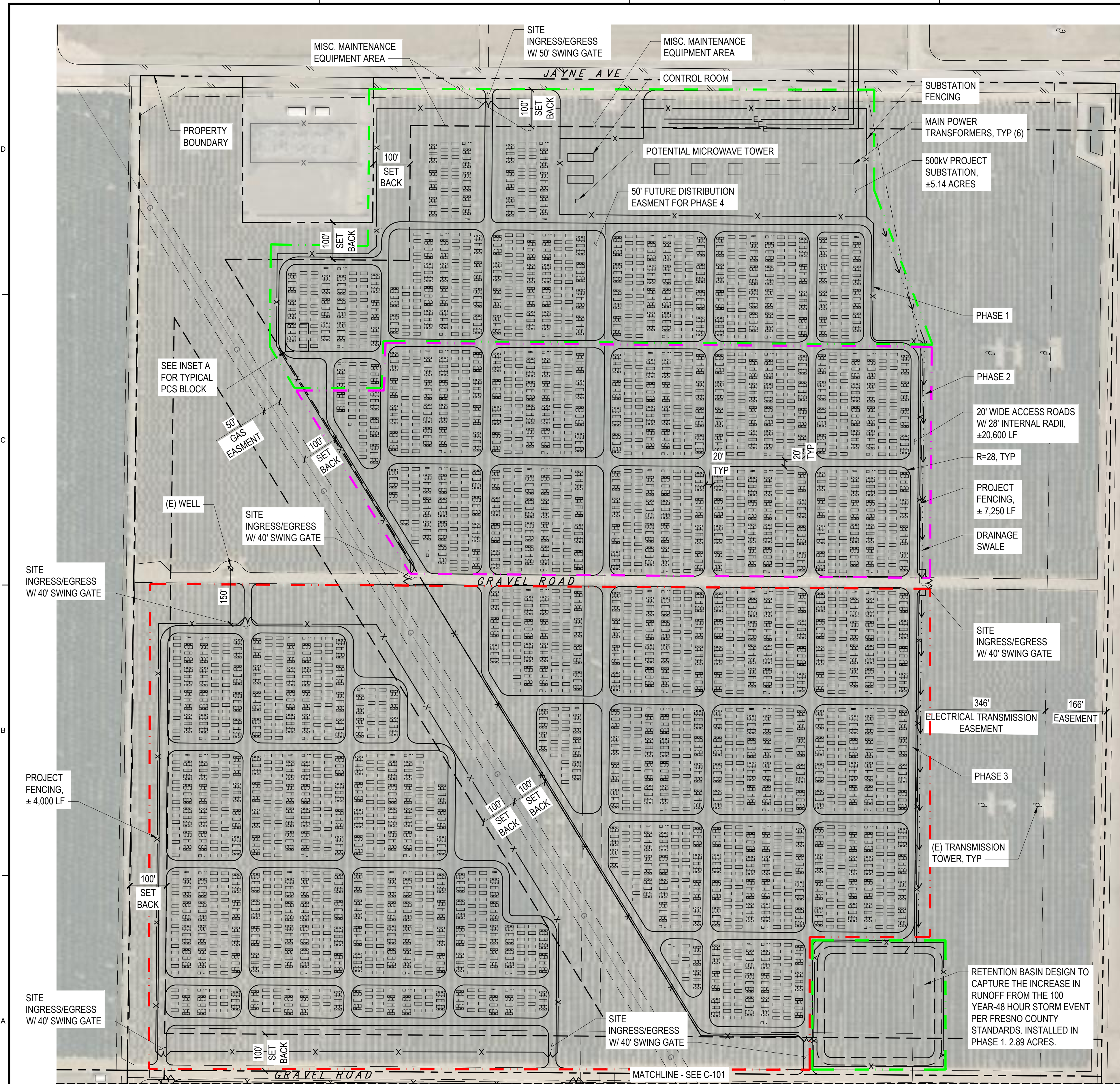
CUP 3802

\*PI 1, 2

\*PI 1, 2

\*PI 1, 2





VICINITY MAP

| PHASE | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | ACRES PER PHASE |
|-------|--------------------------|--|-----------------|
| 1     | 300 MW                   | 96   | 27.6 (NOTE A)   |
| 2     | 500 MW                   | 160  | 22.2            |
| 3     | 1000 MW                  | 320  | 60.8            |
| 4     | 1200 MW                  | 384  | 97.4 (NOTE B)   |
| TOTAL | 3000 MW                  | 960  | 208             |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-100.  
 NOTE B: INCLUDES RETENTION BASINS ON C-101.

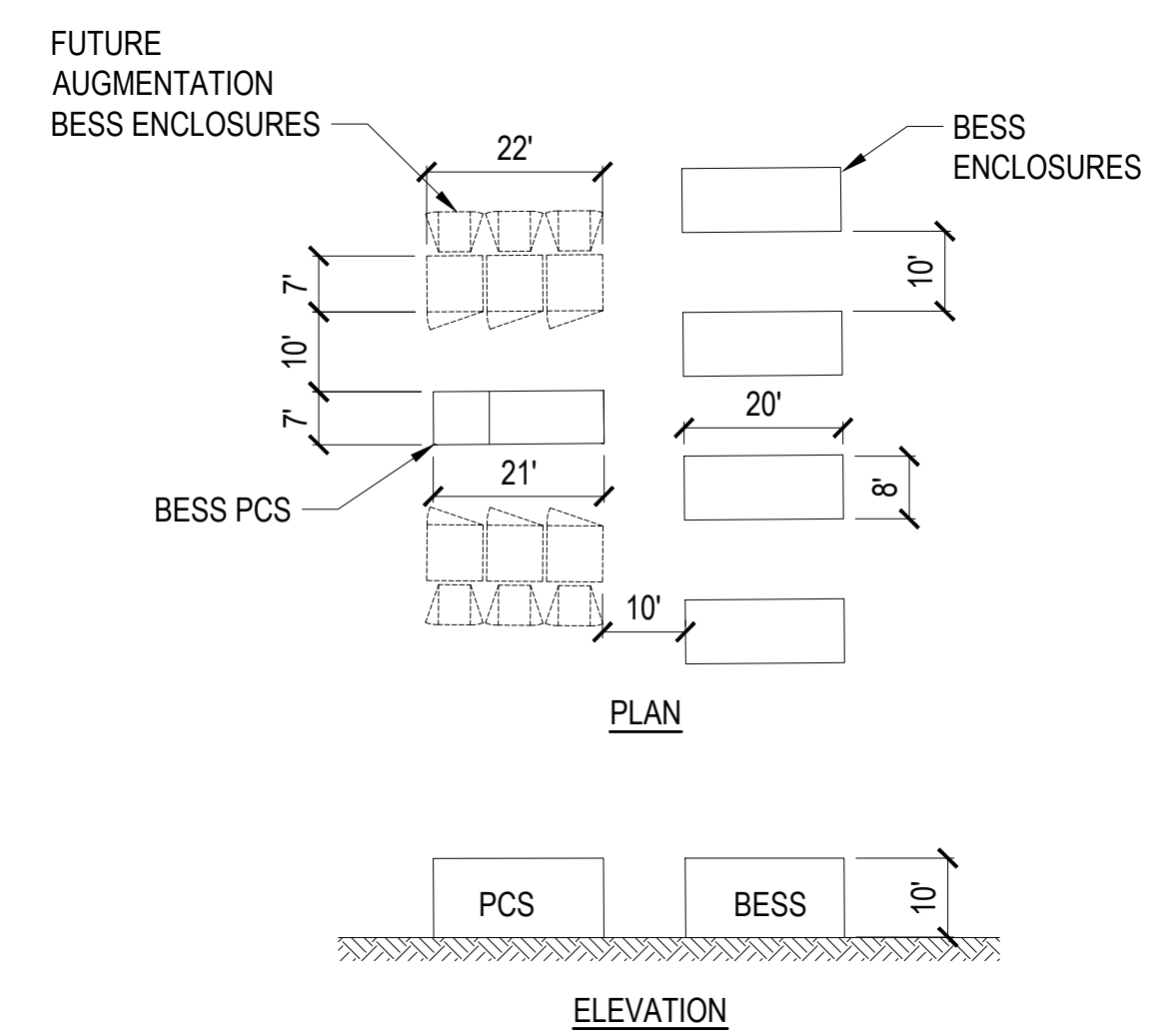
SYSTEM SUMMARY

NOTES:

- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY (FOR EACH PHASE). ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

ABBREVIATIONS:

BESS BATTERY ENERGY STORAGE SYSTEM  
 PCS POWER CONVERSION SYSTEM  
 POI POINT OF INTERCONNECTION



INSET A - TYPICAL PCS BLOCK

PRELIMINARY - NOT FOR CONSTRUCTION



KEY BESS

PRELIMINARY - NOT FOR CONSTRUCTION

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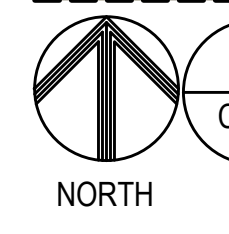
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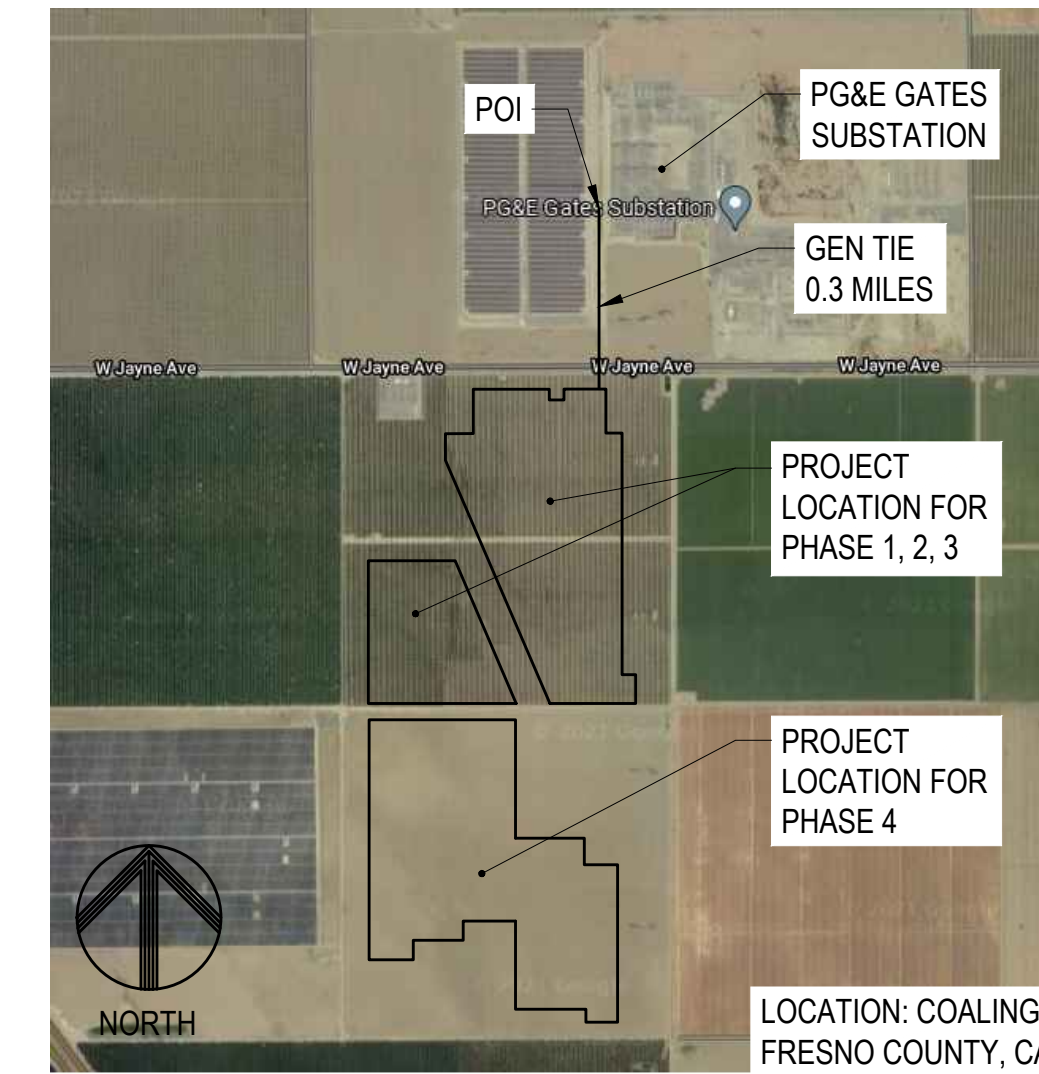
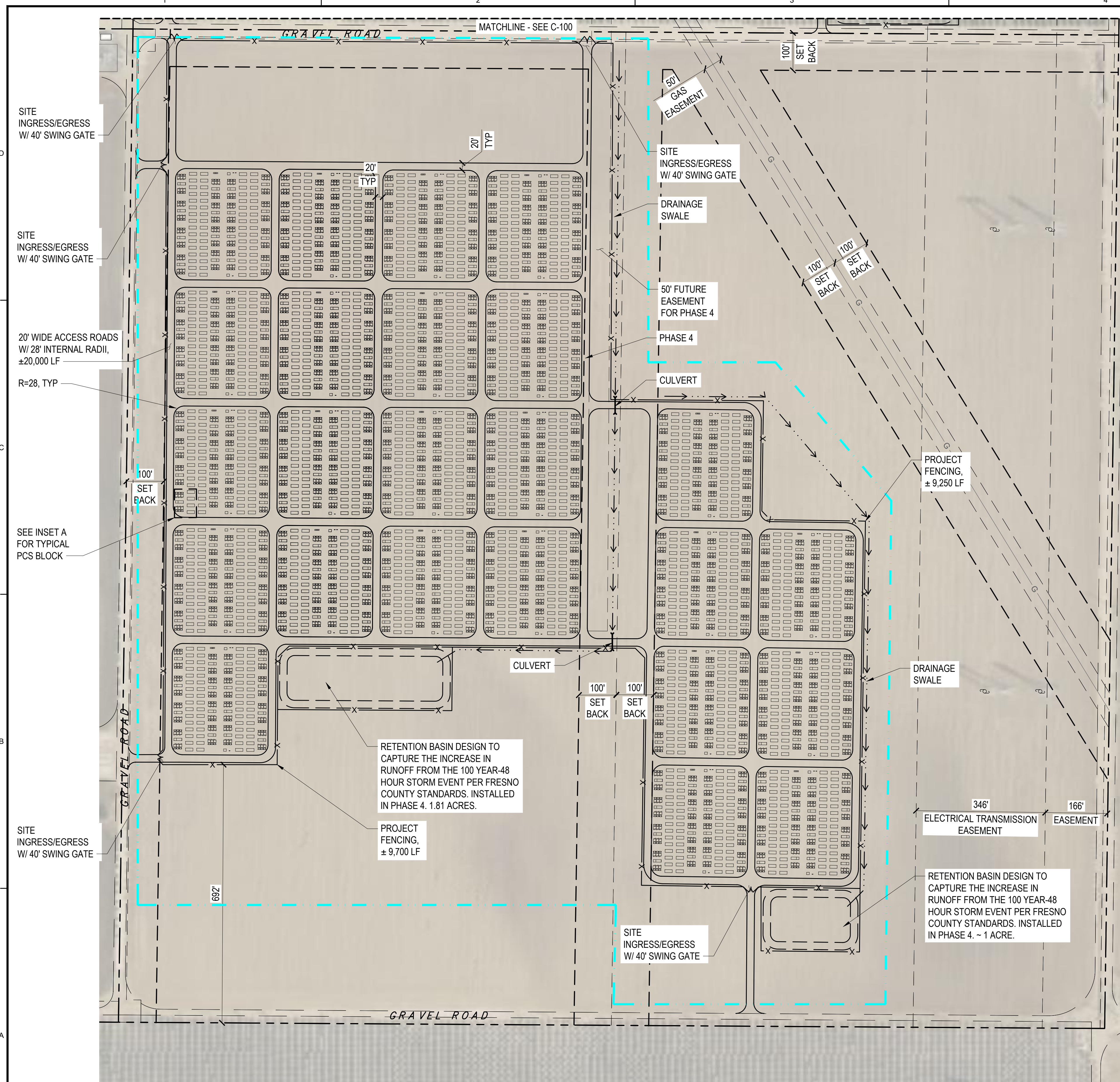
KEY BESS  
 PRELIMINARY  
 SITE PLAN &  
 GENERAL  
 ARRANGEMENT

SHEET NO:

**1 PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT**  
 SCALE: 1" = 150'-0"



**C-100**



VICINITY MAP

| PHASE        | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | ACRES PER PHASE |
|--------------|--------------------------|--|-----------------|
| 1            | 300 MW                   | 96   | 27.6 (NOTE A)   |
| 2            | 500 MW                   | 160  | 22.2            |
| 3            | 1000 MW                  | 320  | 60.8            |
| 4            | 1200 MW                  | 384  | 97.4 (NOTE B)   |
| <b>TOTAL</b> | <b>3000 MW</b>           | <b>960</b>                                 | <b>208</b>      |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-100.  
NOTE B: INCLUDES RETENTION BASINS ON C-101.

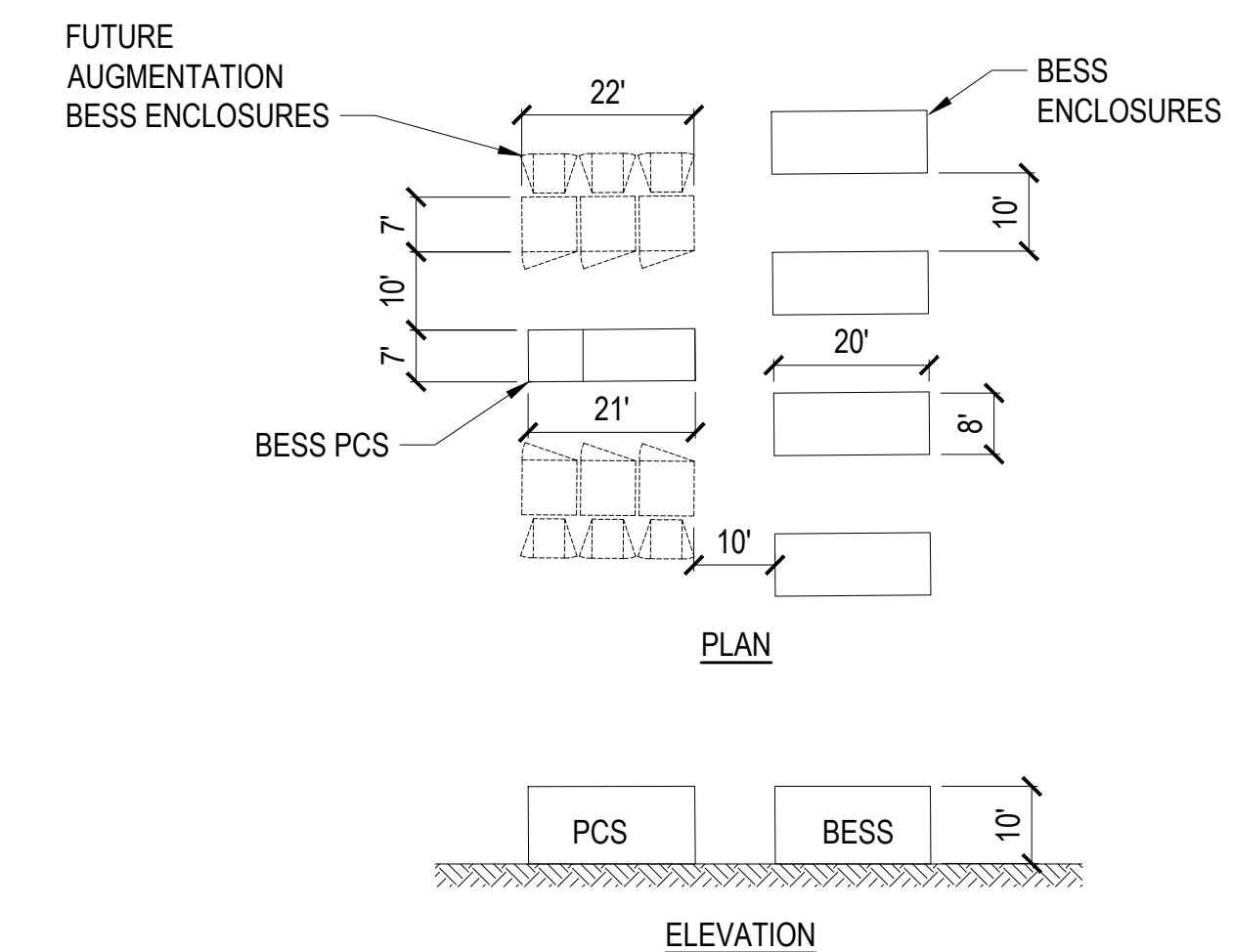
### SYSTEM SUMMARY

#### NOTES:

- 1. DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- 2. SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY (FOR EACH PHASE). ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

#### ABBREVIATIONS:

BESS BATTERY ENERGY STORAGE SYSTEM  
 PCS POWER CONVERSION SYSTEM  
 POI POINT OF INTERCONNECTION



INSET A - TYPICAL PCS BLOCK

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PRELIMINARY - NOT FOR CONSTRUCTION

NEXTERA



KEY BESS

PRELIMINARY - NOT FOR CONSTRUCTION

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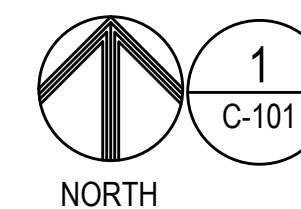
SHEET TITLE:

KEY BESS  
 PRELIMINARY  
 SITE PLAN &  
 GENERAL  
 ARRANGEMENT

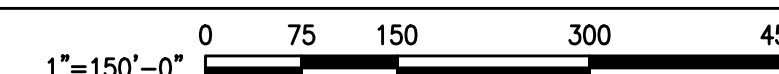
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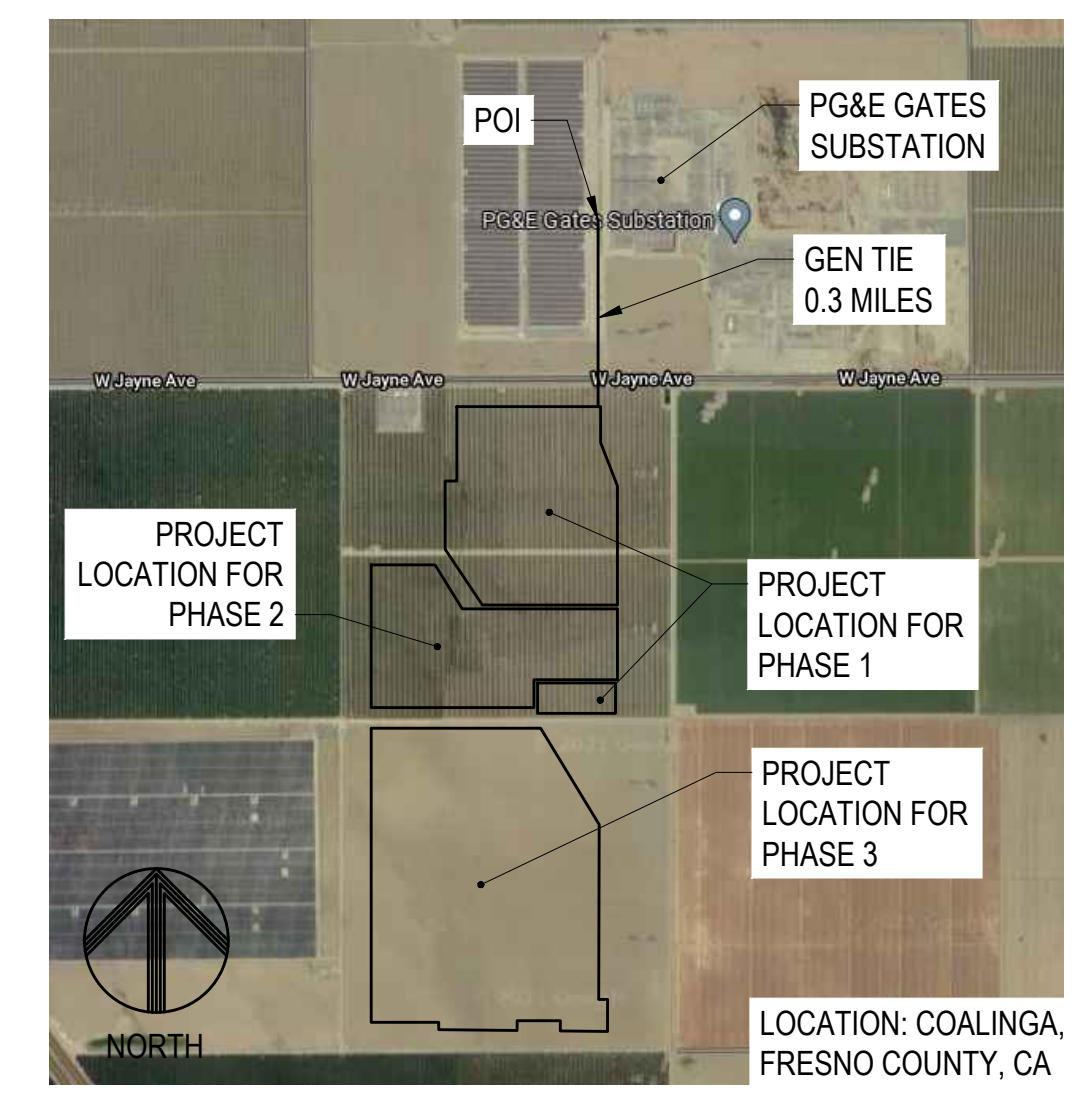
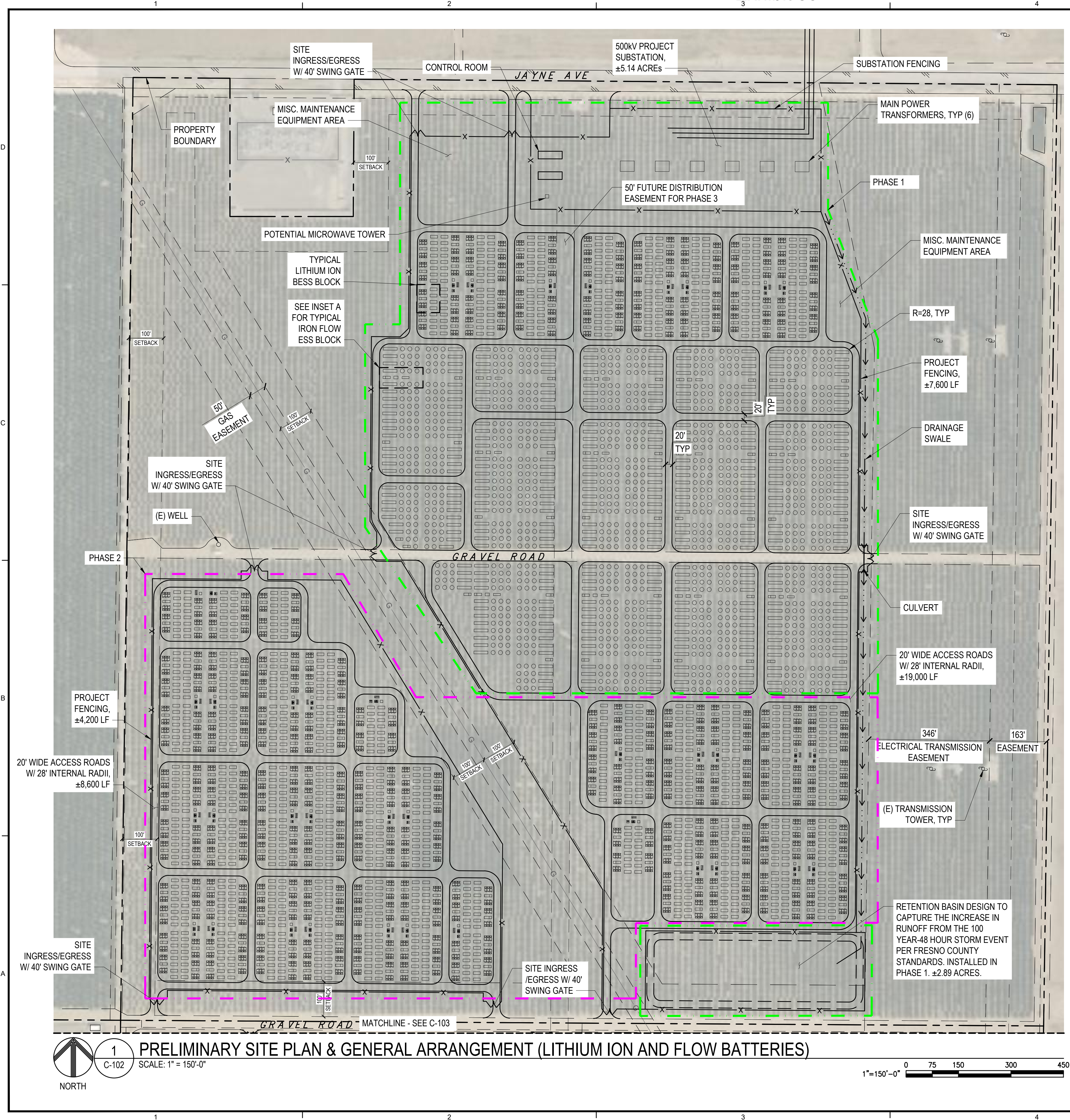
# C-101

## PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT



SCALE: 1" = 150'-0"





VICINITY MAP

| PHASE | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | BESS TECHNOLOGY | ACRES PER PHASE |
|-------|--------------------------|--|-----------------|-----------------|
| 1     | 300 MW                   | 46   | FE FLOW         | 56.0 (NOTE A)   |
|       |                          | 64   | Li - ION        |                 |
| 2     | 700 MW                   | 232  | Li - ION        | 43.4            |
| 3     | 2000 MW                  | 640  | Li - ION        | 108.6 (NOTE B)  |
| TOTAL | 3000 MW                  | 982  |                 | 208             |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-102.  
 NOTE B: INCLUDES RETENTION BASINS ON C-103.

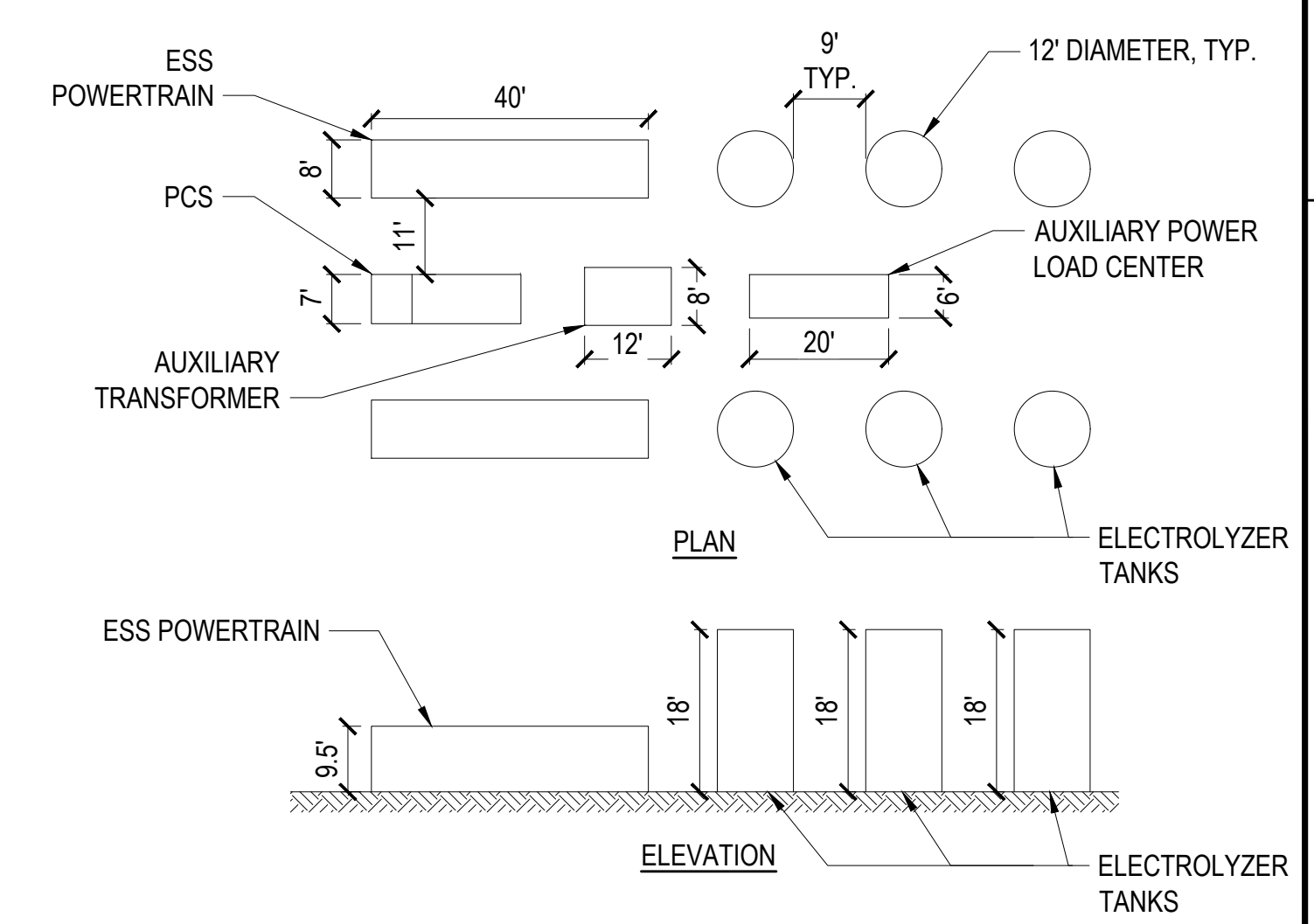
SYSTEM SUMMARY

NOTES:

- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY. ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

ABBREVIATIONS:

BESS BATTERY ENERGY STORAGE SYSTEM  
 ESS ENERGY STORAGE SYSTEM  
 PCS POWER CONVERSION SYSTEM  
 POI POINT OF INTERCONNECTION



INSET A - TYPICAL IRON FLOW ESS BLOCK

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PRELIMINARY - NOT FOR CONSTRUCTION

NEXTERA ENERGY RESOURCES

KEY BESS

PRELIMINARY - NOT FOR CONSTRUCTION

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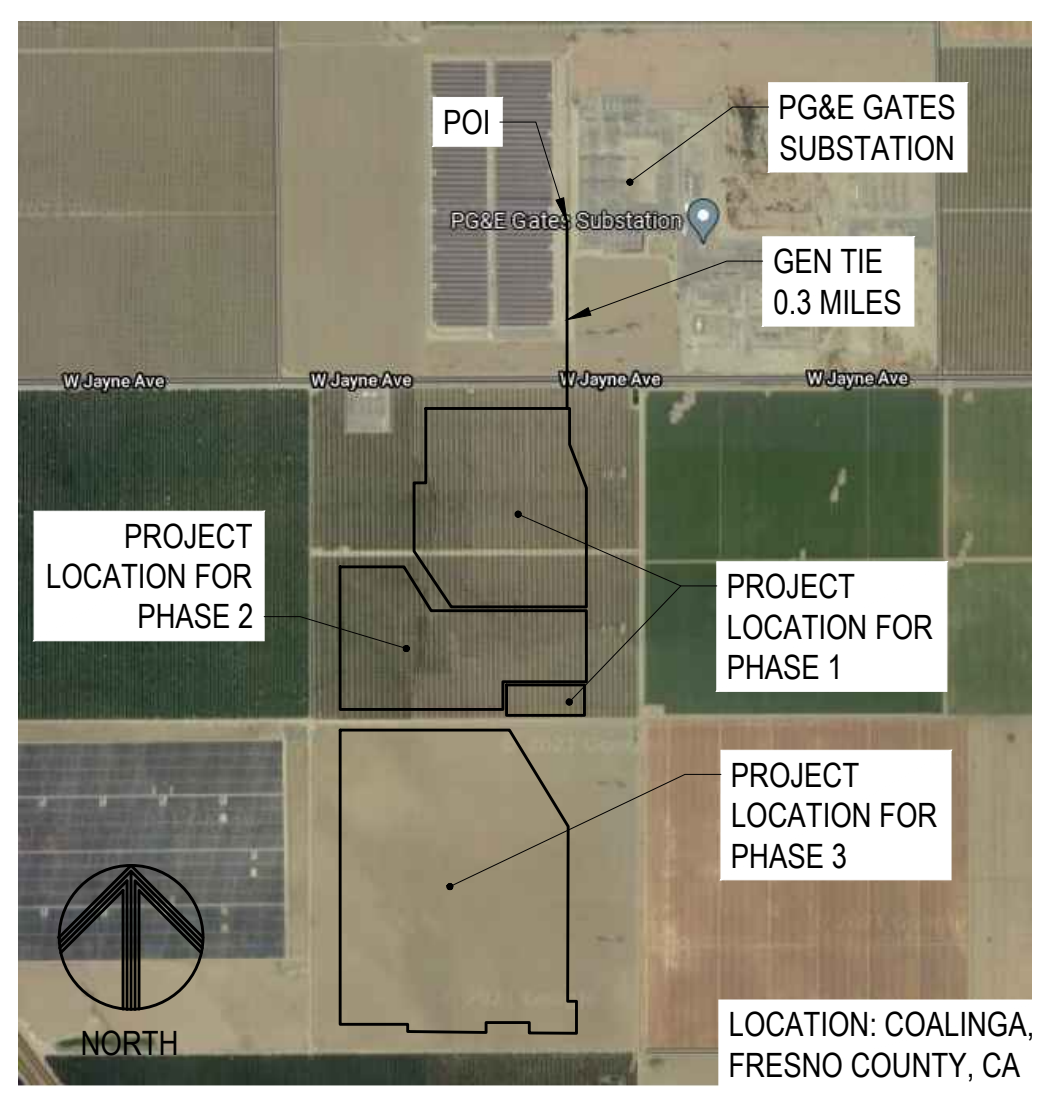
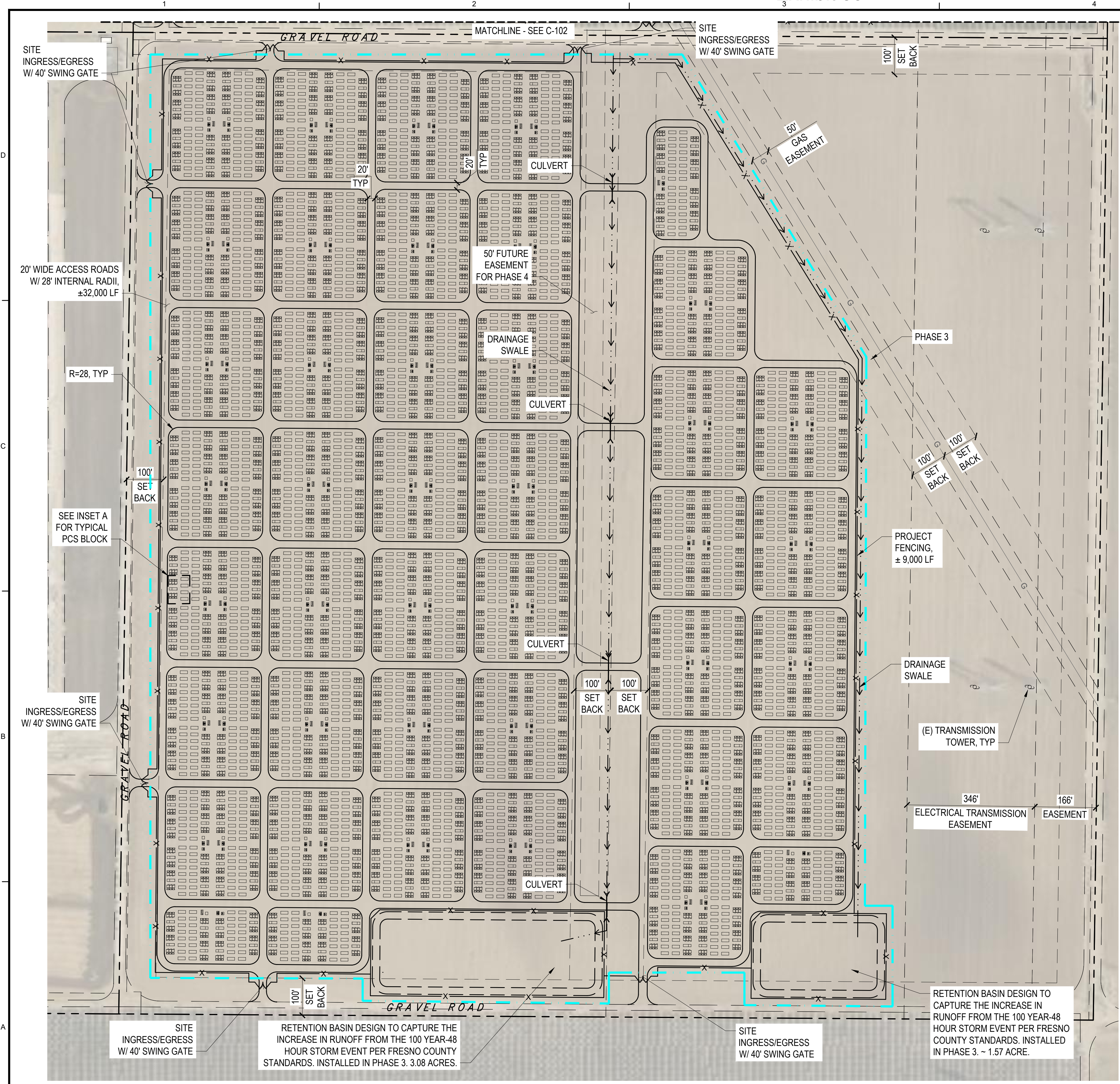
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 CHECKED LJB  
 DATE 09/2022

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 SHEET TITLE:

PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT (LITHIUM ION AND FLOW BATTERIES)

SHEET NO:

C-102



VICINITY MAP

| PHASE | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | BESS TECHNOLOGY | ACRES PER PHASE |
|-------|--------------------------|--|-----------------|-----------------|
| 1     | 300 MW                   | 46   | FE FLOW         | 56.0 (NOTE A)   |
| 2     | 700 MW                   | 232  | Li - ION        | 43.4            |
| 3     | 2000 MW                  | 640  | Li - ION        | 108.6 (NOTE B)  |
| TOTAL | 3000 MW                  | 982  |                 | 208             |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-102.  
NOTE B: INCLUDES RETENTION BASINS ON C-103.

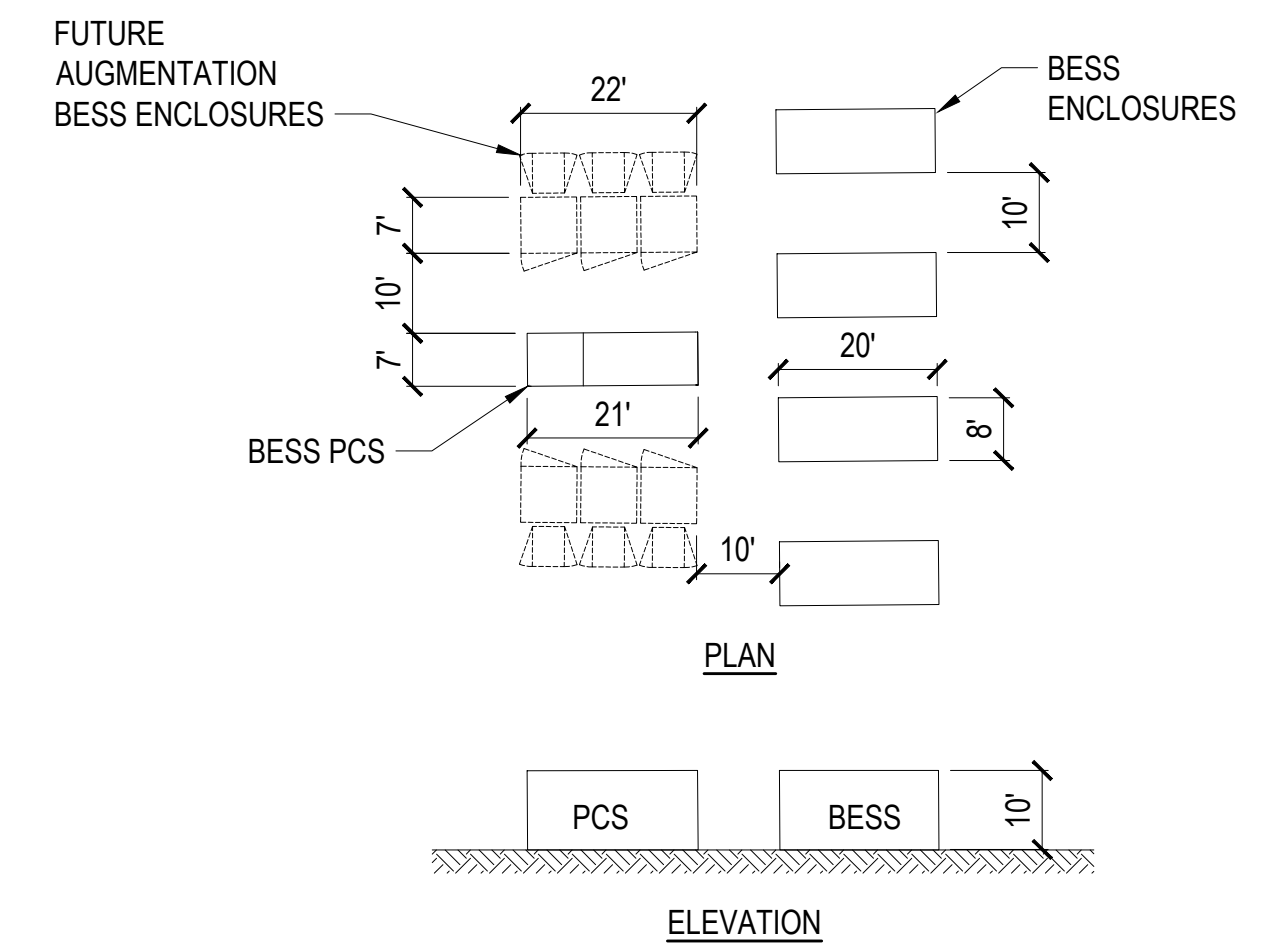
SYSTEM SUMMARY

NOTES:

- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY (FOR EACH PHASE). ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

ABBREVIATIONS:

BESS BATTERY ENERGY STORAGE SYSTEM  
PCS POWER CONVERSION SYSTEM  
POI POINT OF INTERCONNECTION



INSET A - TYPICAL PCS BLOCK

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PRELIMINARY - NOT FOR CONSTRUCTION

NEXTERA  
**NEXTERA ENERGY** RESOURCES

KEY BESS

PRELIMINARY - NOT FOR CONSTRUCTION

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| CHECKED   | LJB     |
| DATE      | 09/2022 |

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SHEET TITLE:  
**PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT (LITHIUM ION AND FLOW BATTERIES)**

SHEET NO:

**C-103**

**Figure 1 Examples of Energy Storage Units**



**CEQA Findings of Fact for the Final Environmental Impact Report  
Key Energy Storage Project**

**State Clearinghouse No. 2022070414;  
County File No. 8189, CUP No. 3734**

## I. Introduction

### A. Purpose

This statement of Findings of Fact (Findings) addresses the environmental impacts of the Key Energy Storage Project (Project) on up to 260 acres of private land in western Fresno County. These Findings are made pursuant to the California Environmental Quality Act (CEQA) under sections 21081, 21081.5, and 21081.6 of the Public Resources Code and Section 15091 of the regulations implementing CEQA (the CEQA Guidelines; 14 Cal. Code Regs. section 15000 et seq.). Potentially significant impacts were identified in the Draft Environmental Impact Report (Draft EIR) and the Final EIR, based on facts cited therein and facts found in the complete record of proceedings.

Public Resources Code Section 21081 and Section 15091 of the CEQA Guidelines require that the lead agency prepare written findings for identified significant impacts, accompanied by a brief explanation for the rationale for each finding. Fresno County (County) is the lead agency responsible for preparation of the EIR in compliance with CEQA and the CEQA Guidelines. Section 15091 of the CEQA Guidelines states, in part:

- a) No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:
  - 1. Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.
  - 2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
  - 3. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

The “changes or alterations” referred to in CEQA Guidelines Section 15091(a)(1) may include any among the following variety of measures or actions set forth in CEQA Guidelines Section 15370:

- a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
- d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- e) Compensating for the impact by replacing or providing substitute resources or environments.

The Final EIR for the Project identified potentially significant effects that could result from Project implementation. However, the County finds that the inclusion of certain mitigation measures as part of Project approval will reduce all of those effects to less-than-significant levels.

In accordance with CEQA and the CEQA Guidelines, the County adopts these Findings as part of its certification of the Final EIR for the Project. Pursuant to Section 21082.1(c)(3) of the Public Resources Code, the County also finds that the Final EIR reflects the County's independent judgment. As required by CEQA, the County, in adopting these Findings, also adopts a Mitigation Monitoring and Reporting Program (MMRP) for the Project. The County finds that the MMRP, which is incorporated by reference and made a part of these Findings, meets the requirements of Section 21081.6 of the Public Resources Code by providing for the implementation and monitoring of measures intended to mitigate potentially significant effects of the Project.

## B. Organization and Format of Findings

**Section I, *Introduction***, explains the purpose of these Findings, describes the organization and format of this document, and provides a summary of the Project and background facts regarding the environmental review process.

**Section II, *CEQA Findings of Independent Judgment***, discusses the CEQA findings of independent judgment:

- *Section II(A)* identifies the effects of the Project that were determined not to be significant and, therefore, not to require mitigation measures.
- *Section II(B)* identifies the potentially significant effects of the Project that would be mitigated to a less-than-significant level with implementation of identified mitigation measures.
- *Section II(C)* documents the County's determination that the Project would result in no significant and unavoidable impacts.
- *Section II(D)* outlines findings regarding alternatives and identifies the feasibility of the alternatives to the Project that were analyzed in the EIR.
- *Section II(E)* makes the findings required by CEQA, including but not limited to findings related to the mitigation of significant adverse impacts and adoption of the MMRP, certification of the EIR, and the County's exercise of its independent judgment.

## C. Project Summary

### 1. Project Description

Key Energy Storage, LLC (the Applicant) proposes to construct, operate, maintain, and decommission an energy storage facility on up to 260 acres of private land in western Fresno County. The requested unclassified conditional use permits (CUP Nos. 3734, 3802, 3803, and 3804) would have a 40-year term, during which the Project would be constructed in phases, operated and maintained, and then decommissioned. At full build-out, the Project is expected to have capacity to store up to 3 gigawatts (GW) of energy during times of excess generation, which would later be dispatched into the existing electrical grid when needed. The Project would receive energy (charge) from the point of interconnection (POI) with the regional electric transmission system at the existing Pacific Gas and Electric Company (PG&E) Gates Substation, store energy, and then deliver energy (discharge) back to the POI. The Project

would consist of batteries using either lithium-ion storage technology or a combination of lithium-ion and ironflow storage technologies. On-site support facilities would include a collector substation; power conversion systems (PCSs), including bi-directional inverters, transformers, and associated connection lines; heating, ventilation, and air conditioning (HVAC) units or a liquid cooling system; fencing; access roads; a supervisory control and data acquisition (SCADA) system; and security lighting. Diesel generators may be needed temporarily during construction.

To interconnect the Project, Key Energy Storage, LLC and PG&E would construct, operate, and maintain a new 2,500-foot-long (up to 0.5-mile) 500-kilovolt (kV) transmission line between the Project site and the Gates Substation. This line would be installed on new lattice steel towers, each up to 200 feet tall, which would be spaced at approximately 500-foot intervals. PG&E's interconnection infrastructure work also would include other modifications within the existing boundaries of the Gates Substation as well as at PG&E's existing Midway Substation in Buttonwillow, an unincorporated community in Kern County, California.

## 2. Project Location

The Project would be developed on up to 260 acres of private property in western Fresno County within the approximately 318-acre area consisting of Assessor's Parcel Numbers (APNs) 085-040-58, 085-040-36, and 085-040-37 (Project site). The Project site is located approximately 11.5 miles east of Coalinga, 7.5 miles north of Avenal, 4 miles southwest of Huron, 1,700 feet northeast of Interstate 5 (I-5), immediately south of West Jayne Avenue, and between I-5 and South Lassen Avenue (State Route 269). It is adjacent to existing transmission lines and the Gates Substation. Vehicles would access the site from West Jayne Avenue via agricultural roads along the eastern and western site boundaries. PG&E's Midway Substation is located approximately 63 miles southeast of the Project site at 2205 Wasco Way in Buttonwillow.

## 3. Project Approvals

The following authorizations or entitlements are necessary for the Project to proceed:

- **Fresno County**—unclassified CUP; cancellation of Williamson Act contract number 2068 on APN No. 085-040-58; lot line adjustment, lot merger, subdivision map, and/or tentative parcel map; and a structure height variance if needed before the proposed power line poles could exceed the 35-foot height limit in an AE zone. An encroachment permit also could be required for installation of the transmission line to cross West Jayne Avenue.
- **State Water Quality Control Board**—National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, or Construction General Permit (Order 2022-0057-DWQ, NPDES No. CAS000002).
- **CPUC**—Compliance with General Order 131-D for PG&E's expansion of Gates Substation in Fresno County and/or the Midway Substation in Kern County and for construction of the gen-tie line.
- **San Joaquin Valley Unified Air Pollution Control District**—approval of Indirect Source Review for stationary and/or mobile sources and of a Dust Control Plan pursuant to Regulation VIII.



## 4. Project Objectives

The objectives for this Project can be found in Draft EIR Section 2.4, *Project Purpose and Objectives*, in Chapter 2, *Project Description*, pursuant to CEQA Guidelines Section 15124(b). The Project objectives are to:

1. Site up to 3 GW of energy storage adjacent to the Gates Substation to support energy grid reliability while minimizing the gen-tie length.
2. Support state policies necessary to improve the reliability of California's energy grid, including Assembly Bill 2514 and the CPUC's February 22, 2021, ruling (R.20-05-003) related to integrated resource planning, including the need for 7,500 megawatts (MW) of net qualifying capacity between 2023 and 2025.
3. Increase local energy storage capacity at Gates Substation to address the limitations of the electric grid and make it more resilient to disturbances and peaks in energy demand.
4. Develop an energy storage facility in Fresno County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.
5. Achieve the above fundamental objectives while avoiding and minimizing environmental impacts.

## II. CEQA Findings of Independent Judgment

### A. Impacts Determined Not to Be Significant

Section 15128 of the CEQA Guidelines requires an EIR to contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant. The EIR for the Key Energy Storage Project evaluated whether the Project would cause significant impacts on any of the resources identified in the CEQA Guidelines Appendix G environmental checklist and determined, based on substantial evidence in the record including information in the Final EIR, that the impacts identified below would not be significant based either on a finding of no impact or a finding of less-than-significant impact. Accordingly, no mitigation is required for these resources pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a).

#### 1. Aesthetics

The Draft EIR Section 3.2 analyzed impacts related to Aesthetics. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and so no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): Project impacts on scenic vistas, scenic resources within a state scenic highway, the existing visual character or quality of public views of the site and its surroundings, and the creation of a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on Aesthetics are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 2. Agriculture and Forestry Resources

The Draft EIR Section 3.3 analyzed impacts related on Agriculture and Forestry Resources. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): the Project impacts related to the conversion to non-agricultural use of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency; a conflict with existing zoning for agricultural use or a Williamson Act contract; conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g]); the loss of forest land or conversion of forest land to non-forest use; and other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on Agriculture and Forestry Resources are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 3. Air Quality

The Draft EIR Section 3.4 analyzed impacts on Air Quality. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): Project impacts related to a conflict with or obstruction of the implementation of the applicable air quality plan; a cumulatively considerable net increase of any nonattainment pollutant; violation of any air quality standard or substantial contribution to an existing or projected air quality violation; the exposure of sensitive receptors to substantial pollutant concentrations; and other emissions (such as those leading to odors) affecting a substantial number of people.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on Air Quality are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 4. Biological Resources

Draft EIR Section 3.5 analyzed impacts on Biological Resources. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that impacts of the Project on the following have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): Riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS); federally protected wetlands as defined by Section 404 of the Clean Water Act; substantial interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or conflict with the

provisions of an adopted habitat conservation plan (HCP), natural community conservation plan (NCCP), or other approved local, regional, or state HCP.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on these Biological Resources would not be significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact in these areas.

## 5. Cultural Resources

Draft EIR Section 3.6 analyzed impacts on Cultural Resources. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that impacts of the Project on the following have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): disturbance of any human remains, including those interred outside of formal cemeteries.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on this type of Cultural Resources would not be significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact in this area.

## 6. Energy

Draft EIR Section 3.7 analyzed impacts on Energy. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources; and conflict with or obstruction of a state or local plan for renewable energy or energy efficiency.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on Energy are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 7. Geology, Soils, and Paleontological Resources

Draft EIR Section 3.8 analyzed impacts related to Geology, Soils, and Paleontological Resources. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts on Geology and Soils have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): the direct or indirect causation of potential substantial adverse effects, including the risk of loss, injury, or death involving (i) rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map; (ii) strong seismic ground shaking; (iii) seismic-related ground failure, including liquefaction; and (iv) landslides. The County also finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): substantial soil erosion or loss of topsoil; potential to result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse as a result of being located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project; the creation of substantial direct or indirect risks to life or property as a result of being located on expansive soil, as defined in California Building Code (2019) section 1803.5.3; having soils incapable of adequately

supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater; and the direct or indirect destruction of a unique paleontological resource or site or unique geologic feature. See Section II(B) of these Findings regarding the Project's potential significant impact on Paleontological Resources.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on Geology and Soils are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 8. Greenhouse Gas Emissions

Draft EIR Section 3.9 analyzed impacts related to Greenhouse Gas (GHG) Emissions. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): The generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project related to GHG emissions are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 9. Hazards and Hazardous Materials

Draft EIR Section 3.10 analyzed impacts related to Hazards and Hazardous Materials. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): the creation of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; emission of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school; creation of a significant hazard to the public or the environment as a result of being located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5; cause a safety hazard or excessive noise for people residing or working in the Project area as a result of being located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport;

**Finding:** The County finds, based upon substantial evidence in the record, that these impacts of the Project related to Hazards and Hazardous Materials are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 10. Hydrology and Water Quality

Draft EIR Section 3.11 analyzed impacts on Hydrology and Water Quality. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): Impedance of the sustainable groundwater

management of the basin as a result of causing a substantial decrease in groundwater supplies or substantial interference with groundwater recharge; substantial alteration of the existing drainage pattern of the site or area in a manner that would: i) Result in substantial erosion or siltation on- or off-site, ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or iv) impede or redirect flood flows; and risk the release of pollutants due to Project inundation as a result of being located in a flood hazard, tsunami, or seiche zone.

**Finding:** The County finds, based upon substantial evidence in the record, that these impacts of the Project on Hydrology and Water Quality are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact in these ways.

## 11. Land Use and Planning

Draft EIR Section 3.12 analyzed impacts on Land Use and Planning. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): The physical division of an established community; and a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on Land Use and Planning are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 12. Mineral Resources

Draft EIR Section 3.13 analyzed impacts on Mineral Resources. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): The loss of availability of a known mineral resource that would be of value to the region and the residents of the state; and the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on Mineral Resources are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 13. Noise

Draft EIR Section 3.14 analyzed impacts related to Noise. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): The generation of excessive groundborne vibration or groundborne noise levels; and exposure of people residing or working in the project area to excessive noise levels as a result of the Project's location within the vicinity of a private airstrip or an airport land

use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on Noise are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 14. Population and Housing

The Draft EIR Section 3.15 analyzed impacts on Population and Housing. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): The inducement of substantial unplanned population growth in an area, either directly or indirectly; and displacement of substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on Population and Housing are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 15. Public Services

Draft EIR Section 3.16 analyzed impacts on Public Services. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): The potential for the Project to result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on Public Services are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 16. Recreation

Draft EIR Section 3.17 analyzed impacts on Recreation. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): Increased use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; and the inclusion of recreational facilities or a requirement that new or expanded recreational facilities be constructed, where the construction could have an adverse physical effect on the environment.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on Recreation are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## 17. Transportation

Draft EIR Section 3.18 analyzed impacts on Transportation. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): A conflict or inconsistency with CEQA Guidelines section 15064.3(b); a substantial increase hazards due to a geometric design feature or incompatible uses; and inadequate emergency access.

**Finding:** The County finds, based upon substantial evidence in the record, that these impacts of the Project on Transportation are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact in these areas.

## 18. Utilities and Service Systems

Draft EIR Section 3.19 analyzed impacts on Utilities and Service Systems. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): A significant environmental effect as a result of requiring or resulting in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities; a determination by the wastewater treatment provider that serves or may serve the Project that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments; the generation of solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or other impairment of the attainment of solid waste reduction goals; and compliance with federal, state, and local solid waste management and reduction statutes and regulations.

**Finding:** The County finds, based upon substantial evidence in the record, that these impacts of the Project on Utilities and Service Systems are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact in these areas.

## 19. Wildfire

Draft EIR Section 3.20 analyzed impacts on Wildfire. The County finds, based upon substantial evidence in the record, including information in the Draft EIR, that the following impacts have been determined not to be significant and no mitigation is required pursuant to Public Resources Code section 21081(a) and CEQA Guidelines section 15091(a): The substantial impairment of an adopted emergency response plan or emergency evacuation plan; exposure of Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors, or other exacerbation of wildfire risks; exacerbation of fire risk or creation of temporary or ongoing impacts to the environment as a result of the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities); the exposure of people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-

fire slope instability, or drainage changes; and the exposure of people or structures to a significant risk of loss, injury, or death involving wildfire.

**Finding:** The County finds, based upon substantial evidence in the record, that the impacts of the Project on Wildfire are not significant, and that no mitigation measures are required to ensure that the Project would not cause a significant impact.

## B. Significant Impacts that Can Be Mitigated to a Less-than-Significant Level

Pursuant to Public Resources Code section 21081(a) and section 15091(a)(1) of the CEQA Guidelines, the County finds that, for each of the following potential significant impacts identified in the EIR, changes or alterations have been required in, or incorporated into, the Project that avoid the identified significant impact on the environment or reduce the impact to a less-than-significant level. These findings are explained below and are supported by substantial evidence in the record of proceedings.

### 1. Biological Resources (San Joaquin Kit Fox)

The analysis of impacts on Biological Resources in Draft EIR Section 3.5 determined that the Project could have a substantial adverse effect, either directly or through habitat modifications, on San Joaquin Kit Fox (*Vulpes macrotis mutica*), which is listed on the federal endangered species list by U.S. Fish and Wildlife Service as *endangered* and is listed by the California Department of Fish and Wildlife on the State endangered species list as *threatened*. The disked and actively cultivated agricultural lands on-site are not preferred denning habitat and only provide limited foraging habitat for San Joaquin kit fox; however, the Project site is surrounded by other agricultural lands, which have the potential to support residency or movement by kit foxes. Thus, the San Joaquin kit fox could occur on the Project site sporadically. If this species is present at the site, then construction, operation and maintenance, or decommissioning traffic would have the potential to cause a significant adverse impact on San Joaquin kit fox. These effects may occur either directly (e.g., through mortality or injury from construction vehicles or ground disturbance) or indirectly (e.g., disturbance from night lighting, which may interfere with foraging; illness from Valley Fever, which may increase with dust levels; or increased site activity, which may draw predators). This impact would be potentially significant.

Preconstruction clearance surveys would be conducted; fencing would be installed; the Valley Fever reduction measures set forth in Chapter 2, Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention* would be implemented; and the other minimization measures described in **Mitigation Measures 3.5-1 and 3.5-2** would be implemented, to ensure that no significant adverse impact on San Joaquin kit foxes would occur during construction or decommissioning. Implementing these mitigation measures would reduce potentially significant direct impacts on the San Joaquin kit fox to a less-than-significant level.

During Project operation, the site would be fenced with chain-link fencing with space for wildlife to pass underneath, allowing access for transit by San Joaquin kit fox. Thus, operation at the Project site would have a less-than-significant impact on this species

**Mitigation Measure 3.5-1: Protection of San Joaquin Kit Fox.** Preconstruction surveys shall be conducted by a qualified biologist for the presence of San Joaquin kit fox dens within 14 days before the



start of construction activities. The surveys shall be conducted in areas of suitable habitat for San Joaquin kit fox. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days before that portion of the site is disturbed. If no potential San Joaquin kit fox dens are present, no further mitigation is required. If the qualified biologist observes potential dens and determines, in consultation with the Project owner and the County, that avoidance is feasible (as defined in CEQA Guidelines Section 15364 consistent with the USFWS [1999] *Standardized Recommendations for Protection of the San Joaquin Kit Fox*), buffer distances shall be established before each phase of construction activities.

If avoidance of the potential dens is not feasible, the following measures shall be implemented prior to ground disturbance within 100 feet of the den to avoid potential adverse effects on the San Joaquin kit fox:

- If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent coyotes, foxes, or other animals from reusing them during construction per USFWS (1999) guidance.
- If the qualified biologist determines that a potential non-natal den may be active, an on-site passive relocation program shall be implemented prior to ground disturbance within the established buffer with prior approval from USFWS. This program shall consist of excluding San Joaquin kit foxes from occupied burrows by installing one-way doors at burrow entrances, monitoring the burrow for 72 hours to confirm that usage has been discontinued, and excavating and collapsing the burrow to prevent reoccupation. After the qualified biologist determines that the San Joaquin kit foxes have stopped using active dens within the Project boundary, the dens shall be hand excavated as stated above for inactive dens.

**Mitigation Measure 3.5-2: Worker Environmental Awareness Training and Best Management Practices for Biological Resources.** During construction, operation and maintenance, and decommissioning of the facility, the Project owner and/or contractor shall implement the following general avoidance and protective measures to protect San Joaquin kit fox and other special-status wildlife species:

- Prior to initiation of ground-disturbing activities and for each phase of construction or decommissioning activities, the Project owner or its contractor shall implement a worker environmental awareness program (WEAP) to train construction personnel on how to recognize and protect biological resources on the Project site. The WEAP training shall include a review of the special-status species and other sensitive biological resources that could exist in the Project area, the locations of sensitive biological resources and their legal status and protections, and measures to be implemented for avoidance of these sensitive resources, highlighting nesting birds protected under the MBTA, San Joaquin kit fox, and Swainson's hawk. The WEAP training shall indicate the appropriate steps to be taken if a special-status species is observed, which may include work stoppage and coordination with CDFW and USFWS.
- The Project owner shall limit areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. All proposed impact areas, including solar fields, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging before construction to avoid special-status species, under the guidance of a qualified biologist. Construction-related activities, vehicles, and equipment outside of the impact zone shall be avoided. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.

- To prevent inadvertent entrapment of wildlife during construction, all excavated, steep-walled holes or trenches with a 2-foot or greater depth shall be covered with plywood or similar materials at the close of each working day or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected by construction personnel for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow them to escape. If a special-status species is trapped, USFWS and/or CDFW shall be contacted immediately.
- All construction pipes, culverts, or similar structures with a 4-inch or greater diameter that are stored at a construction site for one or more overnight periods shall be thoroughly inspected by construction personnel for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist has been consulted and the animal either has moved from the structure on its own accord or has been captured and relocated by the qualified biologist. If the trapped animal is a special-status species, USFWS and/or CDFW shall be consulted before relocation.
- Before moving vehicles and equipment parked on the site, construction personnel shall inspect the ground beneath the vehicles and equipment for the presence of wildlife.
- Vehicular traffic shall use existing routes of travel. Cross-country vehicle and equipment use outside of the Project properties shall be prohibited.
- A speed limit of 20 miles per hour shall be enforced within all construction areas.
- A long-term trash abatement program shall be established for construction, operation, and decommissioning and shall be submitted to the County. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to wildlife such as common raven (*Corvus corax*), coyote (*Canis latrans*), and feral dogs.
- Workers shall be prohibited from bringing pets (excluding service animals) to the Project site and from feeding wildlife in the vicinity.

**Finding:** The County finds that **Mitigation Measures 3.5-1 and 3.5-2** are feasible, will reduce the Project's potential significant impact on San Joaquin Kit Fox to a less-than-significant level, and are adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.

**Rationale:** Implementation of **Mitigation Measure 3.5-1 and 3.5-2** will ensure that appropriate impact avoidance and minimization measures are implemented. Thus, with the implementation of Mitigation Measures 3.5-1 and 3.5-2, the impacts of the Project on San Joaquin Kit Fox and its habitat would be less than significant.

## 2. Biological Resources (Swainson's Hawk and Other Raptors)

The analysis of impacts on Biological Resources in Draft EIR Section 3.5 determined that construction or decommissioning activities initiated near an active raptor nest could agitate Swainson's hawk (*Buteo swainsoni*), which is listed on the State endangered species list as *threatened*, or other special status birds

(including northern harrier and other raptor species) nesting in the vicinity, thereby resulting in nest disturbance or abandonment, a significant impact. Implementation of the worker environmental awareness program and the preconstruction clearance surveys described in **Mitigation Measure 3.5-2** would minimize disturbance impacts on Swainson's hawks and other raptors and reduce potential direct and indirect impacts on Swainson's hawk and other raptors during construction and decommissioning to a less-than-significant level.

**Finding:** The County finds that **Mitigation Measure 3.5-2** is feasible, will reduce the Project's potential significant impact on Swainson's Hawk and Other Raptors to a less-than-significant level, and is adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code Section 21081(a)(1) and CEQA Guidelines Section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

**Rationale:** Implementation of Mitigation Measure 3.5-2 will ensure that during construction, operation and maintenance, and decommissioning of the facility, the Project owner and/or contractor shall implement general avoidance and protective measures to protect San Joaquin kit fox and other special-status wildlife species, such as the Swainson's hawk and other raptors. Thus, with the implementation of Mitigation Measure 3.5-2, the impacts of the Project on Swainson's hawk and other raptor species would be less than significant.

### 3. Biological Resources (Nesting Birds)

The analysis of impacts on Biological Resources in Draft EIR Section 3.5 determined that, depending on the timing of construction-related activities, the Project could result in the disturbance of active nests of special-status or migratory bird species; the abandonment of a nest by adult birds; or the direct loss of individual nests, either of ground-nesters or of birds nesting on structures or in adjacent trees or power structure. The potential loss of an active migratory or special-status bird nest would be a significant impact. Implementing **Mitigation Measure 3.5-3** would reduce potential significant impacts on nesting migratory birds to a less-than-significant level.

**Mitigation Measure 3.5-3: Protection of Nesting Birds.** If construction is scheduled to commence outside of nesting season (September 1 to January 31), no preconstruction surveys or additional measures are required for nesting birds, including raptors. During the nesting bird breeding season (February 1 to August 31), to avoid impacts on nesting birds in the Project site and immediate vicinity, a qualified biologist shall conduct preconstruction surveys of all potential nesting habitat within the Project site where vegetation removal or ground disturbance is planned. The survey shall be performed within the site and shall also include potential nest sites within a 0.5-mile buffer around the site in areas where access to neighboring properties is available or visible using a spotting scope. Surveys shall be conducted no more than 14 days prior to each phase of construction activities. If construction is halted for 14 days or more, the area shall be resurveyed prior to resuming work.

Surveys need not be conducted for the entire Project site at one time; they may be phased so that surveys occur shortly before a portion of the Project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer around active nests (e.g., 300 feet for common raptors; 0.25 mile for Swainson's hawk; 100 feet for passerines) shall be established

and no construction within the buffer shall be allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of the qualified biologist in coordination with CDFW.

**Finding:** The County finds that **Mitigation Measure 3.5-3** is feasible, will reduce the Project's potential significant impact on Nesting Birds to a less-than-significant level, and is adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.

**Rationale:** Implementation of Mitigation Measure 3.5-3 will ensure that during construction, operation and maintenance, and decommissioning of the facility, the Project owner and/or contractor shall implement measures to protect nesting birds during nesting season with suitable construction avoidance buffers. Thus, with the implementation of Mitigation Measure 3.5-3, the impacts of the Project on Nesting Bird species would be less than significant.

#### 4. Biological Resources (Compliance with General Plan Goal OS-E)

The analysis of impacts on Biological Resources in Draft EIR Section 3.5 determined that the Project would result in a significant impact as a result of a potential conflict with General Plan Goal OS-E, which requires environmental review for protection of sensitive wildlife and habitats. The Project site and immediate vicinity contain potentially suitable breeding, denning, or nesting habitat for wildlife species, including San Joaquin kit fox; burrowing owl and other raptors. Construction of the Project would have the potential to harm these species, if present. Implementing the preconstruction wildlife surveys, worker environmental awareness training, and wildlife avoidance and protection measures described in **Mitigation Measures 3.5-1 through 3.5-3** would avoid or minimize potential impacts on these species and ensure compliance with General Plan Goal OS-E. Therefore, with mitigation incorporated, the Project would not conflict with and would have a less-than-significant impact on local policies and ordinances protecting biological resources.

**Finding:** The County finds that **Mitigation Measures 3.5-1 through 3.5-3** are feasible, will reduce the Project's potential significant impact relating to compliance with General Plan Goal OS-E to a less-than-significant level, and is adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.

**Rationale:** Implementation of Mitigation Measures 3.5-1 through 3.5-3 will reduce impacts to a less-than-significant level because impacts on special-status species would be avoided or minimized by surveys, monitoring, and relocation if required; site workers would be trained to avoid biological resources and vehicle and construction site impacts would be curtailed; and nesting birds would be avoided in nesting season with suitable construction avoidance buffers. Thus, with the implementation of Mitigation Measures 3.5-1 through 3.5-3, the impacts of the Project relating to consistency with local policies or ordinances protecting biological resources would be less than significant.

## 5. Cultural Resources (Historical/Archeological Resources)

The analysis of impacts on Cultural and Tribal Cultural Resources in Draft EIR Section 3.6 determined that if unknown archaeological resources are discovered during ground-disturbing activities required for Project construction, operation, and maintenance, or decommissioning and site restoration, significant impacts could occur at the Project level as well as cumulatively. According to the geoarchaeological review, the Project site has low sensitivity for buried archaeological resources based on its geomorphology, proximity to water, and landform slope. The lack of nearby water sources in particular suggests that long-term habitation sites are unlikely. Nonetheless, given that the general vicinity is covered by Holocene alluvial deposits, which have been deposited over the course of known human occupation in the region, the deposition of alluvium could possibly have buried prehistoric archaeological sites that once existed on the surface. Therefore, although the probability of significant prehistoric resources existing within the Project site is low overall, there nevertheless exists the possibility that buried archaeological resources may be encountered during ground-disturbing activities. If unknown archaeological resources are discovered during ground-disturbing activities, then significant impacts could occur. With the implementation of **Mitigation Measure 3.6-1**, which requires the retention of a qualified archaeologist and cultural resources awareness training, and **Mitigation Measure 3.6-2**, which governs procedures in the event of inadvertent discovery of archaeological materials, impacts on any newly discovered historical or unique archaeological resources would be reduced to less than significant at the Project level and would ensure that the Project's incremental contribution to the potential significant cumulative impact would not be cumulatively considerable (i.e., less than significant).

Decommissioning and closure of the Project would not affect historical or unique archaeological resources. Ground disturbance associated with decommissioning would occur within soils previously disturbed by construction (and would be subject to Mitigation Measures 3.6-1 and 3.6-2 during construction). Therefore, no impact on historical and unique archaeological resources would result from decommissioning.

**Mitigation Measure 3.6-1: Cultural Resources Awareness Training.** The Project Applicant shall retain a qualified archaeologist during each construction phase to carry out all mitigation measures related to archaeological and historical resources.

Prior to the start of any ground-disturbing activities for each construction phase, the Project Applicant shall ensure that the qualified archaeologist has conducted cultural resources awareness training for all construction personnel participating in Project ground disturbing activities. Additional cultural resources awareness trainings will be conducted for new construction personnel participated in Project ground-disturbing activities who may join the Project after the start of each construction phase. A Native American-designated representative shall be invited to attend and provide additional materials during each training. The training shall include an overview of potential cultural resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified archaeologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. A sign-in sheet shall be completed, retained by the Project construction contractor for the duration of Project construction to demonstrate attendance at the awareness training, and provided to the County upon the completion of Project construction.

**Mitigation Measure 3.6-2: Inadvertent Discovery of Cultural Resources.** In the event archaeological materials are encountered during Project construction activities, the Project construction contractor shall immediately cease any ground-disturbing activities within 100 feet of the find. The qualified archaeologist (and a Native American– designated representative if the resource is Native American– related) shall evaluate the significance of the resources for California Register of Historical Resources eligibility and recommend appropriate treatment measures to the County and the Applicant. Per CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist (in coordination with a Native American– designated representative if the resource is Native American– related) shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthened cultural resources if the resources are prehistoric, tribal cultural resources, or Native American in nature. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the County and to the Southern San Joaquin Valley Information Center. Construction can recommence based on direction of the qualified archaeologist with the County’s agreement.

**Finding:** The County finds that **Mitigation Measure 3.6-1 and 3.6-2** are feasible, will reduce the Project’s potential significant impact on historical and archeological resources as defined by CEQA Guidelines section 15064.5 to a less-than-significant level, and are adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.

**Rationale:** Implementation of Mitigation Measures 3.6-1 and 3.6-2 will reduce the impact to a less-than-significant level because these measures establish a plan to evaluate any cultural resources identified during Project construction for eligibility and, if necessary, to prepare a treatment plan to minimize impacts on the resource. In this way, implementation of the mitigation measures will ensure that during construction, operation and maintenance, and decommissioning of the facility, general avoidance and protective measures will be implemented to protect significant historical and archeological resources. Thus, with the implementation of Mitigation Measure 3.6-1 and 3.6-2, the impacts of the Project on historical and archeological resources would be less than significant.

## 6. Cultural Resources (Tribal Cultural Resources)

The analysis of impacts on Cultural and Tribal Cultural Resources in Draft EIR Section 3.6 determined that ground-disturbing activities associated with the Project could cause a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources, as defined in Public Resources Code section 21074(a). A tribal consultation letter from the Santa Rosa Rancheria Tachi Yokut Tribe requested that monitors be present during all ground disturbance related to the Project and that a curation agreement be in place. The results of the records search conducted at the SSJVIC identified no prehistoric archaeological isolates within 0.5 mile of the Project site and no prehistoric archaeological resources were identified during field survey of the Project site. A letter from the NAHC stated that a review of the Sacred Lands File failed to identify any Native American resources in the vicinity of the Project. In light of the nature of the Project and the disturbed character of the site, types of tribal cultural

resources, if any, are anticipated to be subsurface prehistoric archaeological resources, including human remains. As described above, no such prehistoric resources have been documented within, or in the immediate vicinity of, the Project site.

Nonetheless, if not discovered before development, such resources could be damaged or destroyed through earthwork, ground disturbance, or other subsurface construction activities. Damage to or loss of tribal cultural resources would be a potentially significant impact. Implementation of **Mitigation Measures 3.6-1** and **3.6-2** would ensure that any encountered archaeological resources that are considered tribal cultural resources would be addressed appropriately, thus reducing any potential impacts to a less-than-significant level.

Operation, maintenance, decommissioning, and reclamation of the Project would cause no impact on tribal cultural resources.

**Significance after Mitigation:** Less than Significant. Implementation of Mitigation Measures 3.6-1 and 3.6-

**Finding:** The County finds that **Mitigation Measures 3.6-1 and 3.6-2** are feasible, will reduce the Project's potential significant impact on significant tribal cultural resources to a less-than-significant level, and are adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

**Rationale:** Implementation of Mitigation Measure 3.6-1 and 3.6-2 will result in the training of all construction personnel involved in ground-disturbing activities in the identification and notification process in the event of the identification of archaeological deposits and human remains. Because any potential archaeological resources identified that could be considered tribal cultural resources would be evaluated and treated, and because consultation with Native American representatives would occur to determine appropriate treatment, the impact would be reduced to less than significant.

## 7. Geology, Soils, and Paleontological Resources (Paleontological Resources)

The analysis of impacts on Geology, Soils, and Paleontological Resources in Draft EIR Section 3.8 determined that the Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, if they are present, as a result of the use of construction equipment to grade and excavate on-site soils. This impact was determined to be significant at the Project level and cumulatively.

Geologic mapping indicates that the surficial deposits at the Project site consist of Holocene-age fan-derived alluvial sediments, with older Pleistocene-age sediments (Tulare Formation) mapped in the vicinity. Pleistocene-age sediments are considered to have a high potential to contain significant paleontological resources due to their age and the well-documented presence of significant fossil finds in Fresno County and throughout California. The actual depth to Pleistocene-age deposits is unknown, and the potential to encounter significant paleontological resources below 10 feet below ground surface (bgs) is undetermined. Therefore, construction of the Project could encounter paleontological resources in

Pleistocene-age sediments areas where excavations result in disturbance at depths at or below 10 feet. If so, a potential significant impact would result.

To avoid or substantially reduce potential impacts on paleontological resources, if present, during construction, **Mitigation Measure 3.8-1** would require that all earthwork halt in the event of a fossil discovery and that a qualified paleontologist assess the discovery. If the discovery is determined to be significant by the qualified paleontologist, it would be recovered using appropriate recovery techniques, identified, catalogued, and prepared for storage in a recognized paleontological repository. In the event of a discovery, the qualified paleontologist may recommend paleontological resource monitoring on an as-needed basis.

**Mitigation Measure 3.8-1: Paleontological Monitoring.** The qualified paleontologist shall oversee paleontological monitoring of all excavation at depths at or greater than 10 feet in previously undisturbed sediments. Monitoring shall be conducted by a paleontological monitor meeting the standards of the SVP (2010). If a paleontological resource is found, regardless of depth or setting, the Project contractor shall cease ground-disturbing activities within 50 feet of the find and contact the qualified paleontologist. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any significant fossils encountered and recovered shall be catalogued and curated at an accredited institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository. The qualified paleontologist shall prepare a report documenting evaluation and/or additional treatment of the resource. The report shall be filed with the County and with the repository.

**Finding:** The County finds that **Mitigation Measure 3.8-1** is feasible, will reduce the Project's potential significant impact on paleontological resources to a less-than-significant level, and is adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.

**Rationale:** Implementation of Mitigation Measure 3.8-1 will halt work upon discovery of a potential paleontological resource and ensure that a qualified paleontologist assesses the discovery. If the discovery is determined to be significant by the qualified paleontologist, then it would be recovered using appropriate recovery techniques, identified, catalogued, and prepared for storage in a recognized paleontological repository. In the event of a discovery, the qualified paleontologist may recommend paleontological resource monitoring on an as-needed basis. Thus, with the implementation of Mitigation Measure 3.8-1, the direct, indirect, and cumulative impacts of the Project on paleontological resources would be less than significant.

## 8. Hazards and Hazardous Materials (Release of Hazardous Materials)

The analysis of impacts on Hazards and Hazardous Materials in Draft EIR Section 3.10 determined that the Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the energy storage system and release of hazardous



materials into the environment. If such a condition were to occur, a potential significant impact would result at the Project level and cumulatively.

A Phase I environmental site assessment identified the existence of an on-site diesel aboveground storage tank (AST) with stained soil located on the western boundary of Assessor's Parcel Number 085-040-58. The exacerbation of an existing release of hazardous materials (e.g., spreading contaminated soil from the diesel AST ) could create a significant hazard to the public or the environment. To reduce the potential adverse impact of the known contaminated soil, and to mitigate currently unknown contaminated soil that may be discovered during construction activities, the Applicant would implement **Mitigation Measure 3.10-1** to ensure that the contaminated soils associated with the AST are handled, removed, and disposed of properly. With implementation of this mitigation measure, the impact would be less than significant.

**Mitigation Measure 3.10-1: Soil Management Plan.** The Applicant shall require that its contractor(s) develop and implement a soil management plan before the start of any ground-disturbing activity. The soil management plan shall describe the hazardous materials that may be encountered (specifically, the previously noted areas that may have contaminated soil); the roles and responsibilities of on-site workers and supervisors; training for site workers focused on the recognition of and response to encountering hazardous materials; and protocols for testing the soil to evaluate the proper handling, removing, transporting, and disposing of all excavated materials in a safe, appropriate, and lawful manner.

Prior to issuance of grading permits, soil shall be tested for total petroleum hydrocarbons near the on-site agricultural wells and pumps, fuel ASTs, turbine oil ASTs, diesel powered agricultural engines, and engine oil ASTs under the supervision of a professional geologist or professional engineer. In addition, soil shall be tested at four locations in a grid pattern and analyzed for pesticides and metals. The County shall review the results of the soil sampling to determine if any additional investigation or remedial activities are deemed necessary. No work shall resume in that area until the County has provided written authorization that the area does not warrant any additional action. If concentrations of contaminants are identified in areas of the Project site and are confirmed to pose a potential risk to human health and/or the environment by a qualified environmental specialist, contaminated materials shall be remediated either prior to or concurrent with construction. Remediation shall generally include a management plan which establishes design and implementation of remediation. Cleanup may include excavation, disposal, bioremediation, and/or any other treatment of conditions subject to regulatory action. All necessary reports, regulations and permits shall be followed to achieve cleanup of the site. The contaminated materials shall be remediated under the supervision of an environmental consultant licensed to oversee such remediation and under the direction of the lead oversight agency. The remediation program shall also be approved by the County. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation, the environmental consultant shall prepare a report summarizing the project, the remediation approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests.

**Finding:** The County finds that **Mitigation Measure 3.10-1** is feasible, will reduce the Project's potential significant impact on release of hazardous materials to a less-than-significant level, and is adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

**Rationale:** Implementation of Mitigation Measure 3.10-1 will ensure that contaminated soil is properly removed and disposed of in accordance with all applicable federal, state, and local regulations. This would prevent Project-specific and cumulative adverse water quality effects from management of contaminated material and adverse effects on construction workers, the public, and the environment. Thus, with the implementation of Mitigation Measure 3.10-1, the direct, indirect, and cumulative impacts of the Project on the release of hazardous materials resources would be less than significant.

## 9. Hazards and Hazardous Materials (Emergency Response or Emergency Evacuation)

The analysis of Hazards and Hazardous Materials impacts in Draft EIR Section 3.10 determined that construction of the Project could impair implementation of or physically interfere with emergency response or emergency evacuation. If it occurred, a significant adverse impact would result at the Project level and cumulatively.

The Project site is bordered to the north by West Jayne Avenue, which connects State Route 269 (South Lassen Avenue) and Interstate 5 (I-5), approximately 1.5 miles east and 1,700 feet southwest of the Project site, respectively. There are several other pathways to I-5 and there are no residences or businesses near the Project site. However, the installation of the power lines across West Jayne Avenue would require a short-term temporary closure during the stringing activities. This short-term temporary closure would cause a significant adverse impact if it were to prevent or delay emergency response or evacuation such that it resulted in a significant hazard to the public or the environment.

To ensure that the installation of the power lines across West Jayne Avenue would not delay emergency response vehicles or preclude evacuation efforts, implementation of **Mitigation Measure 3.10-2** is required. Mitigation Measure 3.10-2 requires the preparation and implementation of a traffic management plan addressing traffic safety and control through the work zone, including during temporary lane closures, and requires that appropriate signage be provided along the affected routes to indicate the hazard and advise alternative routes.

**Mitigation Measure 3.10-2: Construction Traffic Management Plan.** At least 30 days prior to the issuance of construction or building permits, including for the initiation of onsite work to install power lines across West Jayne Avenue, the Project owner and/or its construction contractor shall prepare and submit a traffic management plan to the Fresno County Public Works Department and Caltrans District 6, as appropriate, for approval. The traffic management plan must be prepared in accordance with both the Caltrans *Manual on Uniform Traffic Control Devices* and *Work Area Traffic Control Handbook* and must include, but not be limited to, the following elements:

- A temporary traffic control plan that addresses traffic safety and control through the work zone, including during temporary lane closures (if needed) to accommodate materials delivery, transmission line stringing activities, or any other utility connections.
- Identification of the timing of deliveries of heavy equipment and building materials and duration of proposed road closures or obstructions.
- Requirement for designated construction staff to be assigned as flaggers to direct traffic into and/or through temporary traffic control zones, as needed.

- Requirement to place temporary signage, lighting, and traffic control devices if required, including but not limited to appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic and to advise of alternate routes.
- Measures to ensure access for emergency vehicles to the Project site.
- Maintenance of access to adjacent properties.
- Specification of construction-related vehicle travel and oversize-load haul routes, minimization of construction traffic during the a.m. and p.m. peak hours, distribution of construction traffic flow across alternative routes to access the Project site, and avoidance of residential neighborhoods to the maximum extent feasible.
- Requirement to obtain all necessary permits for the work within the road right-of way or the use of oversized/overweight vehicles that would utilize County maintained roads, which may require escort by the California Highway Patrol or a pilot car. Copies of the approved traffic plan and issued permits shall be submitted to the Fresno County Divisions of Public Works and Planning.
- A secured agreement between the Applicant and Fresno County to ensure that any County roads that are demonstrably damaged by Project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the state and/or Fresno County.
- The traffic management plan elements listed above would reduce the potentially significant effects of short-term and intermittent construction-related congestion caused by construction vehicles/equipment on local roadways.

**Finding:** The County finds that **Mitigation Measure 3.10-2** is feasible, will reduce the Project's potential significant impact on emergency response time to a less-than-significant level, and is adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

**Rationale:** Implementation of Mitigation Measure 3.10-2 will result in a traffic management plan with specific elements designed to reduce the potential significant effects of construction-related blockage or congestion of West Jayne Avenue that could substantially delay emergency response or preclude evacuation such that a significant hazard to the public or the environment resulted. Thus, with the implementation of Mitigation Measure 3.10-2, the direct, indirect, and cumulative impacts of the Project related to emergency response and emergency evacuation would be less than significant.

## 10. Hydrology and Water Quality (Water Quality)

The analysis of impacts on Hydrology and Water Quality in Draft EIR Section 3.11 determined that the Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. This would be a significant impact at the Project level and cumulatively,

The Project site is located in the Tulare Lake Basin, which is under the water quality jurisdiction of the Central Valley RWQCB. The Project site is within the vicinity of Los Gatos Creek located approximately 4 miles northwest of the site, the California Aqueduct located approximately 4 miles east of the site, Arroyo Vadoso about 2 miles south of the site, and Zapato Chino Creek about 3 miles to the west of the site. The California Aqueduct and Los Gatos Creek are listed as impaired on the State Integrated Clean

Water Act Section 303(d) and 305(b) list: Los Gatos Creek is listed for lead and selenium and the California Aqueduct is listed for pH. A significant impact could occur if Project construction, operation, maintenance, or decommissioning activities would result in a water quality violation or substantially degrade surface water or groundwater quality.

Because of the presence of contaminated soil associated with an on-site diesel AST), soil-disturbing activities during construction could mobilize contaminated soil, which could adversely affect water quality. With implementation of Mitigation Measure 3.10-2, *Soil Management Plan*, described above, the potential significant impact would be reduced to less than significant.

**Finding:** The County finds that **Mitigation Measure 3.10-1** is feasible, will reduce the Project's potential significant impact of surface and groundwater quality degradation to a less-than-significant level, and is adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.

**Rationale:** Implementation of Mitigation Measure 3.10-1 will ensure that contaminated soil is properly removed and disposed of in accordance with all applicable federal, state, and local regulations to prevent adverse water quality effects from the management of contaminated material. Thus, with the implementation of Mitigation Measure 3.10-1, the impacts of the Project on surface and groundwater quality would be less than significant.

## 11. Hydrology and Water Quality (Water Quality Control Planning or Sustainable Groundwater Management Planning)

The analysis of impacts on Hydrology and Water Quality in Draft EIR Section 3.11 determined that the Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. If so, a significant adverse impact would result at the Project level and cumulatively.

The Project site is located within the jurisdiction of the Central Valley Regional Water Quality Control Board (RWQCB, Region 5), which adopted the *Water Quality Control Plan for the Tulare Lake Basin* (Basin Plan) in 2018. For groundwater, the Westside Subbasin has been identified as a high-priority basin and as being in a state of critical overdraft. The Westlands Water District (WWD), as the groundwater sustainability agency for the Westside Subbasin, adopted a groundwater sustainability plan (GSP) for this area in 2022. The Project would involve soil disturbing activities that could mobilize contaminated soils and, as a result, result in interfere with beneficial uses of surface water designated in the Basin Plan and inconsistency with provisions of GSP. The implementation of **Mitigation Measure 3.10-1: Soil Management Plan** (described above) would reduce this impact to less than significant.

**Finding:** The County finds that **Mitigation Measure 3.10-1** is feasible, will reduce the Project's potential significant impact related to conflict with or obstruction of implementation of the Basin Plan and/or the GSP to a less-than-significant level, and is adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.

**Rationale:** Implementation of Mitigation Measure 3.10-1 will ensure that contaminated soil is properly removed and disposed of in accordance with all applicable federal, state, and local regulations to prevent adverse water quality effects from the management of contaminated material. Thus, with the implementation of Mitigation Measure 3.10-1, the direct, indirect, and cumulative impacts of the Project related to the potential for interference with or obstruction of implementation of a water quality control plan or the GSP would be less than significant.

## 12. Noise and Acoustics (Nighttime Noise)

The analysis of impacts related to Noise and Acoustics in Draft EIR Section 3.14 determined that the Project could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. A significant impact would result.

The Fresno County Noise Ordinance states that 50 dBA is the standard for daytime (7 a.m. to 10 p.m.) and 45 dBA is the standard for nighttime (10 p.m. to 7 a.m.). Therefore, if a proposed project would generate noise levels from non-construction noise sources in excess of 50 dBA  $L_{eq}$  during the daytime or 45  $L_{eq}$  during the nighttime, such noise generation would constitute a significant noise impact. Project-caused noise that occurs outside these exempt hours could include activity for material and equipment delivery and/or where the schedule has been delayed due to weather or other events – such activity could exceed exterior noise level standards. The nearest noise-sensitive uses near the Project site are agricultural residences 3,300 feet west of the Project site along West Jayne Avenue. While Section 8.040.110 of the County Code provides a mechanism for the granting of variances from noise ordinance restrictions that must be approved by the County Board of Supervisors, provision of such a variance does not necessarily mean that there would be no nighttime noise impact. The implementation of **Mitigation Measure 3.14-1: Nighttime Noise Reduction for Construction Activities** would reduce the potential significant impact of nighttime noise to less than significant.

### **Mitigation Measure 3.14-1: Nighttime Noise Reduction for Construction Activities.**

Prior to issuance of construction permits for the project, the Project Applicant shall submit to the County for approval a construction noise reduction plan to be implemented by all contractors as a condition of contract. Contents of the plan should include at a minimum:

- Maintain all construction tools and equipment in good operating order according to manufacturers' specifications.
- Limit use of pile drivers and major excavating and earth-moving machinery to daytime hours.
- Equip any internal combustion engine used for any purpose on the job or related to the job with a properly operating muffler that is free from rust, holes, and leaks.
- For construction devices that utilize internal combustion engines, ensure the engine's housing doors are kept closed, and install noise-insulating material mounted on the engine housing consistent with manufacturers' guidelines, if possible.
- Limit possible evening and nighttime shift work to low-noise activities such as welding, wire pulling, and other similar activities, together with appropriate material handling equipment such that noise levels at 50 feet are less than 80 dBA.

**Finding:** The County finds that **Mitigation Measure 3.14-1** is feasible, will reduce the Project's potential significant impact of nighttime noise from construction activities to a less-than-significant level, and is adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

**Rationale:** Implementation of Mitigation Measure 3.14-1 will reduce nighttime construction noise impacts below established thresholds by limiting the types of activities that might occur during nighttime hours. Thus, with the implementation of Mitigation Measure 3.14-1, the impacts of the Project from nighttime construction noise would be less than significant.

### 13. Transportation (Temporary Increase in Traffic Volumes)

The analysis of impacts on Transportation in Draft EIR Section 3.18 determined that construction of the Project would generate a temporary increase in traffic volumes on area roadways, which could conflict with a program, plan, ordinance, or policy addressing the circulation system. This would be a significant impact at the Project level and cumulatively.

The duration of Project construction per phase would range from an estimated 56 weeks (Phase 1) to 88 weeks (Phases 3 and 4) if the Lithium-Ion batteries are used and, if a combination of Lithium-Ion and Iron-Flow storage technologies are used, then the durations would be longer: an estimated 80 weeks (Phase 2) to 104 weeks (Phases 1 and 3). Construction traffic would result in short-term increases in traffic volumes on study area roadways. With the addition of Project-related construction vehicle traffic to existing roadway volumes without a corresponding increase in roadway capacity, there could be increased congestion and delay for vehicles. Increases in traffic volumes on Project area roads during the morning and evening peak commute hours (generally 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) could exacerbate short-term congestion because of the slower travel speeds and larger turning radii of Project trucks. Further, if temporary lane closures on West Jayne Avenue are needed to accommodate construction of the gen-tie line across the roadway, then vehicles traveling on West Jayne Avenue could experience additional delay and/or congestion. Implementation of the Construction Traffic Management Plan identified in **Mitigation Measure 3.10-2**, described above, would reduce the direct, indirect, and cumulative impacts of Project construction traffic on study area roadways during peak commute hours to a less-than-significant level.

**Finding:** The County finds that **Mitigation Measure 3.10-2** is feasible, will reduce the Project's potential significant direct, indirect, and cumulative impacts on increased traffic volumes to less than significant, and is adopted by the County. Accordingly, the County finds, pursuant to Public Resources Code section 21081(a)(1) and CEQA Guidelines section 15091(a)(1), that changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effects as identified in the EIR.

**Rationale:** Implementation of Mitigation Measure 3.10-2 will reduce the impact to a less-than-significant level because vehicle access on roadways adjacent to the Project site would be safely maintained and delays caused by additional Project-related traffic would be minimized, with an emphasis on peak-hour conditions when roadway volumes are highest. Thus, with the implementation of Mitigation Measure

3.10-2, the direct, indirect, and cumulative impacts of the Project related to increased traffic volumes would be less than significant.

## C. No Significant Unavoidable Impacts

Section 15126.2(a) of the CEQA Guidelines requires that the EIR describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels. As analyzed in Draft EIR Chapter 3, *Environmental Analysis*, the Project would result in no significant unavoidable impacts.

## D. Findings Regarding Alternatives

Section 15126.6(a) of the CEQA Guidelines requires the discussion of “a reasonable range of alternatives to a project, or the location of a project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives.” The EIR identified and considered the following reasonable range of feasible alternatives to the Project that would be capable, to varying degrees, of reducing identified impacts:

- Alternative A—Noncontracted Lands Alternative
- Alternative B—Reduced Project Alternative
- No Project Alternative

### 1. Summary of Alternative 1, Noncontracted Lands Alternative

As discussed in Draft EIR Section 4.3.2, the Project would occupy up to 260 acres of a 318-acre site comprising three parcels (APNs 085-040-36, 085-040-37, and 085-040-58). Of the 260 acres, the Applicant expects to use approximately 208 acres for the permanent Project footprint, with the remaining 52 acres remaining available for construction and additional flexibility. The northernmost of these parcels (APN 085-040-58) is subject to Williamson Act Contract No. 2068. The southernmost parcels (APNs 085-040-36 and 085-040-37S, each approximately 80 acres) were formerly subject to the same Williamson Act contract as the northern parcel but were unenrolled from the program in 2019. Accordingly, the southern half of the Project site is not currently subject to a Williamson Act contract.

Alternative 1 would occupy up to 160 acres comprising the southernmost (noncontracted) Project site parcels. A 50-foot buffer would be maintained along the northernmost boundary of the alternative site to separate energy storage–related activities from the adjacent property. The northernmost (Williamson Act contracted) Project site parcel would remain outside the Alternative 1 site and in irrigated agricultural production with continued reliance on the on-site well. The Alternative 1 energy storage system facility and associated on-site support facilities would be substantially similar to the Project as proposed (including optionality between lithium ion and a combination of lithium ion and iron flow technology) except as noted below. Site access would (like the Project) be provided from West Jayne Avenue via agricultural roads along the eastern and western boundaries of the northernmost parcel.

Alternative 1 would differ from the Project in the following ways:

- The Alternative 1 site would be approximately 62 percent of the size of the site as proposed and 77 percent of the Project’s anticipated permanent footprint.

- The Alternative 1 site would accommodate between 62 and 77 percent of the storage capacity of the Project as proposed although, consistent with footnote 1 in Chapter 2, *Project Description*, continued evolution of the energy storage industry could result in improved storage efficiencies such that the total storage capacity of Alternative 1 could be greater than 77 percent of the Project as proposed.
- The on-site substation would be shifted south relative to the proposed location, onto the Alternative 1 site, and fewer than the 5.14 acres needed to support the Project could be needed to support Alternative 1, thereby maximizing the energy storage potential of the Alternative 1 site.
- The proposed, approximately 0.5-mile, 500 kV overhead gen-tie line connecting the site to the Gates Substation would be approximately 0.5 mile longer than the proposed line (for a total length of up to 1 mile) to reach the Alternative 1 site across the northernmost Project parcel. As with the Project, the number and height of the gen-tie line poles, as well as the type of conductor, would be finalized during detailed design.
- A drainage swale would be constructed along the eastern boundary of the Alternative 1 site and a retention basin would be constructed at the southeast corner of APN 085-040-37. No retention basin would be constructed at the southeast corner of APN 085-040-58 because this parcel would be outside the Alternative 1 site boundary.
- Two phases of construction would be needed instead of up to four, with a resulting overall construction period that would last up to 61 months (i.e., approximately 80 percent of the Project's potential maximum construction period of 76 months). The duration of the decommissioning period and anticipated water demand associated with both construction and decommissioning also would be reduced.
- Although the same number of construction workers would be needed for Alternative 1, construction vehicle trips would be scaled in proportion to the reduced site size.
- No water from the existing well on the northernmost Project parcel would be used for Alternative 1's energy storage project purposes.

## 2. Summary of Alternative 2, Reduced Project Alternative

The Project would occupy up to 260 acres of a 318-acre site with energy storage enclosure units and controllers, a Project substation, operation and maintenance building, and related infrastructure. Of the 260 acres, the Applicant expects to use approximately 208 acres for the permanent Project footprint, with the remaining 52 acres remaining available for construction and additional flexibility. Operation of the Project as proposed could result in a significant impact on the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Alternative 2 would occupy up to 130 acres of a 318-acre site with an anticipated operating footprint of 104 acres. The remaining 26 acres would be available for construction and flexibility. Alternative 2 would reduce by half the area that the Project proposes to develop with energy storage enclosure units and controllers, a Project substation, operation and maintenance building, and other Project infrastructure.

## 3. Summary of No Project Alternative

Consistent with CEQA Guidelines Section 15126.6(e), the EIR evaluates a no project alternative. The analysis discusses the existing conditions at the time the notice of preparation was published, as well as what reasonably would be expected to occur in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services.



If the No Project Alternative is implemented, then energy storage would not be developed at the Gates Substation, irrigated agricultural production (orchard crops such as citrus and almonds) would continue with reliance on an on-site well on the northernmost Project site parcel (APN 085-040-58), and the remaining Project site parcels (APNs 085-040-36 and 085-040-37) would continue to be used for non-irrigated agriculture such as winter wheat or left fallow unless and until a different use is proposed. The Project site is designated “Agriculture” as shown on Fresno County General Plan Countywide Land Use Diagram Figure LU-1a and is zoned AE-40 (Exclusive Agricultural, 40-acre minimum parcel size). If the Project were not approved, then other uses consistent with the AE 40 zoning designation could be made on one or more of the parcels that compose the Project site. Pursuant to Fresno County Ordinance Code Section 816, uses (among others) that are allowed by right without a permit relate to livestock, poultry, and crops; home occupations; agricultural products; apiaries; kennels; and welding and blacksmith shops. No such competing proposals for site use are before the County. Accordingly, rather than speculating as to possible other uses, the analysis of the No Project Alternative in the EIR assumed a no-development/ no-Project scenario where the existing agricultural use is continued as it exists under pre-Project conditions.

Under a no-development scenario, the property would continue in agricultural use and the existing environmental setting would be maintained. Changes to that setting, including adverse impacts on the landscape (such as agricultural land use, wildlife habitat conditions, and the existing presence or absence of unknown cultural resources) and the environment (such as Project-related construction noise, traffic, and air pollutant emissions) and potential benefits associated with enhanced grid resiliency would not be realized from the proposed site development.

#### 4. Findings Concerning Project Alternatives

If a proposed project would result in significant environmental impacts that would not be avoided or substantially lessened by mitigation measures, then CEQA requires the lead agency to consider environmentally superior alternatives identified in the EIR and to find that they are “infeasible” before approving the project (Public Resources Code section 21081[a][3]; CEQA Guidelines section 15091[a][3]). This findings requirement flows from the policy stated in Public Resources Code section 21002, which states:

[I]t is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives *or* feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects. ... The Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof. [Emphasis added.]

However, findings rejecting alternatives are required only if one or more significant environmental effects will not be avoided or substantially lessened by mitigation measures. To emphasize, an agency need not make findings rejecting alternatives described in the EIR if all of the proposed project’s significant impacts would be avoided or substantially lessened by mitigation measures. See Public Resources Code section 21081(a)(1)–(2); CEQA Guidelines section 15091(a)(1)–(2).

As stated in Section II(C) and as analyzed in Draft EIR Chapter 3, *Environmental Analysis*, the Project would result in no significant unavoidable impacts. Therefore, CEQA does not require the County to make findings rejecting the alternatives before considering approval of the Project as proposed.

## E. General CEQA Findings

Having received, reviewed, and considered the information in the Final EIR, as well as any and all other information in the record, the County hereby makes findings pursuant to and in accordance with Sections 21081, 21081.5, and 21081.6 of the Public Resources Code.

### 1. Certification of the EIR

Based on the foregoing findings and the information contained in the administrative record and prior to approving the Project, the County certifies pursuant to CEQA Guidelines Section 15090 that:

- **Finding 1.** The Final EIR has been completed in compliance with CEQA.
- **Finding 2.** The Final EIR was presented to the Planning Commission, which has authority to approve the requested Unclassified Conditional Use Permits for the Key Energy Storage Project. The Planning Commission reviewed and considered the information contained in the Final EIR prior to approving the Project.
- **Finding 3.** The Final EIR reflects the County's independent judgment and analysis. The County has exercised independent judgment in accordance with Public Resources Code section 21082.1(c)(3) in retaining ESA as its own environmental consultant in the preparation of the EIR, as well as reviewing, analyzing, and revising material prepared by the consultant.

### 2. Significant Environmental Impacts

Based on the foregoing findings and the information contained in the administrative record and pursuant to CEQA Guidelines sections 15091 and 15092, the County has made one or more of the following findings with respect to each of the significant effects of the Project:

- **Finding 1.** Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.
- **Finding 2.** Those changes or alterations are within the responsibility and jurisdiction of another public agency and such changes have been adopted by such other agency, or can and should be adopted by such other agency.
- **Finding 3.** Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the Final SEIR.

Based on the foregoing findings and the information contained in the administrative record, and as conditioned by the foregoing:

1. All significant effects on the environment due to the Project have been eliminated or substantially lessened where feasible.
2. No significant effects remain that have been found to be unavoidable.

### 3. Feasibility of Mitigation Measures

Public Resources Code section 21081.5 requires the County to base its findings on substantial evidence in the record. Based on the entire record before the County, the County hereby determines that all feasible mitigation within the County's responsibility and jurisdiction has been adopted to reduce or avoid the potentially significant impacts identified in the Final EIR. The feasible mitigation measures are discussed in Section II.B, above, and are set forth in the MMRP prepared for the Project (Exhibit 1).

### 4. Environmental Mitigation Monitoring and Reporting Program

Public Resources Code section 21081.6(a) requires the County to adopt a monitoring or compliance program regarding the changes in the Project and mitigation measures imposed to lessen or avoid significant effects on the environment. The MMRP for the Project is hereby adopted by the County because it fulfills the CEQA mitigation monitoring requirements:

- The MMRP is designed to ensure compliance with the changes in the Project and mitigation measures imposed on the Project during Project implementation.
- Measures to mitigate or avoid significant effects on the environment are fully enforceable through conditions of approval, permit conditions, agreements, or other measures.

### 5. Reliance on Record

Each and all of the findings and determinations contained herein are based on substantial evidence, both oral and written, contained in the administrative record related to the Project.

#### ***Record of Proceedings***

In addition to this Statement of Findings, in accordance with Public Resources Code Section 21167.6(e), the record of proceedings for the Project includes, but is not limited to, the following elements:

- (i) The Notice of Preparation (NOP) and all other public notices issued by the County in conjunction with the Project;
- (ii) The May 2023 DEIR for the Project (with appendices, Staff Report Exhibits 10 and 11);
- (iii) The June 2024 FEIR for the Project (Staff Report Exhibit 12);
- (iv) The Mitigation Monitoring and Reporting Program for the Project (Staff Report Exhibit 1);
- (v) All reports, studies, memoranda, staff reports, or other documents related to the Project prepared by the County, or consultants to the County with respect to the County's compliance with the requirements of CEQA and with respect to the County's action on the Project;
- (vi) All documents submitted to the County by other public agencies, the Applicant or the Applicant's consultants, or members of the public in connection with the Project, up through the close of the public hearing;
- (vii) Any minutes and/or verbatim transcripts of all information sessions, public meetings, and public hearings held by the County in connection with the Project; and
- (viii) Any other materials required for the record of proceedings by Public Resources Code Section 21167.6(e).

## ***Custodian and Location of Records***

The documents and other materials that constitute the record of the proceedings on which the County’s decision is based are located at the County of Fresno, Public Works & Planning Department, 2220 Tulare Street, Suite B, Fresno, California 93721. The custodian for these documents and materials is Jeremy Shaw, Planner, County of Fresno Department of Public Works and Planning, Development Services and Capital Projects Division. This information is provided in compliance with Public Resources Code section 21081.6(a)(2) and CEQA Guidelines section 15091(e).

## **6. Nature of Findings**

Any finding made by the County shall be deemed made, regardless of where it appears in this document. All language included in this document constitutes findings by the County, whether or not any particular sentence or clause includes a statement to that effect. The County intends that these findings be considered as an integrated whole; and, whether or not any part of these findings fail to cross-reference or incorporate by reference any other part of these findings, any finding required or committed to be made by the County with respect to any particular subject matter of the Final EIR, shall be deemed to be made if it appears in any portion of these findings.

## **7. Recirculation Not Required**

CEQA Guidelines Section 15088.5 requires a lead agency to recirculate an EIR for further review and comment when significant new information is added to the EIR after public notice is given of the availability of the Draft EIR but before certification of the Final EIR. New information added to an EIR is not “significant” unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project proponent declines to implement. The CEQA Guidelines provide the following examples of significant new information under this standard:

- A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
- A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
- A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project’s proponents decline to adopt it.
- The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (CEQA Guidelines §150885(a); *Mountain Lion Coalition v. Fish and Game Com.* (1989) 214 Cal.App.3d 1043).

Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR. The above standard is “not intend[ed] to promote endless rounds of revision and recirculation of EIRs.” *Laurel Heights Improvement Ass’n v. Regents of the University of California* (1993) 6 Cal. 4th 1112, 1132. “Recirculation was intended to be an exception, rather than the general rule.” *Id.*

No substantial changes were made between the DEIR and FEIR. Additionally, no new information was incorporated into the FEIR. Therefore, recirculation is not necessary.



# Attachment 5B

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Operational Statement

# Operational Statement

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## 1 Nature of the Operation

Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) on approximately 208 acres in unincorporated Fresno County. The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of lithium-ion batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.<sup>1</sup> The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation.

## 2 Operational Time Limits

The Project would operate 7 days per week, 365 days per year. Operations would be monitored remotely through the SCADA system and not require a staff presence. However, minor routine maintenance would be conducted on-site weekly and one major maintenance inspection would occur annually. Maintenance would occur during daylight hours.

## 3 Number of Customers and Visitors

The site would not receive customers or visitors.

## 4 Number of Employees

The facility would be unmanned. Occasional site visits would occur for security and maintenance. Site maintenance is anticipated to require one or two workers to visit the facility on a weekly basis. On intermittent occasions (e.g., annually), the presence of additional workers may be required for repairs or specialized maintenance, mainly during daylight hours, as needed. However, due to the self-operating nature of the facility, such actions would likely occur infrequently.

## 5 Service and Delivery Vehicles

The facility would not receive any regular deliveries during operations. Site maintenance/service visits would require one or two workers in a light utility truck to visit the facility on a weekly basis.

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<sup>1</sup> The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the Project may change, the overall size of the Project (up to approximately 208 acres) would remain consistent.

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## 6 Site Access

Access to the Project site would be from the main entrance along West Jayne Avenue, a public, paved road as well as from the existing agricultural access roads that border and bisect the Project site.

## 7 Site Parking

As the facility will be unmanned and not receive customers or visitors, no customer parking is required or proposed. However, on-site parking spaces for maintenance staff would be provided as needed, in accordance with Fresno County requirements.

## 8 Goods Sold Onsite

No goods would be grown, produced, or sold onsite.

## 9 Equipment

The Project would include an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, and SCADA system, and a connection to the PG&E-owned Gates Substation. Major Project features are described below and displayed on the submitted Site Plan.

### *Batteries*

Individual lithium-ion, or similar technology, battery cells form the core of the energy storage system. The battery cells are assembled either in series or parallel connection in sealed battery modules. The battery modules would be installed in self-supporting racks electrically connected either in a series or parallel to each other. The individual battery racks are connected in series or parallel configuration to deliver the energy storage system power rating. At this time, the battery technology for the Project has not yet been finalized; the battery type would be selected based on the technology available at the time of construction.

### *Enclosure Units and Controller*

Multiple self-contained storage system enclosures would house the batteries, described above, as well as the battery storage system controller (Figure 1, Examples of Storage Units). The energy storage system controller is a multi-level control system designed to provide a hierarchical system of controls for the battery modules, power conversion system (PCS), medium voltage system, and up to the point of connection with the electrical grid. The controllers ensure that the energy storage system effectively responds to grid emergency conditions and provides a secondary safety system designed to safely shutdown the facility. The storage system enclosure would also house required heating, ventilation, and air conditioning (HVAC) and fire protection systems. Enclosure height would not exceed 25 feet.



**Figure 1** Examples of Energy Storage Units



### *Heating, Ventilation, and Air Conditioning Units*

Each enclosure unit would be equipped with HVAC systems for thermal management of the batteries. Power for the HVAC would be provided through a connection to the on-site station service transformer with connection lines installed above and/or below ground.

### *Power Conversion System*

The PCS consists of an inverter, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, filter equipment, equipment terminals, and connection cabling system. Electric energy is transferred from the existing power grid to the Project batteries during a battery charging cycle, and from the Project batteries to the power grid during a battery discharge cycle. The PCS converts electric energy from AC to DC when the energy is transferred from the grid to the battery, and from DC to AC when the energy is transferred from the battery to the grid. The energy conversion is enabled by a bi-directional inverter that connects the DC battery system to the AC electrical grid.

The PCS would also include a transformer that converts the AC side output of the inverter to medium AC voltage to increase the overall efficiency of the energy storage system and to protect the PCS in the event of system electrical faults.

### *Project Substation*

The Project substation would be the termination point of the collection system of 34.5 kV AC electricity. The power to and from the energy storage system would be passed through a final interconnection step-up transformer to convert it from 34.5 kV to 500 kV. The open-air substation is anticipated to be constructed adjacent to the energy storage facilities in the northern portion of the Project site. The footprint of the on-site Project substation would be approximately 5.14 acres. The specific size and equipment for the substation would be finalized at the detailed engineering stages as the Project progresses. It is assumed that PG&E would have nearby suitable distribution lines to provide the Project site with auxiliary power as required. An auxiliary generator may be used for emergency power.

### *Generation Transmission Line*

The energy would be transported to and from the Project substation to the existing PG&E Gates Substation through a proposed approximately 0.3-mile-long gen-tie line. The gen-tie line would extend from the northwest corner of the Project site to the PG&E Gates Substation to the north. The 500 kV gen-tie transmission line would include concrete or steel pole structures up to 150 feet tall and spaced approximately every 500 feet. The poles would carry one conductor per phase and allow the line to maintain a minimum 30-foot vertical clearance to the ground. The number and height of the poles, as well as the type of conductor, would be finalized during detailed design.

## 10 Supply and Material Use and Storage

No supplies or materials would routinely be used at the site, and battery storage would occur as described above. Other items required for periodic maintenance would be carried on maintenance vehicles.

## 11 Appearance, Noise, Glare, Dust, and Odor

The facility would include energy storage containers similar to what is shown in Figure 1. The substation and gen-tie line would be visually consistent with the adjacent PG&E Gates substation and its related infrastructure. The Project would generate minimal noise from HVAC units, inverters, and transformers. The substation may also include an auxiliary generator for emergency power. No glare, dust, or odor would be generated by the Project during operation.

## 12 Solid and Liquid Waste

The facility will not generate solid or liquid wastes. The site will be unmanned so no restrooms would be required and no sewer connection or septic system would be installed. Any solid wastes generated during maintenance activities would be removed by maintenance crews when they depart the site.

## 13 Water Usage

The site will be unmanned and water use would be minimal and only as needed during operation. For example, water would be used for fire suppression, if needed. The energy storage facility would be uninhabited with no bathroom facilities or running water.

## 14 Advertising

No advertising is proposed. A small sign would be installed at the main entrance off West Jayne Avenue to allow for the identification of the Project owner and for safety and security purposes. The sign would read "Key Energy Storage" and would conform to Fresno County signage requirements.

## 15 Existing or New Buildings

The Project site contains no existing buildings, and no new habitable structures are proposed. New construction on the site would be limited to the energy storage system facility and associated on-site support facilities. See Site Plan.

## 16 Buildings Used for Operations

There are no existing buildings on the site and no new habitable structures are proposed as part of the Project.

## 17 Lighting

Outdoor lighting would be limited to small-scale security lighting at the entry and any domestic fixtures required by Building Code or other Code requirements at electrical equipment, such as the substation.

## 18 Landscape and Fencing

The perimeter of the Project site and substation would be enclosed by a chain-link fence topped with barbed wire. The Project does not include landscaping.

## 19 Additional Project and Operations Information

### *Stormwater Facilities*

Onsite stormwater detention and treatment systems would be provided to meet County and State Water Resources Control Board requirements. As shown on the Site Plan, proposed stormwater facilities include a drainage swale along the eastern Project boundary (constructed during Phase 1), a retention basin at the southeast corner of parcel 085-040-58S (constructed during Phase 1), and a retention basin at the southeast corner of parcel 085-040-37S (constructed during Phase 4).

### *Utility Easements*

Overhead easements would be required where the gen-tie lines cross West Jayne Avenue and the PG&E property.

## 20 Owners and Officers

Contact information for the owner, applicant, and representative is provided in the CUP Application Form in Attachment 2.



# Key Energy Storage Project

## Draft Reclamation Plan

*prepared for*

**County of Fresno**

Department of Public Works and Planning

2220 Tulare St. 6th Floor

Fresno, CA 93721

Attn: Jeremy Shaw, Planner

*prepared with the assistance of*

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**December 2021**



**RINCON CONSULTANTS, INC.**

Environmental Scientists | Planners | Engineers

[rinconconsultants.com](http://rinconconsultants.com)

Exhibit 8

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# Reclamation Plan

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## 1.0 Introduction

Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) on approximately 208 acres in unincorporated Fresno County. The Project includes development of an energy storage system facility and associated on-site support facilities including a collector substation, inverters, collector lines, fencing, access roads, and supervisory control and data acquisition (SCADA) system. The Project would have the potential to store approximately 3 gigawatts (GW) of energy. The Project also includes a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation. The perimeter of the facility will be enclosed with a chain link fence built per county standards. The Project site is comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S). The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts.

## 2.0 Property Ownership

The northern parcel of the Project site (APN 085-040-58S) is presently owned by Michael Dresick, and the southern parcels (APNs 085-040-36S and -037S) are presently owned by Rebecca L. Kaser.

## 3.0 Soil Classifications

Table 1 describes the Project's soil classifications according to various systems used in California.

**Table 1 Project Site Soil Classifications**

| Area <sup>1</sup> | Soil Type <sup>1</sup>             | NRCS Prime Farmland Classification <sup>1</sup> | DOC FMMP Classification <sup>2</sup> | Land Capability Classification <sup>1</sup> |
|-------------------|------------------------------------|---|--------------------------------------|---|
| 196 acres         | Kimberlina sandy loam (0-2% slope) | Prime Farmland if Irrigated                     | Prime Farmland                       | Irrigated: 1<br>Non-irrigated: 7            |
| 109 acres         | Westhaven loam (0-2% slope)        | Prime Farmland if Irrigated                     | Prime Farmland                       | Irrigated: 1<br>Non-irrigated: 7            |
| 13 acres          | Wasco sandy loam (2-5% slope)      | Prime Farmland if Irrigated                     | Prime Farmland                       | Irrigated: 2<br>Non-irrigated: 7            |

Source<sup>1</sup>: USDA Web Soil Survey, 2021. <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

Source<sup>2</sup>: US Department of Conservation, 2016. <https://maps.conservation.ca.gov/DLRP/CIFF/>



The Project site is classified as Prime Farmland as designated by the State Department of Conservation’s (DOC) Farmland Mapping and Monitoring Program (FMMP). The property is classified as prime farmland, if irrigated, by the National Resources Conservation Services (NRCS).

Land Capability Classification (LCC) demonstrates the suitability of soils for growing field crops. Based on LCC, the site’s LCC non-irrigated soil rating is Class 7, and its irrigated soil rating is Class 1 and 2. Class 1 soils have few limitations that restrict their use, and Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices. Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

## 4.0 Historical Agricultural Use

The site has historically been used for irrigated farming, dry-farming, and/or left fallow over the past four years (Table 2). A 10-year historical agricultural use summary will be provided as part of the Agricultural Resources Technical Study being prepared for the Project.

**Table 2 Historic Agricultural Use**

| Assessor’s Parcel Number | Historical Agricultural Use         | Crop Types (2015-2019)          | Source of water for parcel (district, well(s), etc.) | Well Onsite? |
|--------------------------|-------------------------------------|---------------------------------|--|--------------|
| 085-040-58S              | Fallowed, irrigated farming         | Orchard, citrus, almonds, other | Well   | Yes          |
| 085-040-36S              | Fallowed, Dry farmed, non-irrigated | None                            | None   | No           |
| 085-040-37S              | Fallowed, Dry farmed, non-irrigated | Winter wheat, other             | None   | No           |

Source: *AcreValue Report*, November 12, 2021.

## 5.0 Decommissioning

A final Reclamation Plan will be prepared during the environmental review process. The plan will then be updated and finalized in coordination with the final design plans and will be submitted with the Project’s grading and building permit applications.

The Project is anticipated to have an operating life of up to 30 years. Decommissioning and site reclamation are anticipated to start in approximately 2055 and take up to 12 months. Decommissioning equipment and personnel would be similar to, or less than, that required for construction. Once the facility has been permanently shut down, the reclamation process will begin to return the site to its previous agricultural condition.

All decommissioning, reclamation, and restoration activities will adhere to the requirements of appropriate governing authorities, and will be in accordance with all applicable federal, state, and local permits. The reclamation and restoration process comprises removal of above ground structures; removal of below ground foundations and infrastructure; and restoration of topsoil, re-vegetation, and seeding. Electrical conduit and other materials that break off more than 4 feet below the ground surface would be decommissioned in place. Appropriate temporary (construction-related) erosion and sedimentation control best management practices (BMP) will be used during the reclamation phase of the Project. The BMPs will be inspected on a regular basis to ensure their function.

The Project components, including the energy storage system and on-site substation, would be recycled when the Project's operating life is over. Most parts of the proposed system are recyclable. Batteries include lithium-ion, which degrades but can be recycled or repurposed. Battery enclosures include steel or aluminum, with concrete foundations which can be recycled. Local recyclers are available, and metal and scrap equipment and parts that do not have free-flowing oil may be sent for salvage.

Fuel, hydraulic fluids, and oils would be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks and vessels would be rinsed and transferred to tanker trucks. Other items that are not feasible to remove at the point of generation, such as lubricants, paints, and solvents, would be kept in a locked utility structure with integral secondary containment that meets applicable requirements for hazardous waste storage until removal for proper disposal and recycling. It is anticipated that all oils and batteries would be recycled at an appropriate facility. Site personnel involved in handling these materials would be trained to properly handle them. Enclosures used to store hazardous materials would be inspected regularly for any signs of failure or leakage. Transportation of the removed hazardous materials would comply with applicable regulations for transporting hazardous materials, including those set by the U.S. Department of Transportation, U.S. Environmental Protection Agency, California Department of Toxic Substances Control, California Highway Patrol, and California State Fire Marshal.

Prior to completion of decommissioning, the Project site would be restored to its current agricultural condition. All roads and other areas compacted during original construction or by equipment used for decommissioning would be tilled in a manner adequate to restore the sub-grade material to the proper density and depth consistent with adjacent properties. Low areas would be filled with clean, compatible sub-grade material. After proper sub-grade depth is established, locally sourced (from the City of Fresno or other location within 50 miles of the Project site) topsoil would be placed to a depth and density consistent with adjacent properties. Locally sourced compost would be applied to the topsoil, and the entire site would be tilled to further loosen the soil and blend in the compost. An appropriate seed mixture would be broadcast or drilled across the site and weed-free mulch would be applied to stabilize the soil and retain moisture for seedling germination and establishment.

## 6.0 Financial Assurances

An estimated cost for all activities associated with returning this site to its original state shall be provided prior to Project approval. Prices will reflect a rough estimate of predicted market conditions and may be subject to change.

Agricultural land water, and utility pipes on site prior to energy storage facility construction may remain throughout the facility's use. These systems may once again be used to provide irrigation on

the property after the site has been decommissioned. Once the facility is completely removed, the property owner will be able to commence farming on this property if they so choose.

## 7.0 Record of Owner's Notice of Proposed Reclamation Plan

The northernmost parcel on the Project site (APN 085-040-58S) is currently owned by the Ann Dresick Family Trust, and the southern parcels (APNs 085-040-36S and -37S) are owned by Rebecca Kaser, Trustee of the Rebecca Avellar Trust. Key Energy Storage, LLC, will be purchasing the real property from the current property owners (Rebecca Kaser and Michael Dresick) prior to the start of construction. Therefore, Key Energy Storage, LLC is the future property owner and is thereby suitably notified.

## 8.0 References

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# Attachment 12

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Pest Management Plan



# Key Energy Storage Project

## Pest Management Plan

*prepared for*

**County of Fresno**  
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**December 2021**



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# Pest Management Plan

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## 1.0 Introduction

### 1.1 Background and Purpose

Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, and approximately 0.4 mile west of Interstate 5 (Figure 1, Regional Location). The Project site is located southwest of the PG&E Gates Substation along West Jayne Avenue. The Project would be developed on up to 208 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2, Project Site and Project Parcel Map).

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. Within this zoning district, Fresno County permits utility-scale renewable energy uses with an Unclassified Conditional-Use Permit (UCUP). The Applicant selected the Project site based on its previously disturbed nature and close proximity to Gates Substation.

Upon approval, the UCUP is subject to the Conditions of Approval and Mitigation Measures set forth in the Fresno County Board of Supervisor's Resolution in accordance with the California Environmental Quality Act of 1970 (California Public Resources Code § 21000 et seq.) and the California Code of Regulations (Title 14 § 15000 et seq.).

This Pest Management Plan has been prepared to comply with the Project's anticipated Fresno County UCUP. The following pest-control measures were developed for the purpose of minimizing the likelihood of pests (including weeds and rodents) within the Project site and maximizing the ability to reduce the current (if present) pest population.

### 1.2 Site and Project Summary

The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of lithium-ion batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.<sup>1</sup> The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation.

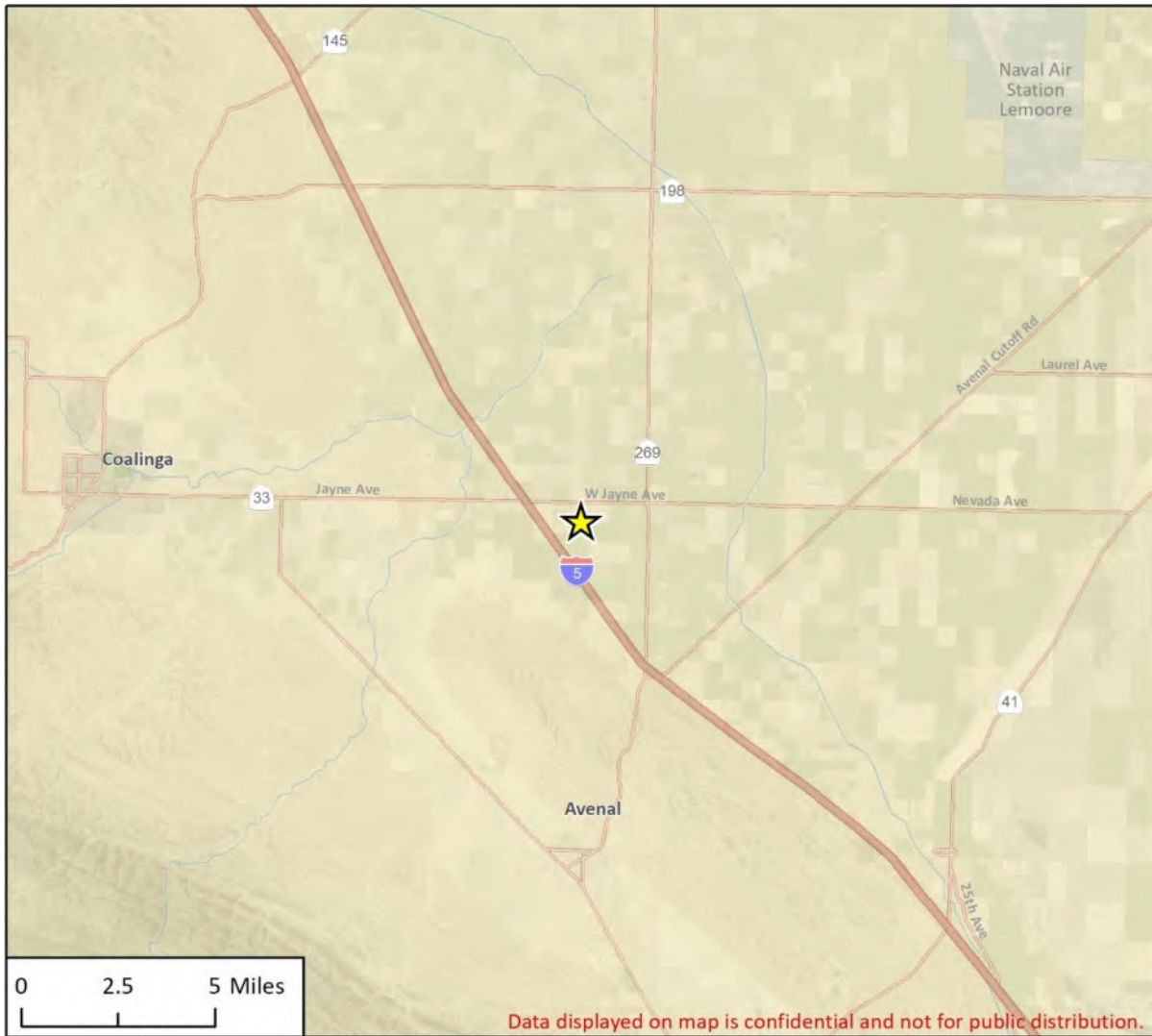
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<sup>1</sup> The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the Project may change, the overall size of the Project (up to approximately 208 acres) would remain consistent.

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Key Energy Storage Project

Figure 1 Regional Location



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★ Project Location

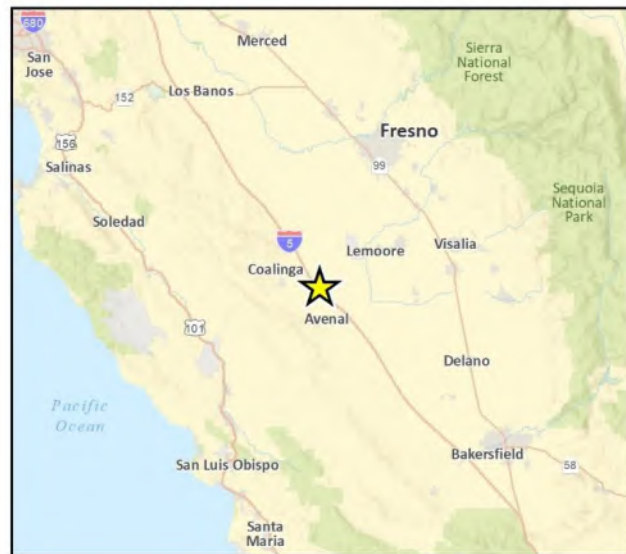
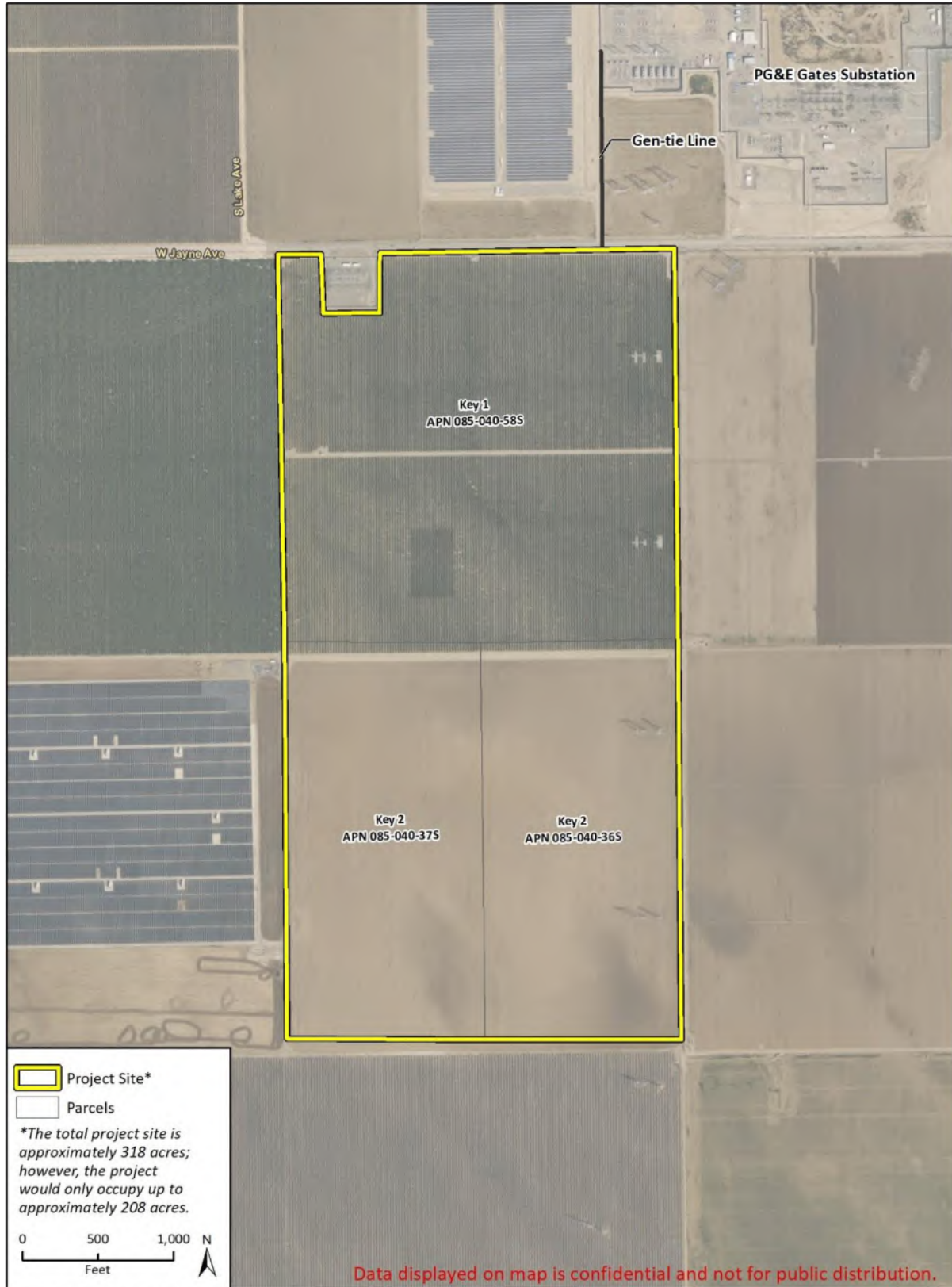




Figure 2 Project Site and Project Parcel Map



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Fig. 2 Project Location

Key Energy Storage Project

The Key 1 portion of the site consists of land in agriculture production, an overhead gen-tie line along the western boundary, and high voltage transmission lines running north-to-south in the eastern portion of the site. The Key 2 portion of the site is currently fallow with high voltage transmission lines running north-to-south in the eastern portion of the site.

As shown in Figure 2, the Project site is bound by West Jayne Avenue to the north and unpaved agricultural access roads to the east, south, and west. The Project site is surrounded by agricultural uses to the west, south, and east. Solar facilities are located to the north and southwest and the PG&E Gates Substation is located to the northeast of the Project site. A small substation is also located immediately adjacent to the northwest Project site boundary.

Existing site access from West Jayne Avenue is provided via agricultural roads along the eastern and western Project site boundaries.

## 2.0 Pest Management Goals

This Pest Management Plan has been prepared to comply with the Project's anticipated Fresno County UCUP. The following pest-control measures are based on widely accepted pest management protocols and were developed for the purpose of minimizing the likelihood of pests (including weeds and rodents) within the Project site and maximizing the ability to reduce the current (if present) pest population.

## 3.0 Strategy

This Pest Management Plan promotes the use of a range of preventative and non-chemical approaches to control pest populations and stave off infestation. If preventative and non-chemical approaches fail to control the pest populations and an infestation warrants additional treatment, the Pest Management Plan protocol favors the use of least-toxic chemical control (i.e., herbicide or pesticide).

## 4.0 Practices

The following sections include general and specific preventative, mechanical, and chemical pest control strategies.

### 4.1 Weed Control Practices

#### **Preventative Controls**

Preventative strategies to control the spread of weed seed within the Project site include cleaning all vehicles inside and out at a commercial washing station to prevent weed seeds that are carried in tire treads, etc. from being carried onto the property.

#### **Mechanical Controls**

Mechanical strategies to remove existing and new weed populations include the following:

- Regular inspections of the property should be made to identify weeds before they go to seed.

- Remove weed species when identified. This can be done by pulling the entire plant out of the soil and disposing of it. It is especially important to remove weeds before the seed head matures.
- Handheld string trimmers (Weed Eaters) or mowers can be used in the larger open spaces if needed but those activities should be timed before the weeds develop seed heads.

### Chemical Controls

Chemical controls, which include use of herbicides, should only be utilized if the weed prevention and mechanical controls detailed above fail. Protocols for herbicide use are detailed in Section 4.3.

## 4.2 Pest Control Practices and Removal Methods

### Preventative Controls

Various small rodents are known to inhabit the general region. These include voles, moles, pocket gophers, rats, mice, and California ground squirrels. Preventive measures for each of these species are somewhat different; however, there are several measures common to all that can be implemented for the project as needed. These measures are summarized below:

- **Managing Vegetation:** Rodents typically occur in areas where vegetation (including weeds) is allowed to grow; therefore, the vegetative cover throughout the site should be controlled. This can be achieved through periodic mowing or weeding.
- **Tilling:** Plowing can be an effective measure in controlling rodents. Tilling must be performed on a regular basis to ensure control of rodent populations.
- **Specialized Fencing:** Specialized fencing designed to exclude small mammals can sometimes be an effective measure in controlling animals, particularly in dealing with larger mammals such as California ground squirrels. However, specialized fencing is most effective when utilized for relatively small projects. Installing specialized fencing would not be a cost-effective means in controlling small rodents for the proposed project.
- **Natural Control:** Natural predators such as hawks and falcons do occur in the area and prey on voles, rats, and ground squirrels on a regular basis. Raptors are expected to utilize the site during hunting activities.

### Mechanical Controls

Construction of the proposed Project would have the benefit of reducing the number of rodents which may presently occur on the site due to modification and removal of the existing crops and vegetation present on the site. As part of the construction process, the site would be graded, and all current vegetation will be removed. Some natural re-vegetation will occur over time and rodents will naturally be reintroduced; consequently, pests may need to be controlled through mechanical removal practices.

Trapping would be the preferred active management technique should the above preventative methods fail to provide sufficient management. Removal of various rodent species through trapping measures is an effective way to control populations of pests; however, trapping is labor intensive and can be relatively expensive. Trapping is most effective when dealing with small projects or when the rodents are confined to a relatively small portion of the site. Trapping may be an effective measure for the project if the rodent infestation problem is confined to a small area but if the

rodents are evenly dispersed throughout the site, baiting (see chemical controls below) may be a more effective measure. In the event an infestation problem does arise, the site operations manager should consult with a pest control expert to determine if trapping is suitable.

Trapping would be employed by a licensed contractor for about 3 to 6 months and evaluated for success before other management options are considered.

## Chemical Controls

Rodenticides are pesticides used to control rodents and can be used as bait in rodent traps. The use of rodenticides would be restricted and would only be implemented by a licensed contractor should other management techniques fail. If rodent control must be conducted, zinc phosphide will be used because of its proven lower risk to San Joaquin Kit Fox. Bait stations shall be enclosed so the opening is accessible for the target rodent (i.e., 2-inch diameter for ground squirrel), but the openings will be at an elevated angle so that bait remains inside the station under all conditions. Protocols for pesticides use are detailed in Section 4.3.

## 4.3 Chemical Application of Herbicides and Pesticides

Chemical herbicides and pesticides (including rodenticides) are to be used only after non-chemical options have been exhausted, with a preference for use of a low-risk herbicides and pesticides. Low risk herbicides and pesticides are determined by hazard screening to be of “lowest concern,” because the product contains:

- No known, likely, or probable carcinogens
- No reproductive toxicants (CA Prop 65 list)
- No ingredients listed by the U.S. Environmental Protection Agency as known, probable, or suspect endocrine disrupters
- Active ingredients have a soil half-life of thirty days or less
- Labeled as not toxic to fish, birds, bees, wildlife, or domestic animals
- Pest control chemicals other than glyphosate (e.g., Roundup) and pelargonic acid (e.g., Scythe) shall only be applied by a credentialed applicator in the state of California and it is necessary to confirm that the applicator has all the necessary federal, state, and local agency permits.

All chemical application and advice on pest and weed management problems will be made by a licensed contractor, particularly in the creation of a customized treatment plan which may require detailed knowledge of the biology and ecology of a particular species. No pesticides or herbicides should be stored on the property and a specialist must prepare the chemicals off-site to limit the chances of a spill. Herbicides are not to be sprayed within the buffer zone (if any) of any sensitive resource areas without prior authorization from the appropriate regulatory agency.

## Contractor Requirements

All contractors responsible for pesticide and herbicide use, transport, application, and control at the site will hold the appropriate certifications. Such certifications shall be made available. Contractors transporting pesticides and herbicides to the site shall also have legible Safety Data Sheets and labels on site.

## Application Procedures

Chemical herbicide and pesticide applications on site will occur using the following general best management practices:

- Use of chemical compounds will observe label and other restrictions mandated by the United States Environmental Protection Agency, California Department of Food and Agriculture, and any other applicable state and federal legislation.
- Time the treatment to coincide with the presence of the pest or weed species.
- Use a selective chemical that has the least effect on non-target species and treat only the area affected.
- Spraying must not be carried out in unsuitable weather. Anyone operating sprayers must have access to a wind-speed meter and only spray when the wind speed is less than 10 miles per hour.
- Spray equipment must be frequently checked and properly maintained, both for health and safety reasons and to minimize spray drift.
- Users must wear protective clothing and Personal Protective Equipment (PPE) appropriate to the pest chemical application used.
- Ensure that anyone handling toxic chemicals never works alone and that the work area is well ventilated.
- Require respirators for outdoor spraying or dusting of organic phosphorus compounds.
- Eating, drinking and smoking must be prohibited when using or handling chemicals.
- Users must be familiar with the effects on the body of the chemicals they are likely to be using, and how the chemicals may enter the body.
- Users must be aware of the signs and symptoms of acute poisoning related to chemicals they are using. They must stop work if they are feeling ill and seek medical advice.

## Spill Control

Spill kits and PPE will be available on site and must be carried in contractor vehicles. If a spill or inadvertent release occurs the following protocol should be followed:

- Notify the Operations Manager and the appropriate regulatory agencies immediately.
- Secure the affected area barring pedestrian and vehicle traffic. All spill response personnel shall put on the appropriate PPE prior to entering the spill containment area.
- Personnel, while wearing the appropriate PPE and equipped with the necessary tools and equipment, shall stop the chemical leak or release.
- All materials associated with spill response, including the released herbicide, affected soils and plants, absorptive material, clothing, and PPE shall be removed and containerized according to appropriate regulations and procedures.

All generated spill response containers shall be transported, following appropriate regulations, and disposed legally at an approved disposal facility.

## 5.0 Conclusion

Pests and weeds are not expected to be an issue of major concern because the Project will not produce or maintain any crops or other plant materials that might propagate weeds or attract the various rodents known to occur in the area. In addition, food and trash will not be stored on site. Minimal weed management will be required to avoid interference with facility equipment, and will reduce the amount of useful habitat for pests on the site. In addition, preventative control methods would help reduce pests and weeds on site.

# KEY ENERGY STORAGE PROJECT

Draft Environmental Impact Report

EIR No. 8189

CUP No. 3734

State Clearinghouse No. 2022070414

Prepared for  
Fresno County Department of  
Public Works and Planning

September 2023







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September 2023

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**Acronyms and Abbreviations**

|           |  |
|-----------|--|
| AB        | Assembly Bill                          |
| AC        | alternating current                    |
| AE        | Exclusive Agriculture zoning district  |
| APLIC     | Avian Power Line Interaction Committee |
| APN       | assessor’s parcel number               |
| Applicant | Key Energy Storage, LLC                |
| CAISO     | California Independent System Operator |

|                 |  |
|-----------------|--|
| Cal. Code Regs. | California Code of Regulations                     |
| CEC             | California Energy Commission                       |
| CEQA            | California Environmental Quality Act               |
| CFR             | Code of Federal Regulations                        |
| County          | Fresno County government                           |
| CPUC            | California Public Utilities Commission             |
| CRS             | Cultural Resource Specialist                       |
| CUP             | conditional use permit                             |
| DC              | direct current                                     |
| Draft EIR       | draft environmental impact report                  |
| EIR             | environmental impact report                        |
| GHG             | greenhouse gas                                     |
| GW              | gigawatt(s)  |
| GWh             | gigawatt-hour(s)                                   |
| GWP             | global warming potential                           |
| HEPA            | high efficiency particulate air                    |
| HVAC            | heating, ventilation, and air conditioning         |
| I-5             | Interstate 5                                       |
| IPM             | integrated pest management                         |
| ITP             | incidental take permit                             |
| kV              | kilovolt(s)  |
| kWh             | kilowatt-hour(s)                                   |
| LAMP            | Local Agency Management Program                    |
| MLD             | Most Likely Descendant                             |
| MW              | megawatt(s)  |
| NAHC            | Native American Heritage Commission                |
| NECPA           | National Energy Conservation Policy Act            |
| NFPA            | National Fire Protection Association               |
| NHPA            | National Historic Preservation Act                 |
| NHTSA           | National Highway Traffic and Safety Administration |
| NOP             | notice of preparation                              |
| O&M             | operation and maintenance                          |
| PCS             | power conversion system                            |
| PG&E            | Pacific Gas and Electric Company                   |
| POI             | point of interconnection                           |
| Project         | Key Energy Storage Project                         |

|                |  |
|----------------|--|
| Project site   | up to 260 acres of private property in western Fresno County within the approximately 318-acre area consisting of Assessor's Parcel Numbers 085-040-58, 085-040-36, and 085-040-37 |
| Pub. Res. Code | Public Resources Code  |
| RPS            | Renewables Portfolio Standard  |
| SCADA          | supervisory control and data acquisition   |
| SOI            | Secretary of the Interior  |
| SSJVIC         | Southern San Joaquin Valley Information Center   |
| SWPPP          | storm water pollution prevention plan  |
| UL             | Underwriters Laboratories  |
| USC            | U.S. Code  |
| USGS           | U.S. Geological Survey   |
| WEAP           | Worker Environmental Awareness Training  |



# EXECUTIVE SUMMARY

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## ES.1 Introduction

Key Energy Storage, LLC (the Applicant) has filed an application with the Fresno County Department of Public Works and Planning for an unclassified conditional use permit (CUP) (CUP No. 3734) to construct, operate, maintain, and decommission the Key Energy Storage Project (Project) on approximately 260 acres of private property in western Fresno County.

The facility would not generate electricity. Rather, it would provide a service by receiving energy (charging) from the point of interconnection (POI) with the regional electric transmission system at the existing Pacific Gas and Electric Company (PG&E) Gates Substation, storing energy, and then later delivering energy (discharging) back to the POI. The Project would consist of batteries using lithium-ion and/or iron-flow storage technology. On-site support facilities would include a collector substation; power conversion systems, including bi-directional inverters,<sup>1</sup> transformers,<sup>2</sup> and associated connection lines; heating, ventilation, and air conditioning units; fencing; access roads; a supervisory control and data acquisition (SCADA)<sup>3</sup> system; and security lighting. Diesel generators may be needed temporarily during construction.

To interconnect the Project, Key Energy Storage, LLC and PG&E would construct, operate, and maintain a new 2,500-foot-long (up to 0.5-mile) 500-kilovolt transmission line between the Project site and the Gates Substation. This line would be installed on new lattice steel towers, each up to 200 feet tall, which would be spaced at approximately 500-foot intervals. PG&E's interconnection infrastructure work also would include other modifications within the existing boundaries of the Gates Substation as well as at PG&E's existing Midway Substation, which is located in Buttonwillow, an unincorporated community in Kern County, California.

The Project would be developed on private property in unincorporated western Fresno County within the approximately 318-acre area that consists of Assessor's Parcel Numbers (APNs) 085-040-58, 085-040-36, and 085-040-37 (Project site). The Project site is zoned AE-40 (Exclusive Agriculture, 40-acre minimum parcel size). The northernmost Project site parcel is subject to a contract entered into pursuant to the California Land Conservation Act of 1965 (also known as the *Williamson Act*), which enables local governments and private landowners to agree to restrict

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<sup>1</sup> An *inverter* connects to the electric power grid and converts direct current (DC) electric power to alternating current (AC).

<sup>2</sup> A *transformer* converts AC from one voltage to another. For example, it can be designed to "step up" to a higher voltage or "step down" to a lower one.

<sup>3</sup> *SCADA* is a system of software and hardware elements that allow companies such as the Applicant to control onsite processes locally or at remote locations; to monitor, gather, and process real-time data; interact directly with devices such as energy storage system sensors through human-machine interface software; and record events into a log file. It provides an information technology function that requires cable internet or wi-fi service.

specific parcels of land to agricultural or related open space use. The Project site is located 4 miles southwest of the city of Huron, approximately 1,700 feet northeast of Interstate 5 (I-5), immediately south of West Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to PG&E’s existing Gates Substation. See **Figure ES-1, Regional Location**, and **Figure ES-2, Project Site**.

Fresno County (County) is serving as the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and its implementing regulations (the CEQA Guidelines). The County has prepared this draft environmental impact report (Draft EIR) (EIR No. 8189) to document its analysis of the direct, indirect, and cumulative environmental impacts of the Project and alternatives to the Project, and to identify mitigation measures to avoid or reduce impacts that have been identified as “significant” for purposes of CEQA.

## **ES.2 Purpose and Use of the Draft EIR**

CEQA Guidelines Section 15124(d) requires that an EIR contain a statement briefly describing the intended uses of the EIR. This Draft EIR is an informational document that examines and discloses the potential impacts of the Project and alternatives so that decision-makers and the public can consider the potential environmental consequences of a decision on the requested CUP. The County will rely on this EIR, along with other information in the formal record, in deciding whether to approve, approve with modifications, or deny required permits. Agencies that have trustee responsibilities or that may have permitting authority over the Project are identified in Section ES.4, *Permits and Approvals*. These other agencies also may rely on this document in deciding whether to approve permits or issue other approvals for the Project.

## **ES.3 Project Objectives**

The purpose of the Project is to receive, store, and discharge electric energy from the California Independent System Operator (CAISO)–controlled electric grid in a reliable and economical manner, including renewable energy produced by existing solar and wind resources in the region. The Project would interconnect to the CAISO-controlled grid at PG&E’s existing Gates Substation. The Applicant has identified the following Project objectives:

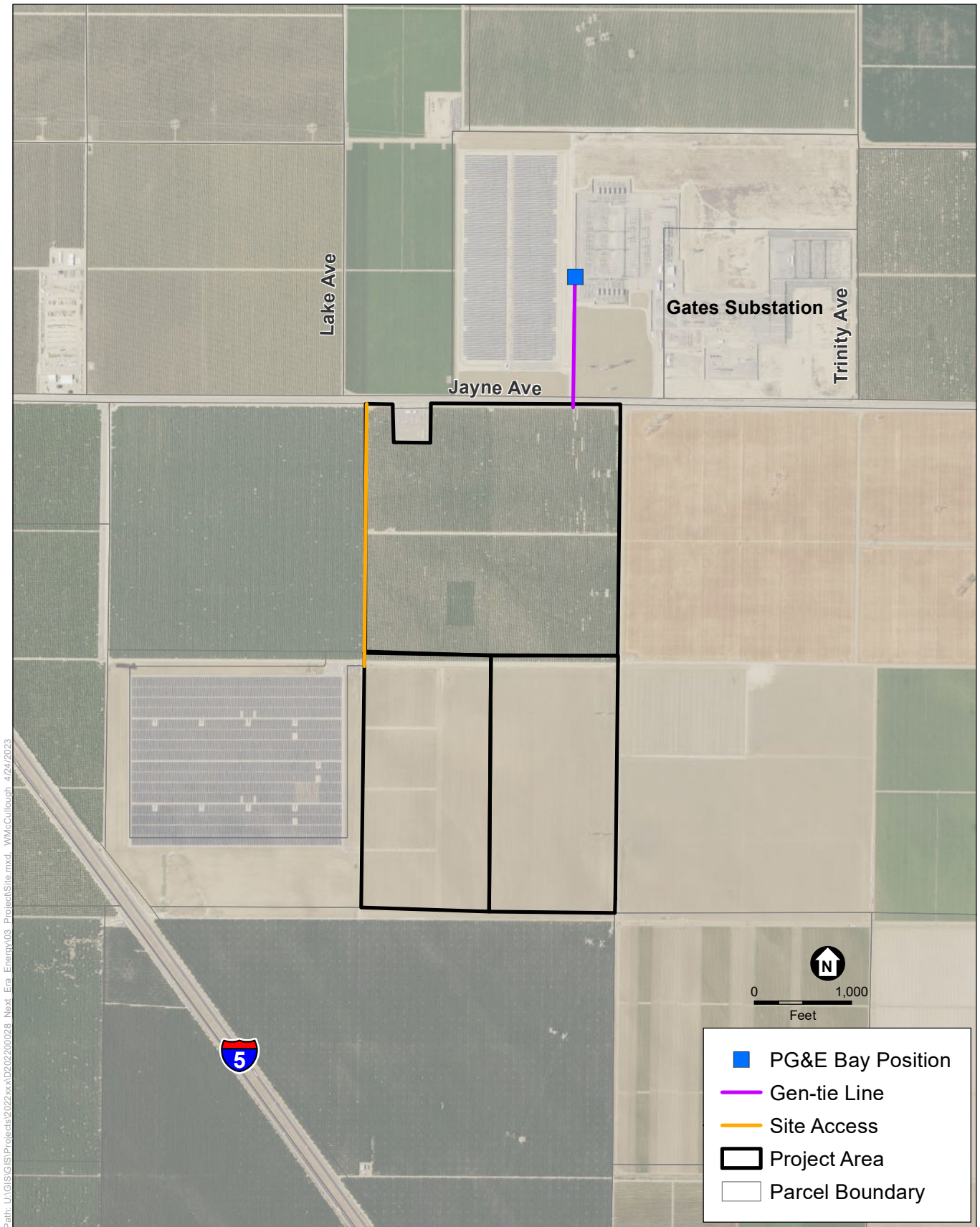
1. Site approximately 3 gigawatts of energy storage adjacent to the Gates Substation to support energy grid reliability while minimizing the gen-tie length.
2. Support state policies necessary to improve the reliability of California’s energy grid, including Assembly Bill 2514 and the California Public Utilities Commission’s (CPUC’s) February 22, 2021 ruling (R.20-05-003) related to integrated resource planning, including the need for 7,500 megawatts of net qualifying capacity between 2023 and 2025.
3. Increase local energy storage capacity at Gates Substation to address the limitations of the electric grid and make it more resilient to disturbances and peaks in energy demand.



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Key Energy Storage Project

**Figure ES-1**  
Regional Location



Key Energy Storage Project

**Figure ES-2**  
Project Site

4. Develop an energy storage facility in Fresno County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.
5. Achieve the above fundamental objectives while avoiding and minimizing environmental impacts.

## ES.4 Permits and Approvals

Permits and approvals that could be required to construct, operate and maintain, and decommission the Project include the following:

- **Fresno County**—unclassified CUP; Williamson Act cancellation; lot line adjustment, lot merger, subdivision map, and/or tentative parcel map; and a structure height variance if needed before the proposed power line poles could exceed the 35-foot height limit in an AE zone. An encroachment permit also could be required for installation of the transmission line to cross West Jayne Avenue.
- **State Water Quality Control Board**— National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, or Construction General Permit (Order 2022-0057-DWQ, NPDES No. CAS000002).
- **CPUC**—authorizations pursuant to General Order 131-D for PG&E’s expansion of Gates Substation in Fresno County and/or the Midway Substation in Kern County and construction of the gen-tie line.
- **San Joaquin Valley Unified Air Pollution Control District**—approval of Indirect Source Review for stationary and/or mobile sources and of a Dust Control Plan pursuant to Regulation VIII.

In addition, some construction deliveries to the Project site could be oversized or overweight. Vehicles providing deliveries would be subject to size, weight, and load restrictions pursuant to California Vehicle Code Division 15, including permits for oversize or overweight loads as required by Vehicle Code Section 35780 and California Code of Regulations Title 21, Section 1411.1 et seq.

## ES.5 Overview of Project Impacts

Sections 3.2 through 3.20 in Chapter 3, *Environmental Analysis*, provide a detailed discussion of the environmental and regulatory setting; direct, indirect, and cumulative impacts of the Project; and mitigation measures designed to reduce potential significant impacts below established thresholds. All resource areas in the CEQA Guidelines Appendix G Environmental Checklist were studied.

### ES.5.1 Significant and Unavoidable Impacts

Section 15126.2(a) of the CEQA Guidelines requires that the EIR describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels. As

analyzed in Chapter 3, *Environmental Analysis*, the Project would result in no significant unavoidable impacts.

## ES.5.2 Significant Irreversible Environmental Changes

CEQA's requirement to analyze irretrievable commitments of resources applies only to: (1) the adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency; (2) a local agency formation commission's adoption of a resolution making determinations; and (3) projects that require the preparation of an environmental impact statement under the National Environmental Policy Act of 1969 (Public Resources Code Section 21100.1; CEQA Guidelines Section 15127). Such an analysis is not required by CEQA for this Project.

## ES.5.3 Growth-Inducing Impacts

Section 15126.2(e) of the CEQA Guidelines requires a discussion of the ways in which a project "could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas)." Project-caused population increases could tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

Growth inducement can be a result of new development that increases employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, the Project would require up to 150 on-site personnel during construction. The existing construction labor pool in Fresno County is sufficient for meeting Project needs.<sup>4</sup> After construction, the Project would require no full-time personnel and would be remotely operated and monitored. Routine operations would require weekly visits to the facility site by one or two workers in a light utility truck. It is anticipated that one annual major maintenance inspection would occur. Non-routine (emergency) maintenance could require additional workers. Decommissioning and site restoration activities are expected to require a workforce similar to or smaller than the construction workforce; decommissioning and site restoration-related activities are expected to take approximately 12 months per phase to complete according to the Project's reclamation plan. Because construction and decommissioning would be temporary, the Project is unlikely to cause substantial numbers of people to relocate to Fresno County. Therefore, this Project would not result in a large increase in employment levels that would significantly induce growth.

It is expected that construction workers would commute to the Project site instead of relocating to Fresno County; however, even if all workers were to migrate into Fresno County, the existing available housing supply could accommodate them without requiring new construction.<sup>5</sup>

<sup>4</sup> According to the California Employment Development Department's Labor Market Information Division, the unemployment rate in Fresno County was 5.9 percent in August 2022, down from a revised 8.8 percent in August 2021. This is comparable to an unadjusted unemployment rate of 5.8 percent for California and 3.7 percent for the nation during the same period.

<sup>5</sup> Among Fresno County's 519,037 residents in 2022, one housing market source reported a homeowner vacancy rate of 0.9 percent and a rental vacancy rate of 4.5 percent from a total of 176,617 units. The vacancy rate reported by the California Department of Finance was higher: 5.7 percent (DOF 2022a, 2022b).

Therefore, the Project is not expected to induce population growth, the housing and provision of services for which could cause significant adverse environmental impacts.

The Project would not generate energy, but it would contribute to the energy supply by storing electricity during times of excess generation and dispatching it to the grid when needed. The development of power infrastructure is a response to increased market demand, and the availability of electrical capacity by itself does not ensure or encourage growth within a particular area. Other factors such as economic conditions, land availability, population trends, availability of water supply or sewer services, and local planning policies have a more direct effect on growth.

## ES.5.4 Summary of Project Impacts and Mitigation Measures

As analyzed in Chapter 3, the Project would cause no impact in any of the areas identified in **Table ES-1, Areas of No Impact**.

**TABLE ES-1  
AREAS OF NO IMPACT**

| <b>Resource Area</b>                             | <b>CEQA Guidelines Appendix G Environmental Checklist Consideration</b>   |
|--|---|
| Aesthetics                                       | <ul style="list-style-type: none"> <li>The Project would have no impact related to a substantial adverse effect on a scenic vista.</li> <li>The Project would have no impact related to substantial damage of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.</li> </ul>   |
| Agriculture and Forestry Resources               | <ul style="list-style-type: none"> <li>The Project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104).</li> <li>The Project would not result in the loss of forest land or conversion of forest land to non-forest use.</li> </ul>   |
| Biological Resources                             | <ul style="list-style-type: none"> <li>The Project would have no impact related to a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.</li> <li>The Project would have no impact related to a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means.</li> </ul>   |
| Cultural Resources and Tribal Cultural Resources | <ul style="list-style-type: none"> <li>The Project would result in no impact on known historical or unique archaeological resources.</li> </ul>   |
| Energy   | <ul style="list-style-type: none"> <li>The Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.</li> </ul>  |
| Geology, Soils, and Paleontological Resources    | <ul style="list-style-type: none"> <li>The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.</li> </ul>  |
| Hazards and Hazardous Materials                  | <ul style="list-style-type: none"> <li>The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of a school.</li> <li>The Project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment due to such a location.</li> <li>The Project would not be located within an airport land use plan or within 2 miles of a public airport or public use airport and so would not result in a safety hazard or excessive noise for people residing or working in the Project area.</li> </ul> |

**TABLE ES-1 (CONTINUED)  
AREAS OF NO IMPACT**

| Resource Area                 | CEQA Guidelines Appendix G Environmental Checklist Consideration   |
|-------------------------------|--|
| Hydrology and Water Quality   | <ul style="list-style-type: none"> <li>The Project would not be located in a flood hazard, tsunami, or seiche zone, and therefore would not risk the release of pollutants due to Project site inundation in such a location.</li> </ul>   |
| Land Use and Planning         | <ul style="list-style-type: none"> <li>The Project would not physically divide an established community.</li> <li>The Project would cause no impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</li> </ul>  |
| Mineral Resources             | <ul style="list-style-type: none"> <li>The Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.</li> <li>The Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.</li> </ul>   |
| Noise                         | <ul style="list-style-type: none"> <li>The Project would not expose people residing or working in the Project area to excessive noise levels.</li> </ul>   |
| Population and Housing        | <ul style="list-style-type: none"> <li>The Project would not induce substantial unplanned population growth in an area, either directly or indirectly.</li> <li>The Project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.</li> </ul>  |
| Public Services               | <ul style="list-style-type: none"> <li>The Project would not result in substantial adverse physical impact from the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, libraries, parks, emergency medical, or other public facilities.</li> </ul>           |
| Recreation                    | <ul style="list-style-type: none"> <li>The Project would cause no impact due to an increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.</li> <li>The Project would not include recreational facilities or require the construction of new or expansion of existing recreational facilities, which might have an adverse physical effect on the environment.</li> </ul> |
| Transportation                | <ul style="list-style-type: none"> <li>The Project would cause no impact due to a conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or other decrease in the performance or safety of such facilities.</li> </ul>  |
| Utilities and Service Systems | <ul style="list-style-type: none"> <li>The Project would cause no impact due to noncompliance with federal, state, or local management and reduction statutes and regulations related to solid waste.</li> </ul>   |
| Wildfire                      | <ul style="list-style-type: none"> <li>The Project would cause no impact due to exposure people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.</li> </ul>  |

NOTES: CDFW = California Department of Fish and Wildlife; CEQA = California Environmental Quality Act; Project = Key Energy Storage Project; USFWS = U.S. Fish and Wildlife Service

SOURCE: Data compiled by Environmental Science Associates in 2023 (see Chapter 3, *Environmental Analysis*, for details)

**Table ES-2** summarizes the environmental impacts of the Project and recommended mitigation measures that, if adopted, would avoid or substantially reduce potential significant impacts of the Project. For five of the resource areas considered under CEQA—Land Use and Planning, Mineral Resources, Population and Housing, Public Services, and Recreation—no impact would occur relative to any of the CEQA Guidelines Appendix G Environmental Checklist considerations. Therefore, these resource areas are not included in Table ES.2. The analysis of each Project impact is provided on a resource-by-resource basis in Chapter 3.



**TABLE ES-2**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures | Level of Significance after Mitigation |
|---|---------------------|--|
| <b>Aesthetics</b>   |                     |  |
| <b>Impact 3.2-1:</b> The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.                                 | None required.      | Less than Significant                  |
| <b>Impact 3.2-2:</b> The Project would not create a new source of light and glare that would adversely affect day or nighttime views in the area.   | None required.      | Less than Significant                  |
| <b>Impact 3.2-3:</b> The Project would not cause a cumulatively considerable contribution to any significant adverse impact on aesthetic resources.   | None required.      | Less than Significant                  |
| <b>Agriculture and Forestry Resources</b>   |                     |  |
| <b>Impact 3.3-1:</b> The Project would convert Prime Farmland to non-agricultural use.  | None required.      | Less than Significant                  |
| <b>Impact 3.3-2:</b> The Project would be compatible with an existing Williamson Act contract.  | None required.      | Less than Significant                  |
| <b>Impact 3.3-3:</b> The Project would involve changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. | None required.      | Less than Significant                  |
| <b>Impact 3.3-4:</b> The Project would not cause a cumulatively considerable contribution to a significant cumulative effect due to conversion of Farmland to non-agricultural use.         | None required.      | Less than Significant                  |
| <b>Impact 3.3-5:</b> The Project would not cause a cumulatively considerable contribution to a significant cumulative effect related to an existing Williamson Act contract.                | None required.      | Less than Significant                  |
| <b>Air Quality</b>  |                     |  |
| <b>Impact 3.4-1:</b> Criteria pollutant emissions generated by Project construction, operation, and decommissioning would not conflict with SJVAPCD's air quality plans.                    | None required.      | Less than Significant                  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures  | Level of Significance after Mitigation |
|--|--|--|
| <b>Air Quality (cont.)</b>   |  |  |
| <b>Impact 3.4-2:</b> Project activities would generate emissions that would not contribute to violations of ambient air quality standards.   | None required.   | Less than Significant                  |
| <b>Impact 3.4-3:</b> The Project could expose sensitive receptors to substantial pollutant concentrations.   | None required.   | Less than Significant                  |
| <b>Impact 3.4-4:</b> Project construction and decommissioning activities could expose sensitive receptors to the risk of contracting Valley Fever.   | None required.   | Less than Significant                  |
| <b>Impact 3.4-5:</b> The Project would generate odor or dust emissions.  | None required.   | Less than Significant                  |
| <b>Impact 3.4-6:</b> The Project's criteria pollutant emissions would not be a cumulatively considerable contribution to a significant cumulative effect due to a conflict with SJVAPCD's air quality plans.   | None required.   | Less than Significant                  |
| <b>Impact 3.4-7:</b> The Project's generation of emissions would not contribute to a significant adverse cumulative impact due to violations of ambient air quality standards.   | None required.   | Less than Significant                  |
| <b>Impact 3.4-8:</b> The Project would not cause or contribute to a significant cumulative impact due to exposure of sensitive receptors to substantial pollutant concentrations.  | None required.   | Less than Significant                  |
| <b>Impact 3.4-9:</b> The Project would not cause or contribute to a significant adverse cumulative impact due to the generation of odor or dust emissions.   | None required.   | Less than Significant                  |
| <b>Biological Resources</b>  |  |  |
| <b>Impact 3.5-1:</b> The Project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. | <p><b>Mitigation Measure 3.5-1: Protection of San Joaquin Kit Fox</b> Preconstruction surveys shall be conducted by a qualified biologist for the presence of San Joaquin kit fox dens within 14 days before the start of construction activities. The surveys shall be conducted in areas of suitable habitat for San Joaquin kit fox. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days before that portion of the site is disturbed. If no potential San Joaquin kit fox dens are present, no further mitigation is required. If the qualified biologist observes potential dens and determines, in consultation with the Project owner and the County, that avoidance is feasible (as defined in CEQA Guidelines Section 15364 consistent with the USFWS [1999] <i>Standardized Recommendations for Protection of the San Joaquin Kit Fox</i>), buffer distances shall be established before each phase of construction activities.</p> <ul style="list-style-type: none"> <li>If avoidance of the potential dens is not feasible, the following measures shall be implemented prior to ground disturbance within 100 feet of the den to avoid potential adverse effects on the San Joaquin kit fox:</li> </ul> | Less than Significant                  |

**TABLE ES-2 (CONTINUED)**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*               | Mitigation Measures   | Level of Significance after Mitigation |
|-------------------------------------|---|--|
| <b>Biological Resources (cont.)</b> |   |  |
| <p><b>Impact 3.5-1 (cont.)</b></p>  | <ul style="list-style-type: none"> <li>• If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent coyotes, foxes, or other animals from reusing them during construction per USFWS (1999) guidance.</li> <li>• If the qualified biologist determines that a potential non-natal den may be active, an on-site passive relocation program shall be implemented prior to ground disturbance within the established buffer with prior approval from USFWS. This program shall consist of excluding San Joaquin kit foxes from occupied burrows by installing one-way doors at burrow entrances, monitoring the burrow for 72 hours to confirm that usage has been discontinued, and excavating and collapsing the burrow to prevent reoccupation. After the qualified biologist determines that the San Joaquin kit foxes have stopped using active dens within the Project boundary, the dens shall be hand-excavated as stated above for inactive dens.</li> </ul> <p><b>Mitigation Measure 3.5-2: Worker Environmental Awareness Training and Best Management Practices for Biological Resources.</b> During construction, operation and maintenance, and decommissioning of the facility, the Project owner and/or contractor shall implement the following general avoidance and protective measures to protect San Joaquin kit fox and other special-status wildlife species:</p> <ul style="list-style-type: none"> <li>• Prior to initiation of ground-disturbing activities and for each phase of construction or decommissioning activities, the Project owner or its contractor shall implement a worker environmental awareness program (WEAP) to train construction personnel on how to recognize and protect biological resources on the Project site. The WEAP training shall include a review of the special-status species and other sensitive biological resources that could exist in the Project area, the locations of sensitive biological resources and their legal status and protections, and measures to be implemented for avoidance of these sensitive resources, highlighting nesting birds protected under the MBTA, San Joaquin kit fox, and Swainson's hawk. The WEAP training shall indicate the appropriate steps to be taken if a special-status species is observed, which may include work stoppage and coordination with CDFW and USFWS.</li> <li>• The Project owner shall limit areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. All proposed impact areas, including solar fields, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging before construction to avoid special-status species, under the guidance of a qualified biologist. Construction-related activities, vehicles, and equipment outside of the impact zone shall be avoided. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.</li> <li>• To prevent inadvertent entrapment of wildlife during construction, all excavated, steep-walled holes or trenches with a 2-foot or greater depth shall be covered with plywood or similar materials at the close of each working day or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected by construction personnel for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow them to escape. If a special-status species is trapped, USFWS and/or CDFW shall be contacted immediately.</li> <li>• All construction pipes, culverts, or similar structures with a 4-inch or greater diameter that are stored at a construction site for one or more overnight periods shall be thoroughly inspected by construction personnel for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist</li> </ul> |  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures   | Level of Significance after Mitigation |
|---|---|--|
| <b>Biological Resources (cont.)</b>   |   |  |
| <p><b>Impact 3.5-1 (cont.)</b></p>  | <p>has been consulted and the animal either has moved from the structure on its own accord or has been captured and relocated by the qualified biologist. If the trapped animal is a special-status species, USFWS and/or CDFW shall be consulted before relocation.</p> <ul style="list-style-type: none"> <li>• Before moving vehicles and equipment parked on the site, construction personnel shall inspect the ground beneath the vehicles and equipment for the presence of wildlife.</li> <li>• Vehicular traffic shall use existing routes of travel. Cross-country vehicle and equipment use outside of the Project properties shall be prohibited.</li> <li>• A speed limit of 20 miles per hour shall be enforced within all construction areas.</li> <li>• A long-term trash abatement program shall be established for construction, operation, and decommissioning and shall be submitted to the County. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to wildlife such as common raven (<i>Corvus corax</i>), coyote (<i>Canis latrans</i>), and feral dogs.</li> <li>• Workers shall be prohibited from bringing pets (excluding service animals) to the Project site and from feeding wildlife in the vicinity.</li> <li>• Intentional killing or collection of any wildlife species shall be prohibited.</li> </ul> <p><b>Mitigation Measure 3.5-3: Protection of Nesting Birds</b> If construction is scheduled to commence outside of nesting season (September 1 to January 31), no preconstruction surveys or additional measures are required for nesting birds, including raptors. During the nesting bird breeding season (February 1 to August 31), to avoid impacts on nesting birds in the Project site and immediate vicinity, a qualified biologist shall conduct preconstruction surveys of all potential nesting habitat within the Project site where vegetation removal or ground disturbance is planned. The survey shall be performed within the site and shall also include potential nest sites within a 0.5-mile buffer around the site in areas where access to neighboring properties is available or visible using a spotting scope. Surveys shall be conducted no more than 14 days prior to each phase of construction activities. If construction is halted for 14 days or more, the area shall be re-surveyed prior to resuming work.</p> <p>Surveys need not be conducted for the entire Project site at one time; they may be phased so that surveys occur shortly before a portion of the Project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer around active nests (e.g., 300 feet for common raptors; 0.25 mile for Swainson’s hawk; 100 feet for passerines) shall be established and no construction within the buffer shall be allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of the qualified biologist in coordination with CDFW.</p> |  |
| <p><b>Impact 3.5-2:</b> The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.</p> | <p>None required.</p>   | <p>Less than Significant</p>           |

**TABLE ES-2 (CONTINUED)**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures  | Level of Significance after Mitigation |
|--|--|--|
| <b>Biological Resources (cont.)</b>  |  |  |
| <b>Impact 3.5-3:</b> The Project would conflict with General Plan Goal OS-E, which protects wildlife resources.  | <b>Mitigation:</b> Implement Mitigation Measure 3.5-1: Protection of Special-Status Species; Mitigation Measure 3.5-2: Worker Environmental Awareness Training and Best Management Practices for Biological Resources; and Mitigation Measure 3.5-3: Protection of Nesting Birds.  | Less than Significant                  |
| <b>Impact 3.5-4:</b> The Project would not conflict with the provisions of the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan.  | None required.   | Less than Significant                  |
| <b>Impact 3.5-5:</b> The Project would not cause or contribute to a potential significant cumulative impact by having a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW and USFWS. | None required.   | Less than Significant                  |
| <b>Impact 3.5-6:</b> The Project would not cause or contribute to any significant cumulative effect due to substantial interference with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.                              | None required.   | Less than Significant                  |
| <b>Impact 3.5-7:</b> The Project would not cause or contribute to any significant impact due to conflict with General Plan Goal OS-E, which protects wildlife resources.   | None required.   | Less than Significant                  |
| <b>Impact 3.5-8:</b> The Project would not cause or contribute to any significant impact due to conflict with the provisions of the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan.   | None required.   | Less than Significant                  |
| <b>Cultural and Tribal Cultural Resources</b>  |  |  |
| <b>Impact 3.6-1:</b> Ground-disturbing activities associated with the Project could cause a substantial adverse change in the significance of a newly discovered historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5.   | <b>Mitigation Measure 3.6-1: Cultural Resources Awareness Training.</b> The Project Applicant shall retain a qualified archaeologist during each construction phase to carry out all mitigation measures related to archaeological and historical resources.<br><br>Prior to the start of any ground-disturbing activities for each construction phase, the Project Applicant shall ensure that the qualified archaeologist has conducted cultural resources awareness training for all construction personnel participating in Project ground-disturbing activities. Additional cultural resources awareness trainings will be conducted for new construction personnel participated in Project ground-disturbing activities who may join the Project | Less than Significant                  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures   | Level of Significance after Mitigation |
|---|---|--|
| <b>Cultural and Tribal Cultural Resources</b>   |   |  |
| <p><b>Impact 3.6-1</b> (cont.)</p>  | <p>after the start of each construction phase. A Native American–designated representative shall be invited to attend and provide additional materials during each training. The training shall include an overview of potential cultural resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified archaeologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. A sign-in sheet shall be completed, retained by the Project construction contractor for the duration of Project construction to demonstrate attendance at the awareness training, and provided to the County upon the completion of Project construction.</p> <p><b>Mitigation Measure 3.6-2: Inadvertent Discovery of Cultural Resources.</b> In the event archaeological materials are encountered during Project construction activities, the Project construction contractor shall immediately cease any ground-disturbing activities within 100 feet of the find. The qualified archaeologist (and a Native American–designated representative if the resource is Native American–related) shall evaluate the significance of the resources for California Register of Historical Resources eligibility and recommend appropriate treatment measures to the County and the Applicant. Per CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist (in coordination with a Native American–designated representative if the resource is Native American–related) shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native American representatives in determining appropriate treatment for unearthened cultural resources if the resources are prehistoric, tribal cultural resources, or Native American in nature. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the County and to the Southern San Joaquin Valley Information Center. Construction can recommence based on direction of the qualified archaeologist with the County’s agreement.</p> |  |
| <p><b>Impact 3.6-2:</b> Ground-disturbing activities associated with the Project could cause a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources, as defined in Public Resources Code Section 21074(a).</p> | <p><b>Mitigation:</b> Implement Mitigation Measures 3.6-1, 3.6-2.</p>   | <p>Less than Significant</p>           |
| <p><b>Impact 3.6-3:</b> The Project would contribute to a less-than-significant cumulative impact on cultural resources and tribal cultural resources.</p>  | <p><b>Mitigation:</b> Implement Mitigation Measures 3.6-1, 3.6-2.</p>   | <p>Less than Significant</p>           |
| <p><b>Impact 3.6-4:</b> The Project would not cause a cumulatively considerable contribution to any significant impact due to damage to previously unidentified human remains.</p>  | <p>None required.</p>   | <p>Less than Significant</p>           |

**TABLE ES-2 (CONTINUED)**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures | Level of Significance after Mitigation |
|--|---------------------|--|
| <b>Energy</b>  |                     |  |
| <b>Impact 3.7-1:</b> Project construction, operation and maintenance, and/or decommissioning and site reclamation would not result in the wasteful, inefficient, or unnecessary consumption or use of energy.  | None required.      | Less than Significant                  |
| <b>Energy (cont.)</b>  |                     |  |
| <b>Impact 3.7-2:</b> The Project would not cause or contribute to a significant cumulative effect due to the wasteful, inefficient, or unnecessary consumption or use of energy.   | None required.      | Less than Significant                  |
| <b>Geology, Soils, and Paleontological Resources</b>   |                     |  |
| <b>Impact 3.8-1:</b> The Project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.   | None required.      | Less than Significant                  |
| <b>Impact 3.8-2:</b> The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.   | None required.      | Less than Significant                  |
| <b>Impact 3.8-3:</b> The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.                                    | None required.      | Less than Significant                  |
| <b>Impact 3.8-4:</b> The Project would not result in substantial soil erosion or loss of topsoil.  | None required.      | Less than Significant                  |
| <b>Impact 3.8-5:</b> The Project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site lateral spreading, subsidence, liquefaction, or collapse. | None required.      | Less than Significant                  |
| <b>Impact 3.8-6:</b> The Project could be located on expansive soil, creating substantial direct or indirect risks to life or property.  | None required.      | Less than Significant                  |

**TABLE ES-2 (CONTINUED)**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures  | Level of Significance after Mitigation |
|---|--|--|
| <b>Geology, Soils, and Paleontological Resources (cont.)</b>  |  |  |
| <b>Impact 3.8-7:</b> The Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater. | None required.   | Less than Significant                  |
| <b>Impact 3.8-8:</b> The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.   | <b>Mitigation Measure 3.8-1: Paleontological Monitoring.</b> The qualified paleontologist shall oversee paleontological monitoring of all excavation at depths at or greater than 10 feet in previously undisturbed sediments. Monitoring shall be conducted by a paleontological monitor meeting the standards of the SVP (2010). If a paleontological resource is found, regardless of depth or setting, the Project contractor shall cease ground-disturbing activities within 50 feet of the find and contact the qualified paleontologist. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any significant fossils encountered and recovered shall be catalogued and curated at an accredited institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and photographs shall also be filed at the repository. The qualified paleontologist shall prepare a report documenting evaluation and/or additional treatment of the resource. The report shall be filed with the County and with the repository. | Less than Significant                  |
| <b>Impact 3.8-9:</b> The Project would not cause or contribute to a significant cumulative effect related to seismicity.  | None required.   | Less than Significant                  |
| <b>Impact 3.8-10:</b> The Project would not cause or contribute to a significant cumulative effect related to erosion or the loss of topsoil.   | None required.   | Less than Significant                  |
| <b>Impact 3.8-11:</b> The Project would not cause or contribute to a significant cumulative effect to paleontological resources.  | <b>Mitigation:</b> Implement Mitigation Measure 3.8-1.   | Less than Significant                  |
| <b>Greenhouse Gas Emissions</b>   |  |  |
| <b>Impact 3.9-1:</b> The Project would generate GHG emissions, directly and indirectly, that could have a significant impact on the environment.  | None required.   | Less than Significant                  |
| <b>Impact 3.9-2:</b> The Project could conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.  | None required.   | Less than Significant                  |



**TABLE ES-2 (CONTINUED)**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures   | Level of Significance after Mitigation |
|---|---|--|
| <b>Hazards and Hazardous Materials</b>  |   |  |
| <p><b>Impact 3.10-1:</b> The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.</p>   | None required.  | Less than Significant                  |
| <p><b>Impact 3.10-2:</b> The Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the energy storage system and release of hazardous materials into the environment.</p> | <p><b>Mitigation Measure 3.10-1: Soil Management Plan.</b> The Applicant shall require that its contractor(s) develop and implement a soil management plan before the start of any ground-disturbing activity. The soil management plan shall describe the hazardous materials that may be encountered (specifically, the previously noted areas that may have contaminated soil); the roles and responsibilities of on-site workers and supervisors; training for site workers focused on the recognition of and response to encountering hazardous materials; and protocols for testing the soil to evaluate the proper handling, removing, transporting, and disposing of all excavated materials in a safe, appropriate, and lawful manner.</p> <p>Prior to issuance of grading permits, soil shall be tested for total petroleum hydrocarbons near the on-site agricultural wells and pumps, fuel ASTs, turbine oil ASTs, diesel powered agricultural engines, and engine oil ASTs under the supervision of a professional geologist or professional engineer. In addition, soil shall be tested at four locations in a grid pattern and analyzed for pesticides and metals. The County shall review the results of the soil sampling to determine if any additional investigation or remedial activities are deemed necessary. No work shall resume in that area until the County has provided written authorization that the area does not warrant any additional action. If concentrations of contaminants are identified in areas of the Project site and are confirmed to pose a potential risk to human health and/or the environment by a qualified environmental specialist, contaminated materials shall be remediated either prior to or concurrent with construction. Remediation shall generally include a management plan which establishes design and implementation of remediation. Cleanup may include excavation, disposal, bioremediation, and/or any other treatment of conditions subject to regulatory action. All necessary reports, regulations and permits shall be followed to achieve cleanup of the site. The contaminated materials shall be remediated under the supervision of an environmental consultant licensed to oversee such remediation and under the direction of the lead oversight agency. The remediation program shall also be approved by the County. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation, the environmental consultant shall prepare a report summarizing the project, the remediation approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests.</p> | Less than Significant                  |
| <p><b>Impact 3.10-3:</b> The Project could impair implementation of or physically interfere with emergency response or emergency evacuation.</p>  | <p><b>Mitigation Measure 3.10-2: Traffic Management Plan.</b> At least 30 days prior to the issuance of construction or building permits, including for the initiation of on-site work to install power lines across West Jayne Avenue, the Project owner and/or its construction contractor shall prepare and submit a traffic management plan to the Fresno County Public Works Department and Caltrans District 6, as appropriate, for approval. The traffic management plan must be prepared in accordance with both the Caltrans <i>Manual on Uniform Traffic Control Devices</i> and <i>Work Area Traffic Control Handbook</i> and must include, but not be limited to, the following elements:</p> <ul style="list-style-type: none"> <li>• A temporary traffic control plan that addresses traffic safety and control through the work zone, including during temporary lane closures (if needed) to accommodate materials delivery, transmission line stringing activities, or any other utility connections.</li> <li>• Identification of the timing of deliveries of heavy equipment and building materials and duration of proposed road closures or obstructions.</li> </ul>   | Less than Significant                  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures  | Level of Significance after Mitigation |
|---|--|--|
| <b>Hazards and Hazardous Materials (cont.)</b>  |  |  |
| <b>Impact 3.10-3 (cont.)</b>  | <ul style="list-style-type: none"> <li>• Requirement for designated construction staff to be assigned as flaggers to direct traffic into and/or through temporary traffic control zones, as needed.</li> <li>• Requirement to place temporary signage, lighting, and traffic control devices if required, including but not limited to appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic and to advise of alternate routes.</li> <li>• Measures to ensure access for emergency vehicles to the Project site.</li> <li>• Maintenance of access to adjacent properties.</li> <li>• Specification of construction-related vehicle travel and oversize-load haul routes, minimization of construction traffic during the a.m. and p.m. peak hours, distribution of construction traffic flow across alternative routes to access the Project site, and avoidance of residential neighborhoods to the maximum extent feasible.</li> <li>• Requirement to obtain all necessary permits for the work within the road right-of-way or the use of oversized/overweight vehicles that would utilize County-maintained roads, which may require escort by the California Highway Patrol or a pilot car. Copies of the approved traffic plan and issued permits shall be submitted to the Fresno County Divisions of Public Works and Planning.</li> <li>• A secured agreement between the Applicant and Fresno County to ensure that any County roads that are demonstrably damaged by Project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the state and/or Fresno County.</li> </ul> <p>The traffic management plan elements listed above would reduce the potentially significant effects of short-term and intermittent construction-related congestion caused by construction vehicles/equipment on local roadways.</p> |  |
| <b>Impact 3.10-4:</b> The Project would not cause or contribute to a significant cumulative hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving a release of hazardous materials into the environment. | <b>Mitigation:</b> Implement Mitigation Measure 3.10-1.  | Less than Significant                  |
| <b>Impact 3.10-5 :</b> The Project would not cause or contribute to a significant cumulative hazard due to physical interference with emergency response or emergency evacuation.   | <b>Mitigation:</b> Implement Mitigation Measure 3.10-2.  | Less than Significant                  |
| <b>Hydrology and Water Quality</b>  |  |  |
| <b>Impact 3.11-1:</b> The Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.  | <b>Mitigation:</b> Implement Mitigation Measure 3.10-1, Soil Management Plan.  | Less than Significant                  |

**TABLE ES-2 (CONTINUED)**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*   | Mitigation Measures   | Level of Significance after Mitigation |
|---|---|--|
| <b>Hydrology and Water Quality (cont.)</b>  |   |  |
| <b>Impact 3.11-2:</b> The Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.  | None required.  | Less than Significant                  |
| <b>Impact 3.11-3:</b> The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which: (i) Results in substantial erosion or siltation on- or off-site; (ii) substantially increases the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) creates or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provides substantial additional sources of polluted runoff; or (iv) impedes or redirects flood flows. | None required.  | Less than Significant                  |
| <b>Impact 3.11-4:</b> The Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.  | <b>Mitigation:</b> Implement Mitigation Measure 3.10-1, Soil Management Plan. | Less than Significant                  |
| <b>Impact 3.11-5:</b> The Project would make a less than cumulatively considerable contribution to cumulative effects relating to violation of water quality standards or waste discharge requirements or other substantial degradation of surface or groundwater quality.  | None required.  | Less than Significant                  |
| <b>Impact 3.11-6:</b> The Project would not cause a cumulatively considerable contribution to decreased groundwater supplies or substantial interference with groundwater recharge such that the sustainable groundwater management of the basin could be impeded.  | None required.  | Less than Significant                  |
| <b>Impact 3.11-7:</b> The Project would not cause a cumulatively considerable contribution to a significant impact due to substantial alteration of the existing drainage pattern of the site or area.  | None required.  | Less than Significant                  |

**TABLE ES-2 (CONTINUED)**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures   | Level of Significance after Mitigation |
|--|---|--|
| <b>Noise and Acoustics</b>   |   |  |
| <b>Impact 3.14-1:</b> The Project could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. | <b>Mitigation Measure 3.14-1: Noise Reduction for Construction Activities.</b> Prior to issuance of construction permits for the project, the Project Applicant shall submit to the County for approval a construction noise reduction plan to be implemented by all contractors as a condition of contract. Contents of the plan should include at a minimum: <ul style="list-style-type: none"> <li>• Maintain all construction tools and equipment in good operating order according to manufacturers' specifications.</li> <li>• Limit use of pile drivers and major excavating and earth-moving machinery to daytime hours.</li> <li>• Equip any internal combustion engine used for any purpose on the job or related to the job with a properly operating muffler that is free from rust, holes, and leaks.</li> <li>• For construction devices that utilize internal combustion engines, ensure the engine's housing doors are kept closed, and install noise-insulating material mounted on the engine housing consistent with manufacturers' guidelines, if possible.</li> <li>• Limit possible evening and nighttime shift work to low-noise activities such as welding, wire pulling, and other similar activities, together with appropriate material handling equipment such that noise levels at 50 feet are less than 80 dBA</li> </ul> | Less than Significant                  |
| <b>Impact 3.14-2:</b> The Project would not expose people and/or structures to excessive vibration levels.   | None required.  | Less than Significant                  |
| <b>Impact 3.14-3:</b> The Project would not cause a cumulatively considerable contribution to any significant noise or vibration impact.   | None required.  | Less than Significant                  |
| <b>Transportation</b>  |   |  |
| <b>Impact 3.18-1:</b> Construction of the Project would generate a temporary increase in traffic volumes on area roadways, which could conflict with a program, plan, ordinance, or policy addressing the circulation system.  | <b>Mitigation:</b> Implement Mitigation Measure 3.10-2: Construction Traffic Management Plan, set forth in Section 3.10, <i>Hazards and Hazardous Materials</i> .   | Less than Significant                  |
| <b>Impact 3.18-2:</b> The Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).   | None required.  | Less than Significant                  |
| <b>Impact 3.18-3:</b> The Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).  | None required.  | Less than Significant                  |

**TABLE ES-2 (CONTINUED)**  
**SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures  | Level of Significance after Mitigation |
|--|--|--|
| <b>Transportation (cont.)</b>  |  |  |
| <b>Impact 3.18-4:</b> The Project would not result in inadequate emergency access.   | None required.   | Less than Significant                  |
| <b>Impact 3.18-5:</b> The Project could cause a cumulatively considerable contribution to a significant cumulative impact to transportation.   | <b>Mitigation:</b> Implement Mitigation Measure 3.10-2.  | Less than Significant                  |
| <b>Utilities and Service Systems</b>   |  |  |
| <b>Impact 3.19-1:</b> The Project would not result in the construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, or telecommunications facilities that would cause significant environmental effects.                       | None required.   | Less than Significant                  |
| <b>Impact 3.19-2:</b> The Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.  | <b>Mitigation Measure : 3.19-1: Determine Future Water Supply Availability.</b> Eighteen (18) years after the issuance of the conditional use permit, the Project owner shall identify and provide an analysis to the County that the water supply source(s) proposed for use during the remaining operation, maintenance, and decommissioning activities are sufficient and will not impede sustainable groundwater management of the basin. If sufficient water supplies are not available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years, then Project decommissioning would be initiated. | Less than Significant                  |
| <b>Impact 3.19-3:</b> The Project would result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. | None required.   | Less than Significant                  |
| <b>Impact 3.19-4:</b> The Project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.                                       | None required.   | Less than Significant                  |
| <b>Impact 3.19-5:</b> The Project would not cause or contribute to any significant adverse cumulative impact to utilities and service systems.   | None required.   | Less than Significant                  |

**TABLE ES-2 (CONTINUED)  
SUMMARY OF IMPACTS AND MITIGATION MEASURES**

| Environmental Impact*  | Mitigation Measures | Level of Significance after Mitigation |
|--|---------------------|--|
| <b>Wildfire</b>  |                     |  |
| <b>Impact 3.20-1:</b> The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan.  | None required.      | Less than Significant                  |
| <b>Impact 3.20-2:</b> The Project would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.  | None required.      | Less than Significant                  |
| <b>Impact 3.20-3:</b> The Project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or result in temporary or ongoing impacts to the environment. | None required.      | Less than Significant                  |
| <b>Impact 3.20-4:</b> The Project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildfire.  | None required.      | Less than Significant                  |
| <b>Impact 3.20-5:</b> The Project would not make a cumulatively considerable contribution to any potentially significant cumulative wildfire impact.   | None required.      | Less than Significant                  |

NOTES:

Applicant = Key Energy Storage, LLC; Caltrans = California Department of Transportation; CDFW = California Department of Fish and Wildlife; CEQA = California Environmental Quality Act; CHP = California Highway Patrol; County = Fresno County; dBA = A-weighted decibels; GHG = greenhouse gas; MBTA = Migratory Bird Treaty Act; MLD = Most Likely Descendant; NAHC = Native American Heritage Commission; O&M = operation and maintenance; PG&E = Pacific Gas and Electric Company; Project = Key Energy Storage Project; SJVAPCD = San Joaquin Valley Air Pollution Control District; SMP = Soil Management Plan; SOI = Secretary of the Interior; SSJVIC = Southern San Joaquin Valley Information Center; SVP = Society of Vertebrate Paleontology; USFWS = U.S. Fish and Wildlife Service; WEAP = Worker Environmental Awareness Program; Williamson Act = California Land Conservation Act of 1965

\* For five of the resource areas considered under CEQA—Land Use and Planning, Mineral Resources, Population and Housing, Public Services, and Recreation—no impact would occur relative to any of the CEQA Guidelines Appendix G Environmental Checklist considerations. Therefore, these resource areas are not included in this table.

SOURCE: Data compiled by Environmental Science Associates in 2023

## ES.6 Overview of Alternatives to the Project

CEQA requires that an EIR analyze a reasonable range of alternatives to the project that could feasibly attain the basic objectives of the project while substantially reducing or eliminating significant environmental effects. CEQA also requires that an EIR evaluate a “no project” alternative to allow decision-makers to compare the impacts of approving a project with the impacts of not approving the project. The alternatives development and screening process, alternatives eliminated from further consideration, and alternatives considered in the EIR are described in greater detail in Chapter 4, *Alternatives*.

### ES.6.1 Alternatives Eliminated from Further Consideration

Consistent with CEQA Guidelines Section 15126.6, the County eliminated the potential alternatives listed below from detailed consideration in this EIR if they failed to meet the screening criteria outlined in Section 4.1, *Alternatives Screening and Development Process*:

- Alternative sites, including a Westlands Solar Park alternative.
- Alternative technologies, including compressed-air energy storage, flywheel energy storage, and hydrogen energy storage alternatives.

### ES.6.2 Alternatives Considered in the EIR

The County initially considered and then carried forward the following three alternatives for more detailed evaluation:

- The CEQA-required No Project Alternative is described in Section 4.3.1 of Chapter 4, *Alternatives*. It reflects existing conditions at the time the notice of preparation of this EIR was published, as well as what reasonably would be expected to occur in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services.
- Alternative 1, Noncontracted Lands Alternative, is described in Section 4.3.2 of Chapter 4. Alternative 1 would occupy the up to 160 acres that compose the southernmost (noncontracted) Project site parcels. The northernmost (Williamson Act–contracted) Project site parcel would remain outside the Alternative 1 site and in irrigated agricultural production with continued reliance on the on-site well.
- Alternative 2, Reduced Project Alternative, is described in Section 4.3.3 of Chapter 4. Alternative 2 would occupy up to 130 acres of the 318-acre Project site with an anticipated operating footprint of 104 acres. The remaining 26 acres would be available for construction and flexibility. Alternative 2 would reduce by half the area that the Project proposes to develop with energy storage enclosure units and controllers, a Project substation, operation and maintenance building, and other Project infrastructure.

### ES.6.3 Comparison of Alternatives

Table 4-8, *Comparison of Alternatives*, in Chapter 4 comparatively analyzes the impacts of the No Project, Alternative 1, and Alternative 2 relative to the Project. The No Project Alternative

would avoid all impacts of the Project and instead would result in the environmental benefits and consequences that reasonably would be expected to occur based on the site’s current use as active or fallowed agricultural land. **Table ES-3, Comparison of Impacts**, summarizes the comparison of impacts among the Project, Alternative 1, and Alternative 2. See Table 4-8 for details.

**TABLE ES-3  
COMPARISON OF IMPACTS**

| <b>Resource Area</b>                          | <b>Alternative 1</b>   | <b>Alternative 2</b>                 |
|---|--|--------------------------------------|
| Aesthetics                                    | Same as the Project  | Same as the Project                  |
| Agriculture and Forestry Resources            | Less than the Project  | Less than the Project                |
| Air Quality                                   | Less than the Project  | Less than the Project                |
| Biological Resources                          | Less than the Project  | Less than the Project                |
| Cultural and Tribal Resources                 | Similar to but less than the Project   | Similar to but less than the Project |
| Energy  | Less than the Project  | Similar to but less than the Project |
| Geology, Soils, and Paleontological Resources | Greater than the Project for paleontological resources; same as the Project for other impacts to geology and soils | Same as the Project                  |
| Greenhouse Gas Emissions                      | Similar to but less than the Project   | Similar to but less than the Project |
| Hazards and Hazardous Materials               | Less than the Project  | Same as the Project                  |
| Hydrology and Water Quality                   | Less than the Project  | Similar to but less than the Project |
| Land Use and Planning                         | Same as the Project  | Same as the Project                  |
| Mineral Resources                             | Same as the Project  | Same as the Project                  |
| Noise and Acoustics                           | Similar to but less than the Project   | Less than the Project                |
| Population and Housing                        | Same as the Project  | Same as the Project                  |
| Public Services                               | Same as the Project  | Same as the Project                  |
| Recreation                                    | Same as the Project  | Same as the Project                  |
| Transportation                                | Similar to but less than the Project   | Similar to but less than the Project |
| Utilities and Service Systems                 | Similar to but less than the Project   | Similar to but less than the Project |
| Wildfire                                      | Same as the Project  | Same as the Project                  |

NOTE: Project = Key Energy Storage Project

SOURCE: Data compiled by Environmental Science Associates in 2023

## ES.7 Environmentally Superior Alternative

The CEQA Guidelines define the *environmentally superior alternative* as that alternative with the least adverse impacts on the project area and its surrounding environment. The No Project Alternative is considered the environmentally superior alternative for CEQA purposes because it would avoid all impacts of the Project. However, the No Project Alternative would fail to meet the basic objectives of the Project. In addition, the No Project Alternative would not offset greenhouse gas emissions associated with nonrenewable energy use the way the Project would make possible. Because the environmentally superior alternative is the No Project Alternative, the EIR also must identify an environmentally superior alternative from among the other alternatives.



Determining an environmentally superior alternative can be difficult because of the many factors that must be balanced. Nonetheless, at this draft stage, Alternative 1 has been determined to be preferred because, relative to the Project, it would avoid the Project's significant unavoidable impact related to a conflict with an existing Williamson Act contract and would avoid potential significant impacts of the Project on water quality and hazardous materials related to the disturbance of known contaminated soil. Alternative 1 would reduce impacts relative to the Project in six resource areas: Agriculture and Forestry Resources, Air Quality, Biological Resources, Energy, Hazards and Hazardous Materials, and Hydrology and Water Quality. However, Alternative 1 would have a greater environmental impact than the Project in one area: Paleontological Resources. By comparison, Alternative 2 would not avoid any of the significant impacts of the Project but would reduce impacts in four resource areas: Agriculture and Forestry Resources, Air Quality, Biological Resources, and Noise and Acoustics.

Additional information received in or developed during the agency and public review period for the Draft EIR, or during the Project approval process, could affect the balancing of the respective benefits and consequences of the alternatives. Accordingly, while a preliminary determination has been made that Alternative 1 would be the Environmentally Superior Alternative, it would be premature to formally designate it as such at this stage. This preliminary determination as to which alternative is the Environmentally Superior Alternative will be confirmed or corrected in the Final EIR.

## ES.8 Areas of Controversy

Any of the environmental issues considered during scoping or in this Draft EIR could become an issue of controversy. Preliminarily, the County has identified areas of controversy as including the issues and questions raised in agency and public comments received during scoping; all comments received during the scoping period are included in the Project Scoping Report, which is included as **Appendix A** to this Draft EIR. Issues identified as potential areas of controversy relate to Aesthetics, Air Quality, Biological Resources, Hazards and Hazardous Materials, Public Services, and Transportation.

## ES.9 Issues to Be Resolved

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR identify issues to be resolved, which include the choice among alternatives and whether or how to mitigate significant impacts. The following major issues are to be resolved:

- Determine whether the EIR adequately describes the environmental impacts of the Project.
- Choose among alternatives.
- Determine whether the recommended mitigation measures should be adopted or modified.
- Determine whether additional mitigation measures need to be applied to the Project.

## ES.10 References

DOF (California Department of Finance), 2022a. E-5 Population and Housing Estimates for Cities, Counties and the State—January 1, 2021–2022. Available: <https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2022/>. Accessed March 22, 2023.

DOF, 2022b. Table 1: E-5 County/State Population and Housing Estimates, April 1, 2020.

EDD (California Employment Development Department), 2022. Local Area Unemployment Statistics (LAUS)—Fresno County.

# CHAPTER 1

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## Introduction

### 1.1 Purpose of this Document

This draft environmental impact report (Draft EIR) (Environmental Impact Report [EIR] No. 8189) is an informational document that examines and discloses the potential environmental impacts of the Key Energy Storage Project (Project), as proposed by Key Energy Storage, LLC (Applicant). Fresno County (County) will rely on this EIR, along with other information in the formal record, in deciding whether to approve, approve with modifications, or disapprove the application for the unclassified conditional use permit (CUP) requested for the Project (CUP No. 3734). Other agencies with trustee responsibilities or permitting authority over the Project also may rely on this document in deciding whether to approve permits or issue other approvals for the Project.

### 1.2 Project Overview

Key Energy Storage, LLC (the Applicant) proposes to construct, operate, maintain, and decommission an energy storage facility on up to 260 acres of private land in western Fresno County. Project build-out would occur in four phases. At full build-out, the Project is expected to have capacity to store up to 3 gigawatts of energy during times of excess generation, which would later be dispatched into the existing electrical grid when needed.<sup>1</sup> The Project would receive energy (charge) from the point of interconnection (POI) with the regional electric transmission system at the existing Pacific Gas and Electric Company (PG&E) Gates Substation, store energy, and then deliver energy (discharge) back to the POI. The Project would consist of either a lithium-ion battery option or a lithium-ion and iron-flow storage option. On-site support facilities would include a collector substation; power conversion systems, including bi-directional inverters,<sup>2</sup> transformers,<sup>3</sup> and associated connection lines; heating, ventilation, and air conditioning units; fencing; access roads; a supervisory control and data acquisition (SCADA) system; and security lighting. Diesel generators may be needed temporarily during construction.

To interconnect the Project, Key Energy Storage, LLC and PG&E would construct, operate, and maintain a new 2,500-foot-long (up to 0.5-mile) 500-kilovolt transmission line between the

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<sup>1</sup> The anticipated capacity is an estimate based on currently available technology. The energy storage industry has evolved substantially in the last few years and is anticipated to continue to evolve. While the components and total capacity of the Project may change, the overall size of the Project (up to 260 acres) would remain consistent.

<sup>2</sup> An *inverter* connects to the electric power grid and converts direct current (DC) electric power to alternating current (AC).

<sup>3</sup> A *transformer* converts AC from one voltage to another. For example, it can be designed to “step up” to a higher voltage or “step down” to a lower one.

Project site and the Gates Substation. This line would be installed on new lattice steel towers, each up to 200 feet tall, which would be spaced at approximately 500-foot intervals. PG&E's interconnection infrastructure work also would include other modifications within the existing boundaries of the Gates Substation as well as at PG&E's existing Midway Substation, which is located in Buttonwillow, an unincorporated community in Kern County, California.

## 1.3 Use of This Document by Agencies

California Environmental Quality Act (CEQA) Guidelines Section 15124(d) requires that an EIR contain a statement briefly describing the intended uses of the EIR. The CEQA Guidelines indicate that the EIR should identify the ways in which the Lead Agency and any responsible agencies would use this document in their approval or permitting processes. The following discussion summarizes the roles of the agencies and the intended uses of this EIR.

Fresno County has the primary responsibility for considering whether to grant its discretionary approval of the Project, is the CEQA Lead Agency for purposes of this Draft EIR, and has directed the preparation of this Draft EIR as an informational document. The purpose of the EIR is not to recommend either approval or denial of the Project, but rather to inform decision-makers and members of the public of the potential environmental consequences of the Project. The County and other agencies with permitting authority over the Project will rely on this environmental analysis when considering whether to approve, approve with conditions, or deny necessary discretionary approvals.<sup>4</sup> See Section 2.1, *Permits and Approvals*.

## 1.4 Public Participation

### 1.4.1 Scoping

On July 25, 2022, the County published and distributed a notice of preparation (NOP) to advise interested local, regional, state, and federal agencies, as well as the public, that an EIR would be prepared for the Project. The NOP was sent to a mailing list that included Tribes; local, state, and federal agencies; property owners within 1 mile of the Project site; other interested parties; and the Governor's Office of Planning and Research, State Clearinghouse. The NOP and NOP mailing list are included in the scoping report provided as **Appendix A**. The NOP was also posted with the Fresno County Clerk, emailed to each person on the initial Project-specific distribution list for whom the County had an email address, and posted on the County's website. The NOP solicited comments on the scope and content of the EIR. Agencies and members of the public were encouraged to submit their comments to the County by email or U.S. Mail, or during a virtual public meeting held August 9, 2022. In addition to the NOP, the County notified the public about the public scoping meeting through a newspaper legal advertisement published in *The Business Journal* on July 25, 2022. Notifications provided basic Project information; the

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<sup>4</sup> Because environmental considerations are but one of multiple factors that may be taken into consideration when an agency is deciding whether to approve a proposal, County decision-makers also will consider factors outside the scope of CEQA when deciding whether to approve the Project.

date, time, and information about how to participate in the scoping meeting; and a brief explanation of the public scoping process.

The County conducted the first of two virtual public scoping meetings on Tuesday, August 9, 2022, beginning at 2:30 p.m. The presentation included an overview of the Project, the County's land use and permitting process, and the environmental review process. Input was requested as to environmental considerations of particular interest and with respect to potential alternatives to the Project. Meeting participants included Jeremy Shaw and David Randall of Fresno County Department of Public Works and Planning, and Janna Scott and Steven Johnson of Environmental Science Associates. One member of the public called in to the meeting; one other attended via the online meeting platform. No comments were received during the meeting. The County conducted a second virtual public scoping meeting on September 21, 2022, beginning at 10 a.m. A substantially similar presentation was given at both meetings. David Randall, Janna Scott, and Steven Johnson participated in the second meeting. Several members of the public attended via the online meeting platform, but no comments were received during the meeting. Copies of both presentations and a transcript of the September 21, 2022, meeting are provided in Appendix A.

The County received eight letters during the scoping period. Issues raised in each letter are summarized in the scoping report (Appendix A) and copies of the letters themselves are provided there. Input provided in these letters has been considered in the analysis documented in this EIR.

## 1.4.2 Public Comment on the Draft EIR

This Draft EIR is available to Tribes, to federal, state, and local agencies, and to interested individuals who may wish to review and comment on it. An electronic copy of the Draft EIR and reference materials relied upon in its drafting will be available during the public comment period on the County's website: <http://www.co.fresno.ca.us/EIR>.

Printed copies of the Draft EIR, or electronic copies provided on USB device, will be available to check out at each of the locations listed below. Electronic copies at these locations will contain copies of the reference materials cited and relied upon in the analysis.

- Fresno County Public Works and Planning Department, 2220 Tulare Street, Fresno.
- Fresno County Main Library, Reference Department, 2420 Mariposa Street, Fresno.
- Kings County Library Kettleman City Branch, 104 Becky Pease Street, Kettleman City.

Written comments may be submitted to the County during a 45-day public review period. Written comments on this Draft EIR will be accepted via U.S. Mail or email. If a public meeting is to be held, it will be noticed under separate cover. All comments received will be addressed in a Response to Comments document, which together with this Draft EIR will constitute the Final EIR for the Project.

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# CHAPTER 2

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## Project Description

### 2.1 Project Overview

Key Energy Storage, LLC (the Applicant) proposes to construct, operate, maintain, and decommission an energy storage facility on up to 260 acres of private land in western Fresno County. The requested conditional use permit (CUP) would have a 40-year term, during which the Project would be constructed in phases, operated and maintained, and then decommissioned. At full build-out, the Project is expected to have capacity to store up to 3 gigawatts (GW) of energy during times of excess generation, which would later be dispatched into the existing electrical grid when needed.<sup>1</sup> The Project would receive energy (charge) from the point of interconnection (POI) with the regional electric transmission system at the existing Pacific Gas and Electric Company (PG&E) Gates Substation, store energy, and then deliver energy (discharge) back to the POI. The Project would consist of batteries using lithium-ion and/or iron-flow storage technology. On-site support facilities would include a collector substation; power conversion systems (PCSs), including bi-directional inverters,<sup>2</sup> transformers,<sup>3</sup> and associated connection lines; heating, ventilation, and air conditioning (HVAC) units or a liquid cooling system; fencing; access roads; a supervisory control and data acquisition (SCADA) system; and security lighting. Diesel generators may be needed temporarily during construction.

To interconnect the Project, Key Energy Storage, LLC and PG&E would construct, operate, and maintain a new 2,500-foot-long (up to 0.5-mile) 500-kilovolt (kV) transmission line between the Project site and the Gates Substation. This line would be installed on new lattice steel towers, each up to 200 feet tall, which would be spaced at approximately 500-foot intervals. PG&E's interconnection infrastructure work also would include other modifications within the existing boundaries of the Gates Substation as well as at PG&E's existing Midway Substation.

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<sup>1</sup> The gigawatt capacity is an estimate based on currently available technology. The energy storage industry has evolved substantially in the last few years and is anticipated to continue to evolve (Kennedy 2022). While the components and total capacity of the Project may change, the overall size of the Project (up to 260 acres) would remain consistent.

<sup>2</sup> An inverter connects to the electric power grid and converts direct current (DC) electric power to alternating current (AC).

<sup>3</sup> A transformer converts AC from one voltage to another; for example, it can be designed to “step up” to a higher voltage or “step down” to a lower one.

## 2.2 Location of the Project Site

The Project would be developed on up to 260 acres of private property in western Fresno County within the approximately 318-acre area consisting of Assessor's Parcel Numbers (APNs) 085-040-58, 085-040-36, and 085-040-37 (Project site). The Project site is located approximately 11.5 miles east of Coalinga, 7.5 miles north of Avenal, 4 miles southwest of Huron, 1,700 feet northeast of Interstate 5 (I-5), immediately south of West Jayne Avenue, and between I-5 and South Lassen Avenue (State Route 269). It is adjacent to existing transmission lines and the Gates Substation. Vehicles would access the site from West Jayne Avenue via agricultural roads along the eastern and western site boundaries. See **Figure 2-1, Regional Location**, and **Figure 2-2, Project Site**. PG&E's existing Midway Substation, is located approximately 63 miles southeast of the Project site at 2205 Wasco Way in Buttonwillow, an unincorporated community in Kern County, California.<sup>4</sup>

## 2.3 Existing Land Uses

### 2.3.1 On-site Land Uses

The Fresno County (County) General Plan's land use designation of the Project site is Agriculture. The battery energy storage facility portion of the Project site is zoned AE-40 (Exclusive Agriculture, 40-acre minimum parcel) pursuant to Section 816 of the County Code. The Gates Substation is zoned AE-20 (Exclusive Agriculture, 20-acre minimum parcel). The AE District is intended to be an exclusive district for agriculture and for those uses that are necessary and an integral part of the agricultural operation. The Project site is designated as Prime Farmland pursuant to the California Department of Conservation's Farmland Mapping and Monitoring Program. The northernmost of the three parcels that compose the Project site (APN 085-040-58) is subject to Contract 2068, which was entered into between the landowner and the County pursuant to the California Land Conservation Act of 1965 (known as the *Williamson Act*), which enables local governments and private landowners to agree to restrict specific parcels of land to agricultural or related open space use.

Historical agricultural uses on the Project site have included dry farming on two of the parcels (APNs 085-040-36 and 085-040-37) and irrigated farming on the third parcel via an on-site well (APN 085-040-58). More recently, on-site land uses have included irrigated orchard crops (citrus and almonds) (APN 085-040-58), non-irrigated winter wheat (APN 085-040-37), and fallowed land (APN 085-040-36). Dirt roads form the eastern, western, and southern site boundaries, with the paved West Jayne Avenue forming the northern boundary. Two dirt roads cross east-west through the Project site.

Existing utility infrastructure is located throughout the Project site. An existing groundwater well is located in the northwest portion of the Project site. One PG&E electrical line runs north to south along the northwest side of the Project site, and two PG&E-owned high-voltage

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<sup>4</sup> A second street address identified for the Midway Substation is 40358 Highway 58, in Buttonwillow.

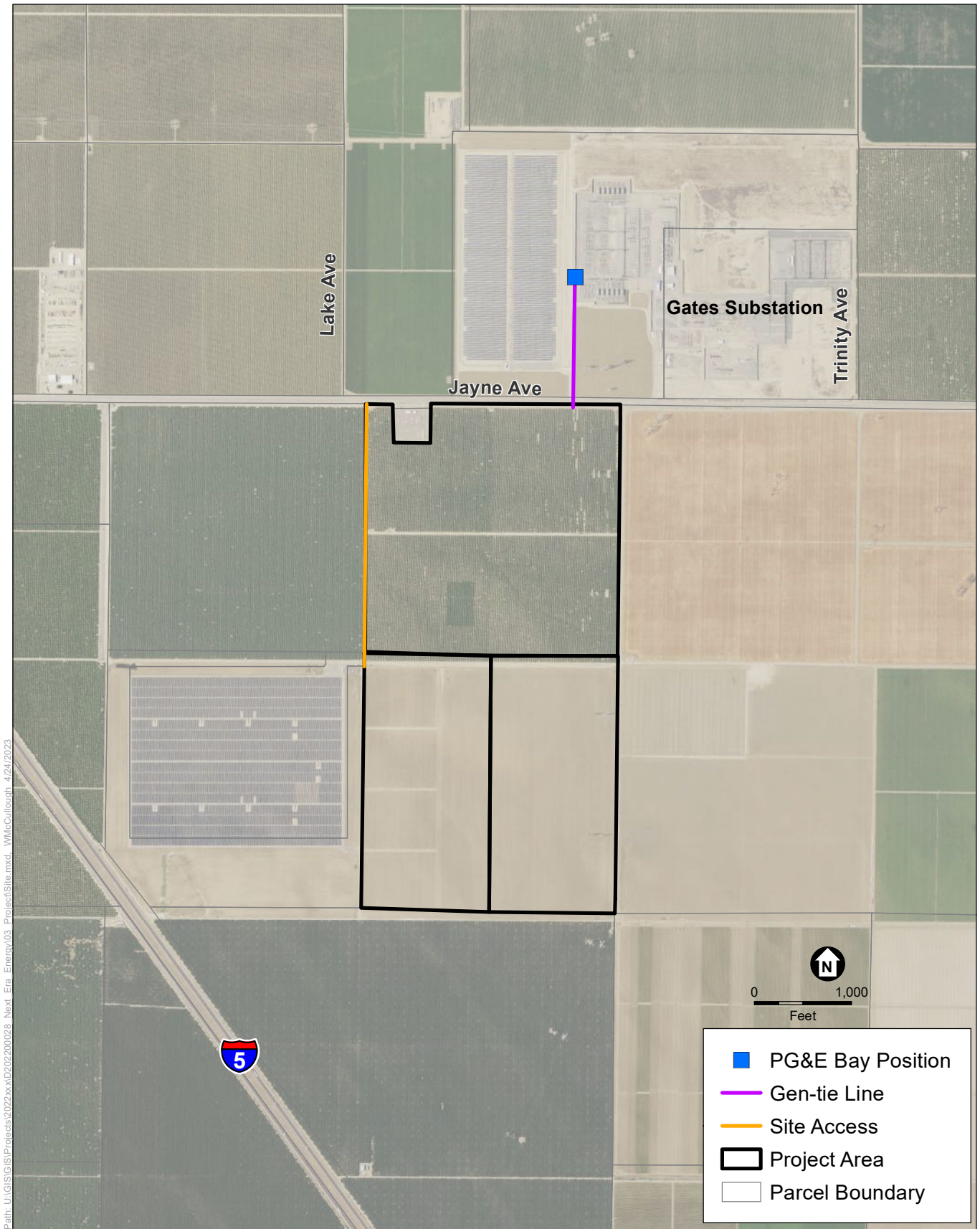




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Key Energy Storage Project

**Figure 2-1**  
Regional Location



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Key Energy Storage Project

**Figure 2-2**  
Project Site

transmission lines run north to south along the entire east side of the Project site. Underground oil, gas, and water pipelines are found in the center of the southern half of the Project site (Key Energy Storage, LLC 2021a).

The Midway Substation site, where the PG&E interconnection and infrastructure described in Section 2.5.10.2 would occur, consists of Kern County APNs 101-010-10, 101-010-02, 101-010-15, 101-010-05, 101-020-31, 101-020-35, 101-020-27, and 101-020-23. This location is designated in the Kern County General Plan as “4.1,” which is a special treatment area specific to the Midway Substation (Kern County 2023). The site is zoned Limited Agriculture (A-1). According to Kern County Zoning Ordinance Section 19.14.020(D), transmission lines and supporting towers, poles, and underground facilities for electricity service owned and operated by a public utility company under the jurisdiction of the California Public Utilities Commission (CPUC) are allowed without a permit in the A-1 zone. The site is developed consistent with the electric transmission public facility uses allowed by its zoning designation.

### 2.3.2 Surrounding Land Uses

Land uses surrounding the Project site include the PG&E Gates Substation directly north of the site, solar facilities to the north and southwest, a small substation at the Project site’s northwest corner (not included within the Project site), and agriculture to the east, south, and west. The closest community to the Project site is the city of Huron (4 miles northeast of the site). The closest homes to the Project site include agricultural housing located 3,300 feet to the west on West Jayne Avenue; 11,500 feet to the southeast where Modoc Avenue and West Goodrich Avenue intersect; and 17,000 feet to the east on West Jayne Avenue (Appendix J, *Noise and Vibration*). The closest hospital is Coalinga Regional Medical Center, approximately 12 miles northwest of the Project site; the next nearest hospital is Naval Health Clinic, approximately 16 miles to the northeast. The closest school is Huron Middle School, approximately 5 miles to the northeast. The closest libraries to the Project site are the Huron Public Library (approximately 6 miles northeast of the Project site), the Avenal Branch Library (approximately 9 miles to the south), and the Coalinga Library (approximately 13 miles to the northwest). The nearest airport is New Coalinga Municipal Airport, approximately 10 miles west of the Project site. The nearest fire station is Fresno County Fire Protection District Station 93, approximately 5 miles to the northeast. The nearest police station with a patrol area in the Project site is the Patrol Area 1 substation, approximately 40 miles to the north. Keenan Park, approximately 4 miles to the northeast is the closest recreation areas to the Project site. Land uses surrounding the Midway Substation include baseball fields, tennis courts, and other facilities at Buttonwillow Park and agricultural uses to the west, agricultural uses to the north and east, and the farmer’s co-op gin and other agricultural uses to the south.

## 2.4 Project Purpose and Objectives

The purpose of the Project is to reliably and economically receive, store, and discharge electric energy from the California Independent System Operator (CAISO)–controlled electric grid, including renewable energy produced by existing solar and wind resources in the region. The

Project would interconnect to the CAISO-controlled grid at PG&E’s existing Gates Substation. The Project objectives are as follows:

1. Site up to 3 GW of energy storage adjacent to the Gates Substation to support energy grid reliability while minimizing the gen-tie length.
2. Support state policies necessary to improve the reliability of California’s energy grid, including Assembly Bill 2514 and the CPUC’s February 22, 2021, ruling (R.20-05-003) related to integrated resource planning, including the need for 7,500 megawatts (MW) of net qualifying capacity between 2023 and 2025.
3. Increase local energy storage capacity at Gates Substation to address the limitations of the electric grid and make it more resilient to disturbances and peaks in energy demand.
4. Develop an energy storage facility in Fresno County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.
5. Achieve the above fundamental objectives while avoiding and minimizing environmental impacts.

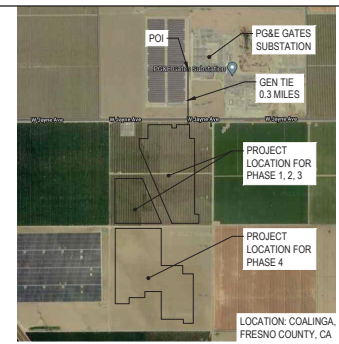
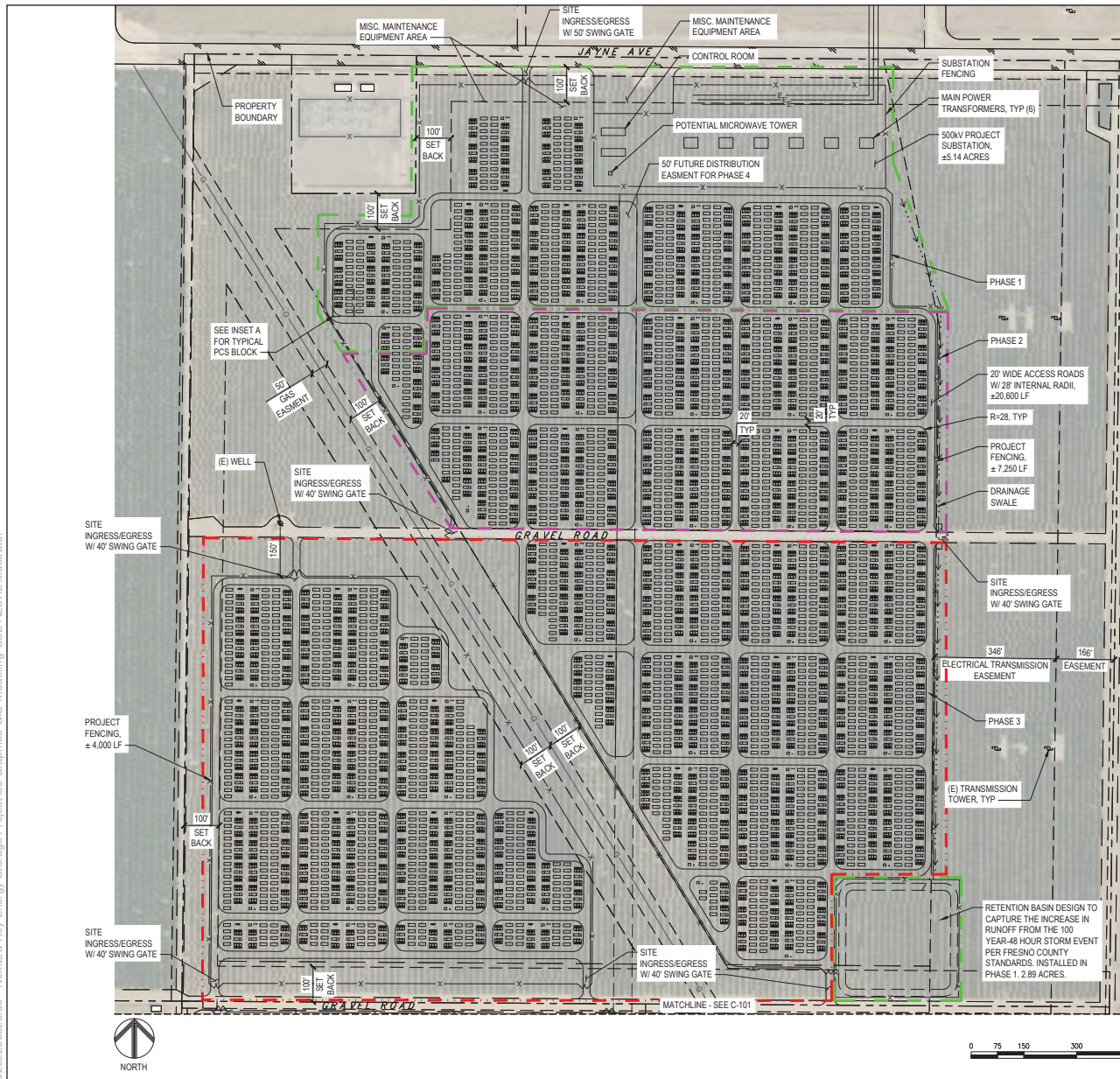
## 2.5 Description of the Project

The primary components of the Project include the energy storage system, Project substation, and gen-tie line. The discussion that follows describes these components as well as ancillary facilities, details about water waste and hazards, and details about what would occur during Project construction, operation and maintenance (O&M), and decommissioning and site restoration. This section also describes Applicant-proposed measures intended to avoid or reduce anticipated environmental impacts as well as work that would be required to interconnect the Project to the regional power grid. The preliminary site plan and general arrangement of a lithium-ion storage option are shown in **Figure 2-3, Preliminary Site Plan—Lithium Ion Option**. The preliminary site plan and general arrangement of a lithium-ion and iron flow option are shown in **Figure 2-4, Preliminary Site Plan—Lithium Ion and Iron Flow Option**.

### 2.5.1 Project Phasing

The requested conditional use permit (CUP) would have a 40-year term, during which the Project would be constructed in phases, operated and maintained, and then decommissioned. Project development would occur in four phases, with later phases scheduled for implementation based on the region’s increasing demand for energy storage. Phase 1 construction would begin in 2024 and Phase 2 would begin in 2025. Phases 3 and 4 would be constructed between 1 and 3 years after the previous phase, based on the region’s increasing demand for energy storage. Each construction phase would last between 14 and 24 months per phase depending on the battery option chosen with total construction duration of approximately 6 years for either battery option. Specifically, construction of the Lithium Ion Battery option is anticipated to take a total of approximately 76 months and construction of the Lithium Ion Battery with Iron Flow Battery option is anticipated

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VICINITY MAP

| PHASE        | POWER @ POI<br>(SEE NOTE 2) | PCS (BESS INVERTER &<br>TRANSFORMER) QUANTITY | ACRES PER<br>PHASE |
|--------------|-----------------------------|---|--------------------|
| 1            | 300 MW                      | 96  | 27.6 (NOTE A)      |
| 2            | 500 MW                      | 160   | 22.2               |
| 3            | 1000 MW                     | 320   | 60.8               |
| 4            | 1200 MW                     | 384   | 97.4 (NOTE B)      |
| <b>TOTAL</b> | <b>3000 MW</b>              | <b>960</b>                                    | <b>208</b>         |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-100.  
NOTE B: INCLUDES RETENTION BASIN ON C-101.

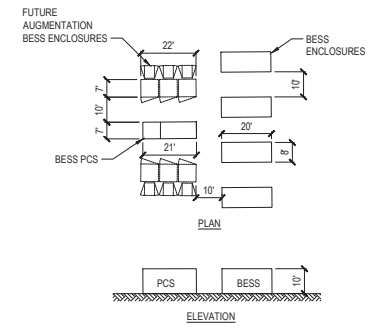
**SYSTEM SUMMARY**

**NOTES:**

- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY (FOR EACH PHASE). ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

**ABBREVIATIONS:**

BESS BATTERY ENERGY STORAGE SYSTEM  
PCS POWER CONVERSION SYSTEM  
POI POINT OF INTERCONNECTION



INSET A - TYPICAL PCS BLOCK

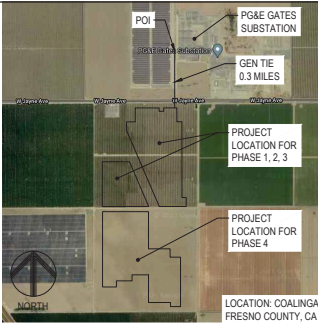
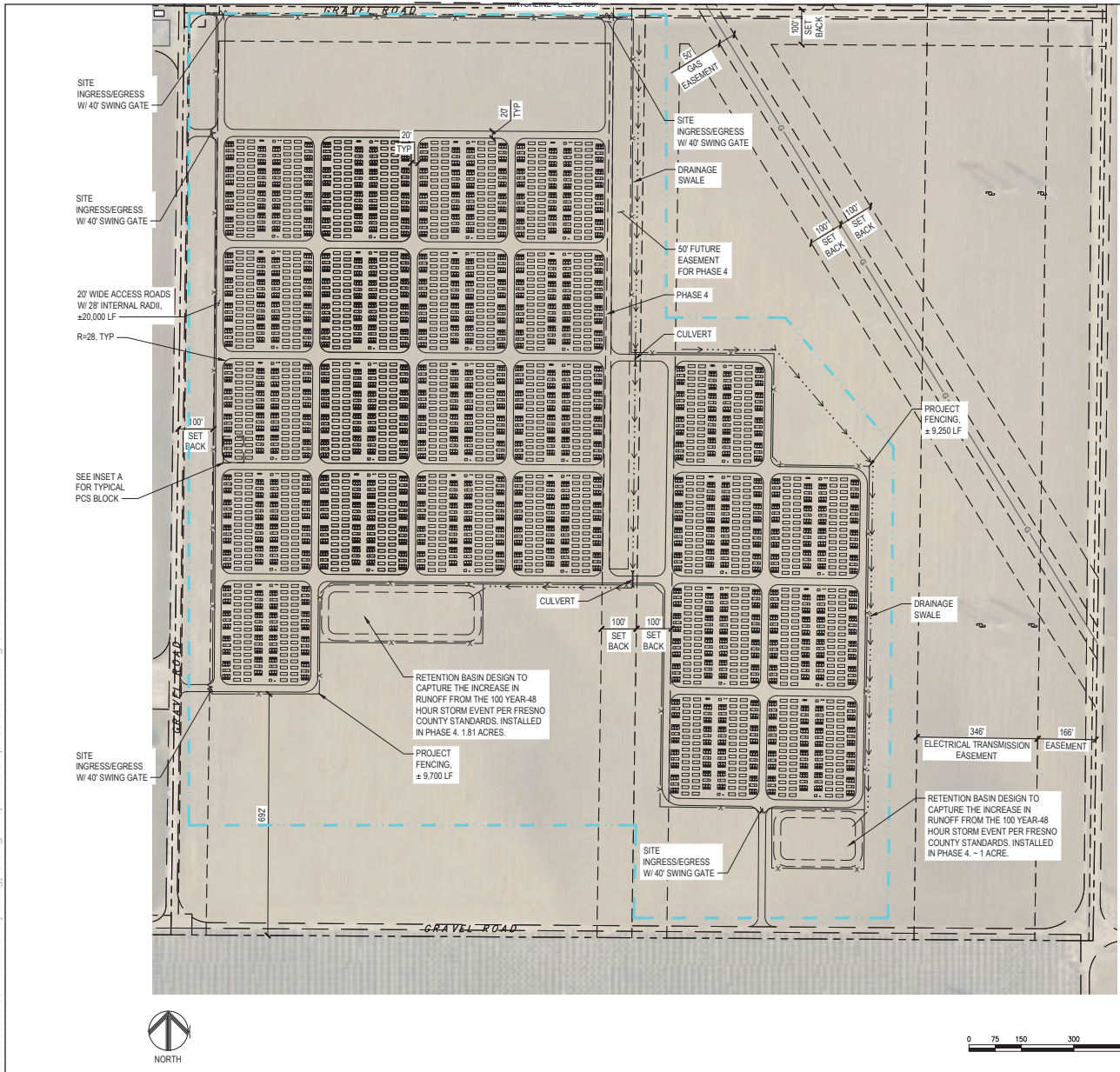
SOURCE: NextEra Energy, 2022

Key Energy Storage Project



**Figure 2-3a**  
Preliminary Site Plan—Lithium Ion Option

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VICINITY MAP

| PHASE        | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | ACRES PER PHASE |
|--------------|--------------------------|--|-----------------|
| 1            | 300 MW                   | 96   | 27.6 (NOTE A)   |
| 2            | 500 MW                   | 160  | 22.2            |
| 3            | 1000 MW                  | 320  | 60.8            |
| 4            | 1200 MW                  | 384  | 97.4 (NOTE B)   |
| <b>TOTAL</b> | <b>3000 MW</b>           | <b>960</b>                                 | <b>208</b>      |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-100.  
NOTE B: INCLUDES RETENTION BASINS ON C-101.

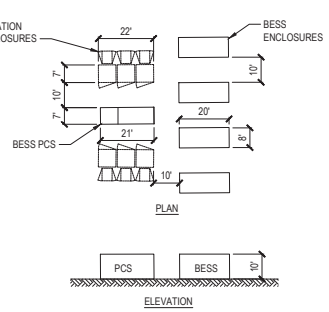
**SYSTEM SUMMARY**

**NOTES:**

- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY (FOR EACH PHASE). ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

**ABBREVIATIONS:**

- BESS BATTERY ENERGY STORAGE SYSTEM
- PCS POWER CONVERSION SYSTEM
- POI POINT OF INTERCONNECTION



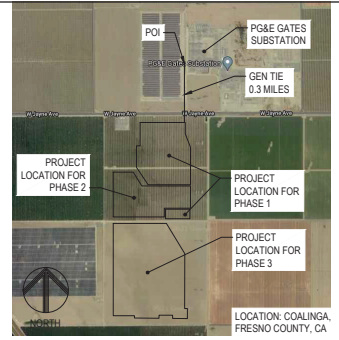
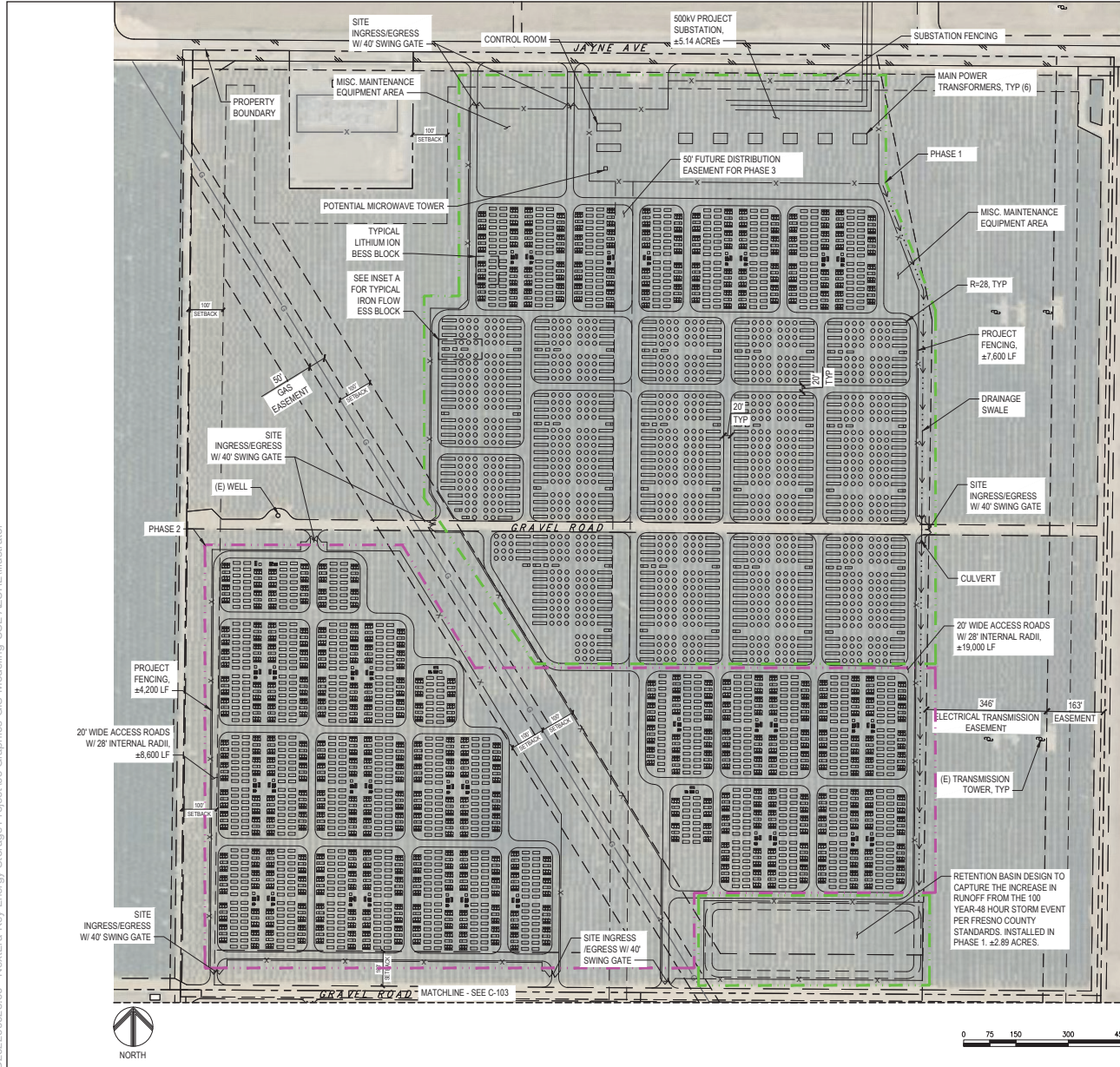
INSET A - TYPICAL PCS BLOCK

SOURCE: NextEra Energy, 2022

Key Energy Storage Project

**Figure 2-3b**  
Preliminary Site Plan—Lithium Ion Option





VICINITY MAP

| PHASE | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | BESS TECHNOLOGY | ACRES PER PHASE |
|-------|--------------------------|--|-----------------|-----------------|
| 1     | 300 MW                   | 46   | FE FLOW         | 56.0 (NOTE A)   |
| 2     | 700 MW                   | 232  | LI - ION        | 43.4            |
| 3     | 2000 MW                  | 640  | LI - ION        | 108.6 (NOTE B)  |
| TOTAL | 3000 MW                  | 922  |                 | 208             |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-102.  
NOTE B: INCLUDES RETENTION BASINS ON C-103.

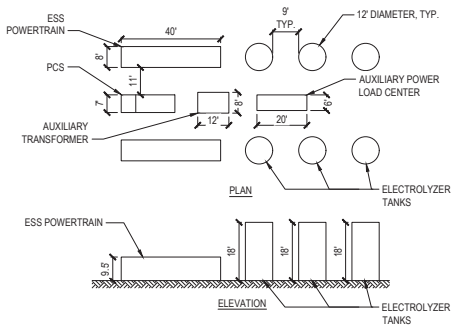
SYSTEM SUMMARY

NOTES:

- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY. ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

ABBREVIATIONS:

- BESS BATTERY ENERGY STORAGE SYSTEM
- ESS ENERGY STORAGE SYSTEM
- PCS POWER CONVERSION SYSTEM
- POI POINT OF INTERCONNECTION



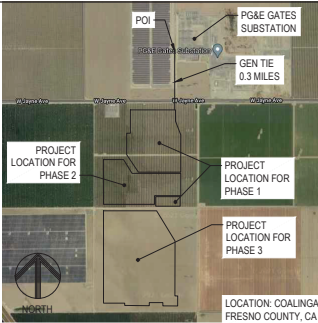
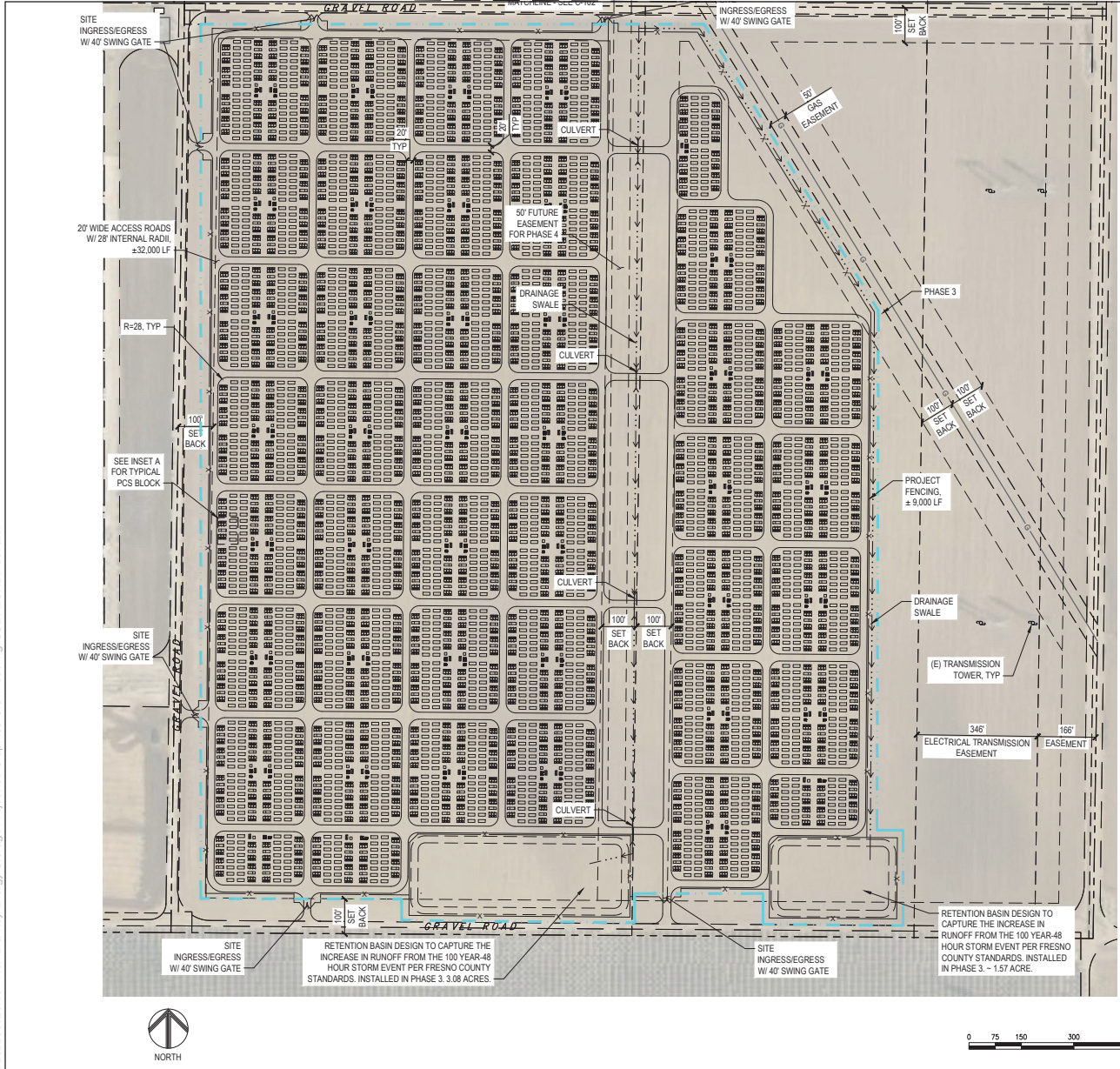
INSET A - TYPICAL IRON FLOW ESS BLOCK

SOURCE: NextEra Energy, 2022

Key Energy Storage Project

Figure 2-4a Preliminary Site Plan—Lithium Ion and Iron Flow Option





VICINITY MAP

| PHASE | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | BESS TECHNOLOGY | ACRES PER PHASE |
|-------|--------------------------|--|-----------------|-----------------|
| 1     | 300 MW                   | 46   | FE FLOW         | 56.0 (NOTE A)   |
|       |                          | 64   | LI - ION        |                 |
| 2     | 700 MW                   | 232  | LI - ION        | 43.4            |
| 3     | 2000 MW                  | 640  | LI - ION        | 108.6 (NOTE B)  |
| TOTAL | 3000 MW                  | 982  |                 | 208             |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-102.  
NOTE B: INCLUDES RETENTION BASINS ON C-103.

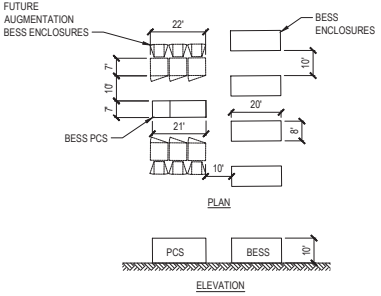
SYSTEM SUMMARY

NOTES:

- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY (FOR EACH PHASE). ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

ABBREVIATIONS:

BESS BATTERY ENERGY STORAGE SYSTEM  
PCS POWER CONVERSION SYSTEM  
POI POINT OF INTERCONNECTION



INSET A - TYPICAL PCS BLOCK

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SOURCE: NextEra Energy, 2022

Key Energy Storage Project

Figure 2-4b Preliminary Site Plan—Lithium Ion and Iron Flow Option





to take a total of 68 months. The O&M periods for Phase 1 and Phase 2 are projected to begin in 2025 and 2026, respectively. It is assumed that all phases would be in operation by 2032. Decommissioning and site restoration for each phase would occur over a 12-month period. Phases 1, 2, and 3 would be constructed on APN 085-040-58; Phase 4 would be constructed on APNs 085-040-37 and 085-040-36. See Figure 2-2, *Project Site*.

The Project would provide increasing storage capacity and power at the point of interconnection as Project phases become operational, with a capacity of up to 3 GW at full build-out. Of the proposed 260-acre site, it is anticipated that 208 acres would be occupied by the Project's permanent footprint and the remaining 52 acres would be used for construction and to provide additional flexibility. **Table 2-1, Project Capacity—Lithium-Ion Battery Option**, and **Table 2-2, Project Capacity—Lithium-Ion and Iron-Flow Storage Option**, identify the components of each phase, including the number of MW of power at the point of interconnection upon completion of each phase; the number of power conversion systems required per phase; and the number of acres of the Project site to be developed during each phase.

Because it has not been determined whether lithium-ion and/or iron-flow storage technology would be used, the size and capacity of the containers may change. The number of inverters, transformers, and containers, as well as the megawatt capacity, have been estimated based on currently available technology.

**TABLE 2-1**  
**PROJECT CAPACITY—LITHIUM-ION BATTERY OPTION**

| Phase        | Maximum Power at Point of Interconnection | Power Conversion System Quantity | Temporary Footprint (Acres) | Permanent Footprint (Acres) | Location                          |
|--------------|---|----------------------------------|-----------------------------|-----------------------------|-----------------------------------|
| 1            | 300 MW                                    | 96                               | 6.9                         | 27.6 <sup>a</sup>           | APN 085-040-58                    |
| 2            | 500 MW                                    | 160                              | 5.5                         | 22.2                        | APN 085-040-58                    |
| 3            | 1,000 MW                                  | 320                              | 15.2                        | 60.8                        | APN 085-040-58                    |
| 4            | 1,200 MW                                  | 384                              | 24.4                        | 97.4 <sup>b</sup>           | APN 085-040-37 and APN 085-040-36 |
| <b>Total</b> | <b>3,000 MW (3 GW)</b>                    | <b>960</b>                       | <b>52</b>                   | <b>208</b>                  |                                   |

NOTES:

APN = Assessor's Parcel Number; GW = gigawatts; MW = megawatts

a Includes an approximately 3-acre retention basin and 6-acre substation.

b Includes approximately 2- and 1-acre retention basins.

SOURCE: Data provided by Key Energy Storage, LLC, in 2023

**TABLE 2-2  
PROJECT CAPACITY—LITHIUM-ION AND IRON-FLOW STORAGE OPTION**

| Phase        | Maximum Power at Point of Interconnection | Battery Energy Storage System Technology | Power Conversion System Quantity | Temporary Footprint (Acres) | Permanent Footprint (Acres) | Location                          |
|--------------|---|--|----------------------------------|-----------------------------|-----------------------------|-----------------------------------|
| 1            | 300 MW                                    | FE FLOW                                  | 46                               | 14                          | 56.0 <sup>a</sup>           | APN 085-040-58                    |
|              |   | Li-ION                                   | 64                               |                             |                             |                                   |
| 2            | 700 MW                                    | Li-ION                                   | 323                              | 10.8                        | 43.4                        | APN 085-040-58                    |
| 3            | 2,000 MW                                  | Li-ION                                   | 640                              | 27.2                        | 108.6 <sup>b</sup>          | APN 085-040-37 and APN 085-040-36 |
| <b>Total</b> | <b>3,000 MW (3 GW)</b>                    |  | <b>982</b>                       | <b>52</b>                   | <b>208</b>                  |                                   |

NOTES:

APN = Assessor’s Parcel Number; FE FLOW = iron-flow; GW = gigawatts; Li-ION = lithium-ion; MW = megawatts

a Includes an approximately 3-acre retention basin and 6-acre substation.

b Includes 1.57- and 3.08-acre retention basins.

SOURCE: Data provided by Key Energy Storage, LLC, in 2023

## 2.5.2 Energy Storage System

### 2.5.2.1 Battery Technologies

The Project would use a lithium-ion battery or lithium-ion and iron-flow storage technology. In lithium-ion batteries, lithium ions move from the negative electrode through an electrolyte to the positive electrode during discharge, and back when charging. Lithium-ion batteries use a lithium compound as the material at the positive electrode and typically use graphite at the negative electrode. A lithium-ion battery storage system would be composed of battery cells assembled in a series of modules. Sealed battery modules would be installed in self-supporting racks electrically connected either in series or parallel to each other. The individual battery racks would be connected in series or a parallel configuration to deliver the battery storage system energy and power rating.

A *flow battery* is a rechargeable fuel cell in which an electrolyte containing one or more dissolved electroactive elements flows through an electrochemical cell that reversibly converts chemical energy directly to electricity. More specifically, an iron-flow battery storage system would use containerized power conversion units combined with large volume storage tanks containing an electrolyte solution used to store and later discharge electrical energy. The electrolyte solution would consist primarily of water and include additives such as dissolved iron and salt. Electrolyzer tanks would be installed and housed in enclosure units.

### 2.5.2.2 Enclosure Units and Controllers

The energy storage system enclosures would be made of steel or aluminum and would house the batteries, the storage system controllers (i.e., inverters and transformers), and the HVAC and fire protection systems. If the iron-flow option is selected, then electrolyzer tanks also would be

installed and housed in enclosures. Although a final enclosure design decision would not be made until after Project approval, the preliminary site plans indicate that enclosures would be approximately 20 feet long, 8 feet wide, and 10 feet high and would resemble metal shipping containers. As shown in Figure 2-3 and Figure 2-4, the dimensions of energy storage system enclosures would remain the same for both the lithium-ion and iron flow and lithium-ion battery options.

Power conversion system (PCS) enclosures would be approximately 22 feet long, 7 feet wide, and 10 feet high. Each PCS enclosure would include an inverter, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, filter equipment, equipment terminals, a transformer, and a connection cabling system. Energy storage system and PCS enclosures would be separated by 10-foot-wide aggregate base access roads (Appendix M2, *Visual Resources Assessment*).

The iron flow and lithium-ion battery option would include energy storage system powertrain enclosures and would be approximately 40 feet long, 8 feet wide, and 9.5 feet high. Electrolyzer tanks, approximately 12 feet in diameter and 18 feet high, would also be constructed under this battery option. Additional on-site support facilities for the iron flow and lithium-ion battery option include auxiliary transformers and auxiliary power load centers. Auxiliary transformers would be approximately 12 feet long, 8 feet wide, and 9 feet high. The auxiliary power load centers would be approximately 20 feet long, 6 feet wide, and 7 feet high (Appendix M2).

Batteries operate with DC electricity that must be converted to AC for compatibility with the existing electric grid. The enclosures would house bi-directional inverters to convert between AC and DC would be located outside the structures, along with transformers that would step up the voltage. Controllers ensure that the energy storage system effectively responds to grid emergency conditions and provide a secondary safety system designed to safely shut down the facility.

### 2.5.3 Project Substation

The Project would construct an approximately 6-acre open-air substation in the northern portion of the Project site along West Jayne Avenue. The substation would be the termination point of the 34.5 kV AC electricity system. Power to and from the energy storage system would pass through interconnection transformer to convert it between 34.5 kV (site voltage) to 500 kV (transmission voltage). Substation components would be approximately 25 feet tall. The gen-tie substation would be approximately 75 feet tall. Existing PG&E distribution lines in the area could provide auxiliary power to the Project site (Key Energy Storage, LLC 2021c).

### 2.5.4 Ancillary Facilities

#### 2.5.4.1 Operation and Maintenance Building

A 2,500-square-foot O&M building approximately 14 feet tall would be constructed within the footprint of the Project site. The precise location of the O&M building within this footprint would be determined at a later stage of design. Half of the building would be used as warehouse space

for spare-parts inventory, and the remaining half would be used for office space, a conference room, a communication room, a kitchen, and restrooms.

#### **2.5.4.2 Site Access, Signage, and Parking**

The Project site would be accessible, including to emergency vehicles, from West Jayne Avenue and the preexisting agricultural access roads that border and bisect the Project site. Drive-through swing gates would be constructed within the Project site at several locations to provide access. Site ingress/egress gates would be approximately 40 feet wide and 6 feet tall with an additional foot of three-strand barbed wire on the top. Site access points would comply with requirements set forth by the California Department of Forestry and Fire Protection or the Fresno County Fire Protection District. On-site parking would be provided to meet the Fresno County Municipal Code parking requirements (Key Energy Storage, LLC 2021b). Gravel access roads approximately 20 feet in width would be constructed around the perimeter of the Project site and 10-foot-wide aggregate base access roads would be constructed between blocks of enclosures (see Appendix M2). The surface of the roads would be at-grade to allow water to sheet flow across the site as it currently does.

A small sign reading “Key Energy Storage” would be installed at the main entrance off West Jayne Avenue. Additional signage would include information about emergency services and high-voltage safety indicators located on the perimeter fence near the main entrance and at the access gates (Key Energy Storage, LLC 2021b).

#### **2.5.4.3 Buffers and Fencing**

The Project site would be surrounded by a 7-foot-tall chain-link security fence with an additional foot of three-strand barbed wire extension at the top. In addition, the on-site substation would be surrounded by an approximately 8-foot-tall perimeter security fence with an additional foot of three-strand barbed wire extension at the top. The perimeter fences would restrict on-site access to authorized personnel only (Key Energy Storage, LLC 2021b).

Energy storage system enclosures located on Key 1 (APN 085-040-58) would be accessible by approximately five 40-foot-wide ingress/egress swing gates and one 50-foot-wide ingress/egress swing gate. Energy storage and PCS facilities located on Key 2 (APN 085-040-37) would be accessible from approximately three 40-foot-wide ingress/egress swing gates. One gate would be located at the northeast corner of the structure, a second gate would be located at the northwest corner, and a third gate would be located at the southwestern corner of the structure.

The Project would comply with the Fresno County Solar Facility Guidelines (Fresno County 2017) and would retain a 50-foot buffer between Project facilities (excluding fencing) and surrounding properties. Preliminary site plans indicate that structural improvement and equipment would be kept within 50 feet of the site boundary.

#### 2.5.4.4 Lighting

Security lighting, less than 14 feet tall, would be installed at the Project substation and O&M building. Lighting would be activated through a motion sensor or manual switch and would be on only when personnel are in the area. Safety and emergency signage would be visible when lighting is on. Lighting would be installed only in areas necessary for operations, security, and safety. All lighting would be shielded downward to minimize its impact on surrounding properties and nighttime light pollution. Electrical power for the access gate and lighting would be provided by PG&E (Key Energy Storage, LLC 2021b).

#### 2.5.4.5 Stormwater Facilities

During construction of Phase 1, stormwater facilities including a drainage swale would be constructed along the eastern boundary of the Project site. Phase 1 also would include the construction of a retention basin on the southeast corner of APN 085-040-58. During Phase 4, a retention basin would be constructed on southeast corner of APN 085-040-37. These stormwater facilities would be designed to meet Fresno County and State Water Resources Control Board requirements (Key Energy Storage, LLC 2021c).

#### 2.5.4.6 Uninterruptible Power Supply

The Project would include a small uninterruptible power supply to power to the Battery Management System during rare events when all or part of the facility is disconnected from the distribution system. The uninterruptible power supply would be sized to accommodate proposed control systems and minimal targeted HVAC system loads for equipment protection by providing a certain amount of run time based on temporary energy storage. The purpose of this would be to maintain battery safety and warranty temperature parameters when grid power is not available.

### 2.5.5 Water, Waste, and Hazards

#### 2.5.5.1 Water and Wastewater

##### **Water**

Water would most likely be delivered to the Project site by truck from an off-site source. However, water also could be provided via groundwater through a new or existing well. If groundwater would provide water to the Project, then it would be pumped into approximately 2,000- to 4,000-gallon water trucks and stored in approximately 12,000-gallon water storage tanks or towers up to 16 feet tall. These tanks would be on-site during construction only and would be removed following completion of construction. If the existing well located on the northernmost parcel of the Project site is not used to supply water for the Project, then it would be capped in accordance with County requirements. See **Appendix L**, *Water Supply Assessment*, for additional details.

### **Construction**

During construction, water would be used for dust suppression and earthwork. Annual water use during construction is anticipated to be 153 acre-feet per year for the lithium-ion battery option and a maximum of 171 acre-feet per year for the lithium-ion and iron-flow option. Total water use during construction is estimated to be 560 acre-feet for the lithium-ion battery option and 632 acre-feet for the lithium-ion and iron-flow option.

### **Operation and Maintenance**

Water use for O&M would be minimal (approximately 0.003 AFY). Potable water for the O&M building kitchen and restrooms would be delivered by a local water provider and stored on-site. Water also would be used for fire suppression, if needed.

### **Decommissioning**

During decommissioning, water would be used for dust suppression and earthwork. As discussed above for construction, water would be delivered to the Project site either by truck from an off-site source or via groundwater through a new or existing well.

### **Wastewater**

During construction and decommissioning, portable restroom facilities would be provided and serviced by licensed providers. During O&M, restrooms and a kitchen would be located within the O&M building. Wastewater from these facilities is expected to be disposed of using a septic tank or a wastewater removal service. The capacity of the septic tank would be determined based on site-specific soil conditions among other factors, as required by the Fresno County Local Agency Management Program (Fresno County 2018, 2019).

### **2.5.5.2 Solid Waste**

During construction, debris such as paper, cardboard, wood, plastics, and construction equipment packaging would be the main source of solid waste. Based on similar projects, it is anticipated that approximately 22 cubic yards of solid waste may be generated during construction. A certified waste hauler would be responsible for the disposal of solid waste and at minimum, 50 percent of waste would be recycled. Once operational, the Project would generate very little solid or liquid waste. Common trash or other waste products generated by on-site O&M staff would be removed by a contracted garbage service provider. Any solid waste generated during routine maintenance would be taken off-site for proper disposal upon departure. During decommissioning, aboveground structures and belowground electrical conduit, foundations, and infrastructure would be removed. Most parts of the proposed system are recyclable, and components of the energy storage system and on-site substation would be recycled when the Project's operating life is over (Appendix B1).

### **2.5.5.3 Hazardous Waste and Hazardous Materials**

Construction would generate limited amounts of hazardous wastes, such as used lubricants, cleaning solvents, and other chemicals. Additional hazardous wastes that could be encountered or

released during construction include contaminated soils, incidental spill waste, and concrete washout. Wastes generated or encountered would be handled, contained, transported, and/or disposed of according to local, state, and federal regulations.

Within each energy storage container, the electrolyte that powers the storage capacity would be subdivided into dozens of modules and thousands of cells housed within layers of containment, including the metal container itself. Applicable building codes and design standards require that numerous controls and sensors be in place to shut down operation and to notify 24-hour staff if any unsafe conditions occur, including those that could lead to a spill. If a spill were to occur, the O&M staff would implement the Emergency Action Plan's dedicated spill procedures for minimizing contamination and exposure. See Section 2.5.9.7, *Emergency Action Plan*, for additional details.

During decommissioning and site restoration, tanks and vessels containing fuels, hydraulic fluids, and oils would be transferred directly to tanker trucks and the tanks and vessels would be rinsed and the rinse water would then also be transferred to tanker trucks. Items that could not be moved (such as lubricants, paints, and solvents) would be locked in a utility structure, and the Applicant would provide secondary containment to meet the requirements for hazardous waste storage. These hazardous materials would be properly stored until proper disposal or recycling is available. All personnel in charge of handling and disposing of hazardous materials would be trained on how to properly handle these materials. Any enclosure used to store hazardous materials would be monitored regularly to check for leaks or structural failures.

## 2.5.6 Energy Storage System Construction

### 2.5.6.1 Construction Activities

#### ***Site Preparation and Grading***

Site preparation would include the removal of existing crops and, if required, construction of retention basins for hydrologic control.

Although the Project site is fairly level, grading would be required throughout most of the site to provide a stable base for proposed structures, equipment, and roads. This would be accomplished with scrapers, graders, water trucks, dozers, and compaction equipment. At locations where gentle poles would be installed, minor cuts may be required where the foundations would be installed. Minor earthwork also would occur to install access roads. Access roads would be covered with either gravel or an aggregate base.

A temporary staging area for storing equipment and materials would be constructed at the southwest corner of the Project site. Additional staging and laydown area locations would be determined by the construction contractors and would be within the Project site boundaries.

### **Energy Storage Enclosure and Substation Installation**

Before installation of enclosure modules, foundations would be constructed of either cast-in-place concrete or crushed aggregate base.

The enclosure modules would be off-loaded and installed using cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment, as needed. Construction equipment would be delivered to the site on low-bed trucks unless the equipment could be driven to the site (such as boom trucks).

The substation would include a pad-mounted step-up transformer. Installation of the transformer would be followed by the construction of the substation and grid interconnection, and the wiring of each module through combiner boxes. The medium-voltage stations would be constructed on either concrete foundations or driven piles.

#### **2.5.6.2 Construction Workforce and Schedule**

Peak construction would occur during the energy storage enclosure installation portion of each phase. During these times, the peak daily workforce would be up to approximately 150 workers, and maximum average daily worker trips would be 300 one-way trips. The maximum average daily vendor truck trips would be 80 one-way trips per day. On average, there would be fewer workers than this on-site, resulting in fewer average daily worker and vendor trips. Construction workers would work 8- to 10-hour days, Monday through Friday. While weekend and overtime construction is not anticipated, it may occasionally be needed to meet Project milestones. The Applicant is considering two energy storage options, each of which would modify the Project components. **Table 2-3** and **Table 2-4** show the construction schedule, workforce, and vehicle trip modifications associated with the lithium-ion battery option and the lithium-ion and iron-flow option (Key Energy Storage, LLC 2021b).

Construction would be phased as described in Section 2.5.1, *Project Phasing*. Construction phases are not expected to overlap with one another.

**Table 2-3**, *Construction Schedule, Workforce and Vehicle Trips—Lithium-Ion Battery Option*, lists the expected duration of each component of each construction phase for the lithium-ion battery option, as well as the associated workforce and anticipated one-way vehicle trips.

**Table 2-4**, *Construction Schedule, Workforce and Vehicle Trips—Lithium-Ion and Iron-Flow Option*, lists the expected duration of each component of each construction phase for the lithium-ion and iron-flow option, as well as the associated workforce and anticipated one-way vehicle trips.



**TABLE 2-3  
CONSTRUCTION SCHEDULE, WORKFORCE, AND VEHICLE TRIPS—  
LITHIUM-ION BATTERY OPTION**

| Construction Activity by Phase        | Duration (weeks) | Estimated Workforce | One-Way Vehicle Trips      |                            |                        |
|---------------------------------------|------------------|---------------------|----------------------------|----------------------------|------------------------|
|                                       |                  |                     | Average Daily Worker Trips | Average Daily Vendor Trips | Total Haul Truck Trips |
| <b>Phase 1</b>                        |                  |                     |                            |                            |                        |
| Site Preparation                      | 2                | 40                  | 80                         | 4                          | 0                      |
| Substation Site Preparation           | 4                | 20                  | 40                         | 8                          | 0                      |
| Grading                               | 4                | 40                  | 80                         | 4                          | 0                      |
| Substation Site Grading               | 2                | 20                  | 40                         | 8                          | 0                      |
| Energy Storage Enclosure Installation | 25               | 120                 | 240                        | 40                         | 0                      |
| Substation Installation               | 16               | 60                  | 120                        | 80                         | 0                      |
| Gen-tie Foundation and Tower Erection | 1                | 40                  | 80                         | 8                          | 0                      |
| Gen-Tie Stringing and Pulling         | 2                | 40                  | 80                         | 8                          | 0                      |
| <b>Phase 2</b>                        |                  |                     |                            |                            |                        |
| Site Preparation                      | 2                | 40                  | 80                         | 4                          | 0                      |
| Grading                               | 4                | 40                  | 80                         | 4                          | 0                      |
| Energy Storage Enclosure Installation | 66               | 120                 | 240                        | 40                         | 0                      |
| <b>Phases 3</b>                       |                  |                     |                            |                            |                        |
| Site Preparation                      | 4                | 40                  | 80                         | 6                          | 0                      |
| Grading                               | 8                | 40                  | 80                         | 6                          | 0                      |
| Energy Storage Enclosure Installation | 76               | 150                 | 300                        | 80                         | 0                      |
| <b>Phases 4</b>                       |                  |                     |                            |                            |                        |
| Site Preparation                      | 4                | 60                  | 120                        | 8                          | 0                      |
| Grading                               | 8                | 60                  | 120                        | 8                          | 0                      |
| Energy Storage Enclosure Installation | 76               | 150                 | 300                        | 80                         | 0                      |
| SOURCE: Key Energy Storage, LLC 2021b |                  |                     |                            |                            |                        |

**TABLE 2-4  
CONSTRUCTION SCHEDULE, WORKFORCE, AND VEHICLE TRIPS—  
LITHIUM-ION AND IRON-FLOW OPTION**

| Construction Activity by Phase        | Duration (weeks) | Estimated Workforce | One-Way Vehicle Trips      |                            |                        |
|---------------------------------------|------------------|---------------------|----------------------------|----------------------------|------------------------|
|                                       |                  |                     | Average Daily Worker Trips | Average Daily Vendor Trips | Total Haul Truck Trips |
| <b>Phase 1</b>                        |                  |                     |                            |                            |                        |
| Site Preparation                      | 4                | 40                  | 80                         | 4                          | 0                      |
| Substation Site Preparation           | 4                | 20                  | 40                         | 8                          | 0                      |
| Grading                               | 8                | 40                  | 80                         | 4                          | 0                      |
| Substation Site Grading               | 2                | 20                  | 20                         | 4                          | 0                      |
| Energy Storage Enclosure Installation | 67               | 120                 | 240                        | 40                         | 0                      |
| Substation Installation               | 16               | 60                  | 120                        | 80                         | 0                      |
| Gen-tie Foundation and Tower Erection | 1                | 40                  | 80                         | 8                          | 0                      |
| Gen-Tie Stringing and Pulling         | 2                | 40                  | 80                         | 8                          | 0                      |
| <b>Phase 2</b>                        |                  |                     |                            |                            |                        |
| Site Preparation                      | 2                | 40                  | 80                         | 4                          | 0                      |
| Grading                               | 4                | 40                  | 60                         | 4                          | 0                      |
| Energy Storage Enclosure Installation | 74               | 120                 | 240                        | 40                         | 0                      |
| <b>Phases 3</b>                       |                  |                     |                            |                            |                        |
| Site Preparation                      | 4                | 60                  | 120                        | 8                          | 0                      |
| Grading                               | 8                | 60                  | 120                        | 8                          | 0                      |
| Energy Storage Enclosure Installation | 92               | 150                 | 300                        | 80                         | 0                      |

SOURCE: Key Energy Storage, LLC 2021b

### 2.5.6.3 Construction Access, Deliveries, and Equipment

Project materials and supplies would be delivered by truck via I-5 to West Jayne Avenue. Truck loads would be less than 40 tons, with an average cargo load of approximately 25 tons. Most of the truck trips would be for delivering aggregate materials and the energy storage enclosures and related components. Aggregate materials are expected to be delivered in six-axle bottom dump trucks or transfer trucks. Construction equipment would be transferred to the site in low-bed transportation trucks and size would be dependent on the equipment being transferred. The step-up transformer is expected to be the heaviest piece of equipment delivered to the site, weighing up to 160,000 pounds. A more detailed equipment inventory is provided in **Appendix D, Air Quality, Greenhouse Gas Emissions, and Fuel Use**.

## 2.5.7 Energy Storage System Operation and Maintenance

Once constructed, the Project would be operated and monitored, 7 days a week, through the proposed SCADA system with the support of up to seven on-site staff members. Routine on-site maintenance would include augmentation of batteries, electrical repairs, the replacement of inverter modules and filters, and vegetation control. It is anticipated that one annual major maintenance inspection would occur. All maintenance would occur during daytime hours. The facility would not receive regular deliveries during the O&M period.

Operation of the Project's substation would require O&M personnel to visit the substation for switching and other operational activities. Maintenance trucks would visit the Project site for routine maintenance including equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventive maintenance.

Unscheduled (i.e., emergency) maintenance activities may be required from time to time. Such maintenance could require several workers in light utility trucks to visit the facility site as needed.

## 2.5.8 Energy Storage System Decommissioning and Site Reclamation

Before the site is decommissioned and restored, the Applicant would submit a final reclamation plan detailing site decommissioning and reclamation activities to Fresno County. An initial draft plan is included in **Appendix B1**, *Draft Reclamation Plan*.

### 2.5.8.1 Decommissioning Workforce and Schedule

Project decommissioning and site restoration would take 12 months per phase. Phased decommissioning is initially expected to occur in approximately 2055, 2056, 2059, and 2062. The workforce and equipment needed for decommissioning would be similar to or less than what was needed for construction.

### 2.5.8.2 Project Decommissioning

At the end of the Project's life span, the steel, aluminum, and concrete components of the energy storage system and substation would be recycled. Batteries from the energy storage system may include lithium-ion, which degrades but can also be recycled or repurposed. Electrical conduit and other structures and materials that break off more than 4 feet underground would be decommissioned and abandoned in place. Metal and scrap equipment and parts that do not have free-flowing oil would be sent for salvage at local recycling facilities. It is anticipated that oils and batteries would be recyclable and would be disposed of at the proper facilities. See Section 2.5.5.3, *Hazardous Waste and Hazardous Materials*, for more information regarding the disposal and removal of hazardous materials during decommissioning.

### **2.5.8.3 Site Reclamation**

Before the end of the decommissioning process, the Project site would be reclaimed to a condition comparable to its current agricultural condition. A copy of the proposed reclamation plan is provided in Appendix B1. Roads and other areas that were compacted during construction, operations, and decommissioning would be tilled to restore the sub-grade material to match the depth and density of surrounding properties. Clean compactable sub-grade material would be used to fill low areas. Sub-grade depth would be established from other properties located within 50 miles of the Project site or from the city of Fresno. Once established, locally sourced topsoil would be used to match the depth and density of surrounding properties. Compost would then be spread over the applied topsoil and the entire Project site would be tilled to mix and loosen the compost and topsoil. An appropriate seed mixture would be broadcasted or drilled across the site, followed by the application of weed-free mulch. The mulch would act as a soil stabilizer and help retain moisture for the germination of seedlings.

## **2.5.9 Applicant-Proposed Measures and Design Features**

The Applicant proposes to take certain actions to reduce the potential significance of anticipated environmental impacts. These actions are elements of the Project and not mitigation measures for purposes of CEQA. If the Project is approved, then the County would monitor and enforce compliance with these plans or design features until the obligation is satisfied. Where the analysis of individual resources relies on them to reduce anticipated effects, the relevant section so notes. These Applicant-proposed measures and design features would not govern PG&E's construction or O&M of the interconnection infrastructure described in Section 2.5.10, because PG&E has not volunteered to implement them and the County does not have permitting or other enforcement authority over PG&E, which is regulated by CPUC.

### **2.5.9.1 Glare and Lighting**

To reduce potential impacts on aesthetics from nighttime lighting and daytime glare, the Applicant proposes to provide the minimal amount of lighting required for safety, and a security lighting system that would be motion-activated (rather than timed to remain on from dusk to dawn); and shielding or directing lighting downward to minimize off-site impacts, including on nighttime skies.

### **2.5.9.2 Fire Protection**

The Applicant would implement the following fire protection, prevention, and detection measures and design features. Fire protection systems for each phase of the Project would be designed in accordance with the 2022 California Fire Code (California Code of Regulations [Cal. Code Regs.] Title 24, Part 9) or the version of the Fire Code that is current at the time of construction.

The Project could install lithium-ion batteries and/or iron-flow storage technology. Enclosures for either technology would be unoccupied. Flow batteries are generally not flammable and do not require fire suppression systems. Flow battery tanks would be designed to have containment in the event of a failure.

To mitigate potential hazards, redundant separate methods of failure detection would be implemented. Remote alarms would be installed for operations personnel as well as emergency response teams including voltage, current, and temperature alarms from the battery management system. Other protective measures are proposed to include ventilation, overcurrent protection, battery controls to operate the batteries within designated parameters, temperature and humidity controls, smoke detection, and maintenance in accordance with manufacturer guidelines. In addition, an emergency response plan would be implemented as described in Section 2.5.9.7, *Emergency Response Plan*.

The Project's proposed fire protection design would comply with Section 1206 Electrical Energy Storage Systems, which adopts the National Fire Protection Association (NFPA) Standard for the Installation of Stationary Energy Storage Systems (NFPA 855). Depending on technology, Underwriters Laboratories (UL), an independent engineer's test method, would certify that the batteries to be used in this Project, if it is approved, are manufactured in accordance with UL-9540A, an industry-standard Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems. UL independently tests equipment for compliance with the latest fire safety code requirements. This test method was developed to minimize the risk of thermal runaway to address safety concerns about battery storage equipment raised by fire departments and building officials in the United States. Compliance with these standards and certification includes a Battery Management System design that detects high temperatures at the battery cell or battery module level and automatically shuts down the battery rack. Furthermore, installation of battery units would follow manufacturers' specifications for the spacing of batteries and clearance distances to further prevent a thermal runaway event. Each unit would also be equipped with thermal management systems. Power to the thermal management system would be provided through a connection to the on-site station service transformer with connection lines installed above and/or below ground and would be equipped with an uninterruptible power supply as described in Section 2.5.4.6.

### 2.5.9.3 Erosion and Sediment Control and Pollution Prevention

Project activities would comply with all applicable San Joaquin Valley Air Pollution Control District rules and regulations, including Rule 9510 (Indirect Source Review) and Regulation VIII (Fugitive Dust Rules). Dust control merits further attention on the Project site because Coccidioidomycosis, more commonly known as *Valley Fever*, is highly endemic<sup>5</sup> in Fresno County. Valley Fever is primarily a disease of the lungs caused by the spores of the *Coccidioides immitis* fungus. The spores naturally occur in soils in this region, can become airborne when the soil is disturbed, and can subsequently be inhaled into the lungs. The potential exists for both dust and cocci spores to be stirred up during work activities that disturb the soil, such as digging, grading, or other earth-moving operations or vehicle operation on dirt roads or during high winds, and thereby to expose construction workers and others to the potential of contracting Valley Fever. To reduce the potential for causing or exacerbating exposure to dust and the cocci spores, the Applicant proposes to do the following:

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<sup>5</sup> Labor Code Section 6709 defines *highly endemic* as meaning that the annual incidence rate of Valley Fever is greater than 20 cases per 100,000 persons per year.

- Minimize soil disturbance where feasible (e.g., by limiting trenching and excavations).
- Provide effective awareness training on Valley Fever to construction personnel and all other on-site personnel before the person begins work (and annually thereafter) that is reasonably anticipated to cause exposure to substantial dust disturbance, where “substantial dust disturbance” means visible airborne dust for a total duration of 1 hour or more on any day.
- Use water-based dust suppression or appropriate soil stabilizers on Project roads during construction and decommissioning activities as well as during any time (including the O&M phase) when more than 10 vehicles are using unpaved interior accessways.
- Provide enclosed air-conditioned cabs for vehicles that generate dust and ensure that workers keep windows and outside air vents closed.
- Stabilize all spoils piles by tarping or other methods.
- Suspend outdoor work during heavy winds.
- Keep break areas and eating areas clean and protected from sources of dust to limit potential contamination of drinks and food.
- When feasible, keep workers upwind of digging and other dust-producing activities.
- Use vacuums equipped with high efficiency particulate air (HEPA) filters, water, wet towels, or other wet methods to clean soiled equipment, tools, and surfaces and avoid the use of compressed air, dry sweeping, or other methods that create dust when cleaning.
- Provide personal protective respiratory equipment when exposure to dust cannot be avoided.

Other Project design features to minimize impacts on water quality include the following: No outdoor storage areas are proposed; no exterior wash-down areas are proposed; no on-site repair or maintenance bays or fueling areas are proposed; pest management would occur only as described in Section 2.5.9.6, *Pest Management*; and water quality controls would be maintained on an ongoing basis and periodic inspections would be conducted to ensure proper performance. Project construction would result in more than 1 acre of soil disturbance. As a result, the Applicant would prepare, file, and implement a storm water pollution prevention plan (SWPPP) in accordance with the State of California’s General Permit for Stormwater Discharges Associated with Construction Activities (2022-0057-DWQ). The SWPPP would include measures to limit erosion and off-site transport of pollutants from construction activities. The plan would designate best management practices that would be followed during construction to help stabilize disturbed areas and reduce erosion, sedimentation, and pollutant transport.

Further, the Project has been designed consistent with Low Impact Development standards such as minimizing impermeable surfaces and using gravel surfacing where possible instead of hardscape surfaces. Impermeable surfaces are broken into individual areas that would drain through gravel that would help maximize infiltration and to disperse flows, and through bioretention swales that would further slow runoff and facilitate infiltration. Retention basins are proposed as described in Section 2.5.4.5, *Stormwater Facilities*. See Figure 2-3 and Figure 2-4.

#### 2.5.9.4 Corrosion Protection

Signage, fencing, and other outdoor structures would be designed to last the life of the Project. Corrosion protection would be provided, if determined to be needed, by selecting thicker metal posts, using galvanized metal posts (with sacrificial anode coating), or installing a cathodic protection system (electrical corrosion controls).

#### 2.5.9.5 Wildlife-Friendly Design Features

Hollow vertical tubes (e.g., chain-link fencing posts) on the Project site would be capped to prevent potential entrapment of birds or other small species. Further, the design of new overhead transmission and communications lines and structures would follow the most recent Avian Power Line Interaction Committee (APLIC) guidance to reduce the potential for avian injury and mortality from collisions and electrocution. At the time this Draft EIR was prepared, that guidance included *Suggested Practices for Avian Protection on Power Lines* (APLIC 2006) and *Reducing Avian Collisions with Power Lines* (APLIC 2012). The proposed use of motion-activated security lighting (rather than lighting that would remain on from dusk to dawn) would further reduce adverse impacts to nocturnal species, potentially including foraging, sheltering, mating and reproducing, communicating, and migrating behaviors.

#### 2.5.9.6 Pest Management

The Applicant has prepared a draft integrated pest management (IPM) plan that includes pest-control measures to minimize the likelihood of pests (including weeds) within the Project site and to maximize the ability to reduce the current pest population, if present. A copy of the draft IPM plan is provided in **Appendix B2, Draft Integrated Pest Management Plan**, which explains that the plan “promotes the use of a range of preventative and non-chemical approaches to control pest populations and stave off infestation. If an infestation with unacceptable impacts occurs, thereby warranting additional treatment, IPM protocol favors the use of least-toxic pesticides. The targeted application of a toxic pesticide is allowed only after all other reasonable non-toxic options are exhausted.”

#### 2.5.9.7 Emergency Action Plan

The Applicant recognizes that energy storage facilities, unless properly constructed, maintained, and operated, can create hazards for firefighters and emergency responders with the possibility of explosions, flammable gases, toxic fumes, water-reactive materials, electrical shock, corrosives, and chemical burns. As such, the Applicant proposes to construct and operate the facility in accordance with all applicable statutes, regulations, and other requirements, including by developing an emergency action plan in advance of construction to train local emergency response personnel during development and operation of the facility. The plan would be completed in accordance with existing state regulations (Health and Safety Code Section 25504(b); 19 Cal. Code Regs. 2731; 22 Cal. Code Regs. 66262.34[a][4]). The contents of the emergency action plan would comply with existing state regulations, would be developed in consultation with the fire department and energy storage system supplier, and would include defined roles and responsibilities and training for local first responders.

### 2.5.9.8 Compliance with Applicable Laws and Standards

The Applicant would comply with all applicable laws and standards, which may include but would not be limited to those governing the following:

- The use, storage, and disposal of hazardous materials, specifically:
  - U.S. Department of Transportation regulations found at Code of Federal Regulations (CFR) Title 49, Part 172 (49 CFR 172) and 49 CFR 173, which include requirements for hazardous material transport licensing, packaging and containment standards, labeling, and other protection measures to prevent hazardous-materials incidents during transport and to facilitate response in the event of an incident involving hazardous materials.
  - Requirements of the California Highway Patrol, California State Fire Marshal, U.S. Environmental Protection Agency, and California Department of Toxic Substances Control. These include the requirements to submit and maintain a Hazardous Materials Business Plan and be subject to periodic inspections by the Certified Unified Program Agency (here, Fresno County’s HazMat Compliance Program) for safe operations related to hazardous materials.
- Worker training and safe work practices, such as would occur under a comprehensive hazard communication program pursuant to 29 CFR 1910 to ensure that construction workers are knowledgeable in the identification and proper handling of hazardous materials to avoid spills or other upset conditions that could otherwise result in unsafe exposure.
- Air quality, such as the San Joaquin Valley Air Pollution Control District’s indirect source rule and fugitive dust regulation.
- Water quality.
- Energy storage systems more generally.

Compliance with these requirements would avoid or reduce potential adverse environmental impacts related to soil, air quality, surface water and groundwater quality, human health, fire-related risk, and other environmental considerations.

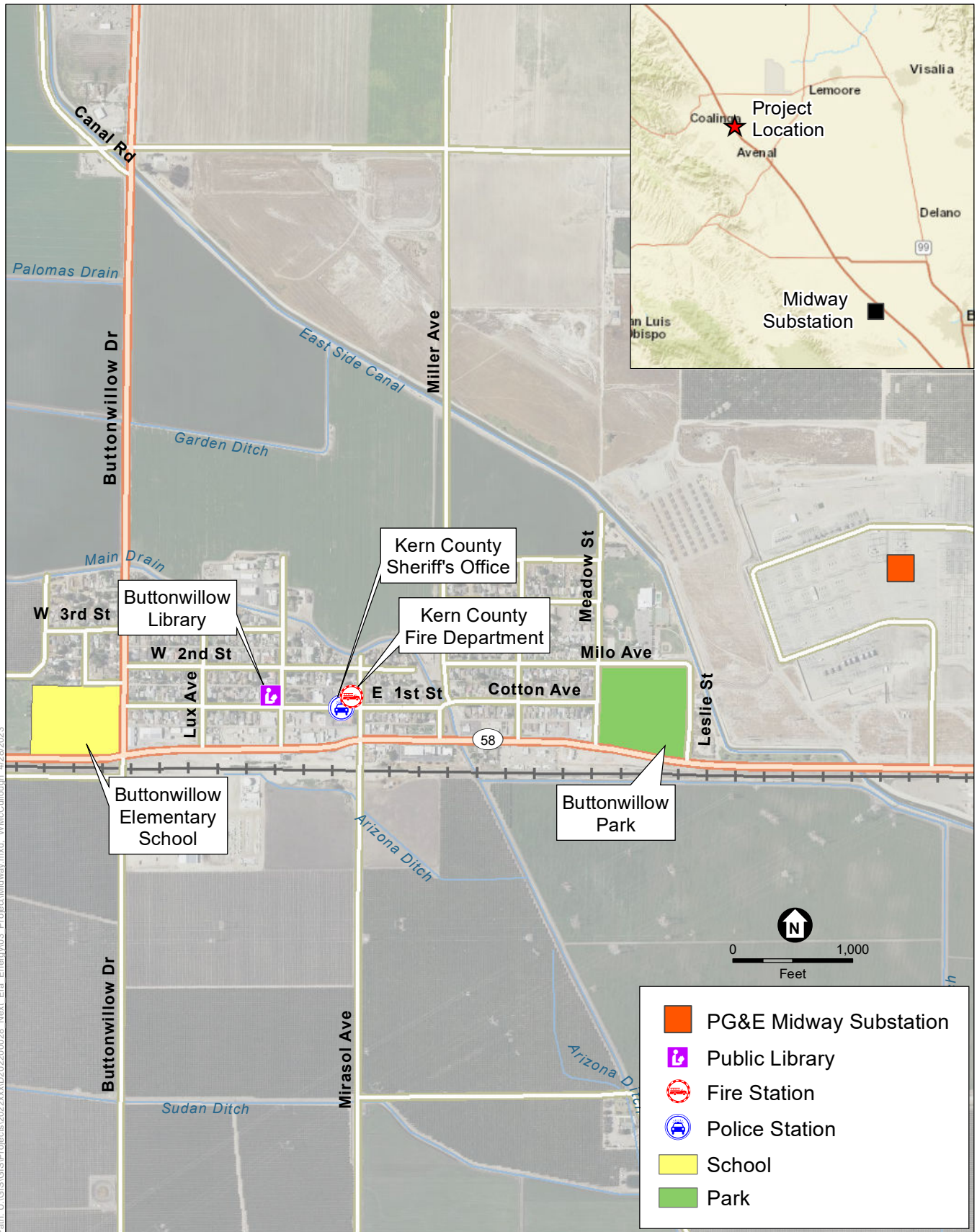
### 2.5.10 PG&E Interconnection Infrastructure

The Project would allow excess, intermittent renewable energy to be stored and later dispatched back into the electrical grid as firm, reliable generation. Power stored by the Project would be conveyed from and to the regional grid at PG&E’s existing Gates Substation. To accommodate the Project, PG&E would modify existing infrastructure within the Gates Substation property and the Midway Substation property. The location of the Gates Substation is shown on Figure 2-2, *Project Site*; the location of the Midway Substation is shown in **Figure 2-5, Midway Substation Location**.

#### 2.5.10.1 Gates Substation Modifications

As shown in Figure 2-2, *Site Location*, PG&E’s existing Gates Substation is bounded by agricultural fields to the north and east, a PG&E solar station to the west, and the Westlands Solar Switching Station to the south. To accommodate the Project, PG&E would enlarge the Gates





Key Energy Storage Project

**Figure 2-5**  
Midway Substation

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Substation 500 kV yard within the Gates Substation property boundaries by approximately 2.6 acres. Specifically, PG&E would remove the existing 1,120-foot-long precast security wall at the west side of the Gates Substation and replace it with a new 12-foot-high wall, approximately 100 feet west of the existing western wall. The new wall would be 12 feet above grade, so the overall height measured from the inside of the substation would be approximately 17.5 feet, owing to the 500 kV yard's below-grade elevation. The new wall would tie into the existing security walls located on the north and south sides of the 500 kV yard within the Gates Substation. The total length of the new wall would be 1,320 feet, including the 100-foot portions tying into the north and south walls. Existing security towers would be relocated and/or modified to accommodate the new wall. Grading of the new portion of the substation to a depth of approximately 5.5 feet below grade to match the existing 500 kV yard surface elevation would be required and would include a large quantity (up to 23,000 cubic yards) of cut. Removal of portions of the PG&E solar station located west of the substation may be required (PG&E 2023).

Within the newly graded area, PG&E would install approximately two 550 kV, 3,000-ampere, 63-kiloampere high-voltage circuit breakers. This would include installing equipment foundations and concrete trenches, equipment cabinets, bus structures, conduits, pull boxes, and concrete-encased conduit duct banks at road crossings outside of the substation as required (PG&E 2023).

### **2.5.10.2 Midway Substation Modifications**

Minor modifications to substation equipment at PG&E's Midway Substation would also be needed to support the Project. This substation is in Buttonwillow, Kern County. Necessary modifications at this location would include replacing an existing switch and three supporting structures and upgrading the existing 4-inch bus structure to 6 inches (PG&E 2023).

### **2.5.10.3 Transmission Line Work**

In addition to substation modification activities, PG&E would install approximately 2,500 feet of new 500 kV single-circuit transmission line, mostly on PG&E's substation property, between the Gates Substation bus connection and the pole on the Project site where the line changes ownership (i.e., the point of change of ownership or POCO pole). The line owned by PG&E would extend south from its substation approximately 120-feet, crossing Jayne Avenue and continuing into the adjacent Project site to the POCO pole. The right-of-way for the new transmission line would be 200 feet in width. The new transmission line would be supported by approximately four 175-foot-tall lattice steel towers with a minimum 30-foot conductor clearance to the ground. Each lattice steel tower would be supported by four concrete foundations, one for each leg, for a total of 16 foundations. The foundations would be approximately 7 feet in diameter, installed approximately 15 feet below ground. Once installation is complete, conductor stringing and terminations would be performed to ensure that the new lines are operating correctly. Lattice steel tower construction would require temporary work areas at each new structure and at locations required for conductor stringing and pulling operations. Each stringing and pulling operation would consist of a puller set-up positioned at one end and a tensioner set-up with wire reel stand truck positioned at the other end. The dimensions of the area needed for the wire stringing set-ups associated with wire installation are variable and depend upon terrain.

These activities would occur within the 200-foot-wide gen-tie right-of-way. At the point where the gen-tie lines cross West Jayne Avenue and the PG&E property, PG&E may need to obtain an overhead easement from the County. The new towers would resemble existing towers in and near the substation (PG&E 2023).

#### 2.5.10.4 Construction, Operation and Maintenance

Construction activities would be supported by up to four six-man crews working approximately 10-hour days, 6 days per week, for a total crew of up to 24 workers employed during construction. Access would typically be from paved or previously disturbed roads; some minor overland travel may be required. Equipment would include a helicopter, crane, drill rig, spool rig, backhoe, grader, concrete truck, typical rubber-wheeled construction vehicles, and miscellaneous hand tools. Construction is expected to start in 2024, or as soon as permitting, procurement and other preconstruction tasks are completed, with a targeted in-service date of July 2025 (PG&E 2023).

O&M of the expanded portion of the Gates Substation would be similar to O&M of the existing substations, with minimal new vehicle trips, equipment repairs, and replacements as necessary.

## 2.6 Permits and Approvals

Permits and approvals that could be required to construct, operate and maintain, and decommission the Project include the following:

- **Fresno County**—unclassified CUP; Williamson Act cancellation; lot line adjustment, lot merger, subdivision map, and/or tentative parcel map; and a structure height variance if needed before the proposed power line poles could exceed the 35-foot height limit in an AE zone. An encroachment permit also could be required for installation of the transmission line to cross West Jayne Avenue.
- **State Water Quality Control Board**—National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, or Construction General Permit (Order 2022-0057-DWQ, NPDES No. CAS000002).
- **CPUC**—authorizations pursuant to General Order 131-D for PG&E’s expansion of Gates Substation in Fresno County and/or the Midway Substation in Kern County and the construction of the gen-tie line.
- **San Joaquin Valley Unified Air Pollution Control District**—approval of Indirect Source Review for stationary and/or mobile sources and of a Dust Control Plan pursuant to Regulation VIII.

In addition, some construction deliveries to the Project site could be oversized or overweight. Vehicles providing deliveries would be subject to size, weight, and load restrictions pursuant to California Vehicle Code Division 15, including permits for oversize or overweight loads as required by Vehicle Code Section 35780 and California Code of Regulations Title 21 Section 1411.1 et seq.

## 2.7 References

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# CHAPTER 3

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## Environmental Analysis

### 3.1 Introduction to Environmental Analysis

#### 3.1.1 Overview

This chapter describes and analyzes the direct, indirect, and cumulative environmental impacts of the Key Energy Storage Project (Project) as they relate to each of the resource considerations identified in the environmental checklist provided in California Environmental Quality Act (CEQA) Guidelines Appendix G, which consist of the following: Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural and Tribal Cultural Resources, Energy, Geology and Soils (including Paleontological Resources), Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation, Utilities and Service Systems, and Wildfire. Potential environmental impacts of alternatives to the Project are analyzed and compared to Project impacts in Chapter 4, *Alternatives*.

#### 3.1.2 Environmental Assessment Methodology

##### 3.1.2.1 Environmental Baseline

The analysis of each issue area begins with a description of the actual physical environmental conditions in the area where the Project and alternatives would be implemented. These conditions are referred to as the “baseline” relative to which Project-caused changes are analyzed to determine whether the change is significant for purposes of CEQA (CEQA Guidelines Sections 15125 and 15126.2). For this Project, baseline conditions are those that existed in July 2022 when the notice of preparation (NOP) was published, unless otherwise noted. The NOP is included as an exhibit to the scoping report provided in **Appendix A**. The *effects of the Project and alternatives* are defined as changes to the environmental setting that are attributable to Project components or activities. Consistent with CEQA, an environmental impact report (EIR) need not analyze the effects of the existing environment on a project (including its users or occupants) unless the project exacerbates those conditions.

##### 3.1.2.2 Impact Significance Criteria

CEQA lead agencies rely on impact significance criteria as benchmarks to determine whether changes to the existing environment caused by a project or an alternative would cause a significant adverse effect. A *significant effect on the environment* is “a substantial, or potentially

substantial, adverse change in any of the physical conditions within the area affected by the project” (CEQA Guidelines Section 15382).

To guide Fresno County (County), as the Lead Agency for this Project, in determining whether the Project or an alternative may cause a significant impact on the environment, the preparers of this EIR (identified in Chapter 6, *Report Preparation*) have considered the series of questions provided in the CEQA Guidelines Appendix G Environmental Checklist.

### 3.1.2.3 Impact Significance Conclusions

This EIR evaluates whether the Project and alternatives would cause a change in the environment. The conclusions reached are based on information in the record, including scientific and factual data as well as professional knowledge and judgment, and the thresholds identified in the resource analyses that follow. Consistent with CEQA and the CEQA Guidelines, significance conclusions are characterized as one of the following:

1. **No Impact:** The Project or an alternative would not cause any change in the environment relative to the applicable significance criterion. Under these circumstances, no mitigation measures would be required or may be imposed, and the Project or alternative could not cause or contribute to any cumulative effect.
2. **Less-than-Significant Impact:** The project or an alternative could cause an adverse change in the environment, but not one that would be substantial, relative to the applicable significance threshold. Under these circumstances, no mitigation measures would be required or may be imposed. The analysis considers whether the Project or alternative could cause or contribute to a potential cumulative effect.
3. **Less than Significant with Mitigation Incorporated:** The project or an alternative could cause an adverse change in the environment that would be substantial relative to the applicable significance threshold, but the implementation of one or more feasible mitigation measures would reduce the significance of the impact below the established threshold. The analysis considers whether the Project or alternative could cause or contribute to a potential cumulative effect.
4. **Significant and Unavoidable:** The project or an alternative could cause a substantial adverse change in the environment relative to the applicable significance threshold; however, either no feasible mitigation measures are available or, even with implementation of feasible mitigation measures, the significance of the impact would remain above the established threshold. The analysis considers whether the Project or alternative could cause or contribute to a potential cumulative effect.
5. **Cumulatively Considerable:** A Project-specific or alternative-specific contribution to a significant cumulative effect would be considerable when viewed in connection with the incremental impacts of past projects, the impacts of other current projects, and the impacts of reasonably foreseeable probable future projects (as defined in CEQA Guidelines Section 15130).

To avoid or reduce potential significant impacts where feasible, alternatives have been considered or mitigation measures have been recommended to address them.

### 3.1.2.4 Mitigation Measures

CEQA Guidelines Section 15370 defines *mitigation* to include:

- a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
- d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- e) Compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements.

The County has developed mitigation measures to avoid or reduce potential significant adverse environmental effects of the Project and alternatives. The full text of the mitigation measures is provided in the individual resource sections throughout this chapter. The EIR evaluates the effectiveness of recommended mitigation measures by analyzing the impact that would remain after the implementation of the measure. In some cases, the implementation of more than one mitigation measure may be needed to reduce the significance of an impact below an established threshold.

### 3.1.3 Cumulative Effects Approach

As defined in CEQA Guidelines Section 15355, the term *cumulative impacts* refers to two or more individual effects, which, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative impact from multiple projects is the change in the physical environment that results from the incremental impact of the proposed project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines Sections 15355[b] and 15130[a][1]).

The analysis in this chapter evaluates potential cumulative impacts on a resource-by-resource basis by considering the incremental impacts of the Project together with the ongoing or anticipated effects of past, present, and reasonably foreseeable probable future projects that would cause environmental impacts that could combine with those caused by the proposal by Key Energy Storage, LLC (Applicant). Factors considered in determining whether a project is included in the cumulative scenario include whether it would cause impacts of the same nature as the Project in the same area at the same time.

#### 3.1.3.1 Cumulative Scenario

The term *cumulative scenario* is used in this EIR to refer to the projections and projects that are considered in the cumulative impact analysis. This EIR relies on a blend of two approaches to identify those projects: the “list-of-projects” approach and the “summary of projections” approach (CEQA Guidelines Section 15130[b]). A list of projects that would cause impacts that

could combine with those of the Project is provided in **Table 3.1-1**, *Cumulative Projects List*, and their locations are shown in **Figure 3.1-1**, *Cumulative Projects within 15 Miles of the Project Site*. Although the figure shows only those projects located within a 15-mile radius of the Project site, the geographic area of cumulative consideration has been established on a resource-by-resource basis throughout Chapter 3 as dictated by relevant physical boundaries (such as the extent of the groundwater basin) and is not limited by the area shown in Figure 3.1-1.

The summary of projections approach evaluates the impacts of a proposed project in the context of projections made in one or more local, regional, or statewide planning documents or environmental analysis that has been adopted or certified, such as the Fresno County General Plan. Such plans are prepared by local agencies to meet the requirements of state law and may contain the preparing agencies' comprehensive, long-term visions for physical development or resources conservation within the region.

### 3.1.3.2 Cumulative Impacts Analysis

Incremental impacts resulting from initial site preparation and construction, operation and maintenance, and decommissioning and site reclamation could combine with the incremental impacts of other projects to cause or contribute to cumulative effects. Direct and indirect effects of the Project are analyzed on a resource-by-resource basis throughout Chapter 3; a comparative analysis of the cumulative impacts of the alternatives is provided in Chapter 4, *Alternatives*. Where the Project or an alternative would cause no impact on a given resource, it could not cause or contribute to any cumulative impact to such a resource. See, e.g., Section 3.17, *Recreation*.

For the remaining resource areas, this Draft EIR analyzes potential incremental impacts of the Project and alternatives combined with the incremental impacts of past, present, and reasonably foreseeable future projects, and determines whether the incremental impacts of the Project would be significant and, if so, whether the incremental contribution of the Project would be cumulatively considerable. As noted above, the geographic scope of the cumulative effects analysis for each resource area is tailored to the natural boundaries of the affected resource. Unless otherwise noted in the analysis, potential cumulative effects could occur during any phase of the Project, from the moment on-site activities begin to the conclusion of post-Project site restoration activities. Existing conditions within the cumulative impacts area reflect a combination of natural conditions and the ongoing effects of past actions in the affected area.



**TABLE 3.1-1  
CUMULATIVE PROJECTS LIST**

| <b>Project Name/Applicant</b>   | <b>Location</b>   | <b>Approximate Distance from Project Site</b>  | <b>Description</b>  | <b>Status</b>   |
|---|---|--|---|---|
| PG&E Midway Substation Upgrades   | At the existing PG&E Midway Substation  | Same location as the PG&E substation modifications necessitated by this Project          | PG&E to convert Midway Substation 230 kV to breaker-and-a-half bus arrangements and remedial action scheme (PG&E 2022a)   | Planned in-service second quarter 2025  |
| PG&E (Bank 11 Replacement—230 kV Bus E BAAH Conversion 500/230 kV—Substation) (Project 9 on Figure 3.1-1) | East of South Lake Avenue, west of South Trinity Avenue, and north of West Jayne Avenue within the existing PG&E Gates Substation property  | Same location as the PG&E substation modifications proposed at the PG&E Gates Substation | Replacement of bank and conversion of the existing 230 kV double bus section E inside existing PG&E Gates Substation  | Planned in-service 2023 (PG&E 2022b)  |
| PG&E Gates 500 kV Dynamic Reactive Support Project (Project 8 on Figure 3.1-1)                            | East of South Lake Avenue, west of South Trinity Avenue, and north of West Jayne Avenue within the existing PG&E Gates Substation property  | Same site as the PG&E Gates Substation modifications necessitated by this Project        | Existing PG&E Gates Substation 500 kV yard modifications for interconnection to Proposed LS Power Gates 500 kV Dynamic Reactive Support Project   | Environmental review complete (CPUC 2022); construction anticipated to begin in 2023 (PG&E 2023)                              |
| PG&E Interconnection Customer (Generation) (Project 6 on Figure 3.1-1)                                    | East of South Lake Avenue, west of South Trinity Avenue, and north of West Jayne Avenue within the existing PG&E Gates Substation property  | Adjacent to the PG&E Gates Substation  | Installation of a 230 kV gen-tie approximately 1,800 feet in length within the northeast corner of the substation to be hung on approximately two TSPs<br><br>Installation of 230 kV bay to section "F"; potential installation of 230 kV gen-tie line within substation property; full scope is undetermined | Anticipated October 2023 (CPUC 2022)  |
| Fifth Standard Solar Complex (Project 7 on Figure 3.1-1)  | South Lassen Avenue, north of West Jayne Avenue, east of South Lake Avenue, and west of West Gale Avenue, approximately 3.0 miles south of the nearest city limits of Huron, California | 2 miles northeast  | The Fifth Standard Solar Complex includes a 150 MW PV solar generation facility on 1,400 acres; and a 20 MW energy storage facility on 5 acres that, when referenced separate from the solar component, is called the Blackbriar Energy Storage project,  | Environmental review complete (Fresno County 2020a, 2020b); construction to have been completed in December 2022              |
| State Route 33 Pavement Rehabilitation (Project 5 on Figure 3.1-1)  | State Route 33 from Merced Avenue to the Los Gatos Creek South Channel Bridge between post miles 14.7 and 16.7 in the city of Coalinga in Fresno County                                 | 11 miles west  | Caltrans restoration of the pavement along State Route 33 from Merced Avenue to the Los Gatos Creek South Channel Bridge in the city of Coalinga in Fresno County (Caltrans 2022a)  | Environmental review complete (Caltrans 2022b) Construction to begin October 2024, anticipated to be completed September 2025 |
| 150 S. Hachman Street Subdivision (Project 4 on Figure 3.1-1)   | 150 S. Hachman Street at Polk, city of Coalinga   | 12 miles west  | 0.57-acre residential subdivision   | Environmental review complete (City of Coalinga 2020); construction status unknown  |
| City of Coalinga Trails Master Plan Segments 3, 4, and 9 (Project 3 on Figure 3.1-1)                      | Multiple sites in Coalinga  | 12 miles northwest   | Development of portions of Segments 3, 4, and 9 totaling approximately 4,600 linear feet (0.87 mile) of the City of Coalinga's planned 8.8-mile multi-use (vehicle-separated) loop-and-spur Class I bicycle/pedestrian trail system   | Environmental review complete (City of Coalinga 2021)   |

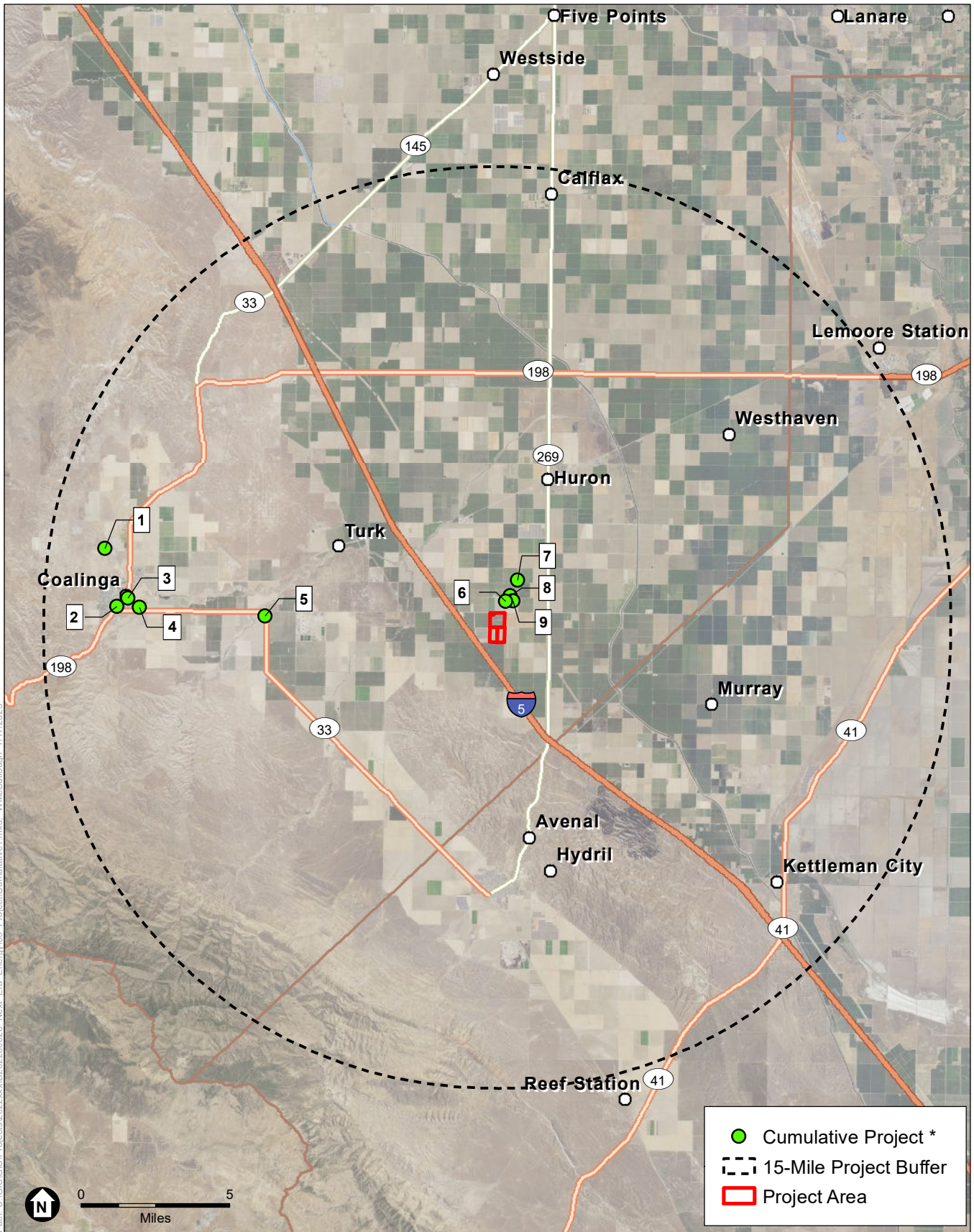
**TABLE 3.1-1 (CONTINUED)  
CUMULATIVE PROJECTS LIST**

| <b>Project Name/Applicant</b>  | <b>Location</b>  | <b>Approximate Distance from Project Site</b> | <b>Description</b>   | <b>Status</b>   |
|--|--|---|--|---|
| City of Coalinga Trails Master Plan Segments 1, 2, 13, and 14<br>(Project 2 on Figure 3.1-1) | Multiple sites in Coalinga   | 12 miles northwest                            | Development of portions of Segments 1, 2, 13, and 14, totaling approximately 10,520 linear feet (1.97 miles) of the City of Coalinga's multi-use trail system. | Environmental review complete (City of Coalinga 2022) |
| Brightsource Energy Solar to Steam Demonstration Project<br>(Project 1 on Figure 3.1-1)      | S. Derreck at W. Gale, in Coalinga   | 14.5 miles west                               | 30-megawatt-thermal solar-to-steam enhanced oil recovery project   | Operational as of 2011                                |
| Kamm Avenue Pistachio  | On the south side of Kamm Avenue, approximately 1 mile west of State Route 33, and approximately 4 miles east of I-5 in unincorporated Fresno County (Fresno County 2021a) | 32 miles northwest                            | Pistachio processing facility with a variance request for building height in excess of 35 feet   | Environmental review in progress                      |
| RE Tranquillity #1–#8  | 7 miles southwest of the community of Tranquillity, south of Manning Avenue between San Benito Avenue and San Bernardino Avenue  | 35 miles southeast                            | 3,732-acre, 400 MW PV solar facility   | Project approved in 2014 and currently in operation   |
| RE Adams East, LLC   | East side of State Route 33 between South Avenue and West Manning Avenue   | 35 miles northwest                            | 322.4-acre, 19 MW PV solar facility  | Project began commercial operation in 2014            |
| Luna Valley Solar  | 11 miles east of I-5, approximately 9 miles northeast of Tranquillity and adjacent to and west of State Route 33 in unincorporated Fresno County                           | 36 miles northwest                            | 200 MW PV solar facility on approximately 1,250 acres  | Environmental review complete (Fresno County 2021b)   |
| Sonrisa Solar  | State Route 33 at Manning Avenue in unincorporated Fresno County   | 36 miles northwest                            | 200 MW PV solar facility with battery storage capacity of 100 megawatts on approximately 2,000 acres   | Environmental review in progress                      |
| Scarlet Solar  | 3.5 miles west-southwest of the community of Tranquillity and approximately 6.5 miles east of I-5 along State Route 33 at W South Avenue in unincorporated Fresno County   | 36 miles northwest                            | 400 MW PV solar facility with 400 MW energy storage system on 4,089 acres  | Environmental review complete (Fresno County 2021c)   |
| Westside Famers Almond Hulling   | Tranquillity   | 36 miles northwest                            | Allowance of an almond hulling/shelling operation at an existing, non-operational cotton ginning facility  | IS/MND approved                                       |

**TABLE 3.1-1 (CONTINUED)  
CUMULATIVE PROJECTS LIST**

| <b>Project Name/Applicant</b>                   | <b>Location</b>   | <b>Approximate Distance from Project Site</b> | <b>Description</b>   | <b>Status</b>  |
|---|---|---|--|--|
| Heartland Hydrogen Project                      | State Route 33 and West American Avenue, second location at Bass Avenue in the city of Mendota                                  | 40 miles northwest                            | Development of an electrolytic hydrogen fuel generation facility using treated wastewater and on-site generation of solar PV energy; project would be capable of producing approximately 30,000 kg/day of renewable hydrogen for zero-emission transportation fuel | Environmental review in progress   |
| Little Bear Solar Project                       | West side of State Route 33 between West California Avenue and West Jensen Avenue   | 43 miles northwest                            | 1,288-acre, 180 MW PV solar facility   | Project began commercial operation in December 2020                                      |
| Citizen Solar B, E, & F                         | Westerly adjacent to North Star   | 43 miles northwest                            | Two independent 40-acre solar facilities, and a 240-acre independent solar facility; previously authorized by CUP 3327 (320-acre solar facility)   | Construction (electrical co-gen) permits issued in 2015; solar generating status unknown |
| North Star Solar Project/North Light Power, LLC | South side of Whitesbridge (alignment) between San Bernardino and Ohio avenues, 43 miles northwest/0.5 mile west of Mendota FCI | 43 miles northwest                            | 626-acre, 60 MW PV solar facility and gen-tie line to PG&E's Mendota Substation  | Project approved in 2012–2013 and is in operation  |

NOTES: BAAH = breaker and a half; Caltrans = California Department of Transportation; CUP = conditional use permit; FCI = Federal Correctional Institution; I-5 = Interstate 5; IS/MND = initial study/mitigated negative declaration; kg = kilograms; kV = kilovolts; MW = megawatts; PG&E = Pacific Gas and Electric Company; Project = Key Energy Storage Project; PV = photovoltaic



\* For full list of cumulative projects see Table 3.1-1

NextEra- Key Energy Storage Project

**Figure 3.1-1**  
Cumulative Projects within  
15 miles of Project Area

### 3.1.4 PG&E Infrastructure

As described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*, Project interconnection would include installation up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the PG&E Gates Substation to the Project site) on lattice towers each up to 200 feet tall, and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project.

PG&E's interconnection facilities work would constitute a direct or indirect physical change resulting from the Project and are included in the Project being evaluated by the County in this Draft EIR. However, construction of the interconnection facilities is not being approved by the County. Because PG&E is not the applicant in this proceeding, PG&E would not be subject to the proposed mitigation measures; the Project applicant would be responsible for compliance with the mitigation measures that approved by the County in connection with this EIR. For the interconnection facilities, PG&E would be subject to the California Public Utility Commission's General Order 131-D and would be expected to coordinate with the Project applicant in complying with the required mitigation. Furthermore, construction of the interconnection facilities would be subject to all applicable regulatory requirements, such as those governing hazardous materials management and water quality protection, and PG&E's BMPs. PG&E would obtain any applicable ministerial permits from the County.

### 3.1.5 References

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## 3.2 Aesthetics

This section identifies and evaluates issues related to aesthetics, including scenic vistas, scenic resources, the visual character and quality of views of the site and its surroundings from publicly accessible vantage points, and light and glare and their impacts on daytime or nighttime views in the area. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate potential impacts, and reports the results of the impact assessment. The County did not receive comments regarding aesthetics during the public scoping period (**Appendix A**, *Scoping Report*).

This analysis is based in part on the Project-specific visual simulations prepared on the Applicant's behalf contained in the visual resources assessment prepared for the Project (**Appendix M**). The preparers of this Draft EIR independently reviewed these and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance (in combination with other materials included in the formal record) in preparing this Draft EIR.

For this analysis, *visual or aesthetic resources* are defined as both the natural and built features of the landscape that contribute to a public viewer's experience and appreciation of a given environment. Definitions of the following terms and concepts are provided to aid readers' understanding of the content in this section.

*Visual quality* is defined as the overall visual impression or attractiveness of an area as determined by the particular landscape characteristics, including landforms, rock forms, water features, and vegetation patterns. The attributes of line, form, and color combine in various ways to create landscape characteristics whose variety, vividness, coherence, uniqueness, harmony, and pattern contribute to the overall visual quality of an area. For the purposes of this analysis, visual quality is defined according to three levels:

- *Indistinctive, or industrial*—Generally lacking in natural or cultural visual resource amenities typical of the region.
- *Representative*—Typical or characteristic of the region's natural and/or cultural visual amenities.
- *Distinctive*—Unique or exemplary of the region's natural or cultural scenic amenities.

*Viewer exposure* addresses the variables that affect viewing conditions from potentially sensitive areas. Viewer exposure considers the following factors:

- *Landscape visibility*—the ability to see the landscape.
- *Viewing distance*—the proximity of viewers to the project.
- *Viewing angle*—whether the project would be viewed from above (superior), from below (inferior), or from a level line of sight (normal).
- *Extent of visibility*—whether the line of sight is open and panoramic to the project area or restricted by terrain, vegetation, and/or structures.

- *Duration of view*—the length of time within which a given feature would be visible.

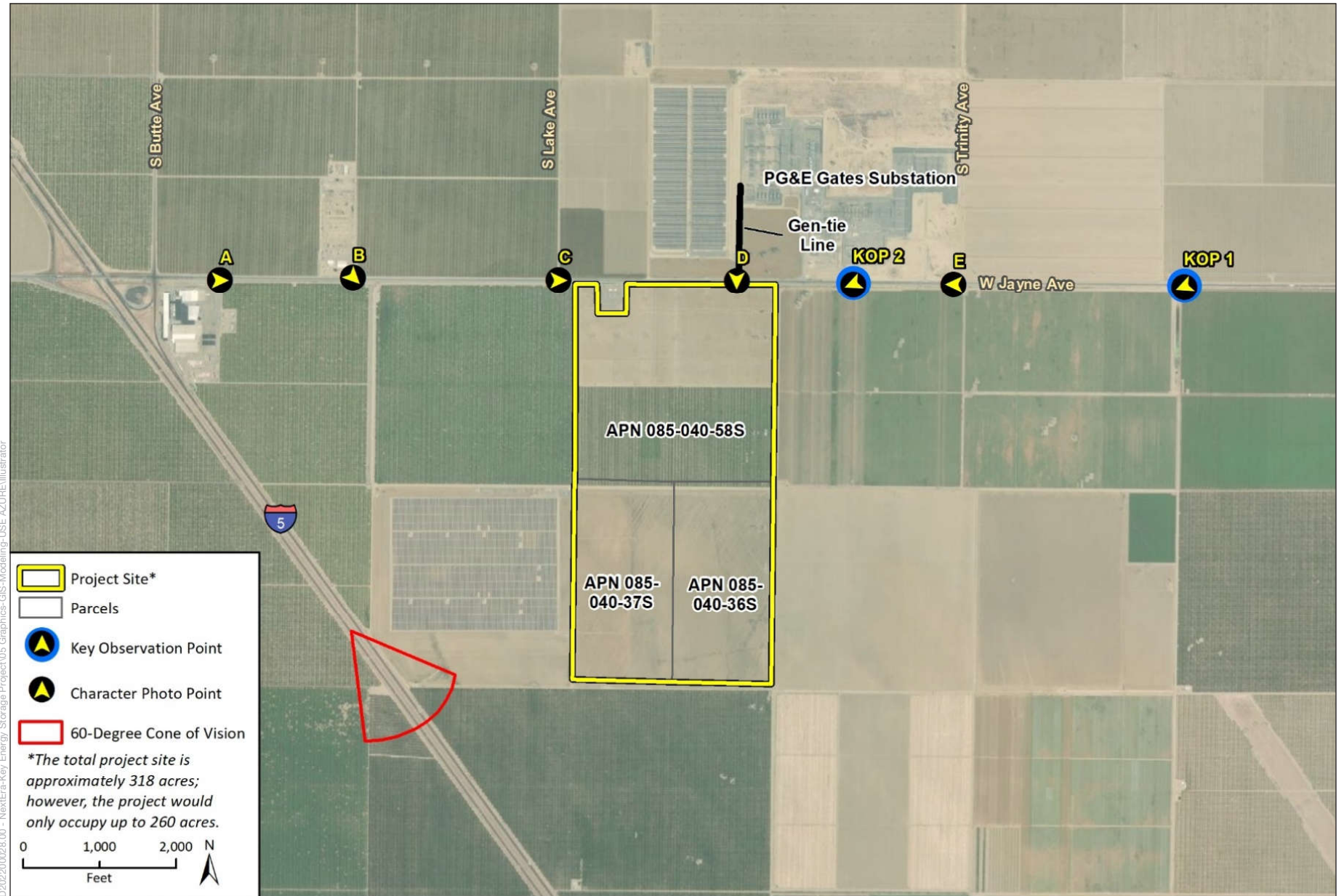
*Viewer types and volumes* of use pertain to the types of use (e.g., public viewers including recreationalists and motorists) and amounts of use (e.g., number of recreational users or motorists) with which various land uses are associated. Generally, recreational users tend to be more concerned with scenery and landscape character, whereas people who commute to work through a landscape daily tend to have lower concern for visual, or scenic, quality.

*Visual sensitivity* is the overall measure of an existing landscape's susceptibility to adverse visual changes. People in different visual settings, typically characterized by different land uses surrounding a project, have varying degrees of sensitivity to changes in visual conditions depending on the overall visual characteristics of the place. In areas of more distinctive visual quality, such as designated scenic highways, designated scenic roads, parks, and recreational and/or natural areas, visual sensitivity is characteristically more pronounced. In areas of more indistinctive or representative visual quality, sensitivity to change tends to be less pronounced, depending on the level of visual exposure. This analysis of visual sensitivity is based on the combined factors of visual quality, viewer types and volumes, and visual exposure to the Project. Visual sensitivity is reflected according to high, moderate, and low visual sensitivity ranges.

Definitions for the following terms are also provided to explain their use in describing and assessing the aesthetic setting and impacts for the Project.

- *Color* is the property of reflecting light of a particular intensity and wavelength (or mixture of wavelengths) to which the eye is sensitive. It is the major visual property of surfaces.
- *Contrast* is the opposition or unlikeness of different forms, lines, colors, or textures in a landscape. The contrast can be measured by comparing the project features with the major features in the existing landscape.
- *Form* is the mass or shape of an object or objects which appear unified.
- A *Key Observation Point (KOP)* is a point on a travel route or at a use area or a potential use area, where the view of a proposed activity would be most revealing. For the purposes of the following analysis, KOPs describe locations from which setting photographs were taken. KOPs for this Project are shown in **Figure 3.2-1, Map of Key Observation Points**.
- *Landscape character* is the arrangement of a particular landscape as formed by the variety and intensity of the landscape features and the four basic elements of form, line, color, and texture. These factors give the area a distinctive quality that distinguishes it from its immediate surroundings.
- *Line* is the path, real or imagined, that the eye follows when perceiving abrupt differences in form, color, or texture. Within landscapes, lines may be found as ridges, skylines, structures, changes in vegetative types, or individual trees and branches.
- A *scenic vista* is an area that is designated, signed, and accessible to the public for the purposes of viewing and sightseeing.





SOURCE: NextEra, 2022

Key Energy Storage Project

**Figure 3.2-1**  
KOP and Photo Point Location Map

- A *scenic highway* is any stretch of public roadway that is designated as a scenic corridor by a federal, state, or local agency.
- *Sensitive receptors or sensitive viewpoints* include individuals or groups of individuals that have views of a site afforded by a scenic vista, scenic highway, residence, or public recreation area.
- *Texture* is the visual manifestations of the interplay of light and shadow created by the variations in the surface of an object or landscape.
- The *viewshed* for a project is the surrounding geographic area from which a project is likely to be seen, based on topography, atmospheric conditions, land use patterns, and roadway orientations.

## 3.2.1 Setting

### 3.2.1.1 Study Area

The Project site is located in Fresno County within the central San Joaquin Valley, approximately 15 miles southeast of the base of the Diablo Range, part of the more expansive California Coast Ranges. The San Joaquin Valley extends from the Sacramento–San Joaquin Delta in the north to the Tehachapi Mountains in the south, framed by the Coast Ranges to the west and the Sierra Nevada to the east. The San Joaquin Valley is dominated by agricultural land uses, with views of industrial-scale farms and orchards interspersed with small communities.

The closest town to the Project is Huron, roughly 4 miles to the north; the city of Coalinga is 12 miles west of the Project site and Kettleman City is 13 miles south. Interstate 5 (I-5) bisects the valley (north to south); the southerly Project parcel boundary is located approximately 1,700 feet northeast of I-5. The valley is a low-elevation flatland basin that has been altered to support agriculture. Rivers in the region, such as the San Joaquin River and the Kings River, have been greatly altered over time and now support the larger regional water conveyance system created for agricultural use. The topography is relatively flat, but elevations gradually rise toward the east, south, and west. The topographic characteristics of the Project site and surrounding region allow for open, expansive views of hills and mountains around the valley.

### 3.2.1.2 Environmental Setting

Environmental conditions discussed in this section include the regional and local visual environment; sources of light and glare within the Project vicinity; sensitive visual receptors; the visual quality of the study area; and KOPs selected to illustrate existing environmental conditions.

As shown in Figure 3.2-1, existing and surrounding land use consists of agricultural land, solar farms, and the PG&E Gates Substation northeast of the Project site. The northern parcel (Assessor's Parcel Number [APN] 085-040-58S) is flanked by orchards to the west and row crops of fallow fields to the east. The existing Fifth Standard solar development is directly north of West Jayne Avenue. An existing gen-tie line (owned by PG&E) runs from south to north along the western boundary of the northern parcel; two existing high-voltage overhead transmission

lines extend along the eastern boundary of the Project site. Shielded security lighting is present at the PG&E Gates Substation and the Fifth Standard solar development under existing conditions. The Project's southern adjacent parcels (APNs 085-040-37S and 085-040-36S) are bounded by orchards to the south, a solar array to the west, and fallow agricultural fields to the east.

### ***Regional Visual Character***

The visual character of the Project site and surroundings represents a combination of agricultural and industrial elements. The generally rural landscape is dominated by open agricultural views interspersed with more industrial and developed elements, notably including existing industrial-scale solar facilities and power lines, machinery, buildings, and structures associated with residential and agricultural operations. The mix of rural agricultural views along with views of existing solar facilities, substation infrastructure, and electrical transmission and distribution lines in the Project vicinity are representative visible elements in the region.

### ***Viewer Types and Exposures***

Public viewer groups evaluated for this analysis include motorists along West Jayne Avenue and I-5. For each viewer group analyzed, viewer exposure conditions were evaluated based on traffic information along local roadways, as described in Section 3.17, *Transportation*. The Project would not be visible from other major or scenic roadways, or from parks or recreational areas.

Variables considered include the angle of view, the extent to which views are open or screened, the duration of view, and viewing distance. Viewing angle and extent of visibility consider the relative location of the Project site to the viewer and whether visibility would be open or panoramic, or would be limited by intervening elements such as vegetation, structures, or terrain. Duration of view pertains to the amount of time a subject would typically be seen from an observational point. In general, the duration of view is shorter where a subject would be seen briefly or intermittently (such as from major travel routes and recreation destination roads) and greater in instances where the subject would be seen regularly and repeatedly (such as from public use areas). Viewing distances are described according to whether the subject would be viewed within a foreground zone (within 0.5 mile), middle-ground zone (0.5 mile to 2 miles), or background zone (beyond 2 miles).

### ***Scenic Vistas***

Based on review of the Fresno County General Plan, there are no officially designated scenic vistas in the study area or Project vicinity. Additionally, Google Earth was used to search for any natural, elevated scenic vistas near the Project site. There are no parks or other (undesignated) scenic vistas within 3 miles of the Project site. Because of the flat topography of the region and Project vicinity, there are no unique, elevated areas within the vicinity of the Project site where high-quality views would be available.

### ***Scenic Roadways***

The major north-south roadway in the region is I-5, a four-lane divided interstate highway located approximately 1,700 feet southwest of the Project site at the closest point. I-5 is designated in the Fresno County General Plan as a County-designated scenic highway (Fresno County 2000). Other

than I-5, there are no scenic highways in the study area (Caltrans 2022a, 2022b; Fresno County 2000). There are no designated state-designated or eligible scenic highways in the region. The closest designated state scenic highway is a segment of State Route (SR) 180 east of Fresno, more than 50 miles east of the site.

### ***Representative Photographs***

Representative photographs and views of the Project vicinity from the KOPs are provided as **Figures 3.2-2** and **3.2-3**. Figure 3.2-2 shows two views (Photos A and B looking east and southeast, respectively) along West Jayne Avenue. Photograph A is representative of public views available to motorists traveling east along West Jayne Avenue, east of I-5. Within the foreground view are a fallow field, a drainage ditch, and overhead power lines supported by wooden poles along the northern boundary of the Project site. An intervening orchard obscures potential views of the Project site. Distant views of existing high-voltage electric transmission infrastructure are available in the background. Photograph B is closer to the Project site and shows the existing orchard in the foreground with agricultural fencing and similar electric infrastructure in the background.

Figure 3.2-3 shows three views in closer proximity to the northern border of the Project site. Photograph C is a view looking east on West Jayne Avenue. Electric transmission infrastructure is visible in the middle and background views, with a small substation visible above the orchard's tree line to the right in the view. Photograph D is a view looking south directly across the open extent of the Project site, with existing transmission and distribution lines visible on the eastern (left) side of the viewshed and a distant hill on the horizon. Photograph E is representative of views for westbound motorists traveling along West Jayne Avenue. Agricultural crops, irrigation pipes, and a drainage canal are visible on the relatively open south side of the road; electrical infrastructure dominates the middle-ground view with distant hills along the horizon barely visible in the background. As depicted in the representative photos, a combination of agricultural and industrial elements is visible in the site vicinity under existing conditions.

### **3.2.1.3 Regulatory Setting**

#### ***Federal***

No federal regulations governing aesthetic or scenic resources apply to the Project.

#### ***State***

##### **California Department of Transportation Scenic Highway Program**

The California Department of Transportation manages the State Scenic Highway Program and provides guidance to local governments, community organizations, and citizens pursuing official designation of a State Scenic Highway. The Scenic Highway Program was introduced by the California Legislature in 1963 and established through Senate Bill 1467, which added Sections 260–263 to the Streets and Highways Code. These statutes establish the State of California's responsibility to protect and enhance California's natural scenic beauty by identifying those portions of the State Highway System that, together with adjacent scenic corridors, require



Photograph A: View looking east on W. Jayne Avenue



Photograph B: View looking southeast on W. Jayne Avenue

D:\2022\00028.00 - NextEra-Key Energy Storage Project\05 Graphics-GIS-Modeling-USE AZURE\Illustrator

SOURCE: NextEra, 2022

Key Energy Storage Project

**Figure 3.2-2**  
 Representative Photos A and B  
 (Looking east and southeast on W. Jayne Ave.)





Photograph C: View looking east on W. Jayne Avenue



Photograph D: View looking south directly at the Project site from W. Jayne Avenue



Photograph E: View looking west on W. Jayne Avenue

SOURCE: NextEra, 2022

Key Energy Storage Project

**Figure 3.2-3**

Representative Photos C, D and E

(Looking east, south and west on W. Jayne Ave.)

special conservation treatment. Scenic corridors consist of land visible from, adjacent to, and outside the highway right-of-way, and consist primarily of scenic and natural features. Topography, vegetation, viewing distance, and/or jurisdictional boundaries determine the corridor boundaries (Caltrans 2022a).

### **California Public Utilities Commission General Order No. 131-D**

The California Public Utilities Commission (CPUC) would have sole and exclusive jurisdiction over PG&E's construction, operation, and maintenance of the PG&E infrastructure and improvements needed to connect the Project to the grid because it regulates activities undertaken by PG&E and the other investor-owned public utilities in the state. PG&E's work (as regulated by CPUC) would not be subject to the County's or Kern County's regulation of aesthetics or visual resources. However, CPUC General Order No. 131-D, Section XIV.B, would require PG&E to "consult with local agencies regarding land use matters," potentially including impacts on visual resources.

## **Local**

### **County of Fresno General Plan**

The Open Space and Conservation Element of the Fresno County General Plan evaluates the scenic resources of Fresno County and provides policies intended to protect the county's scenic resources and ensure that development enhances those resources through methods such as identification, development review, and acquisition (Fresno County 2000). According to this element, the Project site has not been identified as a scenic resource.

The Fresno County General Plan also includes policies intended to protect scenic resources along county roadways by identifying, developing, and maintaining scenic amenities along roads and highways and ensuring that development enhances those resources. According to Policy OS-L.1, Fresno County has designated a system of scenic roadways that includes landscaped drives, scenic drives, and scenic highways. According to this element, the only designated scenic roadway in the vicinity of the Project site is I-5. Figure 3.2-1 shows I-5 relative to the Project site. Because of the angle of view (or cone of vision), intervening orchards, and the distance of the site from I-5, the Project site would not be generally visible from motorists traveling along I-5. No other scenic resources or vistas are identified in the General Plan.

The following goals and policies of the Fresno County General Plan related to aesthetics are relevant to the Project.

#### **Policy K. Scenic Resources**

**Goal OS-K:** To conserve, protect, and maintain the scenic quality of Fresno County and discourage development that degrades areas of scenic quality.

**Policy OS-K.1:** The County shall encourage the preservation of outstanding scenic views, panoramas, and vistas wherever possible. Methods to achieve this may include encouraging private property owners to enter into open space easements for designated scenic areas.

**Policy OS-K.4:** The County should require development adjacent to scenic areas, vistas, and roadways to incorporate natural features of the site and be developed to minimize impacts to the scenic qualities of the site.

#### Policy L. Scenic Roadways

**Goal OS-L:** To conserve, protect, and maintain the scenic quality of land and landscape adjacent to scenic roads in Fresno County.

**Policy OS-L.1:** The County designates a system of scenic roadways that includes landscaped drives, scenic drives, and scenic highways.

**Policy OS-L.3:** The County shall manage the use of land adjacent to scenic drives and scenic highways based on the following principles: ... b. Proposed high voltage overhead transmission lines, transmission line towers, and cell towers shall be routed and placed to minimize detrimental effects on scenic amenities visible from the right-of-way.

### 3.2.2 Significance Criteria

The Project would result in significant impacts on aesthetics if it would:

- a) Have a substantial adverse effect on a scenic vista;
- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point); or, if the project is in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality; or
- d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.

### 3.2.3 Direct and Indirect Effects

#### 3.2.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of them, the actions described in Section 2.5.9.1, *Glare and Lighting*, are relevant to this analysis of aesthetics.

#### 3.2.3.2 Methodology

This visual impact assessment identifies and assesses any short- and long-term adverse visual impacts on aesthetics and visual resources that could result from implementation of the Project. In the absence of a generally approved state or local system for evaluating the significance of potential impacts on aesthetics, this assessment included the following steps:

- (1) Identification of Project components that could affect representative views in the study area in terms of visual quality, character, and levels of light and glare. This identification was



informed by plans, descriptions, and simulations provided by the Applicant; Google Earth Pro aerial images and street-level photography; Fresno County Geographic Information System topographic and land use data; and U.S. Geological Survey topographic data.

- (2) Assessment of the Project's impacts on identified views through an evaluation of potential Project-caused changes to the affected area's baseline visual quality and character.

A significant visual impact may occur when a project does any of the following:

- (1) Perceptibly changes the existing physical features of the landscape that are characteristic of the region or locale.
- (2) Introduces new features to the physical landscape that are perceptibly uncharacteristic of the region or locale or become visually dominant in the viewshed.
- (3) Blocks or totally obscures valued aesthetic features of the landscape.

The degree of visual impact depends on the extent to which the visual change is noticeable, in conjunction with the site's visual sensitivity. The noticeability of a visual impact is a function of a project's features, context, and viewing conditions (angle of view, distance, and primary viewing directions). The key factors in determining the degree of visual change are visual contrast, project dominance, and view blockage. For the purposes of this analysis, the study area is defined as the visible landscape within a 2.5-mile radius of the Project site.

### 3.2.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would have a substantial adverse effect on a scenic vista.

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The Project would not have a substantial adverse effect on a scenic vista. The Project would add industrial elements to a landscape with other electrical and solar infrastructure. As discussed in Section 3.2.1.2, *Environmental Setting*, there are no parks and no designated or undesignated scenic vistas in the study area. The only public views of the Project site would be experienced by motorists traveling along West Jayne Avenue. For these reasons, the Project would have no impact on a scenic vista. (*No Impact*)

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**Criterion b)** Whether the Project would substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

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The Project would not damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. The Project site has been used for agricultural production. There are no historic buildings on the site and no natural resources such as rock outcroppings, or trees other than those planted for agricultural purposes. Project implementation would require the removal of existing trees and vegetation, but these trees are not considered scenic resources, per se.

There are no designated California state scenic highways near the Project site. The portion of SR 180 from the eastern edge of Fresno to Cedar Grove in Kings Canyon National Park is Fresno County's only officially designated state scenic highway. This portion of SR 180 is located more than 50 miles from the Project site. The California Scenic Highway Mapping System identifies four highway segments that are potentially eligible for future designation as scenic highways (Caltrans 2022a). Portions of SR 198, approximately 15 miles northwest of the Project site, and SR 33, 13 miles west of the Project site, are eligible for California State Scenic Highway designations. However, the Project site is not located within the viewshed of any of these eligible segments. Therefore, no impact on such resources would occur. (*No Impact*)

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**Criterion c)** Whether the Project would substantially degrade the existing visual character or quality of public views of the site and its surroundings.

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**Impact 3.2-1: The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. (*Less-than-Significant Impact*)**

Appendix G, Section I (Aesthetics) of the CEQA Guidelines suggests that “in non-urbanized areas,” a project would have a significant effect on the environment if it would “substantially degrade the existing visual character or quality of public views of the site and its surroundings.” *Public views* are defined for purposes of this evaluation as “those that are experienced from publicly accessible vantage point.” A different consideration is suggested if a project would be located in an urbanized area. The Project is not proposed for location in an area that meets the CEQA definition of “urbanized”<sup>1</sup> (Public Resources Code Section 21071). The closest city to the study area is Huron, which has a population of 5,700 people and is more than 4 miles to the north. The Project site is not located within the urbanized area of Huron. Therefore, the following analysis focuses on the potential for the Project to substantially degrade the existing visual character or quality of public views of the site and surroundings.

**Construction and Decommissioning**

Project construction activities and the presence of equipment would introduce a level of activity and visual change to the Project site during the various construction phases. As described in Section 3.2.1.2, *Environmental Setting*, the existing visual character of the Project site represents a combination of agricultural and industrial elements. Construction of the Project would involve earthwork, grading, and the construction, erection, and installation of facility equipment and infrastructure. Decommissioning would include the removal of structures and demolition of foundations, but would involve a similar use of (construction) equipment. These activities would require the presence and movement of delivery trucks, vehicles, and construction equipment and materials. Additionally, construction and decommissioning activities would require the use of storage, staging, and active work areas, presenting a temporary yet observable visual change to the site. However, because rural and industrial elements are present in the Project vicinity, there

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<sup>1</sup> California Public Resources Code Section 21071 defines *urbanized area* as an incorporated city with a population of at least 100,000 persons or a combined population of 100,000 persons, if two contiguous incorporated cities are present.

would not be a substantial visual change with the temporary introduction of Project construction materials or equipment. Therefore, the visual change observed during construction and decommissioning would not create a visual contrast or otherwise substantially degrade the visual character or quality of the site. The impact relative to construction and decommissioning activities would be less than significant.

### **Operation and Maintenance**

The Project would be developed in a non-urbanized area with existing industrial elements, including the existing solar facilities, transmission lines, and existing facilities of the PG&E Gates Substation. This analysis focuses on the potential effects of adding Project structures, and on overall visual change that could affect the public's experience of this locally designated scenic route. Public views of the site are experienced by travelers with low visual sensitivity to features in the background view (while traveling on I-5 at high speeds) or with moderate sensitivity (while traveling along other major roadways at lower speeds in the study area).

I-5 is a Fresno County (locally designated) scenic highway, and scenic views are available to motorists traveling along this route. Motorists appear to be able to view the Project site from West Jayne Avenue, but views of the site from along I-5 are very limited given the angle of view and intervening orchards. Moreover, the duration of views from I-5 would be very brief and viewer sensitivity low because of the speed at which motorists travel along the interstate. The visual resources assessment conducted for the Project determined that the Project would not be visible to motorists traveling on southbound I-5 north of the Project site, because of the presence of an existing solar facility and mature orchard within the intervening distance (Appendix M, Figure 9). Immediately south of the solar facility, there is an unobstructed view of the Project site from I-5 for approximately 0.10 mile. At a speed of 60 miles per hour, the 0.10 mile of unobstructed view could be visible for approximately 6 seconds. However, the visual assessment concluded that motorists would have to look directly west to see the site. As depicted in Figure 3.2-1, the Project site does not appear to be within the anticipated 60-degree cone of vision for motorists traveling on I-5. Because the Project site is outside of the 60-degree cone of vision, the Project would not generally be visible to motorists traveling on I-5.

To evaluate and illustrate a potential visual impact for the Project's two battery storage options, visual simulations were prepared from the perspective of KOP-1 and KOP-2 along West Jayne Avenue. The analysis considers the potential visual change from the identified KOPs (Figure 3.2-1) for the two energy storage system configuration options (the Lithium-Ion Battery Option and the Lithium-Ion and Iron-Flow Option). **Figures 3.2-4 through 3.2-7** display representative and simulated views of the two options from these KOPs.



**Photograph 1.** Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue.



**Photograph 2.** Simulated view after construction of the proposed lithium-ion battery option.

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SOURCE: NextEra, 2022

Key Energy Storage Project

**Figure 3.2-4**  
KOP 1 Lithium Ion Battery Option  
(representative view and visual simulation)





**Photograph 1.** Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue, approximately 0.2 mile east of the Project site.



**Photograph 2.** Simulated view after construction of the proposed lithium-ion battery option.

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SOURCE: NextEra, 2022

Key Energy Storage Project

**Figure 3.2-5**  
KOP 2 Lithium Ion Battery Option  
(representative view and visual simulation)





**Photograph 1.** Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue.



**Photograph 2.** Simulated view after construction of the proposed iron flow and lithium-ion battery option.

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SOURCE: NextEra, 2022

Key Energy Storage Project

**Figure 3.2-6**

KOP 1 Iron Flow and Lithium Ion Battery Option  
(representative view and visual simulation)



**Photograph 1.** Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue, approximately 0.2 mile east of the Project site.



**Photograph 2.** Simulated view after construction of the proposed iron flow and lithium-ion battery option.

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SOURCE: NextEra, 2022

Key Energy Storage Project



Under either option, the Project site would be surrounded by a 7-foot-tall chain-link security fence with an additional foot of three-strand barbed wire extension at the top. In addition, the on-site substation would be surrounded by an approximately 8-foot-tall perimeter security fence with an additional foot of three-strand barbed wire extension at the top. The Project would retain a 50-foot buffer between the facilities and surrounding properties, consistent with the Fresno County Solar Guidelines. Within the buildable footprint, the Project would add energy storage structures to the site in a configuration dependent on the type of battery system selected. For the lithium-ion and iron-flow option, the Project's energy storage facilities would include an open-air substation, energy storage system enclosures, power conversion system enclosures, electrolyzer tanks, energy storage system power train enclosures, auxiliary transformers and power load centers, a supervisory control and data acquisition (SCADA) system, a 500-kilovolt (kV) overhead service line to extend north to the PG&E Gates Substation installed on concrete or steel pole structures up to 150 feet tall, gravel access lanes, and other ancillary facilities and/or equipment.

**Figure 3.2-4** depicts a representative view (Photograph 1) and a simulated view of the lithium-ion battery option (Photograph 2) from KOP-1 looking west-southwest toward the Project site from West Jayne Avenue approximately 1 mile. From this perspective, the lithium-ion energy storage system option would be moderately visible to motorists traveling west on West Jayne Avenue in the middle-ground view along the horizon.

**Figure 3.2-5** depicts a representative view (Photograph 1) and a simulated view of the lithium-ion battery option (Photograph 2) from KOP-2 (looking west-southwest from westbound West Jayne Avenue) in closer proximity, approximately 1,000 feet from the Project site. As displayed in this simulation from KOP-2, the Project's substation and electrical infrastructure near the proposed site entrance would add industrial elements to the landscape. Additionally, the lithium-ion energy storage system structures would be visible in the middle-ground view along the horizon, introducing a moderate visual change to the landscape.

**Figure 3.2-6** depicts a representative view (Photograph 1) and a simulated view of the lithium-ion and iron-flow option (Photograph 2) from KOP-1, approximately 1 mile from the Project site. As shown in the simulation from KOP-1, the lithium-ion and iron-flow option structures would be moderately visible along the middle-ground horizon from KOP-1. This energy storage system option introduces a moderate visual change from this perspective.

**Figure 3.2-7** depicts a representative view (Photograph 1) and a simulated view of the lithium-ion and iron-flow option (Photograph 2) from KOP-2, in closer proximity approximately 1,000 feet from the Project site. As shown in the simulated view, industrial structures would be visible all along the horizon under this energy storage system option, and a cluster of industrial features (including the proposed substation) would be visible near the proposed entrance at West Jayne Avenue. The lithium-ion and iron flow option would introduce a moderate to moderately high visual change from this perspective, which is a relatively higher visual change than under the lithium-ion battery option.

Compared to the lithium-ion energy storage system option, the lithium-ion and iron flow option would introduce more highly visible structures to the site, and thus would introduce the highest



level of visual change to public views available along West Jayne Avenue. However, because the site is not considered visually sensitive, the introduction of these structures would not result in significant impacts and no mitigation is required. Impacts would be less than significant.

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, interconnection infrastructure would be needed for the Project. It would include four lattice steel towers designed to resemble existing towers in and near the existing PG&E Gates Substation. These towers would be highly visible to motorists traveling on West Jayne Avenue; however, because they would be designed to resemble existing structures, they would not introduce a significant visual change compared to existing conditions. The existing Gates Substation would be expanded as described in Section 2.5.10.1, *Gates Substation Modifications*, by approximately 2.6 acres. Modifications would include replacing the precast security wall to extend it by 200 feet to tie the new security wall into the existing security walls located on the north and south sides of the 500 kV yard, relocating and/or modifying existing security towers to accommodate the new wall, and potentially also to remove portions of the PG&E solar station that currently is located west of the substation. The replacement wall would integrate with existing infrastructure reducing interruptions in site lines, and so would not introduce a significant visual change compared to existing conditions. Necessary modifications to the Midway Substation are described in Section 2.5.10.2, *Midway Substation Modifications*, and would include replacing some existing features with substantially similar new ones and upgrading the existing 4-inch bus structure to 6 inches. Given the minor nature of these changes, changes at the Midway Substation would not introduce a significant visual change compared to existing conditions. As a result, impacts associated with these structures and the modifications to existing PG&E facilities at the Gates and Midway substations would be less than significant.

**Mitigation:** None required.

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**Criterion d)** Whether the Project would create a new source of light and glare which would adversely affect day or nighttime views in the area.

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**Impact 3.2-2: The Project would not create a new source of light and glare that would adversely affect day or nighttime views in the area. (*Less-than-Significant Impact*)**

The Project would be in a rural environment with minimal existing light pollution under existing conditions. Although new sources of light and glare in such an environment would have a relatively large effect, the Project would not require extensive lighting and there are very few receptors nearby. As described in Section 2.5.5.4, security lighting, less than 14 feet tall, would be installed at the access gate and entrance to the energy storage structures. Applicant proposed measures to limit glare are included as part of the overall design, as described in Section 2.5.9.1 and summarized here. Lighting would be activated through a motion sensor or manual switch and would be on only when personnel are present. Lighting would be installed only in areas necessary for operations, security, and safety. All necessary lighting would be shielded downward to minimize its impact on surrounding properties and light pollution.

Because the Applicant has proposed measures such as shielding to limit unnecessary light or glare from the site (see Section 2.5.9.1, *Glare and Lighting*), impacts under this criterion would be less than significant. With implementation of the applicant proposed measures, no mitigation is required.

**Mitigation:** None required.

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above and would result in a less-than-significant impact.

Incremental impacts specific to the PG&E work would, like the Project, be less-than-significant impacts related to substantial degradation of the existing visual character or quality of public views of the site and its surroundings. Also like the Project as a whole, the PG&E work would cause no impact related to a substantial adverse effect on a scenic vista or substantial damage of scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway. No lighting is proposed to be introduced as a result of interconnecting the Project or as part of the Gates Substation or Midway Substation modifications, and so the PG&E Infrastructure would have no impact due to the creation of a new source of light or glare that would adversely affect day or nighttime views in the area.

**Mitigation:** None required.

## **3.2.4 Cumulative Effects Analysis**

Because the Project would have no impact related to a substantial adverse effect on a scenic vista or to substantial damage of scenic resources within a state scenic highway, the Project could not cause or contribute to any cumulative impact regarding these considerations.

### **Impact 3.2-3: The Project would not cause a cumulatively considerable contribution to any significant adverse impact on aesthetic resources. (*Less-than-Significant Impact*)**

The study area for this analysis of cumulative impacts includes the site and surroundings within a 15-mile radius of the proposed Project, which represents a visual scenario that extends into the background view upon flat terrain in an existing rural agricultural and industrial region. The temporal scope for a consideration of cumulative effects is considered the proposed 40-year term of the requested conditional use permit, during which the Project would be constructed in phases, operated and maintained, and then decommissioned. Decommissioning is proposed to occur in a phased manner and would include the removal of aboveground structures from the Project site. This analysis considers recently constructed renewable energy projects, and reasonably

foreseeable future projects such as those proposed in southern Fresno County and identified in Table 3.1-1, *Cumulative Projects List*, in Section 3.1, *Introduction to Environmental Analysis*.

The existing visual character or quality of public views could be affected by direct and indirect effects of the Project, including the temporary presence of construction equipment and materials and the permanent addition of energy storage infrastructure and associated electrical interconnection facilities, once operational. As noted under Impact 3.2-3, Project interconnection would also add structures such as 200-foot-tall lattice steel towers that would be similar in design to those in the existing visual landscape adjacent to the Gates Substation. The Project would contribute an incremental impact by adding these and other Project structures, such as energy storage enclosures, into the visual landscape. However, because the site is not considered visually sensitive or scenic in character, the introduction of the proposed structures would not substantially degrade the existing quality of public views or the visual character of the surroundings. When the Project's incremental impact is considered along with the incremental impacts of the past, present, and reasonably foreseeable future projects listed in Table 3.1-1, *Cumulative Projects List*, no significant adverse cumulative impact would result. The combined features present in the physical landscape would not be perceptibly uncharacteristic of the region or locale and would neither visually dominate the viewshed nor block or totally obscure valued aesthetic features of the landscape. The Project's incremental, less-than-significant impact would not be cumulatively considerable.

Regarding light and glare, the Project is proposed in a rural location with existing, proposed, and reasonably foreseeable future industrial-scale renewable energy developments. These types of developments tend to add incremental sources of light and glare to an otherwise rural environment. However, there are few residences nearby. As discussed in Impact 3.2-2, the Project would add motion detection or manual, shielded lighting as necessary for the security of the proposed energy storage systems and related infrastructure. The contribution of the proposed lighting would result in less-than-significant impacts, in part because few receptors are nearby and because the design measures would limit their effects on the surroundings. As noted in Impact 3.2-2, the Applicant has proposed measures such as shielding to limit unnecessary light or glare from the site (see Section 2.5.9.1, *Glare and Lighting*). Because all necessary lighting would be shielded downward to minimize its impact on surrounding properties, the light pollution impacts under this criterion would be less than significant. The incremental contribution of this lighting would not combine with existing sources of light and glare to result in impacts that would be cumulatively considerable. The cumulative impact would be less than significant.

**Mitigation:** None required.

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### 3.2.5 References

Caltrans (California Department of Transportation), 2022a. List of eligible and officially designated State Scenic Highways. Available: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed November 16, 2022.

Caltrans, 2022b. List of Officially Designated County Scenic Highways. Available: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>. Accessed November 16, 2022.

Fresno County, 2000. *Fresno County General Plan*. Open Space and Conservation Element. Approved October 2000. Available: [http://www2.co.fresno.ca.us/4510/4360/General\\_Plan/GP\\_Final\\_policy\\_doc/Open\\_Space\\_Element\\_rj.pdf](http://www2.co.fresno.ca.us/4510/4360/General_Plan/GP_Final_policy_doc/Open_Space_Element_rj.pdf).

## 3.3 Agriculture and Forestry Resources

This section identifies and evaluates issues related to agricultural resources (including specific categories of farmland shown on maps prepared by the California Department of Conservation pursuant to the Farmland Mapping and Monitoring Program [FMMP], property zoned for agricultural use, and Williamson Act program resources) and forestry resources (including forest land and timberland). It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used in evaluating these impacts, and reports the results of the impact assessment.

The County received scoping input from the California Department of Conservation, Division of Land Resource Protection, and the Fresno County Development Services and Capital Projects Division, Policy Planning Unit, regarding the Project's potential impacts on agricultural resources. The specific input received related to potential impacts and mitigation measures regarding the Project site's designation as Prime Farmland and enrollment in the Williamson Act program. Copies of the letters are provided in Exhibit E of **Appendix A, Scoping Report**. The County received no scoping input regarding forestry resources.

The analysis in this section is based in part on the Project-specific, site-specific Land Evaluation and Site Assessment (LESA) prepared on the Applicant's behalf (**Appendix C, Agricultural Resources**). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed the LESA (and other materials prepared by or on behalf of the Applicant) and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.3.1 Setting

#### 3.3.1.1 Study Area

The study area for agriculture and forestry resources includes farmland within Fresno County (including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, as shown on maps prepared pursuant to the FMMP), and forest land and timberland within Fresno County meeting the definitions provided below. For purposes of the LESA modeling, the study area includes the 318 acres within APNs 085-040-58, 085-040-36, and 085-040-37 (even though only approximately 260 acres would be developed for Project purposes) plus the Project's "zone of influence," which is defined to include the Project site and the surrounding 0.25-mile area.

#### 3.3.1.2 Environmental Setting

##### ***Agricultural Resources***

The Project site is located on lands with a Fresno County General Plan land use designation of Agriculture, and a zoning designation of AE-40 (Exclusive Agriculture, 40-acre minimum parcel) pursuant to Section 816 of the Fresno County Code. The AE District is intended as an exclusive agricultural district for uses necessary integral to an agricultural operation. The entire Project site

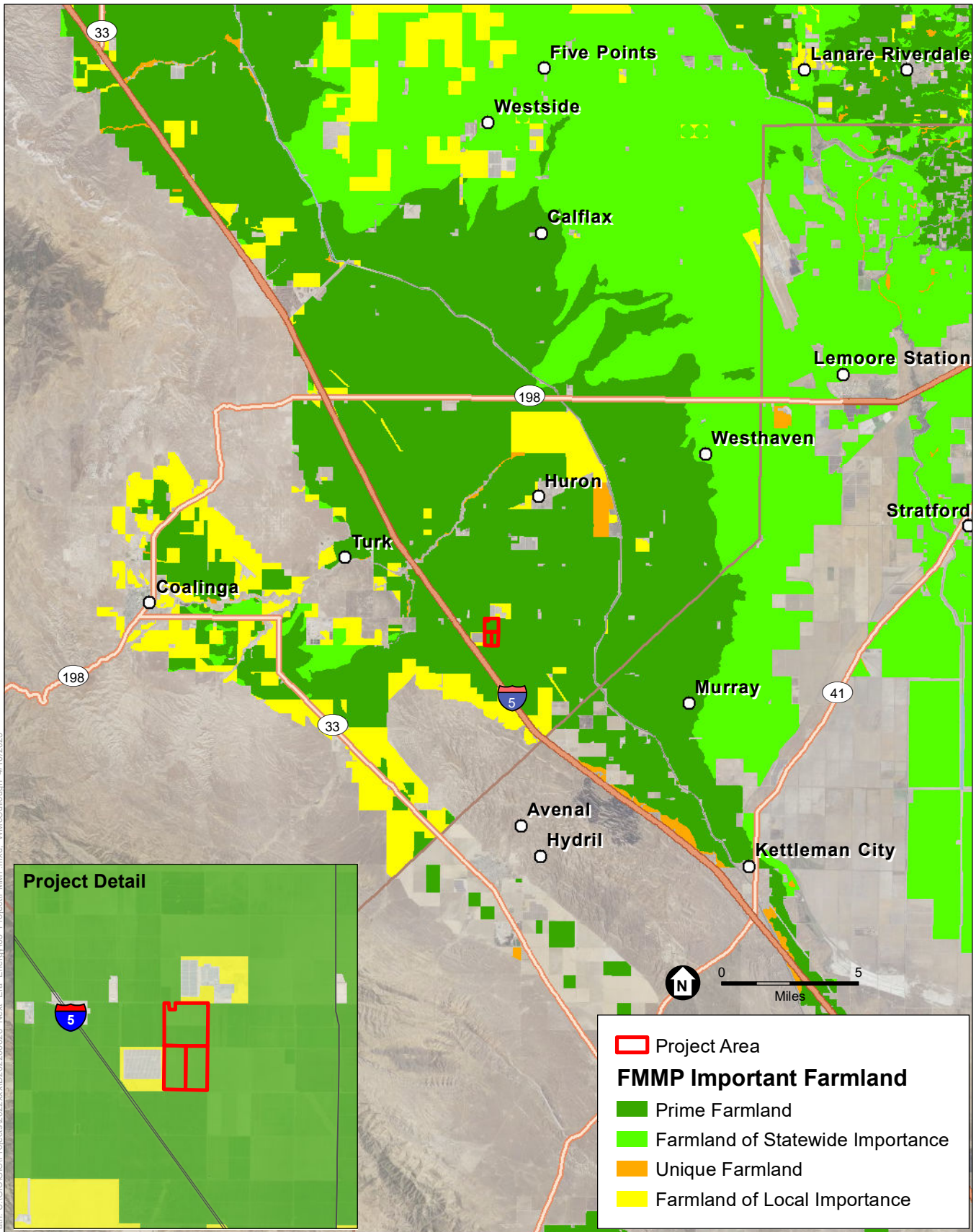
is proposed on land designated as Prime Farmland pursuant to the FMMP (DOC 2020). **Figure 3.3-1** depicts the FMMP-mapped farmland within Fresno County.

The parcels proposed for Project use have historically and recently been used for agricultural purposes. Recent on-site land uses on the northernmost Project parcel (APN 085-040-58) have included irrigated agricultural production (orchard crops such as citrus and almonds). Recent on-site land uses on the southern half of the project site have included non-irrigated winter wheat (APN 085-040-37), and fallowed land (APN 085-040-36). Dirt roads form the eastern, western, and southern site boundaries, with the paved West Jayne Avenue forming the northern boundary, and two dirt roads cross east-west through the site.

All of the soils on the Project site are well-suited to agricultural use and consist of Westhaven loam (irrigated and non-irrigated), Kimberlina sandy loam (irrigated and non-irrigated), and Wasco sandy loam. Of the three types, the highest quality soils (Westhaven loam) are located predominately within the northernmost parcel (APN 085-040-585). The allocation of soil types within the Project site are shown in Appendix C Figure 3, *Project Site Soils*.

Agricultural use of the Project site can be constrained by water resource availability under exiting environmental conditions. The southern half of the Project site (APNs 085-040-36 and 085-040-37) is fallow and requires irrigation infrastructure to provide water from WWD. No groundwater is available to these parcels from on-site wells. Water allocation from WWD varies from year to year. For example, due to the low storage currently available in the Central Valley Project (CVP) reservoirs, which is one of the sources that supplies WWD, it was determined that the projected 2022-2023 CVP contract allocation would be 0 percent (Appendix C). As a result, while irrigated crop production could be feasible on the southern half of the Project site, there exists both a physical restriction (lack of water) and an economic restriction (cost of sourcing water from elsewhere) in this location during both drought and non-drought years.

The northernmost Project parcel (APN 085-040-58) is irrigated with water allocated by WWD and by water from on-site groundwater well located on the parcel. As a result, there would not be physical or economic restrictions to water resource availability to this parcel during non-drought years. However, during drought years, the lack of available water from WWD imposes a physical restriction that could require excess groundwater to be pumped to make up for losses in surface water supplies. Thus water resource availability to the northernmost Project parcel would be subject to an economic restriction. (Appendix C).



SOURCE: ESA, 2022, CDOC, 2020

NextEra- Key Energy Storage Project

**Figure 3.3-1**  
FMP Mapped Farmland in Fresno County

According to Fresno County Assessor’s parcel maps, the northernmost Project parcel (APN 085-040-58) is subject to a Williamson Act contract while the southern half of the Project site (APNs 085-040-36 and 085-040-37) is not. Within 0.25-mile of the Project site, the Williamson Act contract status of adjacent parcels is as follows:

- To the north, one adjacent parcel (APN 075-060-66) is subject to a Williamson Act contract, while the Gates Substation site (APNs 075-060-45 and 075-060-18) is not subject to a Williamson Act contract.
- To the east, one adjacent parcel (APN 085-050-01) is subject to a Williamson Act contract.
- To the south, one adjacent parcel (APN 085-040-024) is subject to a Williamson Act contract, and one parcel (APN 085-050-049) is not subject to a Williamson Act contract.
- To the west, the parcel adjacent to the northernmost Project parcel (APN 085-040-05) is subject to a Williamson Act contract while the parcel between the southern half of the Project site and an existing solar facility (APN 085-040-060) is not subject to a Williamson Act contract.

Neither the Gates Substation site nor the Midway Substation site is used for agricultural purposes, is mapped as Farmland, or is subject to a Williamson Act contract.

### ***Forestry Resources***

The Project site does not contain any land defined as forest land (as defined by Public Resources Code [Pub. Res. Code] Section 12220[g]), timberland (as defined by Pub. Res. Code Section 4526), or land zoned Timberland Production (as defined by Government Code Section 51104[g]). No trees are located on the Project site. Almost all lands available for timber production in Fresno County lie within the southern part of Sierra National Forest and the northern portion of Sequoia National Forest (Fresno County 2000); these forests are located far from the Project site.

### **3.3.1.3 Regulatory Setting**

#### ***Federal***

No federal plans or regulations apply to the Project’s analysis of agriculture or forestry resources.

#### ***State***

##### **California Farmland Mapping and Monitoring Program**

The California Department of Conservation’s FMMP provides a classification system for farmland based on technical soil ratings and current land use. The minimum land use mapping unit is 10 acres unless specified; smaller units of land are incorporated into the surrounding map classifications. The Project would be in a location classified as Prime Farmland (DOC 2020).

For the purposes of this environmental analysis, the term *Farmland* refers to the FMMP map categories *Prime Farmland*, *Unique Farmland*, and *Farmland of Statewide Importance* (hereafter collectively referred to as “Farmland”). Generally, any conversion of land from one of these



categories to a lesser quality category or a non-agricultural use would be considered to be an adverse impact. These map categories are defined as follows (DOC 2019):

**Prime Farmland:** Land which has the best combination of physical and chemical features able to sustain long term agricultural production. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

**Farmland of Statewide Importance:** Land that is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to hold and store moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

**Unique Farmland:** Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years prior to the mapping date.

A fourth category is *Farmland of Local Importance*, which in Fresno County includes all farmable lands that do not meet the definitions of Prime, Statewide, or Unique. This includes land that is or has been used for dryland farming, irrigated pasture, confined livestock and dairy, poultry facilities, aquaculture, and grazing land. A fifth category is *Grazing Land*, which was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities and describes land on which the existing vegetation is suited to the grazing of livestock (DOC 2023a). Public Resources Code Section 21060.1 does not include either Farmland of Local Importance or Grazing Land in the definition of *agriculture*.

In California, land must meet at least one of the five criteria set forth below to qualify as prime agricultural land (Government Code Section 51201):

- (1) All land that qualifies for rating as class I or class II in the Natural Resource Conservation Service land use capability classifications.
- (2) Land which qualifies for rating 80 through 100 in the Storie Index Rating.<sup>1</sup>
- (3) Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre defined by the United States Department of Agriculture.
- (4) Land planted with fruit- or nut-bearing trees, vines, bushes, or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than two hundred dollars (\$200) per acre.

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<sup>1</sup> The *Storie index* is a method of soil rating based on soil characteristics (e.g., depth, texture, permeability, chemical characteristics, drainage, surface runoff, and climate) that govern the land's potential utilization and productivity capacity. A Storie index rating of 80–100 classifies the land as “excellent,” the highest range of the index.

- (5) Land which has returned from the production of unprocessed agricultural plant products an annual gross value of not less than two hundred dollars (\$200) per acre for three of the past five years.

Each of the three parcels that comprise the Project site qualifies for rating 80 through 100 in the Storie Index Rating. The Storie Index Rating value is 95 for Westhaven loam (109 acres of the 318 acre study area), 90 for Kimberlina sandy loam (196 acres of the study area), and 81 for Wasco sandy loam (13 acres of the study area). The Storie Index does not take into account irrigated vs non-irrigated land (Table 4 of Appendix C).

### **California Land Conservation Act of 1965 (Williamson Act)**

The Williamson Act, also known as the California Land Conservation Act of 1965 (Government Code Section 51200 et seq.), is the state’s primary program aimed at conserving private land for agricultural and open space uses. The Williamson Act provides a mechanism through which private landowners can contract with counties and cities to voluntarily restrict their land to agricultural and compatible open space uses. In return, Williamson Act contracts offer tax incentives to property owners by ensuring that land is assessed for retained farming and open space uses (as opposed to assessments based on full market value). Contracts typically restrict land use to agriculture for a period of 10 years.

The Williamson Act establishes that specified uses are compatible with Williamson Act contracting. See Government Code Section 51238(a), which states: “Notwithstanding any determination of compatible uses by the county or city pursuant to this article, unless the board or council after notice and hearing makes a finding to the contrary, the erection, construction, alteration, or maintenance of... electric... facilities are hereby determined to be compatible uses within any agricultural preserve. [¶] No land occupied by... electric... facilities shall be excluded from an agricultural preserve by reason of that use.” According to Section 51238.1, a lead agency may approve uses on contracted lands if they are consistent with the following principles of compatibility:

- (1) The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserves.
- (2) The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves.
- (3) The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.

In evaluating compatibility, a lead agency considers the impacts of the proposed use on noncontracted lands in the agricultural preserve or preserves.

Williamson Act contracts automatically renew on each anniversary date of the contract unless the landowner petitions for cancellation or nonrenewal of the entire contract or a portion of the contracted land, and the participating county (or city) serves notice of nonrenewal or cancellation. In the case of nonrenewal the contract ends after nine years. In the case of cancellation, the contract ends with immediate effect, with approval of the cancellation by the Board of

Supervisors. The landowner must submit a proposal that describes how the land will be used after a contract is cancelled along with a list of all relevant public agencies with permit authority over the proposed use(s). Public notice and an assessment of fees (cancellation valuation) are required to certify the cancellation (DOC 2022a). Additionally, a county or city may grant tentative approval of a cancellation if it makes certain findings, i.e., either that cancellation is consistent with the Williamson Act or that cancellation is in the public interest (Government Code Section 51282[a]).

Cancellation of a contract would be consistent with the purposes of the Williamson Act only if all of the following findings are made (Government Code Section 51282[b]):

- (a) That the cancellation is for land on which a notice of nonrenewal has been served pursuant to Government Code Section 51245.
- (b) That cancellation is not likely to result in the removal of adjacent lands from agricultural use.
- (c) That cancellation is for an alternative use which is consistent with the applicable provisions of the city or county general plan.
- (d) That cancellation will not result in discontinuous patterns of urban development.
- (e) That there is no proximate noncontracted land<sup>2</sup> which is both available and suitable<sup>3</sup> for the use to which it is proposed the contracted land be put, or, that development of the contracted land would provide more contiguous patterns of urban development than development of proximate noncontracted land.

### **California Farmland Conservancy Program of 1996**

The Division of Land Resource Protection administers the state-level California Farmland Conservancy Program, which widens the spectrum of agricultural land conservation options via the use of permanent agricultural conservation easements. The program protects and conserves agricultural lands through the administration of permanent agricultural conservation easements, provides a funding mechanism, and administers related technical assistance grant support for the purpose of agricultural protection (DOC 2023b).

### **California Public Resources Code**

Public Resources Code Section 12220(g) defines *forest land* as “land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.” Public Resources Code Section 4526 defines *timberland* as “land, other than land owned by the federal government..., which is

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<sup>2</sup> *Proximate, noncontracted land* means “land not restricted by contract pursuant to this chapter, which is sufficiently close to land which is so restricted that it can serve as a practical alternative for the use which is proposed for the restricted land” (Government Code Section 51282).

<sup>3</sup> In this context, *suitable* for the proposed use means that the salient features of the proposed use can be served by land not restricted by a Williamson Act contract. Such nonrestricted land may be a single parcel or may be a combination of contiguous or discontinuous parcels (Government Code Section 51282).

available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees.”

## **Local**

### **Fresno County General Plan**

The Agriculture and Land Use Element of the General Plan describes land use designations and development standards for land in unincorporated Fresno County, and establishes goals, policies, and programs related to agriculture and land use. The General Plan land use designation for the Project site is Agriculture, which provides for the production of crops and livestock, and for location of necessary agriculture commercial centers, agricultural processing facilities, and certain non-agricultural activities. No overlay designations apply to the Project site (Fresno County 2000). The following goal, policies, and program related to agriculture are applicable to the Project:

**Goal LU-A:** To promote the long-term conservation of productive and potentially productive agricultural lands and to accommodate agricultural-support services and agriculturally-related activities that support the viability of agriculture and further the County’s economic development goals.

**Policy LU-A.1:** The County shall maintain agriculturally-designated areas for agriculture use and shall direct urban growth away from valuable agricultural lands to cities, unincorporated communities, and other areas planned for such development where public facilities and infrastructure are available.

**Policy LU-A.2:** The County shall allow by right in areas designated Agriculture activities related to the production of food and fiber and support uses incidental and secondary to the on-site agricultural operation. Uses listed in Table LU-3 of the General Plan are illustrative of the range of uses allowed in areas designated Agriculture.

**Policy LU-A.3:** The County may allow by discretionary permit in areas designated Agriculture, special agricultural uses and agriculturally-related activities, including value-added processing facilities, and certain non-agricultural uses listed in Table LU-3. Approval of these and similar uses in areas designated Agriculture shall be subject to (a) through (d) of the following criteria:

- a. The use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics;
- b. The use should not be sited on productive agricultural lands if less productive land is available in the vicinity;
- c. The operational or physical characteristics of the use shall not have a detrimental impact on water resources or the use or management of surrounding properties within at least one-quarter (0.25) mile radius;
- d. A probable workforce should be located nearby or be readily available;

**Policy LU-A.12:** In adopting land use policies, regulations and programs, the County shall seek to protect agricultural activities from encroachment of incompatible land uses.

**Policy LU-A.13:** The County shall protect agricultural operations from conflicts with nonagricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.

**Policy LU-A.14:** The County shall ensure that the review of discretionary permits includes an assessment of the conversion of productive agricultural land and that mitigation be required where appropriate.

**Policy LU-A.16:** The County should consider the use of agricultural land preservation programs that improve the competitive capabilities of farms and ranches, thereby ensuring long-term conservation of viable agricultural operations. Examples of programs to be considered should include: land trusts; conservation easements; dedication incentives; new and continued Williamson Act contracts; Farmland Security Zone Act contracts; the Agricultural Land Stewardship Program Fund; agricultural education programs; zoning regulations; agricultural mitigation fee program; urban growth boundaries; transfer of development rights; purchase of development rights; and agricultural buffer policies.

**Policy LU-A.17:** The County shall accept California Land Conservation contracts on all designated agricultural land subject to the acreage and use limitations established by the County.

**Policy LU-A.18:** The County shall encourage land improvement programs to increase soil productivity in areas containing lesser quality agricultural soils.

**Policy LU-A.19:** The County shall encourage landowners to participate in programs that reduce soil erosion and increase soil productivity. To this end, the County shall promote coordination between the Natural Resources Conservation Service, Resource Conservation Districts, UC Cooperative Extension, and other agencies and organizations.

**Program LU-A.E:** The County shall continue to implement the County's Right-to-Farm Ordinance, and will provide information to the local real estate industry to help make the public aware of the right-to-farm provisions in their area.

### **Fresno County Zoning Ordinance**

The Project site is zoned AE-40 (Exclusive Agriculture, 40-acre minimum parcel size) pursuant to Section 816 of the Fresno County Code. The "AE" District is intended to be an exclusive agricultural district and for uses integral to an agricultural operation. This district is intended to protect the general welfare of the agricultural community from encroachments of non-agricultural uses, which by their nature would be injurious to the physical and economic well-being of the agricultural district. Permitted uses within the AE district include livestock and poultry (breeding, raising and maintenance), raising crops, farm dwellings, packaging facilities, and other agricultural-related uses. Uses subject to Fresno County Director review and approval include communications equipment buildings, microwave relay structures, electrical (transmission and distribution) substations, and "commercial land leveling and development establishments when they are not operated in conjunction with, or as part of, a bona fide agricultural operation," among others (Fresno County 2018).

### **Fresno County Solar Facility Guidelines**

Toward balancing the need to accommodate new renewable energy technology with the need to protect important farmlands and minimize impacts to existing agricultural operations, the County's land use process for evaluating solar facilities relies on flexible general guidelines and policies rather than specific standards. The Solar Facility Guidelines, adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017, identify consideration to be evaluated as part of the County's process for evaluating solar facilities within the county (Fresno County 2017). Although the Project does not propose to develop a solar facility, the County's identified need to maintain flexibility to accommodate new renewable energy technologies, such as battery energy storage, which facilitates the use of solar-generated energy by addressing some of the limitations of the electric grid, applies equally to battery energy storage as to solar energy development. Multiple provisions of the Solar Facility Guidelines are relevant to this analysis of potential impacts related to agricultural resources. For analysis of the Project's consistency with the Solar Facility Guidelines as a whole, see Appendix I-2. The following guidelines are specific to agricultural resources:

- (1) Submission of information regarding historical agricultural use.
- (2) Submission of information regarding source of water.
- (3) Identification of current status with respect to Williamson Act, conservation easements, or other similar designation.
- (4) Identification of soil type and mapping units.
- (5) Description of measures that will be implemented to create a minimum 50-foot buffer from the edges of the property boundaries to the closest structural improvements or equipment (excluding fencing).
- (6) A reclamation plan detailing the time frame and approach to restoration of the site to agricultural use.
- (7) Details of efforts to locate the project on non-agricultural land.
- (8) Development of a weed and pest management plan.
- (9) Acknowledgement of the County's Right to Farm Ordinance.

### **Fresno County Right-to-Farm Ordinance**

For certain activities within 300 feet of an AE Zone District, Section 17.72.075(A) of the Fresno County Code of Ordinances requires the recordation with the Fresno County Recorder of a notice in substantially the following form:

*FRESNO COUNTY RIGHT-TO-FARM NOTICE*

*It is the declared policy of Fresno County to preserve, protect, and encourage development of its agricultural land and industries for the production of food and other agricultural products. Residents of property in or near agricultural districts should be prepared to accept the inconveniences and discomfort associated with normal farm activities. Consistent with this policy, California Civil Code §3482.5 (right-to-farm law) provides that an agricultural pursuit, as defined, maintained for commercial uses shall not become a nuisance due to a changed condition in a locality after such agricultural pursuit has been in operation for three years.*

In conformance with the Fresno County Solar Facility Guidelines, the Applicant would be required to record such a notice before the County's issuance of permits for the Project.

### 3.3.2 Significance Criteria

The Project would result in a significant impact related to agriculture and forestry resources if it would:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Pub. Res. Code Section 12220[g]), timberland (as defined by Pub. Res. Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]);
- d) Result in the loss of forest land or conversion of forest land to non-forest use; or
- e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

### 3.3.3 Direct and Indirect Effects

#### 3.3.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. Consistent with the Fresno County Solar Guidelines, the Project is designed such that there would be a minimum 50-foot buffer between proposed Project facilities and adjacent agricultural operations. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*.

Although none of the actions specifically targets potential impacts on agriculture or forestry resources, multiple among them could have secondary benefits to such resources, such as the actions described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*; Section 2.5.9.6, *Pest Management*; or Section 2.5.9.8, *Compliance with Applicable Laws and Standards*.

#### 3.3.3.2 Methodology

The Project's potential impacts on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance were evaluated based on the LESA model, as an analytical framework for rating the quality of the land based on specific measurable features. Factors considered by the LESA model include soils, site acreage, water availability, and surrounding land uses (Appendix C). Other resources, such as the Fresno County General Plan policies and County planning agricultural guidance, were also reviewed to inform this analysis.

A single LESA score is generated for a project after all the individual land evaluation (LE) and site assessment (SA) factors have been scored and weighted. The final scoring with 50 percent of the total LESA derived from LE factors, and 50 percent derived from SA, based on a 100-point scale (**Table 3.3-1**).

**TABLE 3.3-1  
 LAND EVALUATION AND SITE ASSESSMENT MODEL SIGNIFICANCE THRESHOLDS**

| Total LESA Score | Scoring Decision   |
|------------------|--|
| 0 to 39 points   | Not considered significant.  |
| 40 to 59 points  | Considered significant only if LE and SA sub-scores are greater or equal to 20 points. |
| 60 to 79 points  | Considered significant unless either LE or SA sub-score is less than 20 points.        |
| 80 to 100 points | Considered significant.  |

NOTE: LE = Land Evaluation; LESA = Land Evaluation and Site Assessment; SA = Site Assessment

SOURCE: Data compiled by Environmental Science Associates in 2023 (see Appendix C)

### 3.3.3.3 Direct and Indirect Effects of the Project

**Criterion a)** Whether the Project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

The 318-acre area that includes the 260-acre Project site is Prime Farmland; no Unique Farmland or Farmland of Statewide Importance is found there. Accordingly, the Project would not convert any Unique Farmland or Farmland of Statewide Importance to non-agricultural use, and thus would cause no impact with respect to these types of Farmland. (*No Impact*)

**Impact 3.3-1: The Project would convert Prime Farmland to non-agricultural use. (*Less-than-Significant Impact*)**

As detailed in Chapter 2, *Project Description*, the Project would develop 260 acres within a 318-acre site that is mapped as Prime Farmland. Consistent with the Project-specific LESA evaluation (Appendix C), this analysis conservatively assumes that the entire 318-acre Project site would be converted to non-agricultural use for the Project’s anticipated 40-year conditional use permit (CUP) term because development and operation of the Project would effectively preclude agricultural use within the entirety of the 318-acre site during the term of Project use.

Construction, operation and maintenance, and decommissioning of the Project would take the affected acreage out of production for 40 years. However, construction and operation and maintenance of the proposed energy storage use would not adversely affect any of the environmental characteristics of the site that qualify it for mapping as Prime Farmland on the basis of its Storie Index Rating.



As explained in the Project-specific LESA (Appendix C), the Storie Index Rating is “based on surface and subsurface chemical and physical soil properties and surface landscape features of the soil.” The chemical and physical soil properties of the soil would remain substantially the same under Project conditions. Soil chemical properties primarily include concentrations of specific chemicals such as phosphorus, nitrogen, carbon, and other nutrients. Project construction, operation and maintenance would have a less-than-significant impact on the chemical composition of onsite soils. No application of fertilizers or other soil amendments is proposed. Water-based dust suppression or appropriate soil stabilizers would be used for dust suppression. As analyzed in Section 3.10, *Hazards and Hazardous Materials*, the Project would cause a less-than-significant impact due to the routine transport, use, or disposal of hazardous materials and related to general accidental spills. While residual pesticides are present in onsite soils, the Project's proposed weed management and rodent control methods would not exacerbate them (see Appendix B2, *Pest Management Plan*). Physical properties of soil include color, texture, structure, porosity, density, consistency, stability, and temperature. The Project proposes no changes that would affect soil color; however, grading would result in soil compaction throughout most of the Project site to provide a stable base for proposed structures, equipment, and roads. Upon decommissioning, Project infrastructure would be removed and the site returned to a condition suitable for agricultural use pursuant to the requirements of a County-approved Reclamation Plan. Roads and other areas that were compacted during construction, operations, and decommissioning would be tilled to restore the sub-grade material to match the depth and density of surrounding properties. Clean compactable sub-grade material would be used to fill low areas. Sub-grade depth would be established from other properties located within 50 miles of the Project site or from the city of Fresno. Once established, locally sourced topsoil would be used to match the depth and density of surrounding properties. Compost would then be spread over the applied topsoil and the entire Project site would be tilled to mix and loosen the compost and topsoil. See Appendix B1, Draft Reclamation Plan, for additional details. The soil compaction that would occur during construction and last through the operation and maintenance period would be corrected during decommissioning, resulting in a less-than-significant impact during all phases of the Project because, unlike a subdivision or a shopping center, it would not affect the Project site’s long-term suitability for agricultural use.

As further explained in the Project-specific LESA (Appendix C), four general factors are used to determine the Storie Index Rating of a particular soil: (A) permeability, available water capacity, and depth of the soil; (B) the texture of the surface soil; (C) the dominant slope of the soil body; and (X) other conditions more readily subject to management or modification by the land user.” Regarding factor (A), Project impacts on permeability and depth of the soil would be limited to the construction and operation and maintenance periods, and would be corrected during Project decommissioning and site restoration. As analyzed in Section 3.19, *Utilities and Service Systems*, the Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years for at least the first 20 years. During the remaining years of the CUP period, water would be delivered to the Project site either by truck from an off-site source or via groundwater through a new or existing well. Once the Project is decommissioned and site restored, available water capacity would be the same as it is under pre-Project conditions: available to the northernmost Project parcel from the well in that location and potentially not at all to the southern half of the Project site based on the

availability of water to the WWD for allocation. Regarding factor (B), implementation of a County-approved Reclamation Plan with provisions like those proposed in Appendix B1, *Draft Reclamation Plan*, would ensure that the texture of surface soils were returned to a condition suitable for agricultural use. Regarding factor (C), the Project site is and would remain generally flat. Regarding the (X) factor, implementation of the Applicant-proposed measures and design features described in Section 2.5.9 of the Project Description, in combination with requisite compliance with applicable laws and standards for the protection of the environment and any conditions of approval imposed by the County as Lead Agency would further ensure that the Project would not adversely affect any of the environmental characteristics of the site that qualify it for mapping as Prime Farmland on the basis of its Storie Index Rating.

In summary, the Project would result in a less-than-significant impact related to the conversion of Prime Farmland to non-agricultural use.

**Mitigation:** None required.

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**Criterion b)** Whether the Project would conflict with existing zoning for agricultural use, or a Williamson Act contract.

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The site proposed for the Project is designated as Agricultural and is classified by the Fresno County Zoning Ordinance as AE-40 (Exclusive Agricultural, 40-acre minimum parcel size). The “AE” District is intended to be an exclusive agricultural district and for uses integral to an agricultural operation. The zoning designation does not specifically allow for energy storage facilities; however, the proposed uses may be permitted in any zone district, subject to consideration and approval by Fresno County of an unclassified CUP. The purpose of this process is to make a use that is not permitted by right as compatible as possible with the agricultural district and the intended uses therein. With approval of the CUP, there would be no conflict with agricultural zoning. (*No Impact*)

**Impact 3.3-2: The Project would be compatible with an existing Williamson Act contract. (*Less-than-Significant Impact*)**

The southern two Project site parcels (APN 085-040-036 and 085-040-037) are not currently enrolled in the Williamson Act program (Fresno County 2023a) and thus would not conflict with an existing Williamson Act contract.

The Project’s northern parcel (APN 085-040 058) is subject to Williamson Act Contract No. 2068 and would be petitioned for cancellation by the landowners as part of the Project. Even if cancellation were not proposed, the Project’s proposed energy storage facilities are electric facilities and, as such, would be compatible with the existing Williamson Act contract pursuant to Government Code Section 51238(a).

Separately, the proposed energy storage use of the northernmost Project site parcel would be consistent with the principles of compatibility set forth in Government Code Section 51238.1. First, the proposed energy storage use would not significantly compromise the long-term

productive agricultural capability of the contracted parcel for the reasons explained in the context of Impact 3.3-1. The proposed use also would not significantly compromise the long-term productive agricultural capability of other contracted lands. Surrounding parcels adjacent to the Project site are a mix of contracted and non-contracted lands. The mix in this area shows that contracted and noncontracted lands can coexist in proximity to one another without compromising agricultural productivity in the area.

Second, the proposed energy storage use of the northernmost Project parcel would not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or on other contracted lands in agricultural preserves. Although current agricultural use of the parcel would be suspended for the term of the CUP, displacement would not occur because the site would be returned to a condition suitable for the resumption of agricultural use during Project decommissioning and site reclamation. Reasonably foreseeable agricultural operations would continue on the subject parcel at that time. The proposed use also would not significantly displace or impair current or reasonably foreseeable agricultural operations on other contracted lands in agricultural preserves. Consistency of the Project with the County's solar facility guidelines would ensure that the County's policy balance of the need to accommodate new renewable energy technology with the need to protect important farmlands and minimize impacts to existing agricultural operations would be met. Further, the Applicant's compliance with Section 17.72.075(A) of the Fresno County Code of Ordinances would result in the recordation with the Fresno County Recorder of a right-to-farm notice acknowledging Fresno County's declared policy "to preserve, protect, and encourage development of its agricultural land and industries for the production of food and other agricultural products" and accepting that "the inconveniences and discomfort associated with normal farm activities" may affect conditions on the Project site.

Finally, the proposed use would not result in the significant removal of adjacent contracted land from agricultural or open-space use. As noted above, the immediate area reflects a mix of contracted and non-contracted parcels. To the north, one of three adjacent parcels is subject to a Williamson Act contract; the parcels that comprise the Gates Substation site are not subject to a Williamson Act contract. To the east, one adjacent parcel is subject to a Williamson Act contract. To the south, the two non-contracted Project parcels separate the contracted parcel from the one of two parcels adjacent parcels that is subject to a Williamson Act contract. To the west, the parcel adjacent to the northernmost Project parcel is subject to a Williamson Act contract. See Section 3.3.1.2, *Environmental Setting*, for additional details. The Project would not result in the significant removal of adjacent contracted land because the impacts of the proposed use on agricultural operations on adjacent contracted land would be minimized by the Project's compliance with the solar facility guidelines. Consistent with the solar facility guidelines, the Applicant has committed to implementing measures to create a minimum 50-foot buffer from the edges of the property boundaries to the closest structural improvements or equipment (excluding fencing) and to implementing a reclamation plan that details the time frame and approach to restoration of the site to agricultural use (see Appendix B1). Even if adjacent contracted land was removed from agricultural or open-space use, the removal would not result in a significant adverse impact on the physical environment because, as shown in Figure 3.3-1, western Fresno County in the vicinity of the Project site would remain overwhelmingly in agricultural use

consistent with the land's FMMP mapping designations of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland and consistent with Fresno County's designation of lands that are Farmland of Local Importance.

In summary, the proposed electrical facility use of the northernmost Project parcel for an energy storage facility would be compatible with the Williamson Act and the southern half of the Project site is not subject to a Williamson Act contract at all. As a result, the project would have a less-than-significant impact relating to an existing Williamson Act contract.

**Mitigation:** None required.

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**Criterion c)** Whether the Project would conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104).

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The Project site does not contain any forest land (as defined by Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or land zoned Timberland Production (as defined by Government Code Section 51104[g]). The Project site is zoned AE-40, and the Project would not require a change to that designation. Therefore, the Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production, and no impact would occur under this criterion. *(No Impact)*

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**Criterion d)** Whether the Project would result in the loss of forest land or conversion of forest land to non-forest use.

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As described in Section 3.3.1.2, *Environmental Setting*, the Project site does not contain any mature trees or forest land. The site has historically been used for agricultural purposes. Therefore, the Project would not result in the loss of forest land or conversion of forest land to non-forest use and no impact would occur under this criterion. *(No Impact)*

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**Criterion e)** Whether the Project would involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

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The Project is not proposed on forest land; therefore, no conversion of forest land to non-forest use would occur with implementation of the Project. No impact would occur with respect to forest conversion.

**Impact 3.3-3: The Project would involve changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. (Less-than-Significant Impact)**

The Project would involve direct and indirect changes to farmland. As discussed in this section, conversion of the site from Prime Farmland and cancellation of the Williamson Act status of the northern Project parcel would directly result in decreased agricultural production on the Project site. As described in Section 3.3.1.2, *Environmental Setting*, and detailed in the LESA (Appendix C), seven parcels in the zone of influence for the Project are actively used for agricultural purposes and five parcels are located on Williamson Act–contracted land. The Project would limit direct effects on the surrounding farmland because the Project design allows for a 50-foot buffer between proposed Project components and neighboring agricultural operations (consistent with the Fresno County Solar Guidelines). Direct effects would be limited to the parcels within the Project site.

The Project is strategically proposed in a location near the PG&E Gates Substation and would provide an energy storage mechanism for industrial-scale solar projects and connect to the energy grid at this location. Given the nature of the Project as an energy storage project, the proposed use could attract other solar development, which would enable storage of the energy collected by solar facilities. As an indirect effect, the conversion of agricultural parcels in the zone of influence and in the surrounding landscape could result. Thus, by virtue of the Project’s location and nature, implementing the Project would involve changes to the existing environment, which could indirectly contribute to the conversion of Farmland to non-agricultural use.

However, it is noteworthy that the development of battery energy storage projects (such as the Project) follows in the footsteps of the development of renewable energy generation projects in the region, rather than leading it. Moreover, such projects have been mandated by state policies (such as those found in Assembly Bill 2514 and California Public Utilities Commission Ruling R.20-05-003) to enhance energy grid reliability and provide a niche solution to energy capacity challenges and in the state, consistent with California’s Renewables Portfolio Standard and state objectives to increase net qualifying energy capacity. Hence, the central force of attraction for the development of renewable energy projects in the region is arguably the PG&E Gates Substation, and not the Project itself. Therefore, the Project would not directly cause or result in conversion of surrounding farmland to non-agricultural use. The resulting impact would be indirect and less than significant.

**Mitigation:** None required.

***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, Project interconnection would include installation up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the PG&E Gates Substation to the Project site) on lattice towers each up to 200 feet tall, and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project.

The PG&E work would have no impact on forest resources because those sites do not contain any forest land (as defined by Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or land zoned Timberland Production (as defined by Government Code Section 51104[g]). The PG&E work also would have no impact on agricultural resources because the electric infrastructure proposed by PG&E is an allowable use within lands zoned for agricultural uses (subject to Fresno County Planning Director's review and approval), no conversion of Farmland (as shown on FMMP maps) would occur, and neither the Gates Substation site nor the Midway Substation site is subject to a Williamson Act contract.

**Mitigation:** None required.

### 3.3.4 Cumulative Effects Analysis

The Project would have no impact due to a conflict with existing zoning for, and would not cause rezoning of, forest land, timberland, or timberland zoned Timberland Production; and would have no impact due to a loss of forest land or the conversion of forest land to non-forest use. Therefore, the Project would cause no impact that could cause or contribute to cumulative impacts on these resources. (*No Impact*)

**Impact 3.3-4: The Project would not cause a cumulatively considerable contribution to a significant cumulative effect due to conversion of Farmland to non-agricultural use. (*Less-than-Significant Impact*)**

The geographic context for potential cumulative impacts related to conversion of Farmland to non-agricultural use consists of Farmland mapped as Prime Farmland by the FMMP because this is the only mapping category that would be affected by the Project. The temporal context for potential cumulative impacts due to the conversion of Prime Farmland would be limited to the construction and operations and maintenance phases of the Project because Project decommissioning and site restoration would return the site to a condition suitable for continued agricultural use.

Ongoing impacts of past projects on agricultural resources are reflected in the environmental setting and specifically include the conversion of Prime Farmland to solar facilities and other renewable energy development in the region. For example, Fresno County is the third fastest of all California counties to lose Farmland, and the seventeenth fastest in the nation (Shulman 2022). Further, the Three Rocks Solar Project and the Fifth Standard Solar Project Complex are located on Prime Farmland (DOC 2020). The EIR prepared for the Fifth Standard Solar Project Complex found significant and unavoidable impacts with respect to pressures to convert farmland to non-agricultural use through the precedent-setting conversion of a 1,600-acre Prime Farmland site in favor of solar facilities, which would contribute to a cumulative impact on agricultural resources (Fresno County 2020). As analyzed in the context of Impact 3.3-1, the Project would have a less-than- significant impact related to the conversion of Prime Farmland to non-agricultural use because Project development would not significantly adversely impact any of the environmental characteristics of the site that qualify it for mapping as Prime Farmland on the basis of its Storie Index Rating. Collectively, the incremental impacts of the Project when combined with the

incremental impacts of the past, present, and reasonably foreseeable future projects would result in a significant cumulative impact related to the conversion of Farmland to non-agricultural use.

However, the Project's incremental, less-than-significant contribution would not be cumulatively considerable because the Project site would be returned to a condition suitable for continued agricultural use with substantially the same soil conditions as currently exist.

**Mitigation:** None required.

**Impact 3.3-5: The Project would not cause a cumulatively considerable contribution to a significant cumulative effect related to an existing Williamson Act contract. (*Less-than-Significant Impact*)**

Fresno County describes the Williamson Act as “a means to restrict the uses of agricultural and open space lands to farming and ranching uses during the length of the contract period. The Williamson Act Program was also envisioned as a way for local governments to integrate the protection of open space and agricultural resources into their overall strategies for planning urban growth patterns” (Fresno County 2023b). Given Fresno’s countywide focus in implementing the program, the geographic context for this analysis of potential cumulative impacts related to a conflict with an existing Williamson Act contract includes the approximately 1.5 million acres of farmland that were within Williamson Act contracts in the county in 2014 and 2015 (the most recent time frame for which contract status information is readily available as of the issuance of this Draft EIR), although nonrenewal contracts expired on approximately 9,447 acres during that same time period (Fresno County 2020). The temporal context for potential cumulative impacts related to existing Williamson Act contract status would begin with the initiation of on-site activities and would end with either the successful cancellation of Williamson Act Contract No. 2068 or site decommissioning and site restoration, which is when the Project’s less-than-significant impact associated with existing contract compatibility would be resolved by removal of electrical facility infrastructure from the parcel. Although identifying Williamson Act contract status trend data can be challenging because of inconsistent reporting (DOC 2022b), this analysis conservatively assumes that a significant cumulative impact exists with respect to Williamson Act conflicts.

According to Fresno County Assessor’s maps, Williamson Act Contract No. 2068 applies to the 161.26 acres that compose the northernmost Project site parcel (APN 085-040-58). Relative to the number of contracted acres in the County, the Project’s removal of 161.26 acres would not be cumulatively considerable because it would be so minimal. Further, the purposes of the Williamson Act could still be met after APN 085-040-58 is unenrolled from the program: Adjacent agricultural uses would not be adversely affected by the Project site’s renewable energy use, and the Project site itself could be returned to agricultural use after reclamation. Thus, cancellation of Williamson Act Contract No. 2068 would not affect the County’s integration of the protection of open space and agricultural resources into its overall strategies for planning urban growth patterns. For these reasons, even if a significant cumulative effect is assumed to exist, the Project’s incremental contribution would not be cumulatively considerable.

**Mitigation:** None required.

### Criteria c) and d)

Because the Project would result in no impact to criteria c) and d), it could not cause or contribute to any cumulative effect relative to these considerations. No cumulative effect would occur.

**Mitigation:** None required.

### Criterion e)

**Impact 3.3-6: The Project would not result in a cumulatively considerable contribution to a significant cumulative effect involving changes in the existing environment, which could result in conversion of Farmland to non-agricultural use. (*Less-than-Significant Impact*)**

The Project site and multiple adjacent and nearby parcels are mapped as Farmland as part of the FMMP. The Project could contribute a less-than-significant incremental impact to the cumulative impact of conversion caused by past projects (as described in Section 3.3.1.2, *Environmental Setting*) and other present and reasonably foreseeable future projects during the Project's construction and operation and maintenance period. For example, the Scarlet Solar Project is located on Farmland of Statewide Importance and Farmland of Local Importance. The Three Rocks Solar Project and the Fifth Standard Solar Project Complex are located on Prime Farmland (DOC 2020). The EIR prepared for the Fifth Standard Solar Project Complex found significant and unavoidable impacts with respect to pressures to convert farmland to non-agricultural use, through the precedent-setting conversion of a 1,600-acre Prime Farmland site in favor of solar facilities, which would contribute to a cumulative impact on agricultural resources (Fresno County 2020). This analysis assumes that a significant adverse cumulative impact exists as a result Farmland conversion caused primarily by development pressure and water scarcity.

The Project's incremental, less-than-significant impact, in combination with the incremental impacts of other projects in the cumulative scenario, would not be cumulatively considerable because the site characteristics that qualify it as Farmland would be restored to conditions suitable for continued agricultural use upon Project decommissioning. There would be no ongoing Project-caused contribution to cumulative effects following decommissioning because the characteristics that qualify the site as Prime Farmland would be retained and agricultural use of the site would resume. The Project's incremental impact would be less than cumulatively considerable and less than significant.

**Mitigation:** None required.

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### 3.3.5 References

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## 3.4 Air Quality

This section identifies and evaluates issues related to air quality planning and conditions, including those pertaining to criteria pollutants and the exposure of sensitive receptors to substantial pollutant concentrations, odors, and other emissions. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment.

The County received scoping comments from the San Joaquin Valley Air Pollution Control District (SJVAPCD) pertaining to air pollutant emissions. SJVAPCD concluded that emissions associated with Project construction and operation may exceed the significance thresholds as identified in its *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015a). Therefore, SJVAPCD commented that if significant air quality impacts are identified, the EIR must include a discussion on implementing a Voluntary Emission Reduction Agreement (VERA) for the Project as a mitigation measure. SJVAPCD also recommended that the Project be evaluated for potential health impacts on surrounding sensitive receptors, and that if emissions exceed 100 pounds per day (lb/day) of any pollutant, an ambient air quality analysis should be performed. The SJVAPCD also recommended the use of CalEEMod to estimate Project emissions, conducting a Health Risk Assessment, utilizing the cleanest available off-road construction equipment, and identifying applicable rules and regulations to the Project. A copy of the letters is provided in Exhibit E of **Appendix A**, *Scoping Report*.

The analysis in this section is based in part on the Project-specific air quality and greenhouse gas emissions analysis technical report prepared on the Applicant's behalf (**Appendix D1**, *Air Quality and Greenhouse Gas Study*). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the formal record, in the preparation of this Draft EIR.

### 3.4.1 Environmental Setting

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features that influence pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, which affects air quality.

#### 3.4.1.1 Study Area

The Project would be developed on up to 260 acres of private property in western Fresno County directly adjacent to existing transmission lines and the PG&E-owned Gates Substation. The Project site is located approximately 11.5 miles east of Coalinga, 7.5 miles north of Avenal, 4 miles southwest of Huron, 1,700 feet northeast of Interstate 5 (I-5) at the closest point, immediately south of West Jayne Avenue, and between I-5 and South Lassen Avenue (State

Route 269). The land to the south, east, and west of the Project site is used primarily for agricultural purposes, the existing PG&E Gates Substation is located to the north, and solar facilities are located to the north and southwest of the Project site.

### **3.4.1.2 Regional Topography, Meteorology, and Climate**

#### ***Criteria Air Pollutants***

The U.S. Environmental Protection Agency (USEPA) has identified criteria air pollutants that are a threat to public health and welfare. These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria (see Section 3.4.1.3, *Regulatory Setting*). The following criteria pollutants are a concern in the study area.

#### ***Ozone***

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere; instead, it is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO<sub>x</sub>), including nitrogen dioxide (NO<sub>2</sub>), and the presence of sunlight. ROG and NO<sub>x</sub> are known as *precursor compounds* for ozone. Generally, for significant ozone production to occur, ozone precursors must be present in a stable atmosphere with strong sunlight for approximately 3 hours.

Ozone is a regional air pollutant because it is not emitted directly by sources but is formed downwind of sources of ROG and NO<sub>x</sub> under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone.

#### ***Particulate Matter***

Respirable particulate matter (PM<sub>10</sub>) and fine particulate matter (PM<sub>2.5</sub>) represent fractions of particulate matter that can be inhaled into air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain absorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates can also damage materials and reduce visibility.

#### ***Other Criteria Pollutants***

Carbon monoxide (CO) is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground-level temperature

inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the blood's oxygen-carrying capacity, thus reducing the amount of oxygen that reaches the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

Sulfur dioxide (SO<sub>2</sub>) is produced through combustion of sulfur or sulfur-containing fuels such as coal. SO<sub>2</sub> is also a precursor to the formation of atmospheric sulfate and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain. Lead has a range of adverse neurotoxin health effects and was formerly released into the atmosphere primarily via leaded gasoline. The phase-out of leaded gasoline has resulted in decreasing levels of atmospheric lead.

### **Toxic Air Contaminants**

Toxic air contaminants (TACs) are airborne substances that can cause short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer-causing) adverse human health effects (injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes nearly 200 compounds, including diesel particulate matter (DPM) emissions from diesel-fueled engines (CARB 2011).

### **Valley Fever**

Valley Fever (also known as Coccidioidomycosis) is an infectious disease caused by the fungus *Coccidioides immitis*. Valley Fever is also known as San Joaquin Valley Fever, Desert Fever, or Cocci. Infection is caused by inhalation of *Coccidioides immitis* spores that have become airborne when dry, dusty soil or dirt is disturbed by natural processes such as wind or earthquakes, or by human-induced ground-disturbing activities such as construction and farming.

The California Department of Public Health (CDPH) received 7,252 and 8,030 new Valley Fever case reports in 2020 and 2021, respectively (CDPH 2022). Approximately 40 percent of Valley Fever cases are mild and display flu-like symptoms or no symptoms at all. Coccidioidomycosis is highly endemic in the San Joaquin Valley and remains an important public health problem in California. There is currently no vaccine; however, efforts to develop a vaccine are ongoing (CDPH 2022). Because the county has more than 20 cases per year per 100,000 people, Valley Fever is considered “highly endemic” in Fresno County (CDIR 2022), and the western part of the county is considered an area of elevated Valley Fever activity (Fresno County 2023a). In susceptible people and animals, infection occurs when a *Coccidioides immitis* spore is inhaled.

The Centers for Disease Control and Prevention (CDC) and Fresno County report that farm workers, construction workers, others who engage in soil-disturbing activities, and anyone spending time outdoors in western Fresno County are at risk for contracting Valley Fever (CDC 2022a; Fresno County 2023a, 2023b). High winds can carry dust containing the spores for long distances. Most people infected with Valley Fever have no symptoms, but if symptoms develop, they usually

occur in the lung and initially resemble the flu or pneumonia (e.g., fatigue, cough, shortness of breath, chest pain, fever, rash, headache, and joint aches). Valley Fever is not contagious, and secondary infections are rare.

On average, approximately 200 Valley Fever–associated deaths (deaths in which Valley Fever was listed as a primary or contributing cause on a death certificate) occurred in the United States each year between 1999 and 2019 (CDC 2022a). The number of cases of Valley Fever in Fresno County has varied in the past several years. Between 2011 and 2014, the total number of cases decreased from 22,634 to 8,232; however, in 2019, the number of total cases spiked to 20,003, from 15,611 cases reported in 2018. Those most at risk of developing severe symptoms include Hispanics, African Americans, Filipinos, pregnant women, adults of older age groups, and people with weakened immune systems (CDC 2022b).

### ***Existing Air Quality***

The Project is located in Fresno County, which is within the San Joaquin Valley Air Basin (SJVAB), the largest air basin in the state. The San Joaquin Valley Air Pollution Control District (SJVAPCD) regulates sources of air pollution within the county and the SJVAB. SJVAPCD maintains a regional monitoring network that measures ambient concentrations of criteria pollutants in the SJVAB. Ambient air quality measurements from air monitoring stations maintained by SJVAPCD help to determine the level of air quality in the local area.

The closest SJVAPCD monitoring station to the Project site is the Tranquillity Station at 32650 West Adams Avenue, approximately 37 miles to the northwest, which monitors ozone and PM<sub>2.5</sub> concentrations. The closest station that measures PM<sub>10</sub> and NO<sub>2</sub> concentrations is the Fresno-Drummond monitoring station, located approximately 35 miles away. **Table 3.4-1** shows a 5-year (2017–2021) summary of ozone, PM<sub>10</sub>, PM<sub>2.5</sub>, and NO<sub>2</sub> data monitored at the stations. For the purposes of this analysis, these measurements were considered representative of air quality conditions in the Project vicinity. The data are compared to the California ambient air quality standards (CAAQS) and national ambient air quality standards (NAAQS).

### ***Attainment Status***

Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants are designated as *non-attainment areas* for that pollutant. To address non-attainment areas, California created the California State Implementation Plan (SIP), which is designed to provide control measures needed to attain ambient air quality standards. SJVAPCD is the jurisdictional entity in the SJVAB that is responsible for implementing the SIP. SJVAPCD developed regional air quality management plans to implement control measures to try to achieve attainment status for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> (see Section 3.4.1.3, *Regulatory Setting*). The attainment status for criteria pollutants within the SJVAB is shown in **Table 3.4-2**, *San Joaquin Valley Attainment Status by Pollutant*.

**TABLE 3.4-1  
AIR QUALITY DATA SUMMARY (2017–2021) FOR THE SAN JOAQUIN VALLEY**

| Pollutant   | Standard              | Monitoring Data by Year |                |       |       |       |
|---|-----------------------|-------------------------|----------------|-------|-------|-------|
|   |                       | 2017                    | 2018           | 2019  | 2020  | 2021  |
| <b>Ozone</b>  |                       |                         |                |       |       |       |
| Highest 1-Hour Average, ppm   |                       | 0.09                    | 0.09           | 0.08  | 0.09  | 0.09  |
| Days over State Standard  | 0.09 ppm              | 0                       | 0              | 0     | 0     | 0     |
| Highest 8-Hour Average, ppm   |                       | 0.076                   | 0.083          | 0.071 | 0.079 | 0.080 |
| Days over State/National Standards <sup>a</sup>                       | 0.070 ppm             | 10                      | 7              | 3     | 3     | 5     |
| <b>Fine Particulate Matter, PM<sub>2.5</sub></b>                      |                       |                         |                |       |       |       |
| Highest 24-Hour Average, µg/m <sup>3</sup>                            |                       | 62.4                    | 94.5           | 20.3  | 146.2 | 65.3  |
| Measured days over National Standard Exceedances/Samples <sup>b</sup> | 35 µg/m <sup>3</sup>  | 6                       | 16             | 0     | 21    | 7     |
| Annual Average, µg/m <sup>3</sup>                                     |                       | 8.3                     | 11.1           | 5.8   | 11.4  | 8.9   |
| Exceed State Standard?  | 12 µg/m <sup>3</sup>  | No                      | No             | No    | No    | No    |
| <b>Respirable Particulate Matter, PM<sub>10</sub></b>                 |                       |                         |                |       |       |       |
| Highest 24-Hour Average <sup>c</sup>                                  |                       | 120.5                   | 154.8          | 181.3 | 349.2 | 149.8 |
| Measured Days over State Standard <sup>b</sup>                        | 50 µg/m <sup>3</sup>  | 112                     | 116            | 78    | NA    | NA    |
| Measured Days over National Standard <sup>b</sup>                     | 150 µg/m <sup>3</sup> | 0                       | 0 <sup>c</sup> | 6     | 6     | NA    |
| State Annual Average  |                       | 6                       | 6              | 39.6  | NA    | NA    |
| Exceed State Standard?  | 20 µg/m <sup>3</sup>  | No                      | No             | Yes   | NA    | NA    |
| <b>Nitrogen Dioxide, NO<sub>2</sub></b>                               |                       |                         |                |       |       |       |
| Highest 1-Hour Average  |                       | 0.065                   | 0.076          | 0.042 | 0.067 | 0.065 |
| Days over State Standard  | 0.18 ppm              | 0                       | 0              | 0     | 0     | 0     |
| Days over National Standard   | 0.100 ppm             | 0                       | 0              | 0     | 0     | 0     |
| State Annual Average  |                       | NA                      | 0.013          | NA    | NA    | NA    |
| Exceed State Standard?  | 0.030 ppm             | NA                      | No             | NA    | NA    | NA    |

NOTES:

µg/m<sup>3</sup> = micrograms per cubic meter; NA = not available; ppm = parts per million

An exceedance of a standard is not necessarily related to a violation of the standard. Generally, state standards are not to be exceeded and national standards are not to be exceeded more than once per year. Values in **bold** are in excess of applicable standard.

- a. In October 2015, the U.S. Environmental Protection Agency implemented a new national 8-hour ozone standard of 0.070 ppm.
- b. Measurements of PM<sub>2.5</sub> and PM<sub>10</sub> are usually collected every 1–3 days. The number of days exceeding the standards is a mathematical estimate of the number of days that concentrations would have been greater than the level of the standard had each day been monitored.
- c. Highest measurements are relative to the state standard approach. Highest measurements relative to the national standard are lower.

SOURCE: CARB 2023

**TABLE 3.4-2  
 SAN JOAQUIN VALLEY ATTAINMENT STATUS BY POLLUTANT**

| <b>Pollutant</b>                                  | <b>Federal</b>                | <b>State</b>            |
|---|-------------------------------|-------------------------|
| Ozone (1-hour standard)                           | No Federal Standard           | Non-attainment/Severe   |
| Ozone (8-hour standard)                           | Non-attainment/Extreme        | Non-attainment          |
| Carbon Monoxide (CO)                              | Attainment/Unclassified       | Attainment/Unclassified |
| Nitrogen Dioxide (NO <sub>2</sub> )               | Attainment/Unclassified       | Attainment              |
| Sulfur Dioxide                                    | Attainment/Unclassified       | Attainment              |
| Lead  | No Designation/Classification | Attainment              |
| Hydrogen Sulfide                                  | No Federal Standard           | Unclassified            |
| Sulfates  | No Federal Standard           | Attainment              |
| Visibility  | No Federal Standard           | Unclassified            |
| Vinyl Chloride                                    | No Federal Standard           | Attainment              |
| Fine Particulate Matter (PM <sub>2.5</sub> )      | Non-attainment                | Non-attainment          |
| Respirable Particulate Matter (PM <sub>10</sub> ) | Attainment                    | Non-attainment          |

SOURCE: SJVAPCD 2023

### ***Sensitive Receptors***

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include age, preexisting health problems, proximity to emissions sources, and duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality–related health problems than the public. Residential areas are considered sensitive to poor air quality because people usually stay at home for extended periods, with greater associated exposure to ambient air quality.

Recreational uses are also considered sensitive given recreationists’ greater exposure to ambient air quality conditions, because vigorous exercise associated with recreation places a high demand on the human respiratory system.

The closest sensitive receptors to the Project site include agricultural housing roughly 3,300 feet to the west, 11,500 feet to the southeast, and 17,000 feet to the east. There are no other sensitive receptors in the immediate vicinity of the Project site.

### **3.4.1.3 Regulatory Setting**

Federal, state, and local government agencies work both jointly and individually to improve air quality in the SJVAB through legislation, regulations, planning, policymaking, education, and a variety of programs. The air pollutants of concern, the agencies primarily responsible for improving air quality within the SJVAB, and the pertinent regulations are discussed below.



### Federal

Regulation of air pollution is achieved through both the CAAQS and NAAQS and emission limits for individual sources of air pollutants. As required by the federal Clean Air Act (CAA), USEPA has identified criteria pollutants and has established NAAQS to protect public health and welfare. NAAQS have been established for ozone, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and lead. As discussed above, these pollutants are called “criteria” air pollutants because standards have been established for each to meet specific public health and welfare criteria.

To protect human health and the environment, USEPA has set “primary” and “secondary” maximum ambient thresholds for all seven criteria pollutants. Primary thresholds were set to protect human health, particularly sensitive receptors such as children, the elderly, and individuals suffering from chronic lung conditions, such as asthma and emphysema. Secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings.

As discussed previously, the NAAQS are defined as the maximum acceptable concentration that may be reached but not exceeded more than once per year. California has adopted more stringent ambient air quality standards (i.e., the CAAQS) for most of the criteria air pollutants. **Table 3.4-3** presents both sets of ambient air quality standards (national and state) and provides the attainment status for each. California has also established state ambient air quality standards for sulfates, hydrogen sulfide, and vinyl chloride.

**TABLE 3.4-3  
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS**

| Criteria Pollutant                                | Averaging Time          | State Standard                | Federal Primary Standard |
|---|-------------------------|-------------------------------|--------------------------|
| Ozone   | 8 Hours                 | 0.070 ppm                     | 0.070 ppm                |
|   | 1 Hour                  | 0.09 ppm                      | –                        |
| Carbon Monoxide                                   | 8 Hours                 | 9.0 ppm                       | 9 ppm                    |
|   | 1 Hour                  | 20 ppm                        | 35 ppm                   |
| Nitrogen Dioxide                                  | Annual Average          | 0.030 ppm                     | 0.053 ppm                |
|   | 1 Hour                  | 0.18 ppm                      | 0.100 ppm                |
| Sulfur Dioxide                                    | Annual Average          | –                             | 0.030 ppm                |
|   | 24 Hours                | 0.04 ppm                      | 0.14 ppm                 |
|   | 1 Hour                  | 0.25 ppm                      | 0.075 ppm                |
| Respirable Particulate Matter (PM <sub>10</sub> ) | Annual Arithmetic Mean  | 20 mg/m <sup>3</sup>          | –                        |
|   | 24 Hours                | 50 mg/m <sup>3</sup>          | 150 mg/m <sup>3</sup>    |
| Fine Particulate Matter (PM <sub>2.5</sub> )      | Annual Arithmetic Mean  | 12 mg/m <sup>3</sup>          | 12.0 mg/m <sup>3</sup>   |
|   | 24 Hours                | –                             | 35 mg/m <sup>3</sup>     |
| Lead  | 3-Month Rolling Average | –                             | 0.15 mg/m <sup>3</sup>   |
| Hydrogen Sulfide                                  | 1 Hour                  | 0.03 ppm/42 µg/m <sup>3</sup> | –                        |
| Sulfates  | 24 Hours                | 25 mg/m <sup>3</sup>          | –                        |
| Vinyl Chloride                                    | 24 Hours                | 0.01 ppm/26 µg/m <sup>3</sup> | –                        |

NOTES:

– = no applicable standard; µg/m<sup>3</sup> = micrograms per cubic meter; mg/m<sup>3</sup> = milligrams per cubic meter; ppm = parts per million

SOURCE: CARB 2016

USEPA is responsible for implementing programs established under the federal CAA, such as establishing and reviewing the NAAQS and judging the adequacy of SIPs but has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

### **State**

The California Air Resources Board (CARB) establishes and reviews the state standards, compiles the California SIP and secures approval of that plan from USEPA, conducts research and planning, and identifies TACs. CARB also regulates mobile sources of emissions in California, such as construction equipment, trucks, and automobiles, and oversees the activities of California's air quality districts, which are organized at the county or regional level. County or regional air quality management districts are primarily responsible for regulating stationary sources at industrial and commercial facilities within their geographic areas and for preparing the air quality plans required under the federal and California CAAs.

Although the federal CAA established the NAAQS, individual states retained the option to adopt more stringent standards and to include other pollution sources. California already had established its own air quality standards when the NAAQS were established, and because of California's unique meteorological problems, there are considerable differences between most of the CAAQS and NAAQS, as shown in Table 3.4-3. Most of the CAAQS are at least as protective as the NAAQS and some are more stringent. In 1988, California enacted the California Clean Air Act (Health and Safety Code Section 39600 et seq.), which, like its federal counterpart, requires the designation of areas as attainment or non-attainment, but based these designations on the CAAQS rather than the NAAQS. The current attainment status for the SJVAB, with respect to the CAAQS, is summarized above and identified in Table 3.4-2.

### **Toxic Air Contaminants**

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Assembly Bill [AB] 2588) seeks to identify and evaluate risk from air toxics sources but does not directly regulate air toxics emissions. This law requires that TAC emissions from individual facilities be quantified and prioritized. "High-priority" facilities must perform a health risk assessment and, if specific thresholds are violated, must communicate the results to the public in the form of notices and public meetings. Depending on the risk levels, emitting facilities must implement varying levels of risk reduction measures. SJVAPCD implements AB 2588 through its Integrated Air Toxic Program and is responsible for prioritizing facilities that emit air toxics, reviewing health risk assessments, and implementing risk reduction procedures. Pursuant to the requirements of AB 2588, SJVAPCD publishes an air toxics emissions inventory that details the TAC emissions of facilities throughout the SJVAB (SJVAPCD 2017a).

### **Valley Fever**

On October 11, 2019, AB 203 was enacted to add Section 6709 to the Labor Code, related to occupational safety and health. This legislation requires construction employers engaging in specified work activities or vehicle operation in counties where Valley Fever is highly endemic,

as defined, to provide effective awareness training on Valley Fever to all employees annually and before an employee begins work that is reasonably anticipated to cause substantial dust disturbance. AB 203 requires that the training cover specific topics and authorizes the training to be included in the employer's injury and illness prevention program training or as a standalone training program. The training must include the following topics:

- (1) What Valley Fever is and how it is contracted.
- (2) High-risk areas and types of work and environmental conditions during which the risk of contracting Valley Fever is highest.
- (3) Personal risk factors that may create a higher risk for some individuals.
- (4) Personal and environmental exposure prevention methods.
- (5) The importance of early detection, diagnosis, and treatment to help prevent the disease from progressing.
- (6) Recognizing common signs and symptoms of Valley Fever.
- (7) The importance of reporting symptoms to the employer and seeking medical attention from a physician and surgeon for appropriate diagnosis and treatment.
- (8) Common treatment and prognosis for Valley Fever.

### **Local**

#### **San Joaquin Valley Air Pollution Control District**

The Project would be located within the jurisdiction of SJVAPCD, which regulates air pollutant emissions for all sources throughout the SJVAB other than motor vehicles. SJVAPCD administers permits governing stationary sources. In addition to administering permits, SJVAPCD enforces the rules, regulations, and plans described below, which would apply to the Project.

#### ***Air Quality Management Plans***

As required by the federal and California CAAs, air basins or portions thereof have been classified as either "attainment" or "non-attainment" for each criteria air pollutant, based on whether or not the standards have been achieved. Jurisdictions of non-attainment areas also must prepare an air quality management plan that includes strategies for achieving attainment. SJVAPCD has approved air quality management plans demonstrating how the SJVAB will reach attainment with the federal 1-hour and 8-hour ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> standards.

#### ***Ozone Attainment Plans***

The *Extreme 1-Hour Ozone Attainment Demonstration Plan*, adopted by the SJVAPCD Governing Board October 8, 2004, set forth measures and emission-reduction strategies designed to attain the federal 1-hour ozone standard by November 15, 2010. The 1-hour ozone standard was subsequently revoked by USEPA in June 2005. The *2013 Plan for the Revoked 1-Hour Ozone Standard* was approved by the Governing Board on September 19, 2013 (SJVAPCD 2013)

to attain the 1-hour ozone standard by 2017. On July 18, 2016, USEPA published in the *Federal Register* the final action to determine that the SJVAB has attained the 1-hour ozone standard.

The *2007 Ozone Plan*, approved by CARB on June 14, 2007, demonstrates how the SJVAB would meet the federal 8-hour ozone standard. The *2007 Ozone Plan* includes a comprehensive list of regulatory and incentive-based measures to reduce emissions of ozone and particulate matter precursors throughout the SJVAB. Additionally, this plan calls for major advancements in pollution control technologies for mobile and stationary sources of air pollution, and an increase in state and federal funding for incentive-based measures to create adequate reductions in emissions to bring the entire SJVAB into attainment with the federal 8-hour ozone standard (SJVAPCD 2007).

On April 16, 2009, the SJVAPCD Governing Board adopted the *Reasonably Available Control Technology Demonstration for Ozone State Implementation Plans* (SJVAPCD 2009). With respect to the 8-hour standard, the plan assesses SJVAPCD's rules based on the adjusted major source definition of 10 tons per year (tpy) (due to the SJVAB's designation as an extreme ozone non-attainment area), evaluates SJVAPCD rules against new Control Techniques Guidelines promulgated since August 2006, and reviews additional rules and amendments adopted by the Governing Board since August 17, 2006, for reasonably available control technology consistency.

SJVAPCD adopted the *2016 Plan for the 2008 8-Hour Ozone Standard* in June 2016. This plan satisfies federal CAA requirements and ensures expeditious attainment of the 75 parts per billion 8-hour ozone standard. The intent of the plan is to reduce NO<sub>x</sub> emissions by more than 60 percent between 2012 and 2031, and to bring the SJVAB into attainment of USEPA's 2008 8-hour ozone standard as expeditiously as practicable, but no later than December 31, 2031 (SJVAPCD 2016a).

On May 19, 2020, the Governing Board adopted the *2020 Reasonably Available Control Technology Demonstration for the 2015 8-Hour Ozone Standard* (SJVAPCD 2020), which includes a demonstration that SJVAPCD rules implement Reasonably Available Control Technology. The plan reviews each of the NO<sub>x</sub> reduction rules and concludes that they satisfy requirements for stringency, applicability, and enforceability, and meet or exceed Reasonably Available Control Technology.

In December 2022, SJVAPCD adopted the *2022 Plan for the 2015 8-Hour Ozone Standard*. This plan builds upon decades of developing and implementing effective air pollution control strategies. It ensures expeditious attainment of the 70 parts per billion 8-hour ozone standard and intends to reduce NO<sub>x</sub> emissions by 72 percent by 2037 (SJVAPCD 2022).

#### *Particulate Matter Attainment Plans*

Effective November 12, 2008, USEPA redesignated the SJVAB as an attainment area with respect to the PM<sub>10</sub> NAAQS and approved the *2007 PM<sub>10</sub> Maintenance Plan* (USEPA 2008). In April 2008, the SJVAPCD Board adopted the *2008 PM<sub>2.5</sub> Plan* and subsequently approved amendments on June 17, 2010 (SJVAPCD 2008). This plan was designed to address USEPA's annual PM<sub>2.5</sub> standard of 15 micrograms per cubic meter (µg/m<sup>3</sup>), which was established in 1997. In April 2015, the SJVAPCD Board adopted the *2015 Plan for the 1997 PM<sub>2.5</sub> Standard*. The plan addressed USEPA's annual and 24-hour PM<sub>2.5</sub> standards established in 1997, after the

SJVAB experienced higher PM<sub>2.5</sub> levels in winter 2013–2014 as a result of extreme drought, stagnation, strong inversions, and historically dry conditions. SJVAPCD was unable to meet the plan’s initial attainment date of December 31, 2015 (SJVAPCD 2015b).

SJVAPCD adopted the *2016 Moderate Area Plan for the 2012 PM<sub>2.5</sub> Standard* on September 15, 2016. This plan addresses USEPA’s updated federal annual PM<sub>2.5</sub> standard of 12 µg/m<sup>3</sup>, established in 2012, and includes an attainment impracticability demonstration and request for reclassification of the SJVAB from Moderate non-attainment to Serious non-attainment (SJVAPCD 2016b).

The *2018 Plan for the 1997, 2006, and 2012 PM<sub>2.5</sub> Standards* was adopted on November 15, 2018. The plan utilizes extensive science and research, state-of-the-art air quality modeling, and the best available information in developing a strategy to attain the federal health-based 1997, 2006, and 2012 standards for PM<sub>2.5</sub>. The plan consists of a combination of innovative regulatory and non-regulatory measures, including aggressive incentive-based control measures intended to achieve the emissions reductions needed to bring the area into attainment (SJVAPCD 2018).

#### *Applicable Rules*

##### **Rule 2201 (New and Modified Stationary Source Review Rule)**

Rule 2201 requires review of new and modified stationary sources of air pollution, such as the Project’s proposed generators. The rule provides mechanisms such as emission trade-offs that will allow SJVAPCD to grant Authorities to Construct permits to emissions sources without interfering with the attainment or maintenance of ambient air quality standards. No net increase in emissions is permitted above specified thresholds from new and modified stationary sources of all non-attainment pollutants and their precursors.

##### **Rule 4101 (Visibility)**

Rule 4101 limits the visible plume from any source to 20 percent opacity.

##### **Rule 4102 (Nuisance)**

Rule 4102 prohibits the discharge of air contaminants or other materials in quantities that may cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or that endanger the comfort, repose, health, or safety of any such person or the public.

##### **Rule 4601 (Architectural Coatings)**

Rule 4601 limits emissions of volatile organic compounds (VOCs) from architectural coatings. This rule specifies requirements for architectural coatings storage, cleanup, and labeling.

##### **Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations)**

The purpose of Rule 4641 is to limit VOC emissions by restricting the application and manufacturing of certain types of asphalt for paving and maintenance operations. The rule applies to the manufacture and use of cutback asphalt, slow-cure asphalt, and emulsified asphalt for paving and maintenance operations.

### Regulation VIII and Rule 8021 (Fugitive PM<sub>10</sub> Prohibitions)

Regulation VIII contains rules developed pursuant to USEPA guidance for serious PM<sub>10</sub> non-attainment areas. Rules included under this regulation limit fugitive dust PM<sub>10</sub> emissions from the following sources: construction, demolition, excavation, extraction, and other earthmoving activities, bulk materials handling, carryout and track-out, open areas, paved and unpaved roads, unpaved vehicle/equipment traffic areas, and agricultural sources. **Table 3.4-4** identifies the requirements projects must meet to comply with SJVAPCD Rule 8021 and **Table 3.4-5** identifies additional control measures that the Applicant would be required to implement during Project construction activities pursuant to Measure No. 5.2 of Rule 8021, *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities*.

### Rule 9510 (Indirect Source Review)

Rule 9510 requires certain development projects to mitigate exhaust emissions from construction equipment greater than 50 horsepower to 20 percent below statewide average NO<sub>x</sub> emissions and 45 percent below statewide average PM<sub>10</sub> exhaust emissions. This rule also requires applicants to reduce baseline emissions of NO<sub>x</sub> and PM<sub>10</sub> emissions associated with operations by 33.3 percent and 50 percent, respectively, over a period of 10 years (SJVAPCD 2017b).

In addition to reducing a portion of the development project's impact on air quality through compliance with SJVAPCD Rule 9510, a developer can further reduce the project's impact on air quality by entering into a "Voluntary Emission Reduction Agreement," or VERA, with SJVAPCD to address any mitigation requirements under CEQA. Under a VERA, the developer may fully mitigate project emission impacts by providing funds to SJVAPCD, which then are used by SJVAPCD to administer emission reduction projects on behalf of the project proponent (SJVAPCD 2015c). Emission reduction projects funded by the VERA program include replacement of older equipment such as tractors for small-scale agriculture and other small business operations, and buses for school districts where equipment replacement otherwise would be prohibitively expensive. To determine emissions reductions credited to the VERA, SJVAPCD tracks each piece of equipment purchased with the VERA funds and the emissions reductions anticipated from the use of that equipment compared to the replaced older equipment. Those direct reductions are then credited to the VERA. No reductions are credited to the VERA until replacement equipment has been purchased with VERA funds.

**TABLE 3.4-4  
SJVAPCD RULE 8021 MEASURES OTHER THAN ADMINISTRATIVE AND DISTRICT NOTIFICATION  
REQUIREMENTS APPLICABLE TO THE PROJECT**

| No.   | Measure   |
|-------|---|
| 5.2   | A person shall control the fugitive dust emissions to meet the requirements in [SJVAPCD] Table 8021-1 [shown below as Table 3.4-5].   |
| 5.3.1 | An owner/operator shall limit the speed of vehicles traveling on uncontrolled unpaved access/haul roads within construction sites to a maximum of 15 miles per hour.  |
| 5.3.2 | An owner/operator shall post speed limit signs that meet state and federal Department of Transportation standards at each construction site's uncontrolled unpaved access/haul road entrance. At a minimum, speed limit signs shall also be posted at least every 500 feet and shall be readable in both directions of travel along uncontrolled unpaved access/haul roads.   |
| 5.4.1 | Cease outdoor construction, excavation, extraction, and other earthmoving activities that disturb the soil whenever visible dust emissions exceeds 20 percent opacity. Indoor activities such as electrical, plumbing, dry wall installation, painting, and any other activity that does not cause any disturbances to the soil are not subject to this requirement.  |
| 5.4.2 | Continue operation of water trucks/devices when outdoor construction excavation, extraction, and other earthmoving activities cease, unless unsafe to do so.  |
| 6.3.1 | An owner/operator shall submit a Dust Control Plan to the Air Pollution Control Officer prior to the start of any construction activity on any site that will include 10 acres or more of disturbed surface area for residential developments, or 5 acres or more of disturbed surface area for non-residential development, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials on at least three days. Construction activities shall not commence until the Air Pollution Control Officer has approved or conditionally approved the Dust Control Plan. An owner/operator shall provide written notification to the Air Pollution Control Officer within 10 days prior to the commencement of earthmoving activities via fax or mail. The requirement to submit a dust control plan shall apply to all such activities conducted for residential and non-residential (e.g., commercial, industrial, or institutional) purposes or conducted by any governmental entity.   |
| 6.3.3 | The Dust Control Plan shall describe all fugitive dust control measures to be implemented before, during, and after any dust generating activity.   |
| 6.3.4 | A Dust Control Plan shall contain all the [administrative] information described in Section 6.3.6 of this rule. The Air Pollution Control Officer shall approve, disapprove, or conditionally approve the Dust Control Plan within 30 days of plan submittal. A Dust Control Plan is deemed automatically approved if, after 30 days following receipt by the District, the District does not provide any comments to the owner/operator regarding the Dust Control Plan.   |
| 6.3.6 | <p>A Dust Control Plan shall contain all of the following information:</p> <p>6.3.6.1 Name(s), address(es), and phone number(s) of person(s) and owner(s)/operator(s) responsible for the preparation, submittal, and implementation of the Dust Control Plan and responsible for the dust generating operation and the application of dust control measures.</p> <p>6.3.6.2 A plot plan which shows the type and location of each project.</p> <p>6.3.6.3 The total area of land surface to be disturbed, daily throughput volume of earthmoving in cubic yards, and total area in acres of the entire project site.</p> <p>6.3.6.4 The expected start and completion dates of dust generating and soil disturbance activities to be performed on the site.</p> <p>6.3.6.5 The actual and potential sources of fugitive dust emissions on the site and the location of bulk material handling and storage areas, paved and unpaved roads; entrances and exits where carryout/trackout may occur; and traffic areas.</p> <p>6.3.6.6 Dust suppressants to be applied, including: product specifications; manufacturer's usage instructions (method, frequency, and intensity of application); type, number, and capacity of application equipment; and information on environmental impacts and approvals or certifications related to appropriate and safe use for ground application.</p> <p>6.3.6.7 Specific surface treatment(s) and/or control measures utilized to control material carryout, trackout, and sedimentation where unpaved and/or access points join paved public access roads.</p> <p>6.3.6.8 At least one key individual representing the owner/operator or any person who prepares a Dust Control Plan must complete a Dust Control Training Class conducted by the District. The District will conduct Dust Control Training Classes on an as needed basis.</p> |

NOTE: SJVAPCD = San Joaquin Valley Air Pollution Control District

SOURCE: SJVAPCD 2004

**TABLE 3.4-5  
 CONTROL MEASURE OPTIONS FOR CONSTRUCTION, EXCAVATION, EXTRACTION, AND OTHER EARTHMOVING  
 ACTIVITIES**

| <b>A Pre-Activity</b>   |   |
|---|---|
| A1  | Pre-water site sufficient to limit visible dust emissions to 20 percent opacity.  |
| A2  | Phase work to reduce the amount of disturbed surface area at any one time.  |
| <b>B During Active Operations</b>                             |   |
| B1  | Apply water or chemical/organic stabilizers/suppressants sufficient to limit visible dust emissions to 20 percent opacity; or   |
| B2  | Construct and maintain wind barriers sufficient to limit visible dust emissions to 20 percent opacity. If using wind barriers, control measure B1 above shall also be implemented.  |
| B3  | Apply water or chemical/organic stabilizers/suppressants to unpaved haul/access roads and unpaved vehicle/equipment traffic areas sufficient to limit visible dust emissions to 20 percent opacity and meet the conditions of a stabilized unpaved road surface.  |
| <b>C Temporary Stabilization During Periods of Inactivity</b> |   |
| C.1   | Restrict vehicular access to the area.  |
| C.2   | Apply water or chemical/organic stabilizers/suppressants, sufficient to comply with the conditions of a stabilized surface. If an area having 0.5 acre or more of disturbed surface area remains unused for seven or more days, the area must comply with the conditions for a stabilized surface area as defined in section 3.58 of Rule 8011. |

SOURCES: SJVAPCD 2004, SJVAPCD Table 8021-1

***Fresno County General Plan***

The Fresno County General Plan contains the following air quality goal and policies aimed at reducing air pollutant emissions from development projects, including the Project (Fresno County 2000):

**Goal OS-G:** To improve air quality and minimize the adverse effects of air pollution in Fresno County.

***Policy OS-G.13:*** The County shall include fugitive dust control measures as a requirement for subdivision maps, site plans, and grading permits. This will assist in implementing the SJVUAPCD’s particulate matter of less than ten (10) microns (PM<sub>10</sub>) regulation (Regulation VIII). Enforcement actions can be coordinated with the Air District’s Compliance Division.

***Policy OS-G 14:*** The County shall require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.

***Policy OS-G.15:*** The County shall continue to work to reduce PM<sub>10</sub> and PM<sub>2.5</sub> emissions from County-maintained roads by considering shoulder treatments for dust control as part of road reconstruction projects.



### 3.4.2 Significance Criteria

The Project would result in a significant impact on air quality if it would:

- a) Conflict with or obstruct implementation of the applicable air quality plan;
- b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- c) Expose sensitive receptors to substantial pollutant concentrations; or
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

In addition to the air quality criteria above from Appendix G of the CEQA Guidelines, SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts* includes one additional criterion. Consistent with SJVAPCD's guidance, the Project would result in a significant impact on air quality if it would:

- e) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

For the evaluation of significance, the *Guidance for Assessing and Mitigating Air Quality Impacts* has established emissions-based thresholds of significance for criteria air pollutants (SJVAPCD 2015a), shown in **Table 3.4-6**. SJVAPCD recommends that lead agencies evaluate the significance of construction and operational impacts separately and provides separate significance thresholds for construction emissions and emissions from operational permitted and non-permitted equipment and activities. The operational thresholds of significance are relative to calendar-year, although construction emissions are assessed on a rolling 12-month period.

**TABLE 3.4-6  
SJVAPCD AIR QUALITY THRESHOLDS OF SIGNIFICANCE—CRITERIA AIR POLLUTANTS**

| Pollutant         | Construction Emissions<br>(tons per year) | Operational Emissions (tons per year) |   |
|-------------------|---|---------------------------------------|---|
|                   |   | Permitted Equipment and<br>Activities | Non-permitted<br>Equipment and Activities |
| CO                | 100                                       | 100                                   | 100                                       |
| NO <sub>x</sub>   | 10  | 10                                    | 10  |
| ROG               | 10  | 10                                    | 10  |
| SO <sub>x</sub>   | 27  | 27                                    | 27  |
| PM <sub>10</sub>  | 15  | 15                                    | 15  |
| PM <sub>2.5</sub> | 15  | 15                                    | 15  |

NOTES: CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter; PM<sub>10</sub> = respirable particulate matter; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO<sub>x</sub> = oxides of sulfur

SOURCE: SJVAPCD 2015a

SJVAPCD has established thresholds of significance for combined TAC emissions from the operations of both permitted and non-permitted sources (SJVAPCD 2015a). If the Project would have the potential to expose the public to TACs with risks more than the following thresholds, it would be considered to have a significant air quality impact:

- Probability of contracting cancer for the maximally exposed individual equals or exceeds 20 in 1 million people.
- Hazard Index for acute and chronic non-carcinogenic TACs equals or exceeds 1 for the maximally exposed individual.

### 3.4.3 Direct and Indirect Effects

#### 3.4.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of them, the actions described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*, and Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, are relevant to this analysis of air quality.

#### 3.4.3.2 Methodology

##### ***Regional Air Quality***

To determine the significance of Project impacts on air quality, Project-related construction, operation and maintenance (O&M), and decommissioning emissions were estimated and compared to significance thresholds recommended in SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015a). Emissions generated from the Project were analyzed to determine whether they would conflict with applicable air quality plans. Detailed emission estimates and calculations of the Project are included in the air quality and greenhouse gas study prepared for the Project (see Appendix D1).

Project-related regional air quality impacts would fall into two categories: short-term impacts of construction and decommissioning, and long-term operational impacts. First, during Project construction (short-term), the Project would affect local particulate concentrations primarily from fugitive dust sources and diesel exhaust. Because there are two battery options for the Project, emissions from both scenarios were analyzed. Exhaust emissions from construction equipment and vehicles, as well as fugitive dust from ground disturbance and vehicle travel on paved and unpaved roads, were estimated using California Emissions Estimator Model Version 2022.1.0 (CalEEMod). Detailed information about the specific construction equipment and vehicle trips for each phase of construction, and the durations of the phases, is provided in Appendix D1.

Operational emissions including area, energy, and mobile-source emissions were also estimated using CalEEMod. Area sources include architectural coatings, consumer products, and landscape maintenance equipment. Energy consumption would include electricity used for temperature

control. Mobile sources would include motor vehicles (e.g., pickup trucks or light-duty trucks) traveling to and from the Project sites for maintenance visits. The details of assumptions and calculations used to determine Project-related operational emissions are included in Appendix D1.

Decommissioning activities would generate air pollutants from on-site sources (e.g., off-road equipment and soil disturbance) and off-site sources (e.g., on-road haul trucks, vendor trucks, and worker vehicle trips). Like the construction phase, decommissioning would be temporary. Emissions from the eventual decommissioning were modeled based on a 2-year use of the same equipment used during construction with the addition of extra graders.

SJVAPCD has also established screening criteria to determine whether a project would result in a CO hotspot at affected roadway intersections (SJVAPCD 2015a). If neither of the following criteria are met at any of the intersections affected by the Project, the Project would result in no potential to create a violation of the CO standard:

- A traffic study for the Project indicates that the level of service (LOS) on one or more streets or at one or more intersections in the Project vicinity would be reduced to LOS E or LOS F.
- A traffic study indicates that the Project would substantially worsen an already existing LOS F on one or more streets or at one or more intersections in the Project vicinity.

SJVAPCD ensures that new and modified emission sources do not cause or contribute to an exceedance of an ambient air quality standard through Rule 2201 (SJVAPCD 2014b). It is recommended that an ambient air quality analysis be performed pursuant to the *Policy for District Rule 2201 AAQA Modeling* when emissions of any criteria pollutant during construction or operation would exceed 100 pounds per day. If emissions of one criteria pollutant exceeds the threshold, then all criteria pollutants are to be modeled. In the ambient air quality analysis, air pollutant concentrations are determined by conducting air dispersion modeling, adding the resulting concentrations to ambient background levels, and comparing to the applicable ambient air quality standard. The Project would be considered to have a significant impact if its emissions are predicted to cause or contribute to a violation of any CAAQS or NAAQS. If an exceedance of the CAAQS or NAAQS is predicted, modeled concentrations may be compared to significant impact levels to assess whether the Project's emissions would contribute significantly to an existing violation of the CAAQS or NAAQS.

### **Health Impacts**

The California Supreme Court published its decision in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 (known as the "Friant Ranch" case), which held that CEQA requires that a connection be drawn between potential project emissions and human health impacts. The Court found that while there will be some scientific limits to the analytical tools available to draw and quantify these connections, the EIR "must adequately explain what the agency does know and why, given existing scientific constraints, it cannot translate potential health impacts further." The Court faulted the EIR in that case for "fail[ing] to indicate the concentrations at which [certain] pollutants would trigger identified symptoms." The Court concluded that "the public would have no idea of the health consequences that result when more pollutants are added to a nonattainment

basin.” The Court found that even if it were impossible to do more, the Friant Ranch EIR would have been found insufficient “because it failed to explain why it was not feasible to provide an analysis that connected the air quality effects to human health consequences.”

The SJVAPCD significance thresholds described above were set at emissions levels tied to the region’s attainment status relative to the NAAQS and CAAQS designed to protect public health. They are emissions levels at which stationary pollution sources permitted by SJVAPCD must offset their emissions and CEQA projects must use feasible mitigation measures; they are not intended to be indicative of any localized human health impact that a project may have. Therefore, a Project construction–related exceedance of the mass regional emissions threshold (i.e., lb/day or tpy thresholds) before mitigation could indicate that the Project could cause or contribute to the exposure of sensitive receptors to ground-level concentrations greater than health-protective levels.

As described in the *Guidance for Assessing and Mitigating Air Quality Impacts*, given the subjective nature of odor impacts, SJVAPCD does not have adopted quantitative thresholds to determine whether potential odors would have a significant impact (SJVAPCD 2015a).

SJVAPCD identifies some common types of facilities that are known to produce substantial odors and provides recommended screening distances between those odor sources and receptors. Odor sources identified by SJVAPCD include wastewater treatment facilities, sanitary landfills, transfer stations, composting facilities, petroleum facilities, asphalt batch plants, chemical and fiberglass manufacturing facilities, painting/coating operations, food processing facilities, feed lots/dairies, and rendering plants. The recommended screening distance is 1 mile between the odor sources and receptors, except for wastewater treatment facilities and petroleum facilities, for which a screening distance of 2 miles is recommended (SJVAPCD 2015a). Because the Project would not include one or more of the identified odor sources, odor impacts that would be associated with the Project are assessed qualitatively.

### 3.4.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would conflict with or obstruct implementation of the applicable air quality plan.

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**Impact 3.4-1: Criteria pollutant emissions generated by Project construction, operation, and decommissioning would not conflict with SJVAPCD’s air quality plans. (*Less-than-Significant Impact*)**

Construction, O&M, and decommissioning and site restoration activities associated with the Project would result in emissions of criteria pollutants and ozone precursors such as ROG and NO<sub>x</sub> as well as particulate matter, which are pollutants for which the SJVAB is designated as non-attainment. SJVAPCD has prepared several air quality attainment plans to achieve ozone and particulate matter standards, the most recent of which are the *2020 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan, 2013 Plan for the*

*Revoked 1-Hour Ozone Standard, 2007 PM<sub>10</sub> Maintenance Plan and Request for Redesignation, 2012 PM<sub>2.5</sub> Plan, 2015 Plan for the 1997 PM<sub>2.5</sub> Standard, and 2018 Plan for the 1997, 2006, and 2012 PM<sub>2.5</sub> Standards.* The SJVAB is in attainment for CO, SO<sub>2</sub>, and lead, so there are no air quality plans for those pollutants.

SJVAPCD has determined that projects that generate emissions below its CEQA thresholds of significance for criteria pollutants and ozone precursors would not conflict or obstruct implementation of the applicable SJVAPCD air quality plans (SJVAPCD 2015a). A project would not conflict or obstruct a SJVAPCD air quality plan if it complies with all applicable SJVAPCD rules and regulations, complies with all applicable proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan) (SJVAPCD 2015a).

The Project would be required to comply with applicable SJVAPCD rules and regulations, such as Regulation VIII (Fugitive PM<sub>10</sub> Prohibitions) and Rule 9510 (Indirect Source Review), which are summarized in Section 3.4.1.3, *Regulatory Setting*. The Project would result in a minor increase in long-term trips that would have a negligible increase in overall vehicle miles traveled in the area. Haul truck, vendor truck, and worker vehicle trips generated during the proposed construction activities would be short-term and would cease after construction is completed, then additional trips would occur during decommissioning at the end of the Project's life span. As discussed below under Impact 3.4-2, maximum annual emissions generated during Project construction and decommissioning would not exceed SJVAPCD's annual thresholds, and would therefore result in a less-than-significant impact associated with a potential conflict with SJVAPCD's air quality attainment plans.

During the longer-term operational phase, the Project would have routine inspection and maintenance activities that would result in a net increase in emissions. However, as discussed under Impact 3.4-2, the increase in emissions would not exceed any significance threshold or violate any SJVAPCD rule or regulation and would be consistent with SJVAPCD's air quality attainment plans for PM<sub>10</sub>, PM<sub>2.5</sub>, and ozone. Based on these considerations, O&M activities associated with the Project would not conflict with or obstruct implementation of SJVAPCD's air quality plans, and the associated impact would be less than significant.

**Mitigation:** None required.

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**Criterion b)** Whether the Project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

**Criterion e)** Whether the Project would violate any air quality standard or contribute substantially to an existing or projected air quality violation (SJVAPCD threshold).

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**Impact 3.4-2: Project activities would generate emissions that would not contribute to violations of ambient air quality standards. (*Less-than-Significant Impact*)**

Construction and decommissioning activities associated with the Project are described in detail in Sections 2.5.6 and 2.5.8, respectively, of Chapter 2, *Project Description*, and would generate emissions of both criteria air pollutants and ozone precursors.

**Construction and Decommissioning**

Construction activities for both battery scenarios were modeled to occur over a period of approximately 6 years starting in 2024. Project construction emissions would be generated by on-site equipment, entrained dust, off-road equipment uses, and vehicle emissions, and by off-site sources such as construction worker daily commute trips and vendor truck trips. The Project would comply with SJVAPCD Rule 8021 to control fugitive dust emissions generated during grading activities as an independent obligation of the Project owner enforceable by SJVAPCD. SJVAPCD Rule 8021 measures that would apply to the Project are listed in Tables 3.4-4 and 3.4-5. After the completion of construction, each phase of the Project would be expected to remain in operation for 30 years. Maximum annual Project construction and decommissioning emissions, as estimated using CalEEMod, are summarized in **Table 3.4-7** and compared to SJVAPCD's annual construction thresholds.

As shown in Table 3.4-7, maximum annual Project construction and decommissioning emissions for both battery scenarios would not exceed SJVAPCD's significance thresholds for criteria pollutants and ozone precursors. Accordingly, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard, and the Project would result in a less-than-significant impact associated with its temporary increase in emissions of non-attainment pollutants during construction.

**Operation and Maintenance**

Long-term Project emissions would be associated primarily with weekly O&M worker vehicle trips and an annual extended maintenance program. Electricity from PG&E's power grid would provide energy required for temperature control and maintenance for the batteries. The Project's operational emissions were estimated using CalEEMod. Total estimated maximum annual operational emissions of ROG, NO<sub>x</sub>, CO, oxides of sulfur (SO<sub>x</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub> for each of the battery options would be less than 1 tpy (see Table 6 of Appendix D1).

Project O&M would generate emissions that would be well below SJVAPCD's significance thresholds for criteria pollutants identified in Table 3.4-6. Accordingly, the Project would result in a less-than-significant impact associated with the long-term increase in emissions of non-attainment pollutants. Therefore, consistent with SJVAPCD guidance, the Project would not result in a cumulatively considerable net increase of any criteria pollutant during operation or maintenance for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.

**TABLE 3.4-7  
MAXIMUM ANNUAL CONSTRUCTION AND DECOMMISSIONING EMISSIONS**

| Max. Rolling 12-Month Period                    | Annual Emissions (tons per year) |                 |     |                 |                  |                   |
|---|----------------------------------|-----------------|-----|-----------------|------------------|-------------------|
|   | ROG                              | NO <sub>x</sub> | CO  | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| <b>Lithium-Ion Battery Option</b>               |                                  |                 |     |                 |                  |                   |
| 2024  | 1                                | 6               | 7   | <1              | <1               | <1                |
| 2025  | <1                               | 4               | 5   | <1              | <1               | <1                |
| 2026  | 1                                | 4               | 5   | <1              | <1               | <1                |
| 2027  | 1                                | 5               | 5   | <1              | <1               | <1                |
| 2028  | <1                               | 4               | 5   | <1              | <1               | <1                |
| 2029  | <1                               | 4               | 4   | <1              | <1               | <1                |
| Decommissioning                                 | <1                               | 4               | 6   | <1              | <1               | <1                |
| Maximum   | 1                                | 6               | 7   | <1              | <1               | <1                |
| Threshold                                       | 10                               | <b>10</b>       | 100 | 27              | 15               | 15                |
| Exceed Threshold?                               | No                               | No              | No  | No              | No               | No                |
| <b>Lithium-Ion and Iron-Flow Storage Option</b> |                                  |                 |     |                 |                  |                   |
| 2024  | 1                                | 5               | 6   | <1              | <1               | <1                |
| 2025  | 1                                | 5               | 6   | <1              | <1               | <1                |
| 2026  | <1                               | 4               | 5   | <1              | <1               | <1                |
| 2027  | <1                               | 4               | 5   | <1              | <1               | <1                |
| 2028  | <1                               | 5               | 5   | <1              | <1               | <1                |
| 2029  | <1                               | 2               | 2   | <1              | <1               | <1                |
| Decommissioning                                 | <1                               | 4               | 6   | <1              | <1               | <1                |
| Maximum   | 1                                | 5               | 6   | <1              | <1               | <1                |
| Threshold                                       | 10                               | <b>10</b>       | 100 | 27              | 15               | 15                |
| Exceed Threshold?                               | No                               | No              | No  | No              | No               | No                |

NOTES: CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter; PM<sub>10</sub> = respirable particulate matter; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO<sub>x</sub> = oxides of sulfur

SOURCE: Data compiled by Environmental Science Associates in 2023 (see Table 5 of Appendix D1)

## Health Effects

The health effects associated with emissions of criteria pollutants are described above under the *Criteria Air Pollutants* discussions in Section 3.4.1.2, *Regional Topography, Meteorology, and Climate*. The primary health concern with exposure to ROG and NO<sub>x</sub> emissions is the secondary formation of ozone. Given the complexity of ozone formation and the current state of environmental science modeling, it is infeasible and would be speculative to determine whether—or the extent to which—a single project’s ozone precursor (ROG and NO<sub>x</sub>) emissions would result in the formation of secondary ground-level ozone, and the geographic and temporal distribution of such secondary formed emissions (SCAQMD 2014; SJVAPCD 2014a). Meteorology, the presence of sunlight, seasonal impacts, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone. Furthermore, available

models today are designed to determine regional, population-wide health impacts, and cannot accurately quantify ozone-related health impacts caused by NO<sub>x</sub> or ROG emissions from a local-level project. Therefore, it is currently infeasible to connect ROG or NO<sub>x</sub> emissions associated with a project to ozone-related health impacts. However, compliance with the ambient air quality standards indicates that regional air quality can be considered protective of public health (see Section 3.4.3.2, *Methodology*, under *Health Impacts*).

As described above, Project construction, O&M, and decommissioning would not generate emissions that would exceed SJVAPCD’s annual emissions thresholds for any of the air pollutants. Further, SJVAPCD recommends that the Project be evaluated for potential health impacts on surrounding receptors that would result from operational and multi-year construction if emissions exceed 100 lb/day of any pollutant, which would require an ambient air quality analysis (SJVAPCD 2015a). **Table 3.4-8** presents maximum daily Project emissions associated with construction and decommissioning of each of the battery options. As shown, maximum daily emissions from construction and decommissioning would be below the daily screening threshold of 100 lb/day regardless of the battery option. The maximum daily Project emissions of ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> associated with O&M of each of the battery options would each be less than 1 pound (see Table 8 of Appendix D1).

**TABLE 3.4-8  
MAXIMUM DAILY CONSTRUCTION AND DECOMMISSIONING EMISSIONS**

| Max. Rolling 12-Month Period                    | Annual Emissions (pounds per day) |                 |     |                 |                  |                   |
|---|-----------------------------------|-----------------|-----|-----------------|------------------|-------------------|
|   | ROG                               | NO <sub>x</sub> | CO  | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| <b>Lithium-Ion Battery Option</b>               |                                   |                 |     |                 |                  |                   |
| Phase 1   | 10                                | 87              | 97  | <1              | 12               | 7                 |
| Phase 2   | 5                                 | 33              | 46  | <1              | 2                | 1                 |
| Phase 3   | 4                                 | 19              | 46  | <1              | 2                | 1                 |
| Phase 4   | 4                                 | 36              | 50  | <1              | 2                | 1                 |
| Decommissioning                                 | 4                                 | 28              | 49  | <1              | 4                | 1                 |
| Maximum   | 10                                | 87              | 97  | <1              | 12               | 7                 |
| Threshold                                       | 100                               | <b>100</b>      | 100 | 100             | 100              | 100               |
| Exceed Threshold?                               | No                                | No              | No  | No              | No               | No                |
| <b>Lithium-Ion and Iron-Flow Storage Option</b> |                                   |                 |     |                 |                  |                   |
| Phase 1   | 10                                | 86              | 96  | <1              | 12               | 7                 |
| Phase 2   | 4                                 | 32              | 48  | <1              | 2                | 1                 |
| Phase 3   | 5                                 | 45              | 58  | <1              | 4                | 2                 |
| Decommissioning                                 | 3                                 | 28              | 49  | <1              | 4                | 1                 |
| Maximum   | 10                                | 86              | 96  | <1              | 12               | 7                 |
| Threshold                                       | 100                               | <b>100</b>      | 100 | 100             | 100              | 100               |
| Exceed Threshold?                               | No                                | No              | No  | No              | No               | No                |

NOTES: CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter; PM<sub>10</sub> = respirable particulate matter; ROG = reactive organic gases; SJVAPCD = San Joaquin Valley Air Pollution Control District; SO<sub>x</sub> = oxides of sulfur

SOURCE: Data compiled by Environmental Science Associates in 2023 (see Table 7 of Appendix D1)



Because the maximum daily emissions would be below the screening threshold for an ambient air quality analysis, the Project would not contribute to local exceedances of the NAAQS or the CAAQS. As mentioned, these standards are established at health-protective levels and include an adequate margin of safety. Therefore, Project construction, O&M, and decommissioning would not be anticipated to result in an adverse health effect with respect to emissions of criteria air pollutants. For additional impact analysis relative to sensitive receptor exposure to Project-generated DPM and CO emissions, see Impact 3.4-3; and for additional impact analysis relative to sensitive receptor exposure to Project-generated fugitive dust emissions, see Impact 3.3-4.

Because the Project would not exceed SJVAPCD thresholds, the potential health impacts associated with criteria air pollutants would be less than significant.

**Mitigation:** None required.

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**Criterion c)** Whether the Project would expose sensitive receptors to substantial pollutant concentrations.

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Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems leading to health impacts arise when the rate of pollutant emissions exceeds the rate of dispersion. As discussed previously, some land uses are more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Potential harmful airborne pollutants that could be generated by the Project are TACs, CO, and spore-containing fugitive dust that can cause Valley Fever. Therefore, each of these is addressed under this criterion with respect to the Project.

**Impact 3.4-3: The Project could expose sensitive receptors to substantial pollutant concentrations. (*Less-than-Significant Impact*)**

#### **Toxic Air Contaminants**

In addition to criteria pollutants, SJVAPCD regulated non-criteria pollutants such as hazardous air pollutants or TACs. A project that results in an increased cancer risk equal to or greater than 20 in 1 million for the Maximally Exposed Individual (MEI) could be considered to have a significant health impact on sensitive receptors (SJVAPCD 2015d). The threshold for Acute and Chronic Non-Carcinogens is a Hazard Index equal to or greater than 1 for the MEI (SJVAPCD 2015d).

Typically, emissions of PM<sub>10</sub> exhaust are used as a surrogate for DPM emissions in health risk calculations. As discussed above under Impact 3.4-2, total PM<sub>10</sub> emissions from construction, operation, and decommissioning would be well below SJVAPCD's significance thresholds for criteria pollutants. Given the substantial distance to the nearest sensitive receptors to the Project site (more than 3,000 feet), it is reasonable to expect that health risk impacts associated with the

Project's construction emissions would be below SJVAPCD's significance thresholds. In addition, Project construction and decommissioning activities are expected to be sporadic, transitory, and short-term, and are not anticipated to increase risk to the nearest sensitive receptors upwind of the Project site (Appendix D1). The associated impact from exposure of sensitive receptors to DPM would be less than significant.

### **Carbon Monoxide**

Exposure to high concentrations of CO can result in dizziness, fatigue, chest pain, headaches, and impairment of central nervous system functions. The SJVAB is currently an attainment area for CO; however, the potential exists for micro-scale CO "hotspots" to form immediately around points of congested traffic. Hotspots can form if such traffic occurs during periods of poor atmospheric ventilation, consists of a large number of vehicles cold-started and operating at pollution-inefficient speeds, and/or is operating on roadways crowded with non-Project traffic.

As discussed previously, SJVAPCD's Impact Assessment Guide uses the LOS approach to screen for intersections and streets that could experience CO hotspots. Because ambient CO concentrations in the Project area are well below the NAAQS and CAAQS, it is unlikely that the addition of Project construction, O&M, or decommissioning traffic would lead to exceedances of the standards. The Project's traffic analysis (Section 3.18, *Transportation*) did include an evaluation of LOS for roadway segments and intersections and found that all four study intersections along West Jayne Avenue would operate acceptably (i.e., LOS D or better) with the addition of vehicle trips generated by the Project. Traffic would temporarily increase during construction and decommissioning, but the addition of Project construction and decommissioning traffic would not result in potential CO hotspots and associated health effects on receptors. Project-related operational traffic would add up to 16 trips per day to the vicinity during annual maintenance and would therefore result in a less-than-significant impact with respect to potential for CO hotspots.

**Mitigation:** None required.

### **Impact 3.4-4: Project construction and decommissioning activities could expose sensitive receptors to the risk of contracting Valley Fever. (*Less-than-Significant Impact*)**

Construction activities that include ground disturbance can result in fugitive dust, which can cause fungus *Coccidioides* spores to become airborne if they are present in the soil. The fungus grows in soils in areas of low rainfall, high summer temperatures, and moderate winter temperatures. In susceptible people and animals, infection occurs when a spore is inhaled.

Workers who disturb soil where fungal spores are found, whether by digging, operating earthmoving equipment, driving vehicles, or working in dusty, wind-blown areas, are more likely to breathe in spores and become infected. Valley Fever is not a contagious disease, and secondary infections are rare. Most cases of Valley Fever are mild and symptoms generally occur within 3 weeks of exposure. It is estimated that 60 percent or more of infected people either have no symptoms or experience flu-like symptoms and never seek medical attention. However, in about 5 percent of cases, Valley Fever spreads outside the lungs to affect other body parts (e.g., joints,

bones, brain, skin, or other organs) and, in extreme cases (usually among patients with compromised immune systems), can cause death.

Given the endemic nature of the disease and the amount of earthmoving activities in Fresno County for agricultural activities and grading and excavation for new residential, commercial, and industrial development, it is typically not possible to attribute any one case of Valley Fever to a specific earthmoving activity. However, it is likely that much of the population (human and wildlife) of Fresno County has already been exposed to Valley Fever as a result of historic and ongoing earthmoving activities and current levels of fugitive dust throughout the region. Such ground-disturbing activities represent a continual source of spores that contribute to the relatively low number of Valley Fever cases reported each year (Fresno County 2023a). Construction and decommissioning activities for the Project would result in localized ground-disturbing activities similar to those that continually occur within the county.

According to the CDPH and the CDC, avoiding working in soils and dusty conditions is the best preventive measure. Because some construction and decommissioning workers cannot avoid participating in soil disturbance activities, minimization of fugitive dust and other engineering controls become the primary preventive measures. Pursuant to AB 203, the Applicant would be required to provide effective awareness training on Valley Fever to all employees annually and before an employee begins work that could reasonably be anticipated to cause substantial dust disturbance. In addition, the CDPH Occupational Health Branch and the CDC make recommendations for the protection of workers. The primary protection measures relate to worker training, dust suppression, and personal protective equipment. With respect to dust suppression, SJVAPCD Rule 8021 would require the Project to reduce visible dust emissions to less than 20 percent opacity.

Because ground disturbance in Fresno County is ongoing and the Project would implement fugitive dust control measures consistent with SJVAPCD Rule 8021, and because independently enforceable protections of worker safety and health are in place, the risk is low that fugitive dust generated by the Project would cause substantial adverse effects on human beings. Implementation of the required fugitive dust control measures such as those identified in Tables 3.4-4 and 3.4-5 would ensure that fugitive dust that could contain and appropriately control *Coccidioides immitis* spores. Compliance with the requirements of AB 203 and SJVAPCD Rule 802 would ensure that Valley Fever-related impacts on construction workers would be less than significant.

**Mitigation:** None required.

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**Criterion d)** Whether the Project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

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**Impact 3.4-5: The Project would generate odor or dust emissions. (*Less-than-Significant Impact*)**

**Odors**

Vehicle and equipment diesel exhaust emissions would generate odors during Project construction and decommissioning, attributable to concentrations of unburned hydrocarbons from tailpipes. These odors would be temporary and localized and would not carry over beyond the Project site boundaries. Therefore, odors associated with construction would not result in a nuisance to sensitive receptors or any surrounding land uses, and the associated impact would be less than significant.

During Project operation, the Project would not introduce any potential sources of odors beyond the use of vehicles for routine inspection and maintenance. O&M activities would be minimal and would not result in substantial odors. Therefore, operational odor impacts would also be less than significant.

**Dust**

Dust generated during construction can vary substantially from day to day, depending on prevailing weather conditions. Construction of the Project would generate fugitive dust stirred up by vehicles traveling on roads, dust from construction activities, emissions from off-road equipment and construction vehicles, and windblown dust from open lands. Entrained dust would also result from the exposure of unpaved surfaces to wind from the direct disturbance and movement of soil, resulting in PM<sub>10</sub> and PM<sub>2.5</sub> emissions. As discussed in Impact 3.4-2, maximum annual and daily construction emissions would not exceed SJVAPCD's annual significance thresholds or daily screening thresholds for PM<sub>10</sub> or PM<sub>2.5</sub>, which are designed to identify the potential for a deterioration of ambient air quality that could affect public health.

The Project would be required to comply with SJVAPCD Rule 8021 to control dust emissions generated during grading activities. Standard construction practices that would be employed to reduce fugitive dust emissions include watering of active sites to maintain acceptable levels of dust generation, covering haul trucks, and minimizing grading and soil movement when winds exceed 30 miles per hour. In addition, Regulation VIII would require the Applicant to prepare a dust control plan, and all applicable control measures would be fully implemented. SJVAPCD Rule 4101 enforces dust suppression and would require that the Project reduces visible dust emissions to less than 20 percent opacity. Therefore, dust impacts on sensitive receptors during Project construction and decommissioning would be less than significant.

**Mitigation:** None required.

***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's

construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., less-than-significant impacts related to a conflict with or to the obstruction of implementation of the applicable air quality plan; generation of any criteria pollutant for which the Project region is non-attainment; exposure of sensitive receptors to substantial pollutant concentrations; and resulting in other emissions adversely affecting a substantial number of people.

**Mitigation:** None required.

### 3.4.4 Cumulative Effects Analysis

The potential for the Project or an alternative to cause or contribute to a potential significant cumulative impact with respect to air quality is evaluated below.

**Impact 3.4-6: The Project's criteria pollutant emissions would not be a cumulatively considerable contribution to a significant cumulative effect due to a conflict with SJVAPCD's air quality plans. (*Less-than-Significant Impact*)**

The geographic scope considered for potential cumulative impacts on air quality is the SJVAB, which is governed by SJVAPCD. The SJVAB currently is classified as non-attainment for the 1-hour state ozone standard and for the federal and state 8-hour ozone standards. Additionally, the SJVAB is classified as non-attainment for the state 24-hour and annual arithmetic mean PM<sub>10</sub> standards and the state annual arithmetic mean and national 24-hour PM<sub>2.5</sub> standards (SJVAPCD 2023). Therefore, there is an existing adverse cumulative impact in the SJVAB relative to these pollutants.

The contribution of a project's individual air pollutant emissions to regional air quality impacts is, by its nature, a cumulative effect. Emissions from past, present, and reasonably foreseeable future projects in the study area also have contributed or will contribute to adverse regional air quality conditions on a cumulative basis. None of the single projects in the cumulative scenario, by itself, would be sufficient in size to result in non-attainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality conditions. While a significant cumulative air quality impact exists in regions where air pollutants exceed the state and/or federal standards, the project-level thresholds for criteria air pollutants are based on levels that when not exceeded, new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. As discussed above, the Project would not conflict with or obstruct implementation of SJVAPCD's air quality plans; thus, this cumulative impact would be less than significant.

**Mitigation:** None required.

**Impact 3.4-7: The Project's generation of emissions would not contribute to a significant adverse cumulative impact due to violations of ambient air quality standards. (*Less-than-Significant Impact*)**

Project emissions of pollutants for which the SJVAB is in attainment for state and federal air quality standards (e.g., CO and SO<sub>x</sub>) would not lead to a cumulative impact because the individual Project emissions would be well below the SJVAPCD thresholds in an area where there is no existing adverse cumulative impact associated with those pollutants. Maximum annual emissions for criteria pollutants generated during Project construction and decommissioning would be below SJVAPCD's annual significance thresholds and daily screening thresholds, which would not result in a potentially significant cumulative impact. Therefore, the Project's incremental contribution to the cumulative condition in the region during construction and decommissioning would not be cumulatively considerable and the associated cumulative impact would be less than significant.

Project operation would include very minimal emissions of ozone precursors (ROG and NO<sub>x</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub>, well below SJVAPCD's thresholds; therefore, O&M would not result in a cumulatively considerable increase in emissions of non-attainment pollutants and the associated cumulative impact would be less than significant.

**Mitigation:** None required.

**Impact 3.4-8: The Project would not cause or contribute to a significant cumulative impact due to exposure of sensitive receptors to substantial pollutant concentrations. (*Less-than-Significant Impact*)**

SJVAPCD considers TAC emissions to be localized impacts. SJVAPCD has established thresholds of significance for TACs that are conservative and protective of health impacts on sensitive receptors. Because impacts from TACs are localized and the thresholds of significance for TACs have been established at such a conservative level, Project risks over the individual thresholds of significance are also considered cumulatively significant (SJVAPCD 2015a). As discussed in Impact 3.4-3, the Project site is more than 3,000 feet away from the nearest sensitive receptor, and thus the Project would not increase risks to those sensitive receptors. Therefore, the contribution of the Project to the cumulative impact related to exposure to TACs would not be cumulatively considerable, and the cumulative impact would be less than significant.

Although there is an existing adverse cumulative Valley Fever impact in the SJVAB, implementation of fugitive dust control measures by the Project and other projects under construction in the area consistent with SJVAPCD Regulation VIII and Rule 8021 would reduce exposure to *Coccidioides immitis* spores that cause Valley Fever. In addition, the Applicant would be required to ensure that all independently enforceable protections of worker safety and health associated with AB 203 are in place and implemented. The Project's incremental contribution to cumulative Valley Fever-related impacts would be less than significant.

SJVAPCD also considers cumulative CO impacts to be accounted for in a CO hotspot analysis (SJVAPCD 2015a). As discussed under Impact 3.4-3, construction-related traffic is not

anticipated to create or contribute to a CO hotspot, as there are no existing CO hotspots in the Project vicinity, and Project emissions would not be concentrated and would disperse rapidly. Therefore, impacts on sensitive receptors regarding potential CO hotspots resulting from the Project's contribution to cumulative traffic-related air quality impacts would be less than significant.

**Mitigation:** None required.

**Impact 3.4-9: The Project would not cause or contribute to a significant adverse cumulative impact due to the generation of odor or dust emissions. (*Less-than-Significant Impact*)**

The Project could contribute to a cumulative impact related to dust impacts. However, the Project and other projects under construction in the SJVAB would be required to comply with SJVAPCD Rule 8021 to control dust emissions generated during grading activities. In addition, the Project and other projects would comply with Regulation VIII, which requires a dust control plan and full implementation of all applicable control measures. Therefore, the Project's incremental contribution to cumulative dust impacts would be less than significant. Odor impacts from the Project would be very minimal and localized, which would not contribute to cumulative odor impacts in the area. Cumulative odor impacts associated with the Project would be less than significant.

**Mitigation:** None required.

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## 3.5 Biological Resources

This section identifies and evaluates issues related to all of the following: Species protected by local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS); riparian habitat or other specified sensitive natural communities; federally protected wetlands; native, resident or migratory fish or wildlife species, wildlife corridors, and native wildlife nursery sites; and adopted federal, state, regional, or local habitat conservation plans (HCPs). The section describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment.

The County received scoping input from CDFW. The specific input received was related to special-status species, recommended habitat assessments, regulatory obligations, and impacts of pesticide use. A copy of the letter is provided in Exhibit E of **Appendix A**, *Scoping Report*.

The analysis in this section is based in part on the site-specific, Project-specific biological resources technical report prepared on the Applicant's behalf (**Appendix E**, *Biological Resources*) and associated technical surveys; and data sets from the California Natural Diversity Database (CNDDDB) (CDFW 2023) and USFWS (2023). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the formal record, in the preparation of this Draft EIR.

### 3.5.1 Setting

#### 3.5.1.1 Study Area

The Project site is located in the San Joaquin Valley in the Avenal and Gujarral Hills, California, 7.5-minute U.S. Geological Survey quadrangles. The Project site is located southwest of the Pacific Gas and Electric Company (PG&E) Gates Substation along West Jayne Avenue in unincorporated Fresno County, approximately 11.5 miles east of the city of Coalinga, 7.5 miles north of the city of Avenal, and approximately 1,700 feet northeast of Interstate 5 (I-5) at the closest point. The Project would be developed on up to 260 acres within a 318-acre site comprising three parcels: Assessor's Parcel Numbers [APNs] 085-040-58, 085-040-36, and 085-040-37. Adjacent land uses consist of agricultural fields in all directions, a solar field directly to the west, and a substation to the north (Appendix E). This analysis of potential impacts on biological resources evaluates all areas within the 318-acre site.

#### 3.5.1.2 Environmental Setting

The Project site supports four land cover types: active agriculture, orchard, fallow, and tailwater basins (irrigation ponds), as shown in Figure 3 (Appendix E). No natural vegetation communities occur on the Project site. Compacted dirt roads border and separate each land cover type and are likely used for agricultural maintenance activities (Appendix E).

### **Natural Communities**

Active agricultural land is present in the northern portion of the site, which was supporting pistachio saplings at the time of the baseline biological resource surveys. The central portion of the site supports an orchard containing mature citrus trees. The southern portion supports fallow cropland that the baseline surveys found to have been recently disked. A tailwater basin at the eastern edge of the site contains two small irrigation ponds, which were dry at the time of the surveys (Appendix E). Native vegetation is minimal other than cultivated crops; vegetation exists mainly within the margins of agricultural fields and within two tailwater basins used for irrigation. No sensitive plant communities are located within the Project site and no regional wildlife linkages or corridors are mapped within the site (Appendix E).

### **Special-Status Species**

Species known to occur at or in the regional vicinity are protected by federal and/or State endangered species laws or have been designated as Species of Special Concern by CDFW. In addition, Section 15380(b) of the CEQA Guidelines includes rare plants; vascular plants on California Native Plant Society Rare Plant Ranking (CRPR) List 1 or 2 are considered to meet Section 15380(b) requirements. Species recognized under these terms are collectively referred to as *special-status species*.

A list of special-status species with potential to occur in the regional vicinity was compiled from the following sources: a nine-quad search of the California Natural Diversity Database (CDFW 2023a), a nine-quad search on the California Native Plant Society's (CNPS) Rare Plant Inventory (CNPS 2023), a Project footprint search from the U.S. Fish and Wildlife Service IPaC database (USFWS 2023), and biological literature of the region for Avenal and Gujarral Hills and the surrounding 7.5-minute USGS topographic quadrangles (**Table 3.5-1**).

### **Special-status Plants**

Based on the literature review and seasonally timed rare-plant surveys conducted for the Project (Appendix E), no rare plants were observed, nor were any found to have potential to occur on-site. The entire site is subject to disturbance from agriculture, disking, and related activities. Only small patches of ruderal vegetation persist (Appendix E).

### **Special-status Wildlife**

Special-status wildlife species that have been identified as having potential to occur on or near the Project site include San Joaquin kit fox, western burrowing owl, northern harrier, loggerhead shrike, tricolored blackbird, and Swainson's hawk (see Table 3.5-1). The Project site provides low-quality burrowing or nesting habitat for most species due to frequent disking, but gophers and other rodents may inhabit agricultural fields, providing suitable foraging habitat for raptors, foxes, and other predatory species.

Northern harrier was observed during the biological resource surveys (Appendix E). Swainson's hawk, loggerhead shrike, and burrowing owl have potential to roost or nest on the edges of the site and forage on-site, along with other raptor and nesting bird species. A tricolored blackbird

nesting colony is not present but the species may forage on-site. The potential for all considered species to occur is presented in Table 3.5-1.

### **Swainson's Hawk**

Swainson's hawk (*Buteo swainsoni*) is state listed as threatened. In California, this species nests in the Central Valley, the Klamath Basin, the Northeastern Plateau, Lassen County, and the Mojave Desert. It breeds in stands with few trees in riparian areas, agricultural environments, oak savanna, and juniper-sage flats (Zeiner et al. 1990). Swainson's hawks forage in adjacent grasslands or livestock pastures. In the Central Valley, they nest in riparian areas and in isolated tree clusters, often near rural residences or agricultural fields, and on structures such as power poles. Swainson's hawk historically occupied much of the state, but the species' range is now largely restricted to the Central Valley, and breeding populations in this area have declined in association with the loss of suitable foraging and nesting habitat.

No documented occurrences of nesting Swainson's hawks are located within 5 miles of the Project site; however, a single transitory Swainson's hawk was observed in the vicinity during burrowing owl surveys conducted in March 2022. Between 2005 and 2016, 10 documented nests were reported within 10 miles of the Project site, at distances ranging from approximately 5.5 miles to 9.5 miles (CDFW 2023; Appendix E). This species typically prefers to nest within a grove or lines of trees, but Swainson's hawks are known to nest in smaller trees and isolated trees when higher quality nesting habitat is absent. Marginally suitable nesting habitat for Swainson's hawk is present within 0.5-mile on power poles or other structures. Habitat within 0.5-mile consists primarily of orchards and active agriculture, which likely do not provide suitable nesting habitat, due to ongoing disturbance.

Suitable foraging habitat for Swainson's hawk is present in the agricultural and fallow portions of the Project site; however, because of the openness and lack of vegetative cover for prey, the site is considered low-quality foraging habitat.

### **Tricolored Blackbird**

Tricolored blackbird (*Agelaius tricolor*) is a state threatened species. This is a colonial species that nests in dense vegetation in and around freshwater wetlands. When nesting, tricolored blackbirds generally require freshwater wetland areas large enough to support colonies of 50 pairs or more. They prefer freshwater emergent wetlands with tall, dense cattails or tules for nesting, but they also will nest in thickets of willow, blackberry, wild rose, or tall herbs, and sometimes in agricultural lands. During the nonbreeding season, flocks are highly mobile and forage in grasslands, croplands, and wetlands (Zeiner et al. 1990).

The closest reported occurrence of tricolored blackbird is from 2007 and was identified 4.3 miles southeast of the Project site (CDFW 2023). Suitable nesting habitat is not present within the tailwater basins on the eastern edge of the site, given the basins' irregular water levels from agricultural practices. Additionally, appropriate emergent vegetation was not observed within the basins during reconnaissance surveys. Suitable foraging habitat is present on the Project site, as this species is an opportunistic forager of a variety of prey items in agricultural areas. No tricolored blackbirds were observed during the field surveys (Appendix E).

### **Burrowing Owl**

Burrowing owl (*Athene cunicularia*) is a California Species of Special Concern and a USFWS Bird of Conservation Concern. In California, burrowing owls are yearlong residents of open, dry grassland and desert habitats, and in the grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats (Zeiner et al. 1990). This species' preferred habitat is generally short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils. Burrowing owls require burrows for nesting, roosting, cover, and catching of prey.

In California, western burrowing owls most commonly live in burrows created by California ground squirrels (*Otospermophilus beecheyi*). Burrowing owls may occur in disturbed landscapes such as agricultural areas, ruderal grassy fields, vacant lots, and pastures with suitable open, sparse vegetation; areas where usable burrows are present; and locations with foraging habitat nearby. Debris piles, riprap, culverts, and pipes may be used as burrows. Although burrowing owl has experienced population reduction over the extent of its range, the species' range remains wide and the Central Valley population has remained sizable, largely because of its ability to occupy agricultural lands and other disturbed habitats (Shuford and Gardali 2008).

During both nonbreeding- and breeding-season surveys, no burrowing owls were observed at the Project site. No burrows large enough to accommodate burrowing owl were detected and no burrowing owl sign was observed during site surveys. In the absence of California ground squirrel colonies or other suitable burrows and cover, and given the active agricultural uses over most of the site, the Project site is considered marginal and unoccupied habitat for the species (Appendix E).

### **Loggerhead Shrike**

Loggerhead shrike (*Lanius ludovicianus*) is a California Species of Special Concern and a USFWS Bird of Conservation Concern. The species is a yearlong resident in most of the United States and in Mexico. In California, although shrikes are widespread at the lower elevations, the largest breeding populations are located in portions of the Central Valley, the Coast Ranges, and the southeastern deserts (Humple 2008). Preferred habitats for loggerhead shrike are open areas that include scattered shrubs, trees, posts, fences, utility lines, or other structures that provide hunting perches with views of open ground, and nearby spiny vegetation or structures (such as the tops of chain-link fences or barbed wire) on which to impale prey items (Humple 2008). Loggerhead shrikes occur most frequently in riparian areas along the woodland edge, grasslands with sufficient perch and butcher sites, scrublands, and open-canopied woodlands, although they can be common in agricultural and grazing areas and can sometimes occur along mowed roadsides and at cemeteries and golf courses.

The closest reported known occurrence from the CNDDDB, from 2001, is from 3.6 miles southeast of the Project site (CDFW 2023). Loggerhead shrike nesting may occur within the on-site orchard and within Russian thistle shrubs in the fallow agricultural fields in the northern and southern portions of the Project site. Suitable foraging habitat for this species is present within the open agricultural fields. Loggerhead shrikes were not observed on-site during field surveys (Appendix E).

### **Northern Harrier**

Northern harrier (*Circus hudsonius*) is a California Species of Special Concern. Northern harriers nest on the ground, mostly within patches of dense, often tall, vegetation; they use coastal scrub, Great Basin grassland, marsh and swamp, riparian scrub, valley and foothill grassland, and wetland habitats (Zeiner et al. 1990). A northern harrier was observed flying above the Project site during the field reconnaissance survey conducted on November 9, 2021. Suitable nesting habitat does not occur on the Project site, but marginally suitable foraging habitat for the species is present in disked fields on-site (Appendix E).

### **San Joaquin Kit Fox**

San Joaquin kit fox (*Vulpes macrotis mutica*) is federally listed as endangered and state listed as threatened. Historically, the distribution of the San Joaquin kit fox extended throughout the San Joaquin Valley and the surrounding foothills of the Coast Ranges (USFWS 2010). The species' range has been significantly reduced, and the largest extant populations occur in the western portions of the San Joaquin Valley south of Fresno County. San Joaquin kit foxes burrow in annual grasslands or grassy open stages with scattered shrubby vegetation. The species requires loose-textured sandy soils for burrowing and a suitable prey base of rodents for foraging.

There are multiple reported occurrences from the CNDDDB within 5 miles; however, these occurrences are all historical, dated from 1975 to 1981 (CDFW 2023). During the field reconnaissance survey, no burrows of a suitable size (greater than 4 inches in diameter) were detected. The intensive agricultural activities, minimal sign of prey species, and presence of coyotes on-site substantially reduce the Project site's habitat value, and kit foxes are not expected to use the site for breeding. There is a low potential for San Joaquin kit fox to use the site for foraging and dispersal; however, lack of cover may discourage kit foxes from crossing the site. No San Joaquin kit foxes, suitable dens, or sign were observed during field surveys.

### **Critical Habitat**

The Project site does not support designated critical habitat for any species of plant or wildlife (USFWS 2023).

### **Wildlife Movement Corridors**

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration and dispersal of animals. Wildlife corridors contribute to population survival by assuring genetic exchange between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local catastrophe (e.g., fire) or restoration.

The Project site does not lie within a recognized terrestrial wildlife connectivity area identified in the *California Essential Habitat Connectivity Project* (Spencer et al. 2010). However, the western San Joaquin Valley and foothills include important movement corridors for the San Joaquin kit fox (USFWS 1998). In addition, the Project site is located within the Pacific Flyway, a significant avian migration route along the West Coast of North America. The Mendota Wildlife Area,

located 4.5 miles northeast of the Project site along Fresno Slough, is an important migratory bird stopover area.

Wildlife movement studies were not conducted at the Project site; however, based on the site's agricultural use and lack of open natural habitat, and because the surrounding areas are heavily influenced by agriculture, opportunities for habitat continuity or wildlife movement are limited. The site also does not contain wildlife travel routes such as riparian strips, waterways, or underpasses, nor does it provide connectivity between large areas of open space. Thus, it is not likely that any portion of the site serves as an important linkage between habitats.

### ***Jurisdictional Waters***

Two tailwater basins are present along the eastern edge of the Project site, adjacent to the active agriculture and fallow cropland areas. These basins are constructed and likely support irrigation for on-site agriculture. These features were excavated for agricultural purposes and have no connectivity with any other waterways. They also are not expected to be considered jurisdictional by federal or state agencies, because they are less than 1 acre in size; were constructed for agricultural crop irrigation, not by modifying a surface water of the state; and appear to be maintained (Appendix E).

## **3.5.1.3 Regulatory Setting**

### ***Federal***

#### **Endangered Species Act**

The federal Endangered Species Act of 1973 (FESA) and subsequent amendments (16 USC 1531–1543) provide guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. In addition, the FESA defines species as threatened or endangered and provides regulatory protection for listed species. The law also provides a program for the conservation and recovery of threatened and endangered species and the conservation of designated critical habitat that USFWS determines to be required for the survival and recovery of these listed species.

FESA Section 9 lists actions that are prohibited under the FESA. The definition of *take* is to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Although unauthorized take of a listed species is prohibited, take may be allowed when it is incidental to an otherwise legal activity. Section 9 prohibits take of listed species of fish, wildlife, and plants without special exemption. The definition of *harm* includes significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns related to breeding, feeding, or shelter. *Harass* is defined as actions that create the likelihood of injury to listed species by significantly disrupting normal behavioral patterns related to breeding, feeding, and shelter.

FESA Section 10 provides a means whereby a nonfederal action with the potential to result in take of a listed species can be allowed under an incidental take permit.



### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) (16 USC Sections 703–711) is the domestic law that affirms and implements a commitment by the U.S. to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. Unless and except as permitted by regulations, the MBTA prohibits the intentional pursuit, hunting, taking, capture, or killing of migratory birds anywhere in the United States. The law also applies to the disturbance and removal of nests occupied by migratory birds or their eggs during the breeding season, whether intentional or incidental.

### **Bald and Golden Eagle Protection Act**

The federal Bald and Golden Eagle Protection Act of 1940 (16 USC Section 668) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violations. Take of bald and golden eagles includes to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb” (16 USC 668[c]). *Disturb* means to agitate or bother a bald or golden eagle to a degree that causes or is likely to cause, based on the best scientific information available, either (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior (72 Fed. Reg. 31132; 50 CFR Section 22.3).

### **State**

#### **California Endangered Species Act**

The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et seq.) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA affirms that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect a listed species under both the FESA and the CESA, compliance with the FESA would satisfy the CESA if CDFW determines that the federal incidental take authorization is “consistent” with the CESA under Fish and Game Code Section 2080.1. Before a project may result in lawful take of a species listed under the CESA, a take permit must be issued under Section 2081(b).

#### **Fish and Game Code Sections 2080 and 2081**

Section 2080 of the Fish and Game Code states:

*No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the [California Fish and Game] Commission determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act.*

Pursuant to Section 2081, CDFW may authorize individuals or public agencies to import, export, take, or possess state-listed endangered, threatened, or candidate species. These otherwise

prohibited acts may be authorized through a permit or memorandum of understanding if (a) the take is incidental to an otherwise lawful activity, (b) the individual or public agency minimizes and fully mitigates impacts of the authorized take, (c) the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and (d) the project operator ensures that adequate funding is available to implement the measures that CDFW requires. CDFW makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

### **Fish and Game Code Sections 3503, 3503.5, and 3513**

These sections of the Fish and Game Code prohibit project operators from conducting activities that would result in (a) the take, possession, or destruction of any birds of prey; (b) the take or possession of any migratory nongame bird; (c) the take, possession, or needless destruction of the nest or eggs of any raptors or nongame birds; or (d) the take of any nongame bird, pursuant to Fish and Game Code Section 3800, whether intentional or incidental.

### **CEQA Guidelines Section 15380**

CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species nonetheless may be considered rare or endangered for purposes of CEQA if the species can be shown to meet either of the following criteria:

- Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens.
- The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered “threatened” as that term is used in the FESA.

## **Local**

### **Fresno County 2000 General Plan**

The Fresno County General Plan (Fresno County 2000) outlines several policies intended for the protection of biological resources countywide. The following policies from the Open Space and Conservation and Agriculture and Land Use elements apply to the Project:

***Policy OS-E.1:*** The County shall support efforts to avoid the “net” loss of important wildlife habitat where practicable. In cases where habitat loss cannot be avoided, the County shall impose adequate mitigation for the loss of wildlife habitat that is critical to supporting special-status species and/or other valuable or unique wildlife resources. Mitigation shall be at sufficient ratios to replace the function, and value of the habitat that was removed or degraded. Mitigation may be achieved through any combination of creation, restoration, conservation easements, and/or mitigation banking. Conservation easements should include provisions for maintenance and management in perpetuity. The County shall recommend coordination with the U.S. Fish and Wildlife Service and the California Department of Fish and Game to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed. Important habitat and habitat components include nesting, breeding, and foraging areas, important spawning

grounds, migratory routes, migratory stopover areas, oak woodlands, vernal pools, wildlife movement corridors, and other unique wildlife habitats (e.g., alkali scrub) critical to protecting and sustaining wildlife populations.

**Policy OS-E.2:** The County shall require adequate buffer zones between construction activities and significant wildlife resources, including both on-site habitats that are purposely avoided and significant habitats that are adjacent to the project site, in order to avoid the degradation and disruption of critical life cycle activities such as breeding and feeding. The width of the buffer zone should vary depending on the location, species, etc. A final determination shall be made based on informal consultation with the U.S. Fish and Wildlife Service and/or the California Department of Fish and Game.

**Policy OS-E.3:** The County shall require development in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the value of the habitat for wildlife is maintained.

**Policy OS-E.4:** The County shall encourage private landowners to adopt sound wildlife habitat management practices, as recommended by the California Department of Fish and Game officials and the U.S. Fish and Wildlife Service.

**Policy OS-E.9:** Prior to approval of discretionary development permits, the County shall require, as part of any required environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based upon field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant resources and/or special-status plants or animals. Such evaluation will consider the potential for significant impact on these resources and will either identify feasible mitigation measures or indicate why mitigation is not feasible.

**Policy OS-F.5:** The County shall establish procedures for identifying and preserving rare, threatened, and endangered plant species that may be adversely affected by public or private development projects. The County shall require, as part of the environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based on field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant plant resources and/or special-status plant species. Such evaluation shall consider the potential for significant impact on these resources and shall either identify feasible mitigation measures or indicate why mitigation is not feasible.

**Policy OS-F.7:** The County should encourage landowners to maintain natural vegetation or plant suitable vegetation along fence lines, drainage and irrigation ditches and on unused or marginal land for the benefit of wildlife.

**Policy LU-B.13:** In conjunction with environmental reviews under CEQA, the County shall require applicants to identify biological resources to determine if there are sensitive and/or important flora and fauna that require special protection measures.

**Program LU-A.C:** The County shall develop and implement guidelines for design and maintenance of buffers to be required when new non-agricultural uses are approved in agricultural areas. Buffer design and maintenance guidelines shall include, but not be limited to, the following:

- a. Buffers shall be physically and biologically designed to avoid conflicts between agriculture and non-agricultural uses.
- b. Buffers shall be located on the parcel for which a permit is sought and shall protect the maximum amount of farmable land.
- c. Buffers generally shall consist of a physical separation between agricultural and non-agricultural uses. The appropriate width shall be determined on a site-by-site basis taking into account the type of existing agricultural uses, the nature of the proposed development, the natural features of the site, and any other factors that affect the specific situation.
- d. Appropriate types of land uses for buffers include compatible agriculture, open space and recreational uses such as parks and golf courses, industrial uses, and cemeteries.
- e. The County may condition its approval of a project on the ongoing maintenance of buffers.

### **Fresno County Code**

Chapter 13.12–Trees and Shrubs of the Fresno County Code establishes permit rules for tree planting and landscaping, including species of trees, planting locations, and irrigation regimes.

### **PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan**

The Project is located within PG&E’s San Joaquin Valley Operation and Maintenance HCP area. The plan allows PG&E to continue its San Joaquin Valley operation and maintenance programs in conformity with the requirements of the FESA, the CESA, and the California Fish and Game Code. The plan requires all contractors to complete HCP training to work in the plan area. The limit of the HCP coverage overlaps the PG&E interconnection line within the Project site. However, PG&E is not an applicant subject to the County’s CEQA process for this Project and the HCP does not directly apply to this Project. The Applicant would include PG&E’s work areas in its surveys and would advise PG&E if any biological species are found. PG&E would coordinate with the Applicant’s implementation of any APMs or mitigation measures that would apply to PG&E’s construction.

## **3.5.2 Significance Criteria**

The Project would result in a significant impact on biological resources if it would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- c) Have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

### 3.5.3 Direct and Indirect Effects

#### 3.5.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts to a variety of resource areas. The actions described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*, could reduce the potential for wildlife to contract Valley Fever. Actions described in Section 2.5.9.5, *Wildlife-Friendly Design Features*, could reduce adverse impacts on nocturnal species, potentially including foraging, sheltering, mating and reproduction, communication, and migration behaviors. Actions described in Section 2.5.9.6, *Pest Management*, could reduce the potential for pests (including weeds) to adversely affect habitat conditions. Finally, actions described in Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, could support the protection of water quality or result in other conditions that benefit biological resources. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*.

#### 3.5.3.2 Methodology

The following analysis relies on the criteria from Appendix G of the CEQA Guidelines to identify direct and indirect effects on biological resources. It is based on existing and potential biological resources that occur or could occur on the Project site and in the immediate vicinity, as identified through a review of relevant literature and occurrences databases, and focused biological surveys. Such resources include sensitive habitats, including potentially jurisdictional features; special-status plant and wildlife species; and potential wildlife movement corridors.

#### 3.5.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.

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**Impact 3.5-1: The Project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (*Less than Significant with Mitigation Incorporated*)**

No special-status plant species have potential to occur on the Project site. Of the special-status wildlife with potential to occur (see Section 3.5.1.3, *Environmental Setting*), Swainson's hawk, loggerhead shrike, San Joaquin kit fox, and other nesting raptors and migratory birds protected under the MBTA and California Fish and Game Code have some potential to occur within the Project site. Because tricolored blackbird nesting colonies are not present onsite, this species would not be impacted and is not discussed further below.

### **San Joaquin Kit Fox**

The disked and actively cultivated agricultural lands on-site are not preferred denning habitat and only provide limited foraging habitat for San Joaquin kit fox; however, the Project site is surrounded by other agricultural lands, which have the potential to support residency or movement by kit foxes. Thus, the San Joaquin kit fox could occur on the Project site sporadically. If this species is present at the site, then construction, operation and maintenance, or decommissioning traffic would have the potential to cause a significant adverse impact on San Joaquin kit fox. These effects may occur either directly (e.g., through mortality or injury from construction vehicles or ground disturbance) or indirectly (e.g., disturbance from night lighting, which may interfere with foraging; illness from Valley Fever, which may increase with dust levels; or increased site activity, which may draw predators). This construction impact would be potentially significant.

Preconstruction clearance surveys would be conducted; fencing would be installed; the Valley Fever reduction measures set forth in Chapter 2, Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention* would be implemented; and the other minimization measures described in **Mitigation Measures 3.5-1 and 3.5-2** would be implemented, in an effort to ensure that no San Joaquin kit foxes are affected during construction or decommissioning. Implementing these mitigation measures would reduce potentially significant direct impacts on the San Joaquin kit fox to a less-than-significant level.

During Project operation, the site would be fenced with chain-link fencing with space for wildlife to pass underneath, allowing access for transit by San Joaquin kit fox. Thus, operation at the Project site would have a less-than-significant impact on this species.

### **Swainson's Hawk and Other Raptors**

One Swainson's hawk was observed in the site vicinity during biological resource surveys; a northern harrier was also observed foraging (Appendix E). Although the Project site lacks trees for nesting habitat, structures in the immediate vicinity such as transmission poles could provide nest sites for Swainson's hawk or other raptors. Construction or decommissioning activities initiated near an active Swainson's hawk or other raptor nest could disturb birds that are nesting in the vicinity, thereby resulting in nest disturbance or abandonment, a significant impact. No burrowing owl host burrows, owl sign, or burrowing owls were identified during protocol-level surveys; hence, no impacts on this species were identified.

Swainson's hawk, northern harrier, and other raptor species also may forage on the Project site. Despite the active agricultural operation, portions of the site provide habitat for prey, including gophers and other rodents. Conversion of these lands would reduce the amount of available

foraging habitat and could cause hawks to range farther from their nests for prey. However, because of the large amount of suitable foraging habitat in the vicinity of the site, the impact of the loss of approximately 260 acres of Swainson's hawk foraging habitat would be less than significant.

Should Swainson's hawks or other raptors be present on or near the site during construction or decommissioning activities, they could experience mortality or injury from disturbance or collisions with Project facilities and equipment—transmission poles or wires, fencing, and heavy equipment. Raptors generally have the ability to avoid obstacles, but their collision risk increases when they are engaged in activities such as territorial defense and foraging for prey (APLIC 2012). Fresno County contains many high-voltage transmission lines; the Project would introduce additional collision hazards to the site. However, the Project proposes to implement the Applicant-proposed measure (APM) in Section 2.5.9.5, *Wildlife-Friendly Design Features*, that includes adherence to current Avian Power Line Interaction Committee (APLIC) design standards for overhead power lines and associated structures, which would minimize the potential for avian injury and mortality from collisions with Project facilities. As a result, this potential impact would be less than significant. No mitigation is required.

As stated above, construction or decommissioning activities initiated near an active raptor nest could agitate birds nesting in the vicinity, thereby resulting in nest disturbance or abandonment, a significant impact. Implementation of the worker environmental awareness program and the preconstruction clearance surveys described in **Mitigation Measure 3.5-2** would minimize disturbance impacts on Swainson's hawks and other raptors and reduce potential direct and indirect impacts on Swainson's hawk and other raptors during construction and decommissioning to a less-than-significant level.

During operation, raptors would also be subject to a risk of collision with Project facilities. Like raptors, smaller migratory birds, including special-status birds, may experience risks of collisions with power lines. Risk factors typically associated with avian collisions with human-built structures include facility size, structure height, and the structures' specific attributes (guy wires and lighting/light attraction), as well as siting in high-risk areas, frequency of inclement weather, type of development, and species or taxa at potential risk. The role of these risk factors has been outlined in USFWS's draft guidelines for wind turbines (USFWS 2012) and communication towers (USFWS 2013), and in the peer-reviewed literature (Gehring et al. 2009, 2011; Kerlinger et al. 2010). Such collisions can result in injury or mortality, including, in the case of power lines, from electrocution. As discussed previously, the Project power lines would adhere to current APLIC design standards for overhead power lines and associated structures (including the use of avian-safe line designs, and installation of devices to make powerlines visible to birds) minimizing the potential for avian injury and mortality from collisions and electrocution (APLIC 2006, 2012). Thus, impacts on raptors and other migratory birds from operation of the Project would be less than significant. No mitigation is required.

### **Nesting Birds**

Depending on the timing of construction-related activities, the Project could result in the disturbance of active nests of special-status or migratory bird species; the abandonment of a nest

by adult birds; or the direct loss of individual nests, either of ground-nesters or of birds nesting on structures or in adjacent trees or power structure. The potential loss of an active migratory or special-status bird nest would be a significant impact. Implementing **Mitigation Measure 3.5-3** would reduce potential impacts on nesting migratory birds to a less-than-significant level.

**Mitigation Measure 3.5-1: Protection of San Joaquin Kit Fox.** Preconstruction surveys shall be conducted by a qualified biologist for the presence of San Joaquin kit fox dens within 14 days before the start of construction activities. The surveys shall be conducted in areas of suitable habitat for San Joaquin kit fox. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days before that portion of the site is disturbed. If no potential San Joaquin kit fox dens are present, no further mitigation is required. If the qualified biologist observes potential dens and determines, in consultation with the Project owner and the County, that avoidance is feasible (as defined in CEQA Guidelines Section 15364 consistent with the USFWS [1999] *Standardized Recommendations for Protection of the San Joaquin Kit Fox*), buffer distances shall be established before each phase of construction activities.

If avoidance of the potential dens is not feasible, the following measures shall be implemented prior to ground disturbance within 100 feet of the den to avoid potential adverse effects on the San Joaquin kit fox:

- If the qualified biologist determines that potential dens are inactive, the biologist shall excavate these dens by hand with a shovel to prevent coyotes, foxes, or other animals from reusing them during construction per USFWS (1999) guidance.
- If the qualified biologist determines that a potential non-natal den may be active, an on-site passive relocation program shall be implemented prior to ground disturbance within the established buffer with prior approval from USFWS. This program shall consist of excluding San Joaquin kit foxes from occupied burrows by installing one-way doors at burrow entrances, monitoring the burrow for 72 hours to confirm that usage has been discontinued, and excavating and collapsing the burrow to prevent reoccupation. After the qualified biologist determines that the San Joaquin kit foxes have stopped using active dens within the Project boundary, the dens shall be hand-excavated as stated above for inactive dens.

**Mitigation Measure 3.5-2: Worker Environmental Awareness Training and Best Management Practices for Biological Resources.** During construction, operation and maintenance, and decommissioning of the facility, the Project owner and/or contractor shall implement the following general avoidance and protective measures to protect San Joaquin kit fox and other special-status wildlife species:

- Prior to initiation of ground-disturbing activities and for each phase of construction or decommissioning activities, the Project owner or its contractor shall implement a worker environmental awareness program (WEAP) to train construction personnel on how to recognize and protect biological resources on the Project site. The WEAP training shall include a review of the special-status species and other sensitive biological resources that could exist in the Project area, the locations of sensitive biological resources and their legal status and protections, and measures to be implemented for avoidance of these sensitive resources, highlighting nesting birds protected under the MBTA, San Joaquin kit fox, and Swainson's hawk. The WEAP



training shall indicate the appropriate steps to be taken if a special-status species is observed, which may include work stoppage and coordination with CDFW and USFWS.

- The Project owner shall limit areas of disturbance. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. All proposed impact areas, including solar fields, staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging before construction to avoid special-status species, under the guidance of a qualified biologist. Construction-related activities, vehicles, and equipment outside of the impact zone shall be avoided. These areas shall be flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.
- To prevent inadvertent entrapment of wildlife during construction, all excavated, steep-walled holes or trenches with a 2-foot or greater depth shall be covered with plywood or similar materials at the close of each working day or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected by construction personnel for trapped animals. If trapped animals are observed, escape ramps or structures shall be installed immediately to allow them to escape. If a special-status species is trapped, USFWS and/or CDFW shall be contacted immediately.
- All construction pipes, culverts, or similar structures with a 4-inch or greater diameter that are stored at a construction site for one or more overnight periods shall be thoroughly inspected by construction personnel for special-status wildlife or nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If an animal is discovered inside a pipe, that section of pipe shall not be moved until a qualified biologist has been consulted and the animal either has moved from the structure on its own accord or has been captured and relocated by the qualified biologist. If the trapped animal is a special-status species, USFWS and/or CDFW shall be consulted before relocation.
- Before moving vehicles and equipment parked on the site, construction personnel shall inspect the ground beneath the vehicles and equipment for the presence of wildlife.
- Vehicular traffic shall use existing routes of travel. Cross-country vehicle and equipment use outside of the Project properties shall be prohibited.
- A speed limit of 20 miles per hour shall be enforced within all construction areas.
- A long-term trash abatement program shall be established for construction, operation, and decommissioning and shall be submitted to the County. Trash and food items shall be contained in closed containers and removed daily to reduce the attractiveness to wildlife such as common raven (*Corvus corax*), coyote (*Canis latrans*), and feral dogs.
- Workers shall be prohibited from bringing pets (excluding service animals) to the Project site and from feeding wildlife in the vicinity.

- Intentional killing or collection of any wildlife species shall be prohibited.

**Mitigation Measure 3.5-3: Protection of Nesting Birds.** If construction is scheduled to commence outside of nesting season (September 1 to January 31), no preconstruction surveys or additional measures are required for nesting birds, including raptors. During the nesting bird breeding season (February 1 to August 31), to avoid impacts on nesting birds in the Project site and immediate vicinity, a qualified biologist shall conduct preconstruction surveys of all potential nesting habitat within the Project site where vegetation removal or ground disturbance is planned. The survey shall be performed within the site and shall also include potential nest sites within a 0.5-mile buffer around the site in areas where access to neighboring properties is available or visible using a spotting scope. Surveys shall be conducted no more than 14 days prior to each phase of construction activities. If construction is halted for 14 days or more, the area shall be re-surveyed prior to resuming work.

Surveys need not be conducted for the entire Project site at one time; they may be phased so that surveys occur shortly before a portion of the Project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer around active nests (e.g., 300 feet for common raptors; 0.25 mile for Swainson's hawk; 100 feet for passerines) shall be established and no construction within the buffer shall be allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of the qualified biologist in coordination with CDFW.

**Significance after Mitigation:** Less than Significant. Implementing Mitigation Measures 3.5-1, 3.5-2, and 3.5-3 would reduce impacts to a less-than-significant level because impacts on kit fox would be avoided, or minimized by surveys, monitoring, and relocation if required; site workers would be trained to avoid biological resources and vehicle and construction site impacts would be curtailed; and nesting birds would be avoided in season with suitable construction avoidance buffers.

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**Criterion b)** Whether the Project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.

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No sensitive natural communities or riparian habitat are present on the site; therefore, no impact would occur. (*No Impact*)

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**Criterion c)** Whether the Project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

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No state or federally protected wetlands are present on the Project site; therefore, no impact would occur. (*No Impact*)

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**Criterion d)** Whether the Project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

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**Impact 3.5-2: The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (*Less-than-Significant Impact*)**

The Project site is not located in an identified terrestrial movement corridor for San Joaquin kit fox (USFWS 1998) or other wildlife species; the site is located in an agricultural area near major roads, which discourage wildlife movement. However, small terrestrial species may occasionally disperse through the site. After construction, the perimeter would be surrounded by chain-link fence with space underneath to allow passage by kit foxes and other small mammals. Thus, the Project would not interfere substantially with movement by kit foxes.

The Project is located within a significant avian migration route known as the Pacific Flyway, which covers the entire west coast of North America. Because of the low profile of the battery structures and absence of reflective surfaces, it is expected that individual birds would be minimally affected by collision with facilities. The Project would implement the APM identified in Section 2.5.9.5, *Wildlife-Friendly Design Features*, which includes adherence to current APLIC design standards for overhead powerlines and associated structures, which would minimize the potential for avian injury and mortality from collisions with Project facilities. The Project is not anticipated to affect the regional bird populations that use the Pacific Flyway. There are no perennial water features on the Project site, and no corridors for aquatic species. In addition, no wildlife nursery sites have been identified on the Project site. Thus, no impact on fish or nursery areas would occur.

**Mitigation:** None required.

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**Criterion e)** Whether the Project would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

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The County has policies and ordinances protecting biological resources, including wetland and riparian areas (Fresno County General Plan Goal OS-D); vegetation (Fresno County General Plan Goal OS-F); oak woodlands (General Plan Policy OS-F.10); trees and shrubs (County Code Chapter 13.12); and flowers, foliage or fruit, trees, shrubs, plants, and grass in public parks and recreation areas. However, the Project would not conflict with any of these local policies or ordinances because none of these protected resources are present on the Project site. The County also has policies protecting fish and wildlife habitat (General Plan Goal OS-E), but the Project site does not contain any fish habitat. Accordingly, no impact on fish would occur.

**Impact 3.5-3: The Project would conflict with General Plan Goal OS-E, which protects wildlife resources. (*Less than Significant with Mitigation Incorporated*)**

As described in Section 3.5.1.3, *Regulatory Setting*, General Plan Goal OS-E requires environmental review for protection of sensitive wildlife and habitats. The Project site and immediate vicinity contain potentially suitable breeding, denning, or nesting habitat for wildlife species, including San Joaquin kit fox; burrowing owl and other raptors, including Swainson's hawk; and migratory birds, including loggerhead shrike. Construction of the Project would have the potential to harm these species, if present. Implementing the preconstruction wildlife surveys, worker environmental awareness training, and wildlife avoidance and protection measures described in **Mitigation Measures 3.5-1 through 3.5-3** would avoid or minimize potential impacts on these species and ensure compliance with General Plan Goal OS-E. Therefore, with mitigation, the Project would not conflict with and would have a less-than-significant impact on local policies and ordinances protecting biological resources.

**Mitigation:** Implement Mitigation Measure 3.5-1: Protection of Special-Status Species; Mitigation Measure 3.5-2: Worker Environmental Awareness Training and Best Management Practices for Biological Resources; and Mitigation Measure 3.5-3: Protection of Nesting Birds.

**Significance after Mitigation:** Less than Significant. Implementing Mitigation Measures 3.5-1, 3.5-2, and 3.5-3 would reduce impacts to a less-than-significant level because impacts on special-status species would be avoided or minimized by surveys, monitoring, and relocation if required; site workers would be trained to avoid biological resources and vehicle and construction site impacts would be curtailed; and nesting birds would be avoided in season with suitable construction avoidance buffers.

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**Criterion f)** Whether the Project would conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

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There are no adopted NCCPs in Fresno County and, other than the PG&E San Joaquin Valley Operation and Maintenance HCP discussed below, no other approved local, regional, or state HCP is in effect at the Project site. Therefore, the Project would cause no impact related to a conflict with such a plan. (*No Impact*)

**Impact 3.5-4: The Project would not conflict with the provisions of the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan. (*Less-than-Significant Impact*)**

The Project's PG&E interconnection would occur within the PG&E San Joaquin Valley Operation and Maintenance HCP area. Although the HCP does not directly apply to the Project, the APMs described in Chapter 2, Section 2.5.9 are consistent with the avoidance and minimization measures and best management practices included in the HCP and would avoid or reduce impacts that might otherwise occur on nesting birds, including Swainson's hawk, and San Joaquin kit fox. As a result, the Project would not conflict with an adopted Habitat Conservation Plan. Therefore, this impact would be less than significant, with no mitigation required.

**Mitigation:** None required.

### **PG&E Infrastructure**

As described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the PG&E Gates Substation to the Project site) on lattice towers, each up to 200 feet tall, and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. Improvements within substation property would not be likely to impact biological resources, as they take place within a developed area. The impacts of PG&E's construction, operation, and maintenance of transmission line and lattice infrastructure are analyzed as part of the Project.

The line would be installed on four new lattice steel towers, each up to 150 feet tall and spaced at approximately 500-foot intervals. This line and associated towers, foundations, and connections would be located within the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan area. PG&E would coordinate with the Applicant on implementation of any mitigation measures that would apply to PG&E's construction, to minimize risks to migratory birds of collision with lines or towers. Implementing these measures would minimize impacts on biological resources, and would avoid conflict with an adopted Habitat Conservation Plan.

**Mitigation:** None required.

## **3.5.4 Cumulative Effects Analysis**

As stated above, implementation of the Project would result in no impact on riparian habitat or other sensitive natural communities or on protected wetlands. Accordingly, the Project would not cause or contribute to any cumulative impact related to these elements.

The geographic scope considered for potential cumulative impacts on biological resources includes the regional population or corridor extent for the species or community affected. The list of projects considered for the cumulative analysis is provided in Table 3.1-1, *Cumulative Projects List*, and depicted on Figure 3.1-1, *Potential Cumulative Projects within 15 Miles of the Project Site*. The temporal scope of the cumulative analysis is the life of the proposed facility and associated infrastructure, including the Project interconnection.

**Impact 3.5-5: The Project would not cause or contribute to a potential significant cumulative impact by having a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW and USFWS. (*Less-than-Significant Impact*)**

Unless mitigated, Project impacts on San Joaquin kit fox would be potentially significant. Identified cumulative projects include PG&E projects within existing facilities, which do not represent foraging habitat for any special-status species; and solar projects, including Fifth Standard and Brightsource, which may result in direct impacts on kit fox and the removal of potential kit fox movement or foraging habitat if kit fox were to occur in these project areas.

However, these projects are located outside of the Coast Ranges and the Ciervo-Panoche core area for San Joaquin kit fox, which occurs west of I-5 (USFWS 2010); the Project and cumulative projects are located east of I-5. Additionally, the “link” habitat for San Joaquin kit fox populations identified in the USFWS (2010) 5-year review is located west of I-5. The Project would be constructed within a dense agricultural landscape that is disked regularly and therefore is generally poorly suited as refugia habitat and would apply mitigation measures to minimize any potential impact on this species. Much of the land area east of I-5, including the land surrounding the cumulative projects, is cultivated, with few habitat islands for kit fox. Therefore, the changed land use for the Project and potential impacts on kit fox transit and foraging, when combined with the incremental impacts of other projects, would result in a less-than-significant contribution to cumulative impact.

The Applicant’s implementation of the APMs and PG&E’s implementation of its HCP measures would occur and be enforceable independent of the CEQA mitigation measures identified above and would protect any common raptor and other bird nests at the site from disturbance during construction. The identified cumulative projects in Table 3.1-1 also have the potential to affect suitable nesting and foraging habitat for raptors. However, the Project size is approximately 260 acres, among millions of acres of agricultural lands in Fresno County. Therefore, the Project (without CEQA mitigation but including the APMs and PG&E mitigation measures), in combination with all identified cumulative projects, would not result in a significant cumulative impact on raptors, including Swainson’s hawk. In any event, the Project’s incremental impact would not be cumulatively considerable.

Impacts of the Project on common and special-status migratory birds would be less than significant with mitigation. The existing and proposed solar facilities, energy projects, and residential development listed as cumulative projects would also have the potential to cause impacts on special-status birds, including injury and mortality associated with collisions during constructions and operation. However, the cumulative projects considered in this analysis are distant from the Mendota Wildlife Area, the nearest major migratory bird stopover site; they are expected to attract little flyover traffic; and the level of avian fatalities that would occur at these sites is unclear. In addition, compliance with required APMs and mitigation measures would ensure that this Project adheres to current APLIC design standards to minimize the potential for avian injury and mortality from collisions and electrocution. Because of these factors, the incremental effects of the Project on overall avian fatality from collision risk in the Central Valley would not be cumulatively considerable.

**Mitigation:** None required.

**Impact 3.5-6: The Project would not cause or contribute to any significant cumulative effect due to substantial interference with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (*Less-than-Significant Impact*)**

This Project would have less-than-significant impacts on wildlife movement, given its small size and its adherence to mitigation measures and APMs, including incorporation of wildlife-friendly design features. Because of the surrounding areas’ agricultural uses, the site is not an important

wildlife movement corridor. There is no existing significant cumulative impact on wildlife movement, and the incremental impacts of the Project, in combination with other present and reasonably foreseeable future projects in the cumulative scenario, would not cause a significant cumulative impact.

**Mitigation:** None required.

**Impact 3.5-7: The Project would not cause or contribute to any significant impact due to conflict with General Plan Goal OS-E, which protects wildlife resources. (*Less-than-Significant Impact*)**

This Project, with the implementation of mitigation, would have less-than-significant impacts due to a conflict with local ordinances because of its adherence to mitigation measures, APMs, and PG&E minimization measures, including its incorporation of wildlife-friendly design features. There is no existing significant cumulative impact on local ordinances, because the Project adheres to all applicable measures; and the incremental impacts of the Project, in combination with other present and reasonably foreseeable future projects in the cumulative scenario, would not cause a significant cumulative impact.

**Mitigation:** None required.

**Impact 3.5-8: The Project would not cause or contribute to any significant impact due to conflict with the provisions of the PG&E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan. (*Less-than-Significant Impact*)**

This Project would have less-than-significant impacts on habitat conservation plans due to its adherence to PG&E HCP measures in the Project interconnection area. No other HCPs or NCCPs apply to the Project site. There is no existing significant cumulative impact with respect to HCPs, because the Project adheres to all applicable measures; and the incremental impacts of the Project, in combination with other present and reasonably foreseeable future projects in the cumulative scenario, would not cause a significant cumulative impact.

**Mitigation:** None required.

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## 3.6 Cultural and Tribal Cultural Resources

This section identifies and evaluates issues related to cultural resources and tribal cultural resources, including archaeological, historic built architectural, and Native American resources, in the context of the Project. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment.

The County received scoping comments from the Native American Heritage Commission (NAHC) recommending that the County conduct consultation with California Native American Tribes that are traditionally and culturally affiliated with the Project site. The NAHC also provided guidance for conducting cultural resource assessments. A copy of the NAHC letter is provided in **Appendix A**, *Scoping Report*.

The analysis in this section is based in part on a site-specific, Project-specific cultural resources assessment (Montgomery et al. 2022) prepared on the Applicant's behalf by Rincon Consultants, Inc. (Rincon). The cultural resources assessment contains confidential information that is protected from public disclosure. The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the formal record, in the preparation of this Draft EIR. Copies of Project-specific correspondence related to consultation with California Native American Tribes is provided in **Appendix F**, *Cultural and Tribal Cultural Resources*.

### 3.6.1 Setting

#### 3.6.1.1 Study Area

The study area for this analysis of potential impacts on cultural resources and tribal cultural resources consists of the areas of potential ground disturbance within the Project site, both horizontally (318 acres, including the approximately 260 acres that would be developed for the Project) and vertically (up to a depth of 15 feet). The portion of the Project proposed by the Applicant includes the energy storage system, an open-air substation adjacent to the energy storage system, ancillary facilities, and a gen-tie line to connect the collector substation to the existing PG&E Gates Substation.

To accommodate the Project, PG&E would modify existing infrastructure within the Gates Substation property and the Midway Substation property as described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*.

A cultural resources records search was completed with a 0.5-mile buffer around the Project site to support analysis of the site's likely sensitivity for cultural resources.

### **3.6.1.2 Environmental Setting**

The Project site is located in California's Central Valley, which extends from the Siskiyou Mountains in the north to the Tehachapi Mountains in the south and covers approximately 20,000 square miles. The Central Valley is bounded by the Cascade Range and Sierra Nevada in the east and by the Coast Ranges in the west. The Central Valley is divided into two smaller valleys by the Sacramento–San Joaquin Delta: the Sacramento Valley and the San Joaquin Valley. The Sacramento Valley is located north of the Sacramento–San Joaquin Delta, while the San Joaquin Valley lies to the south (Rosenthal et al. 2007).

The Project site is located in the central part of the San Joaquin Valley. The valley is composed of active alluvial fans, alkali basins, and river floodplains. Historically, the valley supported a treeless plain with patches of alkali-tolerant annual forbs and grasses (Rosenthal et al. 2007). Wildlife included antelope, deer, and elk, which wintered on the plains, as well as jackrabbits, ground squirrels, and quail (Wallace 1978).

#### ***Prehistoric Setting***

The Central Valley prehistoric record is divided into three periods: Paleo-Indian (11,550 to 8550 cal B.C.<sup>1</sup>), Archaic (8550 cal B.C. to cal A.D. 1100), and Emergent (cal A.D. 1100 to Historic). The Archaic period is further divided into three sub-periods: Lower Archaic (8550 to 5550 cal B.C.), Middle Archaic (5550 to 550 cal B.C.), and Upper Archaic (550 cal B.C. to cal A.D. 1100) (Rosenthal et al. 2007).

#### **Paleo-Indian (11,550–8550 cal B.C.)**

Evidence of human occupation of the Central Valley during the Paleo-Indian period comes primarily from the San Joaquin Valley. Basally thinned and fluted concave base projectile points have been found in three San Joaquin Valley areas: Tracy Lake, the Woolfsen mound, and the Tulare Lake basin. Little other evidence of human occupation during the Paleo-Indian period is available for the Central Valley.

#### **Lower Archaic (8550–5550 cal B.C.)**

Lower Archaic occupation of the Central Valley is known mainly from isolated finds located along the ancient shorelines of lakes. Very little archaeological evidence exists for occupation of the valley floor during the Lower Archaic.

#### **Middle Archaic (5550–550 cal B.C.)**

The Middle Archaic is characterized by a climatic shift to warmer, drier conditions, similar to present-day conditions. By the Middle Archaic, foothill and valley floor groups were distinct and separate adaptations. Early sites from the Middle Archaic period are more abundant in the foothill areas and are characterized by a large quantity of stone implements designed to exploit acorns and pine nuts (Rosenthal et al. 2007).

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<sup>1</sup> The “cal” prefix indicates that the date reported is the result of radiocarbon calibration using tree ring data.

### **Upper Archaic (550 cal B.C. to cal A.D. 1100)**

Climatic changes at the start of the Upper Archaic resulted in a cooler, wetter, and more stable environment. During the Upper Archaic period, regional variations were more common and focused on resources that could be processed in bulk, such as acorns, salmon, shellfish, rabbits, and deer. The use of mortars and pestles for food processing was prevalent, except along the valley margins, where handstones and millingslabs remained dominant (Rosenthal et al. 2007).

### **Emergent (cal A.D. 1100 to Historic)**

During the Emergent Period, many Archaic Period technologies and cultural traditions disappeared throughout the Central Valley. Practices very similar to those observed by later European explorers appeared at this time. Research on Emergent Period sites in the San Joaquin Valley has been limited; only one cultural pattern, the Panoche Complex (circa A.D. 1500–1850), has been fully identified (Moratto 1984).

### ***Ethnographic Setting***

At the time of European contact, the Central Valley was occupied by speakers of the California Penutian language family, specifically the Yokuts. The Yokuts entered the San Joaquin Valley sometime before A.D. 1400, perhaps by force, as indicated by skeletal remains with fatal wounds inflicted by projectile points (Arkush 1993). Historically, the Yokuts have been divided into three cultural-geographical groupings: Northern Valley, Southern Valley, and Foothills (Arkush 1993). Based on written records regarding the territorial boundaries of these three cultural-geographical groupings, the Project area lies within the ancestral land boundaries of the Southern Valley Yokuts people.

The Southern Valley Yokuts territory included Tulare, Buena Vista, and Kern lakes and the lower portions of the Kings, Kaweah, Tule, and Kern rivers (Wallace 1978). A large Southern Valley Yokuts village, *Poso de Chane*, was located about 6 miles east of present-day Coalinga (approximately 6 miles west of the Project site). The village was centered on a large watering pool (poso). Later, the area became home to a small Spanish/Mexican agricultural community (Hoover et al. 1990).

### ***Historic Setting***

Widespread exploration of the Central Valley by non-native American peoples began in the early 1800s when Lieutenant Gabriel Moraga led a Spanish contingent over Pacheco Pass and into the valley; however, no permanent Spanish settlements were established in the San Joaquin Valley (CAGenWeb 2000).

One of the earliest Spanish trails, known as El Camino Viejo (The Old Road), ran north-south through the San Joaquin Valley from San Pedro to San Antonio (present-day East Oakland). The trail followed the path of a prehistoric trail and skirted the eastern slope of the Coast Ranges foothills (about 4 miles east of the Project site). El Camino Viejo was an alternative route to the heavily traveled El Camino Real (The Royal Road) and was often the preferred route of those who wished to travel without the knowledge of the Spanish government. The trail became a

stagecoach and mail route and an important route for cattle ranchers. In the valley, the route largely corresponds to modern-day Interstate 5 (Hoover et al. 1990).

Mexico gained independence in 1821 and began secularizing the missions and promoting settlement of Alta California by issuing land grants and enacting liberal colonization laws. These efforts did not prevent foreigners from settling in Mexican territory, and they allowed a large number of Euro-Americans to gain a foothold in Alta California. In an attempt to prevent continued foreign incursion and promote a greater Mexican presence in the interior, Mexico issued the 1840 Law of Colonization and encouraged the establishment of cattle ranches in the Central Valley; however, few Mexican land grants were issued in the San Joaquin Valley, and only two were issued in parts of Fresno County (Hoover et al. 1990; Shumway [1941] 2007).

In 1848, gold was discovered at Sutter's Mill, resulting in a large influx of immigrants who hoped to make their fortunes. California was ceded to the United States in that same year, after the Mexican-American War ended, and officially became a state in 1850. Mexico's public lands became United States public lands and were surveyed, sectioned, and made available for sale and settlement (Hoover et al. 1990; Shumway [1941] 2007; State Lands Commission 1982).

The federal government enacted legislation in the mid-1800s to promote settlement of the western United States and dispose of surplus public land. The Homestead Act of 1862 allowed settlement of public lands, requiring only that settlers reside on, improve, and cultivate the land. Anyone who was over the age of 21 and head of a household could make a claim for a 160-acre parcel by paying an \$18 fee. The act offered single women, former slaves, and new immigrants an opportunity to own a piece of land, provided that they improved and lived on the land for 5 years. These laws were designed to give individual settlers and families access to land ownership, but many land speculators and farmers/ranchers manipulated them to obtain huge tracts of land for little cost, particularly in the San Joaquin Valley. The railroads also benefited from federal laws, which granted alternating odd-numbered sections within 20 miles of a projected rail line to facilitate rail expansion (Caltrans 2007; Orsi 2005).

Fresno County was organized in 1856 from a portion of Mariposa County. The development of the Central Pacific Railroad through the county in 1872 resulted in the creation of the town of Fresno, which became the Fresno County seat in 1874. The original county seat was located in Millerton, 25 miles north of the town of Fresno, but the decision was made to move the county seat south to gain access to the railroad (Hoover et al. 1990).

As the mining industry waned in the mid-1860s, many valley settlers turned to raising cattle and sheep. Among these residents were many Basque and Portuguese immigrants who had been shepherds in their native lands (Graves 2004; Miller 2013). Sheep were herded primarily on the uninhabited west side of the valley, where they fed on wild alfalfa or were rented to graze stubble land.

After the decline of the cattle industry in the 1870s, the grain industry rose to prominence. In 1889, the San Joaquin Valley's wheat crop topped 40 million bushels, the largest crop in the United States except that produced by the entire state of Minnesota. In the ensuing years, a failure to rotate crops depleted the soil and yields decreased. This, coupled with a drop in grain prices

and the advancement of irrigation, opened up the opportunity for viticulture and other horticultural pursuits to expand (Ryan and Breschini 2010; Vandor 1919). During the latter part of the 19th century, agricultural colonies contributed heavily to the growth of Fresno County. These colonies established numerous extensive canal systems to provide water to the region's farmers (Hattersley-Drayton 2009).

The early 1900s saw the rise of the dairy farmer in the San Joaquin Valley (Caltrans 2007). The decline of the wool industry from the 1880s into the early 1900s left many San Joaquin Valley Portuguese shepherders unemployed, and many turned to the growing pursuit of dairy farming. Most began as milk hands, saving income until they could start their own dairy farms. By the 1930s, Portuguese-run dairy farms were well established in the valley (Graves 2004).

In the mid-1930s, the Great Depression, drought, and poor economic and agricultural conditions in the southern and plains states led to a mass migration of "Dust Bowl refugees" to California. Approximately 300,000–400,000 migrants from Oklahoma, Texas, Arkansas, Missouri, and other states moved to California, drawn by the promise of employment and a better life (Gregory 2013). Many ended up in the San Joaquin Valley to work as field hands; by 1950, as many as one in four residents of the San Joaquin Valley had emigrated from Oklahoma, Texas, Arkansas, or Missouri (Gregory 1989).

Today, a wide variety of agricultural enterprises exist in the San Joaquin Valley, with farms ranging from small to large industrial operations and producing crops such as fruits, nuts, barley, beans, corn, hay, beets, wheat, and cotton. Livestock, including cattle and poultry, continues to be raised in the San Joaquin Valley (Caltrans 2007).

### **3.6.1.3 Regulatory Setting**

#### ***Federal***

##### **National Register of Historic Places**

The National Register of Historic Places (National Register) was established by the National Historic Preservation Act (NHPA) as "an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction or impairment" (36 CFR Section 60.2). The National Register recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria, along with being at least 50 years old and possessing integrity to convey their significance:

- A. Are associated with events that have made a significant contribution to the broad patterns of our history.

- B. Are associated with the lives of persons significant in our past.
- C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- D. Have yielded, or may be likely to yield, information important in prehistory or history.

Resources identified as eligible for or listed in the National Register are automatically considered eligible for listing in the California Register of Historical Resources (California Register).

### **American Indian Religious Freedom Act**

The American Indian Religious Freedom Act of 1978 protects the rights of Native Americans to freedom of expression of traditional religions (24 U.S.C. Section 1996). This law established “the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions... including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.”

## **State**

### **California Register of Historical Resources**

Created in 1992 and initially implemented in 1998, the California Register is “an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.” A resource, either an individual property or a contributor to a historic district, may be listed in the California Register if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on National Register criteria, and retains sufficient integrity to reflect its historical significance:

1. Associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
2. Associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in history or prehistory.

Typically, an archaeological site in California is recommended eligible for listing in the California Register based on its potential to yield information important in prehistory or history (Criterion 4). Important information includes chronological markers such as projectile point styles or obsidian artifacts that can be subjected to dating methods or undisturbed deposits that retain their stratigraphic integrity. However, archaeological sites may also be recommended eligible under California Register Criteria 1, 2, and/or 3.



As with traditional cultural properties in the National Register, identification of tribal cultural resources for the California Register emphasizes a place or feature's value and significance to living communities. Assembly Bill (AB) 52, summarized below under "Public Resources Code," further clarified this designation process.

### **California Environmental Quality Act**

Under CEQA (Public Resources Code Section 21084.1), a project would have a significant effect on the environment if it would cause a substantial adverse change in the significance of a historical resource. The CEQA Guidelines (14 Cal. Code Regs. Section 15064.4) recognize that a historical resource is any of the following:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register.
2. A resource included in a local register of historical resources, as defined in Public Resources Code Section 5020.1(k), or identified as significant in a historical resource survey meeting the requirements of Public Resources Code Section 5024.1(g).
3. Any object, building, structure, site, area, place, record, or manuscript which a Lead Agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the Lead Agency, provided the Lead Agency's determination is supported by substantial evidence in light of the whole record.

The fact that a resource does not meet the three criteria outlined above does not preclude the Lead Agency from determining that the resource may be a historical resource as defined in Public Resources Code Section 5020.1(j) or 5024.1.

If a Lead Agency determines that an archaeological site is a historical resource, then the provisions of Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.4 apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired) in the significance of a historical resource, then the Lead Agency must identify potentially feasible measures to mitigate these effects (14 Cal. Code Regs. 15064.4[b][1] and 15064.4[b][4]).

If an archaeological site does not meet the historical resource criteria contained in the CEQA Guidelines, then the site may be treated in accordance with CEQA Section 21083. As defined in Public Resources Code Section 21083.2, a "unique" archaeological resource is an archaeological artifact, object, or site, for which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in CEQA Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2. Specifically, if the Lead Agency determines that a project would have a significant effect on unique archaeological resources, the Lead Agency may require that reasonable efforts be made to permit any or all of these resources to be preserved in place (Public Resources Code Section 21083.1[a]). If preservation in place is not feasible, mitigation measures are required.

If an archaeological resource is neither a unique archaeological nor a historical resource, then the effects of the project on those resources are not considered a significant effect on the environment (14 Cal. Code Regs. 15064.4[c][4]).

### Public Resources Code

AB 52, enacted in September 2014, amended CEQA to explicitly recognize that California Native American Tribes have expertise with regard to their tribal history and practices. AB 52 established a new category of cultural resources, known as *tribal cultural resources*, to consider tribal cultural values when determining impacts on cultural resources. Public Resources Code Section 21074(a) defines a tribal cultural resource as either of the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
  - Included or determined to be eligible for inclusion in the California Register.
  - Included in a local register of historical resources, as defined in Public Resources Code Section 5020.1(k).<sup>2</sup>
- A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c).<sup>3</sup> In applying these criteria, the Lead Agency would consider the significance of the resource to a California Native American tribe.

A cultural landscape that meets the criteria of CEQA Section 21074(a)<sup>4</sup> is also a tribal cultural resource if the landscape is geographically defined in terms of the size and scope. In addition, a

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<sup>2</sup> Public Resources Code Section 5020.1(k) defines *local register of historical resources* as “a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution.”

<sup>3</sup> The criteria set forth in Public Resources Code Section 5024.1(c) include whether a resource: “(1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage. (2) Is associated with the lives of persons important in our past. (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values. (4) Has yielded, or may be likely to yield, information important in prehistory or history.”

<sup>4</sup> A cultural landscape meets the criteria of Public Resources Code Section 21074(a) if it either is “included or determined to be eligible for inclusion in the California Register of Historical Resources” or is “included in a local register of historical resources” pursuant to Section 5020.1(k).

historical resource as described in CEQA Section 21084.1,<sup>5</sup> a unique archaeological resource as defined in CEQA Section 21083.2,<sup>6</sup> or a non-unique archaeological resource as defined in CEQA Section 21083.2<sup>7</sup> may be a tribal cultural resource if it meets the criteria of CEQA Section 21074(a).

AB 52 requires Lead Agencies to analyze project impacts on “tribal cultural resources” separately from impacts on archaeological resources (Public Resources Code Sections 21074 and 21083.09), in recognition that archaeological resources have cultural values beyond their ability to yield data important to prehistory or history. AB 52 also defines “tribal cultural resources” in Public Resources Code Section 21074 (see above) and requires that Lead Agencies engage in additional consultation procedures with respect to California Native American Tribes (Public Resources Code Sections 21080.3.1, 21080.3.2, and 21082.3).

### **Native American Heritage Commission**

The NAHC identifies and manages a catalog of places of special religious or social significance to Native Americans. This database, the Sacred Lands File, is a compilation of information on known graves and cemeteries of Native Americans on private lands and other places of cultural or religious significance to the Native American community. The NAHC also performs other duties regarding the preservation and accessibility of sacred sites and burials and the disposition of Native American human remains and burial items.

Public Resources Code Sections 5097.9 through 5097.991 describe the duties and role of the NAHC and requires the cooperation of state and local agencies in carrying out their duties with respect to Native American resources.

### **Health and Safety Code, Sections 7052 and 7050.5**

Section 7052 of the Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC.

### **Other Relevant State Laws**

Sections of the Public Records Act (Government Code Sections 6254[r] and 6254.10), Health and Safety Code (Section 7050.5), Penal Code (Section 622.5), and Public Resources Code (Section 622.5) provide guidance for protection of archaeological resources and human remains. These

<sup>5</sup> Public Resources Code Section 21084.1 defines a *historical resource* as “a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources.”

<sup>6</sup> Public Resources Code Section 21083.2(g) defines *unique archaeological resource* as “an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria: (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information. (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type. (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.”

<sup>7</sup> Public Resources Code Section 21083.2(h) defines *nonunique archaeological resource* as “an archaeological artifact, object, or site which does not meet the criteria in subdivision (g).”

code sections provide protection against unauthorized excavation, looting, or vandalism; guidance to follow after a discovery of human remains; a penalty for injuring or destroying objects of historic or archaeological interest; and a penalty for the unauthorized disturbance or removal of archaeological or historical features.

## **Local**

### **Fresno County 2000 General Plan**

The Open Space and Conservation Element of the *Fresno County 2000 General Plan* contains several objectives and policies relevant to the protection of cultural resources within the Project site and surrounding area (Fresno County 2000). The Historical, Cultural, and Geological Resources section of the Open Space and Conservation Element provides a goal and policies directing the protection of historical and archaeological resources in Fresno County.

**Goal OS-J:** To identify, protect, and enhance Fresno County's important historical, archeological, geological, and cultural sites and their contributing environment.

**Policy OS-J.1:** The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, paleontological, and cultural sites and their contributing environment from damage, destruction, and abuse to the maximum extent feasible. Project-level mitigation shall include accurate site surveys, consideration of project alternatives to preserve archeological and historic resources, and provision for resource recovery and preservation when displacement is unavoidable.

**Policy OS-J.2:** The County shall, within the limits of its authority and responsibility, maintain confidentiality regarding the locations of archeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts.

**Policy OS-J.3:** The County shall solicit the views of the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or sites of cultural importance.

### **3.6.1.4 Cultural Resources and Tribal Cultural Resources Identified within the Project Site and Surrounding Area**

#### ***Identification of Known Cultural Resources***

The research investigations completed for the Project consisted of a records search of the Project site and a 0.5-mile radius buffer, conducted at the Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield. The SSJVIC, an affiliate of the California Office of Historic Preservation, is the official state repository of cultural resource records and reports for Fresno County. SSJVIC staff conducted the records search at the request of Rincon, who prepared the cultural resources assessment on behalf of the Applicant (Records Search File No. 21-438). As part of the records search, the following federal and State of California inventories were reviewed:

- California Inventory of Historic Resources

- California Points of Historical Interest
- California Historical Landmarks
- Built Environment Resources Directory for Fresno County
- Archaeological Determinations of Eligibility for Fresno County

In addition, historic research was performed to achieve a better understanding of the study area's land use history. This research consisted of reviewing historic literature, topographic maps, and aerial imagery. SSJVIC records indicate that nine previous technical studies have been performed within the records search area. None of these studies intersected portions of the Project site. The records search also indicated that no cultural resources were previously recorded within the Project site. Four cultural resources—three transmission lines (P-10-006610, P-10-006640, and P-10-007185) and the alignment of Interstate 5 (P-10-007205)—were recorded within 0.5 mile of the Project site.

### ***Native American Contact***

Fresno County maintains a list for AB 52 consultation that includes four Tribes: Table Mountain Rancheria, Santa Rosa Rancheria Tachi-Yokut Tribe, Dumna Wo Wah, and Picayune Rancheria of Chukchansi Indians. Letters to the Tribes were mailed on February 4, 2022. Santa Rosa Rancheria responded on February 14, 2022. Santa Rosa Rancheria requested that tribal monitors be on-site during all Project-related ground disturbance and that a curation agreement be put in place (McCarty, pers. comm. 2022).

Additionally, Rincon contacted the NAHC to request a search of the Sacred Lands File. The NAHC responded on December 16, 2021, stating that the search failed to identify any Native American resources on or near the Project site and providing a list of individuals and organizations that may have additional information (Montgomery et al. 2022).

### ***Archaeological Field Surveys***

Rincon conducted a pedestrian field survey of the Project site between December 6 and December 8, 2021. The archaeological crew surveyed the entire Project site using transects spaced 15 meters wide. The Project site consisted mostly of tilled, fallow fields, with an orange orchard covering approximately 25 percent of the site. Ground surface visibility was excellent (100 percent) throughout the tilled, uncultivated fields, and approximately 50 percent within the orange orchard. Soils on the Project site consisted of compacted light to dark brown sandy silty clayey loam. The Project site has been heavily disturbed from historic-era and modern agricultural tilling and use. No cultural resources were identified as a result of the pedestrian survey (Montgomery et al. 2022).

### ***Potential for Unknown Buried Cultural Resources***

The ground surface of the Project site has been highly disturbed by previous agricultural activities. The U.S. Geological Survey characterized deposits in the region as Quaternary alluvium. No major rivers, streams, or drainages flow through the Project site.

The geoarchaeological sensitivity analysis presented in *Geoarchaeological Overview and Assessment of Caltrans Districts 6 and 9* (Meyer et al. 2010) provides a broad overview of geoarchaeological information for Fresno, Kern, Kings, Madera, Tulare, Inyo, and Mono counties. Meyer and colleagues reviewed the Soil Survey Geographic Database and the State Soils Geographic Database and compiled previously reported radiocarbon dates, analyses of landform superposition, and field examinations of stratigraphic relationships. They constructed a regional model to predict archaeological site locations based on two environmental factors: proximity to water and landform slope. The model assumes that past human activity, and thus the formation of archaeological sites, occurred more frequently in flat areas close to water sources, such as rivers, lakes, and springs. Flat landforms would be expected to be more attractive for occupation than sloped landforms, and to be less susceptible to gravity-driven processes such as landslides capable of destroying archaeological deposits. According to this model based on geomorphology, proximity to water, and landform slope, the Project site has a moderate sensitivity for buried archaeological resources (Meyer et al. 2010).

The study area is situated in an area of latest Holocene (2,000–150 cal. Before Present) deposition, which has occurred over the course of known human occupation in the region. Therefore, the deposition of alluvium could possibly have buried prehistoric archaeological sites that once existed on the surface. However, given the lack of nearby water sources or other natural resources, large, permanent settlements are unlikely to have occurred within the Project site. The nearest reliable water sources (Zapato Chino Creek and Los Gatos Creek) are 3–4 miles from the Project site. In addition, no prehistoric resources are recorded within 0.5 mile of the Project site and no cultural resources were identified during the pedestrian survey.

Although the potential for buried prehistoric archaeological deposits in neighboring regions has been characterized as moderate (Meyer et al. 2010), such broad analyses must be tempered by local conditions. The Project site is located in an area that has a sparse record of prehistoric occupation, as supported by the records search. Moreover, agricultural fields extensively disturb archaeological deposits but do not erase them; on the contrary, such activities often bring buried deposits to the surface. No such deposits were identified on the Project site during the surface surveys. Therefore, the Project site has a low potential for the discovery of significant archaeological deposits. Nevertheless, some possibility exists that buried archaeological deposits may be encountered during Project-related excavation for the installation of foundations for the gen-tie poles, which would include concrete footings placed up to approximately 15 feet below ground surface.

### 3.6.2 Significance Criteria

The Project would result a significant impact on cultural resources or tribal cultural resources if it would:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5;
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;

- c) Disturb any human remains, including those interred outside of formal cemeteries; or
- d) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:
  - i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
  - ii. A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c).

In applying the criteria set forth in Public Resources Code Section 5024.1(c), Fresno County, as the CEQA Lead Agency, has considered the significance of the resource to a California Native American Tribe.

### 3.6.3 Direct and Indirect Effects

#### 3.6.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. None of the actions specifically target potential impacts on cultural resources or tribal cultural resources, but one or more among them could result in a benefit to such resources. For example, the actions described in Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, would ensure that the enforceable requirements described in Section 3.6.1.3, *Regulatory Setting*, are implemented.

#### 3.6.3.2 PG&E Cultural Resource Protection Measures

PG&E would implement the following cultural resources protection measures to address anticipated impacts on cultural resources attributable to construction, operation, and/or maintenance of the PG&E infrastructure (PG&E 2016):

**PG&E-1: Inadvertent Cultural Resource Discovery.** If cultural resources are observed during ground-disturbing activities (including but not limited to flaked stone tools (e.g., projectile point, biface, scraper) and debitage (flakes) made of chert, obsidian, etc., groundstone milling tools and fragments (e.g., mortar, pestle, handstone, millstone), faunal bones, fire-affected rock, dark middens, housepit depressions and human interments, small cemeteries or burial plots, cut (square) nails, containers or miscellaneous hardware, glass fragments, cans with soldered seams or tops, ceramic or stoneware objects or fragments, milled or split lumber, earthworks, feature or structure remains, and trash dumps, the following procedures will be followed:

- Stop all ground-disturbing work within 100 feet of the discovery location to avoid impacts.

- Immediately notify a PG&E Cultural Resource Specialist who will assess the discovery and provide guidance on how to proceed, following Utility Standard ENV-8005S.
- Leave the site or the artifact untouched.
- Record the location of the resource, the circumstances that led to discovery, and the condition of the resource.
- Do not publicly reveal the location of the resource, and ensure that the location is secured.
- If unsure about the significance or antiquity of a discovery, photograph the artifact or feature with a scale (e.g., coin, tape measure) and send to a PG&E cultural resource specialist for review.

Comprehensive guidance on the protocol related to an inadvertent discovery of potentially significant cultural resources on a jobsite can be found in Utility Standard ENV-8005S or by consulting a PG&E cultural resource specialist.

**PG&E-2: Human Remains Protocol.** Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial. In keeping with the provisions provided in Section 7050.5 and Public Resources Code Section 5097.98, if human remains are encountered (or are suspected) during any Project-related activity, the following procedures will be followed:

- Stop all ground-disturbing work within 100 feet of the location.
- Immediately contact a PG&E cultural resource specialist, who will initiate the legally mandated notification and response protocol.
- Secure the location.
- Treat the remains with respect and do not handle, alter, or remove bones or associated artifacts from the discovery location.
- Do not remove associated spoils from the site or pick through them.
- Record the location and keep notes of all calls and events.
- Treat the find as confidential and do not publicly disclose the location.

**PG&E-3: Worker Awareness Training.** Before the start of any ground-disturbing activity, PG&E's cultural resource specialist shall prepare archaeological and historical resources sensitivity training materials for use during a Project-wide worker environmental awareness training, or equivalent. The cultural resource specialist shall make the training materials available for review and comment by California Native American groups that express interest in the project. The worker environmental awareness training shall be conducted by a qualified environmental trainer, working under the supervision of the cultural resource specialist. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of resources that could be encountered within the Project site and the procedures to be followed if they are found. PG&E and/or its contractor shall retain documentation demonstrating that all construction personnel attended the training prior to the start of work on the site, which documentation shall be made available upon request.



### 3.6.3.3 Methodology

A cultural resources characterization and evaluation of the Project site was completed to evaluate the Project's potential effects on significant cultural resources and tribal cultural resources, including prehistoric and historic archaeological sites. This evaluation included a literature review, Native American outreach program, geoarchaeological review, and field survey for areas of potential permanent and temporary impacts where facilities would be installed (Montgomery et al. 2022). The purpose of this evaluation was to identify any cultural resources and tribal cultural resources that may be present within the Project site. Additionally, under AB 52, Fresno County engaged in consultation with local Tribes (described above) to solicit input on potential tribal cultural resources within or near the Project site.

Impacts on cultural resources and tribal cultural resources could result from Project-related ground-disturbing activities, including excavation, grading, trenching, vegetation clearance, the operation of heavy equipment, or other surface and subsurface disturbance that could damage or destroy surficial or buried archaeological resources, including prehistoric and historic materials or human burials.

### 3.6.3.4 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.

**Criterion b)** Whether the Project would cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

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Project construction would not affect known historical or unique archaeological resources, because no resources that meet CEQA's definition of a historical resource or unique archaeological resource are known to be located within the Project site. No cultural resources were identified on the Project site as a result of the records search and pedestrian survey. Therefore, the Project would result in no impact on known historical or unique archaeological resources. (*No Impact*)

**Impact 3.6-1: Ground-disturbing activities associated with the Project could cause a substantial adverse change in the significance of a newly discovered historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5. (*Less than Significant with Mitigation Incorporated*)**

Project construction could affect previously unknown, buried archaeological resources. According to the geoarchaeological review, the Project site has low sensitivity for buried archaeological resources based on its geomorphology, proximity to water, and landform slope. The lack of nearby water sources in particular suggests that long-term habitation sites are unlikely. Nonetheless, given that the general vicinity is covered by Holocene alluvial deposits, which have been deposited over the course of known human occupation in the region, the deposition of alluvium could possibly have buried prehistoric archaeological sites that once

existed on the surface. Therefore, although the probability of significant prehistoric resources existing within the Project site is low overall, there nevertheless exists the possibility that buried archaeological resources may be encountered during ground-disturbing activities.

If unknown archaeological resources are discovered during ground-disturbing activities required for Project construction, operation and maintenance, or decommissioning and site restoration, significant impacts could occur. With the implementation of **Mitigation Measure 3.6-1**, which requires the retention of a qualified archaeologist and cultural resources awareness training, and **Mitigation Measure 3.6-2**, which governs procedures in the event of inadvertent discovery of archaeological materials, impacts on any newly discovered historical or unique archaeological resources would be reduced to less than significant.

Decommissioning and closure of the Project would not affect historical or unique archaeological resources. Ground disturbance associated with decommissioning would occur within soils previously disturbed by construction (and would be subject to **Mitigation Measures 3.6-1** and **3.6-2** during construction). Therefore, no impact on historical and unique archaeological resources would result from decommissioning.

**Mitigation Measure 3.6-1: Cultural Resources Awareness Training.** The Project Applicant shall retain a qualified archaeologist during each construction phase to carry out all mitigation measures related to archaeological and historical resources.

Prior to the start of any ground-disturbing activities for each construction phase, the Project Applicant shall ensure that the qualified archaeologist has conducted cultural resources awareness training for all construction personnel participating in Project ground-disturbing activities. Additional cultural resources awareness trainings will be conducted for new construction personnel participated in Project ground-disturbing activities who may join the Project after the start of each construction phase. A Native American–designated representative shall be invited to attend and provide additional materials during each training. The training shall include an overview of potential cultural resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to the qualified archaeologist for further evaluation and action, as appropriate; and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. A sign-in sheet shall be completed, retained by the Project construction contractor for the duration of Project construction to demonstrate attendance at the awareness training, and provided to the County upon the completion of Project construction.

**Mitigation Measure 3.6-2: Inadvertent Discovery of Cultural Resources.** In the event archaeological materials are encountered during Project construction activities, the Project construction contractor shall immediately cease any ground-disturbing activities within 100 feet of the find. The qualified archaeologist (and a Native American–designated representative if the resource is Native American–related) shall evaluate the significance of the resources for California Register of Historical Resources eligibility and recommend appropriate treatment measures to the County and the Applicant. Per CEQA Guidelines Section 15126.4(b)(3)(C), if it is demonstrated that resources cannot be avoided, the qualified archaeologist (in coordination with a Native American–designated representative if the resource is Native American–related) shall develop additional treatment measures in consultation with the County, which may include data recovery or other appropriate measures. The County shall consult with appropriate Native

American representatives in determining appropriate treatment for unearthed cultural resources if the resources are prehistoric, tribal cultural resources, or Native American in nature. The qualified archaeologist shall prepare a report documenting evaluation and/or additional treatment of the resource. A copy of the report shall be provided to the County and to the Southern San Joaquin Valley Information Center. Construction can recommence based on direction of the qualified archaeologist with the County's agreement.

**Significance after Mitigation:** Less than Significant. The implementation of Mitigation Measures 3.6-1 and 3.6-2 would reduce the impact to a less-than-significant level because these measures establish a plan to evaluate any cultural resources identified during Project construction for eligibility and, if necessary, to prepare a treatment plan to minimize impacts on the resource.

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**Criterion c)** Whether the Project would disturb any human remains, including those interred outside of formal cemeteries.

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As described above, there is no indication that the Project site has been used for human burial purposes in the recent or distant past. However, in the event of a discovery of human remains, including those interred outside of formal cemeteries, the human remains could be inadvertently damaged, which would be a significant impact under CEQA. Implementation of laws defined in CEQA Guidelines Section 15064.4(e)(1), Health and Safety Code Section 7050.5(c), and Public Resources Code Section 5097.98 (as amended) regarding the discovery of human remains would ensure that any human remains encountered are addressed appropriately, thus reducing any potential impacts to a less-than-significant level.

Operation and maintenance would cause no impact on human remains because no ground disturbance would occur at depths greater than those reached during construction.

Decommissioning and site reclamation similarly would not affect human remains. Ground disturbances associated with these activities would occur within soils previously disturbed by construction and, during construction, would have been subject to CEQA Guidelines Section 15064.4(e)(1), Health and Safety Code Section 7050.5(c), and Public Resources Code Section 5097.98 (as amended). Therefore, no impact on human remains would result. (*No Impact*)

**Mitigation:** None required.

**Criterion d.1)** Whether the Project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).

**Criterion d.2)** Whether the Project would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c).

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**Impact 3.6-2: Ground-disturbing activities associated with the Project could cause a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources, as defined in Public Resources Code Section 21074(a). (*Less than Significant with Mitigation Incorporated*)**

A tribal consultation letter from the Santa Rosa Rancheria Tachi Yokut Tribe requested that monitors be present during all ground disturbance related to the Project and that a curation agreement be in place (McCarty, pers. comm. 2022). The results of the records search conducted at the SSJVIC identified no prehistoric archaeological isolates within 0.5 miles of the Project site and no prehistoric archaeological resources were identified during field survey of the Project site (Montgomery et al. 2022). A letter from the NAHC stated that a review of the Sacred Lands File failed to identify any Native American resources in the vicinity of the Project.

In light of the nature of the Project and the disturbed character of the site, types of tribal cultural resources, if any, are anticipated to be subsurface prehistoric archaeological resources, including human remains. As further described above, no such prehistoric resources have been documented within, or in the immediate vicinity of, the Project site. If not discovered before development, such resources could be damaged or destroyed through earthwork, ground disturbance, or other subsurface construction activities. Damage to or loss of tribal cultural resources would be a potentially significant impact. Implementation of **Mitigation Measures 3.6-1** and **3.6-2** would ensure that any encountered archaeological resources that are considered tribal cultural resources would be addressed appropriately, thus reducing any potential impacts to a less-than-significant level.

Operation, maintenance, decommissioning, and reclamation of the Project would cause no impact on tribal cultural resources.

**Mitigation:** Implement Mitigation Measures 3.6-1 and 3.6-2.

**Significance after Mitigation:** Less than Significant. Implementation of Mitigation Measures 3.6-1 and 3.6-2 would reduce the potential impact to a less-than-significant

level because all construction personnel involved in ground-disturbing activities will be trained in the identification and notification process in the event of the identification of archaeological deposits and human remains, and because any potential archaeological resources identified that could be considered tribal cultural resources would be evaluated and treated, and consultation with Native American representatives would occur to determine appropriate treatment.

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation and Midway Substation properties to accommodate the Project.

The ground-disturbing construction activities associated with the PG&E infrastructure would be required to comply with laws pertaining to the disposition of cultural resources and human remains: Health and Safety Code Sections 7052 and 7050.5, Public Resources Code Section 21074(a) (AB 52), and CEQA Guidelines Section 15064.4. Nonetheless, the potential exists for ground-disturbing activities for construction of the PG&E infrastructure to cause a substantial adverse change to a newly discovered historical or archaeological resource, damage to previously unidentified human remains, or a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources, because subsurface excavation may disturb intact soils containing such resources. Any resulting impact would be potentially significant. Implementation of PG&E's standard measures, including PG&E-1, PG&E-2, and PG&E-3, which provide for a cultural resources awareness training and protocol to follow up in the event of an inadvertent discovery of cultural resources or human remains during Project implementation, would ensure that any archaeological resources or human remains encountered would be addressed appropriately, thus reducing any potential impacts to a less-than-significant level. None of the mitigation measures identified for the Project would be required in connection with the PG&E infrastructure.

**Mitigation:** None required.

## **3.6.4 Cumulative Effects Analysis**

**Impact 3.6-4: The Project would contribute to a less-than-significant cumulative impact on cultural resources and tribal cultural resources. (*Less than Significant with Mitigation Incorporated*)**

The geographic scope for cumulative impacts on cultural resources and tribal cultural resources extends within a 5-mile radius from the Project site. The geographic scope of analysis is appropriate because the archaeological and historical resources within this radius are expected to be similar to those occurring on the Project site: Their proximity, similar environments, landforms, and hydrology are expected to have resulted in similar land uses over time. Based on the professional experience of the EIR preparers identified in Chapter 6, *Report Preparation*, and the Tribes, research, and the prehistoric context, the area within this 5-mile radius of the Project site may

contain a significant archaeological and historical record that has not been well documented or recorded. Therefore, this analysis conservatively assumes that the land within this area contains cultural resources or tribal cultural resources that are not yet known.

The temporal scope for cumulative impacts on cultural resources and tribal cultural resources would be the duration of the Project's ground-disturbing activities. In this context, the incremental impacts of the Project could combine with similar incremental impacts of past, other present, and reasonably foreseeable future projects within the 5-mile radius of the site to cause or contribute to a significant cumulative impact should any of the criteria in Section 3.6.2, *Significance Criteria*, be exceeded.

There is no indication in Section 3.6.1.2, *Environmental Setting*, or elsewhere in the Project record of any existing significant adverse condition related to cultural resources or tribal cultural resources in the geographic area of cumulative consideration to which the Project could contribute. Project-level mitigation measures would require cessation of activities and buffering of finds in a manner that would substantially reduce the Project's incremental contribution. Thus, even if it is conservatively assumed that a potential significant cumulative effect exists, the negligible impact remaining after the implementation of recommended mitigation measures would not be cumulatively considerable. With implementation of the mitigation measures recommended at the Project-specific level, the Project would cause a less-than-significant cumulative contribution to a potential significant cumulative impact on cultural resources and tribal cultural resources.

**Mitigation:** Implement Mitigation Measures 3.6-1 and 3.6-2.

**Impact 3.6-5: The Project would not cause a cumulatively considerable contribution to any significant impact due to damage to previously unidentified human remains. (*Less than Significant*)**

There is no indication of any existing significant adverse condition related to the discovery of human remains in the geographic area of cumulative consideration to which the Project could contribute. The Project would contribute to a less-than-significant cumulative impact related to the discovery of human remains.

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### 3.6.5 References

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## 3.7 Energy

This section identifies and evaluates issues related to energy efficiency and consumption, including electricity and transportation fuels. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment. The County did not receive scoping input pertaining to energy (**Appendix A, Scoping Report**).

The analysis in this section is based in part on the Project-specific air quality and greenhouse gas (GHG) study prepared on the Applicant's behalf (**Appendix D1, Air Quality and Greenhouse Gas Study**). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the formal record, in the preparation of this Draft EIR. The analysis in this section is also based in part on the Project-specific energy calculations prepared on the County's behalf (**Appendix D2, Fuel Use Calculations**).

### 3.7.1 Setting

#### 3.7.1.1 Study Area

The study area for Project impacts related to energy includes the state of California for purposes of overall energy use and energy-related plans, the PG&E service area for purposes of electrical service, Fresno County for purposes of fuel consumption, and the area surrounding the Project site as it relates to energy generation, energy consumption, and fuel consumption.

#### 3.7.1.2 Environmental Setting

##### ***Electricity***

In 2020, total system electricity generation for California was 272,576 gigawatt-hours (GWh), down 1.8 percent from 2019's total generation of 277,704 GWh. Approximately 70 percent of the electrical power needed to meet California's demand is produced in the state; the balance, approximately 30 percent, is imported from the Pacific Northwest and the Southwest. In 2020, California's in-state electricity generation was derived from natural gas (48 percent); large hydroelectric resources (9 percent); nuclear sources (9 percent); oil and coal (less than 1 percent); and renewable resources that include geothermal, biomass, small hydroelectric, wind, and solar (33 percent). Of the approximately 63,665 GWh generated from renewable sources in the state, solar-generated electricity made up the highest proportion (46 percent), followed by wind (21 percent), geothermal (18 percent), biomass (9 percent), and small hydroelectric (5 percent) (CEC 2023a).

PG&E is an investor-owned utility company that provides electricity supplies and services throughout a 70,000-square-mile service area that extends from Eureka in the north to Bakersfield in the south, and from the Pacific Ocean in the west to the Sierra Nevada in the east. Fresno County is within PG&E's service area for electricity. Operating characteristics of PG&E's

electricity supply and distribution systems are provided below. Also discussed is the regional consumption of transportation fuels.

### PG&E Electric Utility Operations

PG&E provides *bundled* services (i.e., electricity, transmission, and distribution services) to most of the six million customers in its service territory, including residential, commercial, industrial, and agricultural consumers. In recent years, PG&E has improved its electric transmission and distribution systems to accommodate the integration of new renewable energy resources, distributed generation resources, and energy storage facilities, and to help create a platform for the development of resilient grid technologies (PG&E 2023).

In 2022, PG&E owned approximately 7,832 megawatts (MW) of generation capacity, itemized in **Table 3.7-1**. The remaining electrical power in PG&E’s portfolio is purchased from other sources in and outside of California.

**TABLE 3.7-1  
 PG&E-OWNED ELECTRICITY-GENERATING SOURCES (2022)**

| Source   | Generating Capacity (MW) |
|--|--------------------------|
| Nuclear (Diablo Canyon—two reactors)                                 | 2,240                    |
| Hydroelectric  | 3,857                    |
| Fossil Fuel–Fired  | 1,400                    |
| Fuel Cell  | 183                      |
| Solar Photovoltaic (13 units—12 in Fresno County, 1 in Kings County) | 152                      |
| <b>Total</b>   | <b>7,832</b>             |

NOTES: MW = megawatts; PG&E = Pacific Gas and Electric Company  
 SOURCE: PG&E 2023

### Renewable Energy Resources

California law requires load-serving entities such as PG&E to gradually increase the amount of renewable energy they deliver to their customers. This program, known as the Renewables Portfolio Standard (RPS) program, established a requirement that most load-serving entities deliver at least 33 percent of their total annual retail sales as renewable energy by 2020. The requirements for renewable energy increase to at least 60 percent by 2030 and 100 percent by 2045.

Renewable generation resources, for purposes of the RPS program, include bioenergy such as biogas and biomass, certain hydroelectric facilities (30 MW or less), wind, solar, and geothermal energy. As shown in **Table 3.7-2**, during 2022, 40 percent of PG&E’s energy deliveries were from renewable energy sources (PG&E 2023).

**TABLE 3.7-2  
PG&E 2022 RENEWABLE ENERGY SOURCES**

| <b>Source</b>              | <b>Percent of Total Energy Portfolio</b> |
|----------------------------|--|
| Solar                      | 24                                       |
| Wind                       | 9  |
| Bioenergy                  | 5  |
| Geothermal                 | –  |
| RPS-Eligible Hydroelectric | 2  |
| <b>Total</b>               | <b>40</b>                                |

NOTES: PG&E = Pacific Gas and Electric Company; RPS = Renewables Portfolio Standard

SOURCE: PG&E 2023

### Electricity Consumption

**Table 3.7-3** shows electricity consumption by sector in the PG&E service area based on the latest available data from the California Energy Commission (CEC). As shown in the table, PG&E delivered approximately 78 billion kilowatt-hours (kWh) in 2021, of which approximately 10 billion kWh were consumed by the industrial sector.

**TABLE 3.7-3  
ELECTRICITY CONSUMPTION BY SECTOR IN THE PG&E SERVICE AREA (2021)**

| <b>Agricultural and Water Pump</b>                  | <b>Commercial Building</b> | <b>Commercial Other</b> | <b>Industry</b> | <b>Mining and Construction</b> | <b>Residential</b> | <b>Streetlight</b> | <b>Total Usage</b> |
|---|----------------------------|-------------------------|-----------------|--------------------------------|--------------------|--------------------|--------------------|
| <b>All Usage Expressed in Millions of kWh (GWh)</b> |                            |                         |                 |                                |                    |                    |                    |
| 7,446   | 26,009                     | 3,869                   | 9,959           | 1,764                          | 29,229             | 310                | 78,587             |

NOTES: GWh = gigawatt-hours; kWh = kilowatt-hours; PG&E = Pacific Gas and Electric Company;

SOURCE: CEC 2023b

In Fresno County, approximately 8.4 billion kWh of electricity was consumed in 2021, with approximately 5.2 billion kWh consumed by nonresidential uses (CEC 2023c).

### **Transportation Fuels**

Gasoline and diesel, both derived from petroleum (or crude oil), are the two most common fuels used for vehicular travel. The annual transportation fuel consumption of diesel and gasoline in 2022 in California was approximately 3,170 million gallons and 13,919 million gallons, respectively (CDTFA 2023a, 2023b). Transportation fuel consumption of diesel and gasoline for Fresno County in 2021 was 182 million gallons and 387 million gallons, respectively (CEC 2023d).

The State of California is now working to develop flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to

improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHG emissions from the transportation sector, and reduce vehicle miles traveled. Accordingly, diesel and gasoline consumption in California has declined. The CEC predicts that demand for gasoline will continue to decline over the next 10 years and, during that time frame, there will be an increase in the use of alternative fuels (CEC 2018).

### ***Project Site Existing Energy Use***

The Project site currently has limited use of energy. The site is currently used for agricultural purposes. The only energy usage under baseline conditions consists of fuel use to power agricultural equipment, farmworker automobiles, and trucks, and indirect electricity usage for irrigation of some of the existing crops.

## **3.7.1.3 Regulatory Setting**

### ***Federal***

#### **Energy Conservation Policy Act**

The National Energy Conservation Policy Act (NECPA) (U.S. Code [USC] Title 42, Section 8201 et seq. [42 USC 8201 et seq.]) serves as the underlying authority for federal energy management goals and requirements and is the foundation of most federal energy requirements. NECPA established energy-efficiency standards for consumer projects and includes, among other things, energy-efficiency standards for new construction. Furthermore, the NECPA established fuel economy standards for on-road motor vehicles in the United States. The National Highway Traffic and Safety Administration (NHTSA), which is part of the U.S. Department of Transportation, is responsible for establishing additional vehicle standards and revising existing standards under the NECPA. The U.S. Department of Transportation is authorized to assess penalties for noncompliance.

#### **Energy Policy Act of 2005**

The Energy Policy Act of 2005 (42 USC 13201 et seq.) sets equipment energy efficiency standards and seeks to reduce reliance on nonrenewable energy resources and provide incentives to reduce current demand on these resources. For example, under the act, consumers and businesses can attain federal tax credits for purchasing fuel-efficient appliances and products, including hybrid vehicles; and constructing energy-efficient buildings. Additionally, tax credits are available for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

#### **Energy and Independence Security Act of 2007**

The Energy and Independence Security Act of 2007 (42 USC 17001) sets federal energy management requirements in several areas, including energy reduction goals for federal buildings, facility management and benchmarking, performance and standards for new buildings and major renovations, high-performance buildings, energy savings performance contracts, metering, energy-efficient product procurement, and reduction in petroleum use, including by

setting automobile efficiency standards, and increase in alternative fuel use. This act also amends portions of the NECPA, described above.

### **Corporate Average Fuel Economy Standards**

NHTSA's Corporate Average Fuel Economy standards regulate how far vehicles must be able to travel on a gallon of fuel. NHTSA sets the Corporate Average Fuel Economy standards for passenger cars and for light trucks (collectively, *light-duty vehicles*), and separately sets fuel consumption standards for medium- and heavy-duty trucks and engines. Over more than 30 years, this regulatory program has resulted in improved fuel economy throughout the United States' vehicle fleet (NHTSA 2014, 2019).

## **State**

### **Warren-Alquist Act**

The 1975 Warren-Alquist Act (Public Resources Code Section 25000 et seq.) established the California Energy Resources Conservation and Development Commission, now known as the CEC. The act established a state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The act was also the driving force behind the creation of Appendix F, *Energy Conservation*, to the CEQA Guidelines.

### **California Integrated Energy Policy**

Public Resources Code Section 25301(a) requires the CEC to develop an integrated energy plan at least every 2 years for electricity, natural gas, and transportation fuels. The plan calls for the State of California to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including increasing targets for the deployment of battery energy storage in California.

An overarching goal of the resulting Integrated Energy Policy Report is to achieve the statewide GHG emission reduction targets, while improving overall energy efficiency. See, for example, the CEC's 2021 Integrated Energy Policy Report, which includes integration of increasing amounts of renewable energy resources as a key component paired with energy storage with generation projects (CEC 2022a). This report assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; ensure reliable, secure, and diverse energy supplies; and enhance the state's economy.

### **Renewables Portfolio Standard**

The State of California adopted standards to increase the percentage that retail sellers of electricity, including investor-owned utilities and community choice aggregators, must provide from renewable resources. The standards are referred to as the RPS. The California Public Utilities Commission (CPUC) and the CEC jointly implement the RPS program. Utility providers are required to have 60 percent of their energy portfolio supplied by renewable energy sources by

2030 (CPUC 2021a). Under RPS, utilities are encouraged to develop their own energy storage to integrate eligible renewable energy sources.

### **Energy Storage**

The CPUC set an energy storage procurement framework with a 1,325 MW storage target by 2020 for investor-owned utilities, as required by Assembly Bill (AB) 2514 (2010). AB 2514 also set the energy storage procurement target for each electric service provider and community choice aggregator at 1 percent of its 2020 annual peak load. The three major investor-owned utilities in the state, including PG&E, have exceeded the AB 2514 target of 1,325 MW and satisfied nearly all domain-specific requirements. AB 2868 (2016) requires California's three major investor-owned utilities to propose programs and investments for up to an aggregate of 500 MW (166.6 MW each) of distributed energy storage systems, above and beyond the 1,325 MW general target for energy storage (CPUC 2021b).

### **Title 24 Building Energy Efficiency Standards**

Title 24, Part 6, of the California Code of Regulations (Cal. Code Regs.) is the California Building Code, which governs all aspects of building construction. Included in Part 6 of the Building Code are standards mandating energy efficiency measures in new construction. Since their establishment in 1977, the building efficiency standards (along with standards for energy efficiency in appliances) have contributed to a reduction in electricity and natural gas usage and associated costs in California. The standards are updated every 3 years to incorporate new energy efficiency technologies. The latest update to the Title 24 standards became effective January 1, 2023. The standards regulate energy consumed in buildings for heating, cooling, ventilation, water heating, and lighting. Title 24 is implemented through the local planning and permits processes (CEC 2022b).

### **Construction Equipment Idling**

The California Air Resources Board has also adopted a regulation for in-use off-road diesel vehicles that is designed to reduce emissions from diesel-powered construction vehicles by imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. The regulation requires an operator of applicable off-road vehicles (self-propelled diesel-fueled vehicles 25 horsepower and up that were not designed to be driven on-road) to limit idling to no more than 5 minutes. In addition to reducing emissions, this regulation also reduces the use of diesel fuel.

## **Local**

### **Fresno County General Plan**

The Fresno County General Plan does not contain energy conservation-related goals, mandates, programs, or policies relating to utility infrastructure projects (Fresno County 2000).

## 3.7.2 Significance Criteria

The Project would result in significant impacts related to energy if it would:

- a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation; or
- b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

## 3.7.3 Direct and Indirect Effects

### 3.7.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. While none of the actions specifically targets potential impacts to energy resources, one or more among them could result in a benefit to such resources. For example, the actions described in Section 2.5.9.1, *Glare and Lighting*, could reduce unnecessary electricity consumption by nighttime lighting.

### 3.7.3.2 Methodology

Consistent with Public Resources Code Section 21100(b)(3), this impact analysis evaluates the potential for the Project to result in a substantial increase in energy demand and/or wasteful use of energy during Project construction, operation and maintenance, and decommissioning. The impact analysis is informed by Appendix F of the CEQA Guidelines. The potential impacts are analyzed based on an evaluation of whether construction, operation and maintenance, and decommissioning energy use estimates for the Project would be considered excessive, wasteful, or inefficient, considering that the Project would provide energy storage. GHG emissions estimated for Project-related combustion of diesel and gasoline were used to estimate the associated fuel volumes discussed in this analysis. For an analysis related to Project GHG emissions estimates, see Section 3.9, *Greenhouse Gas Emissions*.

### 3.7.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.

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**Impact 3.7-1: Project construction, operation and maintenance, and/or decommissioning and site reclamation would not result in the wasteful, inefficient, or unnecessary consumption or use of energy. (*Less than Significant*)**

The analysis summarized in this section utilizes the assumptions identified in Appendix D1, *Air Quality and Greenhouse Gas Study*, to estimate the total energy requirements of the Project by fuel type and end use as recommended by CEQA Guidelines Appendix F. Because the technical

report does not display the amount and fuel type for construction-related sources, additional calculations were conducted to estimate Project-related fuel use volumes that are summarized below and provided in Appendix D2, *Fuel Use Calculations*.

The Project would use no natural gas for construction, operation and maintenance, or decommissioning. Therefore, the Project would have no impact on natural gas supplies. Below are discussions of the fuel and electricity usage that would be associated with the Project.

### **Construction and Decommissioning**

Construction and future decommissioning of the Project would result in fuel consumption from the use of construction tools and equipment, vendor truck trips, and vehicle trips generated from workers traveling to and from the Project site. The Applicant estimates that the construction phase of the Lithium-Ion Battery option would take a total of 76 months to complete, and construction of the Lithium Ion with Iron Flow Battery option would take a total of 68 months to complete. The volume of diesel and gasoline fuels that would be consumed during construction of both battery scenarios were calculated using the estimated GHG emissions for the Project. Construction of the Lithium-Ion Battery option is expected to consume a total of approximately 1,104,625 gallons of diesel fuel from construction equipment and truck trips, and approximately 109,747 gallons of gasoline from construction worker vehicle trips. Project fuel use during construction for this option would represent approximately 0.6 percent of diesel and 0.03 percent of gasoline sold in Fresno County in 2021 (CEC 2023d, Appendix D2). For the Lithium Ion Battery with Iron Flow option, construction is expected to consume a total of approximately 972,344 gallons of diesel fuel from construction equipment and truck trips, and approximately 108,087 gallons of gasoline from construction worker vehicle trips. Construction of this option would represent approximately 0.5 percent of diesel and 0.03 percent of gasoline sold in Fresno County in 2021 (CEC 2023d, Appendix D2). Overall, the fuel use during construction would be minimal in comparison to overall fuel use in the county.

Construction activities for the Project would comply with state and local regulations, such as those included in 13 Cal. Code Regs. 2485 and 2449 that require equipment and commercial vehicle operators to limit idling to no more than 5 minutes. Compliance with the state's regulation for in-use off-road diesel vehicles would ensure that fuel energy consumed during the construction phase would not be wasted through unnecessary idling. Therefore, energy use would not be wasteful, inefficient, or unnecessary during construction of the Project and the impact would be less than significant.

When the Project becomes decommissioned, the site would be returned to a stable condition comparable to pre-Project conditions in accordance with applicable land use regulations in effect at that time via the implementation of a County-approved reclamation plan. These activities would occur over a period of 2 years and would include the use of similar equipment to construction activities; therefore, similar impacts would be expected. Decommissioning activities and corresponding fuel and energy consumption would be temporary and, for the purposes of this analysis, conservatively is assumed to be comparable to the construction-related fuel demand even though the duration would be shorter and number of Project-related trips reduced for decommissioning and site reclamation than for construction. This would not represent a



substantial demand on energy resources and would be contributing to the integration of renewable energy in California. Thus, equipment used for energy consumption by the Project's construction and decommissioning would not result in inefficient, wasteful, or unnecessary energy use, and the impact would be less than significant.

### **Operation and Maintenance**

Electricity would be required during operation and maintenance, such as for lighting and to power temperature control for the batteries. For both battery scenarios, the total annual electricity consumption for the battery storage facility would be up to approximately 63,346 kWh per year. This would represent approximately 0.001 percent of electricity consumed by nonresidential uses in Fresno County in 2021 (CEC 2023c) and would not constitute a wasteful, inefficient, or unnecessary use of energy.

During the operation and maintenance of the Project, an uninterrupted power supply would provide electricity to the battery storage facility. In the event that a power outage occurs, the uninterrupted power supply would provide the energy storage facility with a certain amount of run time based on temporary energy storage. The uninterrupted power supply is not a fossil fuel-powered generator.

Operation and maintenance of the Project would require the use of light-duty trucks and other light equipment for maintenance. Large or heavy equipment may be brought to the Project site for equipment repair or replacement. It was conservatively estimated that the Project would require 4 truck trips per day at maximum to conduct routine maintenance and at least 1 week of annual maintenance activities with 8 workers per day for major maintenance inspections (Appendix D1). The associated diesel fuel consumption would be minimal in comparison to the overall county use. Gasoline would likely be required for Project workers commuting to and from the Project site. This usage would be relatively small in comparison to the overall gasoline use in Fresno County and would not be considered an inefficient use of fuel, given that it would be associated with enhancing the reliability and resilience of the electrical grid. Thus, although irreversible commitments of small quantities of nonrenewable resources would occur during operation of the Project, the amount of diesel and gasoline fuel consumed during Project operation would be relatively minimal and would not be considered an inefficient use. Therefore, the overall energy demand during operations would not constitute a wasteful, inefficient, or unnecessary use of energy, and the overall impact would be less than significant.

**Mitigation:** None required.

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**Criterion b)** Whether the Project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

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Energy standards summarized in Section 3.7.1.3, *Regulatory Setting*, such as the Energy Policy Act of 2005, RPS, and Title 24, promote strategic planning and building standards that reduce consumption of fossil fuels, increase use of renewable resources, and enhance energy efficiency. In general, these regulations and policies specify strategies to reduce fuel consumption and increase fuel efficiencies and energy conservation. If the Project were to use energy resources in a

wasteful manner, it would conflict with state energy standards. Construction, operation and maintenance, and decommissioning would be conducted in a manner consistent with the goals and strategies of state energy standards. Compliance with the state's regulation for in-use off-road diesel vehicles that requires idling limitations to no more than 5 minutes would ensure that fuel energy consumed in the construction phase would not be wasted through unnecessary idling. Project construction and decommissioning would be short-term and would not result in the permanent increased use of nonrenewable energy resources.

There would be a minor increase in demand for electricity during the construction and operation phase of the Project. However, this would not conflict with long-term goals of the RPS Plan, as the energy utilized on-site would be provided by PG&E, which is required to comply with the RPS. Overall, the Project would increase the efficiency of the existing transmission network while utilizing the energy generated for the PG&E system that would be compliant with the RPS. Increasing the efficiency of the existing transmission network would improve California's ability to supply renewable energy to end-use customers specifically within the greater PG&E service area and to achieve statewide renewable energy goals. Additionally, when considering the implementation of the state RPS program, the Project would not prevent renewable energy sources from being used as a source of electricity in the future. By creating a new source of energy storage that can aid in the integration of eligible renewable energy sources, the Project would be compliant with the battery storage targets in the RPS program, as well as AB 2868 and the California Integrated Energy Policy.

Project operation would include ongoing maintenance activities that would require the use of trucks and equipment that use nonrenewable fuels. Fuel use for Project operation and maintenance would be minimal, requiring a negligible percentage of the overall fuel supplied to the Fresno County area. Operation and maintenance fuel use associated with the Project would be neither wasteful nor inefficient and would not conflict with current energy conservation standards. There would be no impact under this criterion. (*No Impact*)

### **PG&E Infrastructure**

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project, above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., less-than-significant impacts related to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation.

**Mitigation:** None required.

### 3.7.4 Cumulative Effects Analysis

As discussed in Section 3.7.3, *Direct and Indirect Effects of the Project*, the Project would cause no impact due to a conflict with or obstruction of a state or local plan for renewable energy or energy efficiency. Therefore, it could not cause or contribute to any cumulative impact related to this consideration.

**Impact 3.7-2: The Project would not cause or contribute to a significant cumulative effect due to the wasteful, inefficient, or unnecessary consumption or use of energy. (*Less than Significant*)**

The geographic context for potential cumulative impacts related to electricity is PG&E's service area, and for equipment and vehicle fuel use the geographic context is within the Project's construction equipment delivery and workers' average travel radius, because these are the areas within which energy resources would be demanded and supplied for the Project. The Project would use energy resources during initial construction, operation and maintenance, and decommissioning; therefore, it could contribute to potential cumulative impacts during any of these phases.

Regarding electricity, there is no existing significant adverse condition that would be worsened or intensified by the Project or an alternative. To the contrary, both the Project and the alternatives would provide additional energy storage that could serve the cumulative demand, address the limitations of the electric grid, and support overall grid stability and resiliency. No significant adverse cumulative effect would result related to electricity use; instead, a beneficial cumulative impact on energy resources would result. The Project's incremental construction-related less-than-significant impact would be followed by decades of operation during which the Project would provide additional energy storage that could serve cumulative demand. Additionally, the proposed energy storage system could contribute to electrical grid reliability and assist PG&E in meeting its obligations under state energy targets. Because the Project overall would have a beneficial cumulative impact on energy resources, it would not result in a cumulatively considerable contribution to any adverse significant impact in this regard.

Similarly, regarding the efficiency of fuel use, there is no existing significant adverse condition (such as a shortage) that would be worsened or intensified by the Project or an alternative. Past, present, and reasonably foreseeable future projects near the Project site could require gasoline or diesel, but such projects' fuel demands would not combine with the fuel demands of the Project to cause a significant adverse cumulative impact related to the wasteful, inefficient, or unnecessary consumption or use of fuel. The Project would increase the deployment of battery storage, thus contributing to the resilience and reliability of the electric grid. Under these conditions, the Project's less-than-significant impact related to wasteful, inefficient, or unnecessary consumption or use of fuel would not be cumulatively considerable.

**Mitigation:** None required.

### 3.7.5 References

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## 3.8 Geology, Soils, and Paleontological Resources

This section identifies and evaluates issues related to geology, soils, and paleontological resources, including seismicity, erosion, geologic stability and features (including paleontological features), and expansiveness and other characteristics of soils that could indicate risks to life or property. This section includes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment. The County received no scoping input pertaining to geology, soils, or paleontological resources (**Appendix A**, *Scoping Report*).

The analysis in this section is based in part on the site-specific geotechnical analysis prepared on the Applicant's behalf (**Appendix G1**, *Geology and Geohazards Desktop Review* and **Appendix G2**, *Paleontological Resources Technical Report*). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed these and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.8.1 Setting

#### 3.8.1.1 Study Area

The study area for this analysis of potential impacts related to geology, soils, and paleontological resources encompasses and is limited to the Project site and its immediately adjacent area, with the exception of seismic impacts. This is because Project impacts relative to geology, soils, and paleontological resources are generally site-specific and depend on the nature of the existing geologic and soil units. For example, erosion impacts would be limited to the Project site and possibly the immediately adjacent properties. For seismic impacts, the study area extends to the San Andreas Fault Zone, located approximately 30 miles to the west of the Project site. This extent of the study area is because seismic shaking from active faults, such as the San Andreas Fault Zone, could adversely impact the Project site.

The PG&E Midway Substation property is not included in the study area for geology, soils, and paleontological resources because the proposed activities would consist only of minor modifications (replacement and upgrades) to equipment within the existing facility that would not require any ground disturbance.

#### 3.8.1.2 Environmental Setting

##### ***Regional Geology***

The Project site is approximately 4.2 miles southwest of the city of Huron in unincorporated Fresno County in the San Joaquin Valley. The Project site is within the southern portion of the Great Valley Geomorphic Province, which is an alluvial plain approximately 50 miles wide and 400 miles long in central California. The Great Valley is a basin in which there has been almost continuous deposition since the Late Jurassic Period (approximately 160 million years ago) and is filled with sediments eroded from the Sierra Nevada and the Coast Ranges.

The topography at the Project site is relatively flat (Appendix G1), with the elevation varying from approximately 411 feet to 418 feet above mean sea level (Google Earth 2021).

### **Local Geology**

Geologic mapping by Jennings and Strand (1958) and Dibblee and Minch (2007) indicates that the surficial geology at the Project site is entirely Holocene-age alluvium (mapped as Holocene-age fan deposits by Jennings and Strand).<sup>1</sup> These deposits consist primarily of gravel, sand, and clay that is found in valley areas (Jennings and Strand 1958; Dibblee and Minch 2007; Appendix G2). Older, Pleistocene-age deposits are not mapped at the surface within the Project site but are mapped approximately 200 feet to the west and southwest (Jennings and Strand 1958; Dibblee and Minch 2007; Appendix G2).<sup>2</sup> The Pleistocene-age deposits are mapped by Jennings and Strand as Pleistocene nonmarine deposits (Jennings and Strand 1958) and by Dibblee and Minch as nonmarine Tulare Formation (Dibblee and Minch 2007).

### **Geologic and Seismic Hazards**

#### **Earthquake Faults and Seismicity**

There are no known Holocene-active<sup>3</sup> faults or pre-Holocene<sup>4</sup> faults within the Project site (CGS 2010). Multiple fault systems are present in the region outside of the Project site (CGS 2010). The closest known Holocene-active faults are the Great Valley 13 (GV 13) and Great Valley 14 (GV 14) faults of the Great Valley thrust fault system<sup>5</sup>; GV 13 is approximately 1.1 miles northeast of the Project site and GV 14 is inferred to possibly underlie the southern portion of the Project site (USGS 2021). However, thrust faults do not necessarily show surface evidence of their presence and it is unknown whether this thrust fault does in fact underlie the Project site. Two other active fault systems near the Project site are the Nunez fault zone and Creeping Section of the San Andreas fault zone, approximately 18 miles northwest and 28 miles southwest of the Project site, respectively (CGS 2022).

#### **Fault Rupture**

The Project site is not within an established Earthquake Fault Zone (EFZ) as delineated on an EFZ Map, required by the Alquist-Priolo Earthquake Fault Zoning Act. The nearest EFZs are the Nunez and San Andreas fault zones, 18 miles and 28 miles away, respectively (CGS 2021).

The California Earthquake Hazards Zone Application (EQ Zapp) is an interactive map available on the California Geological Survey (CGS) website. The EQ Zapp allows users to view all available earthquake hazard zone data, including earthquake fault, liquefaction, and earthquake-induced landslide zones. Although there has been historic movement within the Great Valley

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<sup>1</sup> The *Holocene Epoch* is a period of time that spans from the present to 11,700 years ago.

<sup>2</sup> The *Pleistocene Epoch* is a period of time that spans from 11,700 to 2.6 million years ago.

<sup>3</sup> Holocene-active faults show evidence of surface displacement within the Holocene Epoch, or the last 11,700 years, are considered active (CGS 2008).

<sup>4</sup> Pre-Holocene faults have not shown evidence of surface displacement in the last 11,700 years (CGS 2008).

<sup>5</sup> GV 13 and GV 14 are the naming conventions for the specific, individual sections of the Great Valley thrust fault system. The abbreviation “GV” stands for “Great Valley” (i.e., “GV 13” stands for “Great Valley 13 fault”) (USGS 1996).



thrust fault system (1983 Coalinga earthquake) (USGS 1990, 1996), it has not been mapped as an EFZ according to EQ Zapp (CGS 2021). This may be due to the fact that there was no surface rupture associated with the 1983 Coalinga earthquake event (USGS 1990; Terracon 2022), and the location of the fault is inferred, as noted previously. Faults are designated EFZ if they display evidence of surface rupture within the last 11,700 years (CGS 2018).

### Ground Shaking

Ground shaking due to fault rupture is widely known to cause extensive damage to life and property. The extent of the damage varies by event and is determined by several factors, such as magnitude and depth of the earthquake, distance from epicenter, duration and intensity of the shaking, underlying soil and rock types, and integrity of structures.

There is a potential for strong seismic ground shaking because of the presence of the nearby Great Valley thrust, Nunez, and San Andreas fault systems. The 2014 Working Group on California Earthquake Probabilities<sup>6</sup> (WGCEP) concluded that there is a 95 percent probability that a magnitude ( $M_w$ ) 6.7 earthquake or higher could occur in Northern California within the next 30 years (from the time of publication of the study), with the San Andreas fault zone as a likely source (Field et al. 2015).

According to the ShakeMap, which corresponds with the earthquake planning scenario generated by the U.S. Geological Survey (USGS), if a  $M_w$  6.6 event were to occur on the Great Valley 11 fault, the Project site may experience strong to very strong ground shaking, with moderate to heavy damage expected (USGS 2016). These data were based on the actual 1983 Coalinga earthquake event, in which the initial shock of the earthquake was felt as far away as San Francisco and Los Angeles (USGS 1990).

### Liquefaction and Lateral Spreading

*Liquefaction* is a phenomenon in which unconsolidated, water saturated sediments become unstable due to the effects of strong seismic shaking. During an earthquake, these sediments can behave like a liquid, potentially causing severe damage to overlying structures. *Lateral spreading* is a variety of minor landslide that occurs when unconsolidated liquefiable material breaks and spreads due to the effects of gravity, usually down gentle slopes. *Liquefaction-induced lateral spreading* is defined as the finite, lateral displacement of gently sloping ground as a result of pore-pressure buildup or liquefaction in a shallow underlying deposit during an earthquake. The occurrence of this phenomenon is dependent on many complex factors, including the intensity and duration of ground shaking, particle-size distribution, and density of the soil.

The potential damaging effects of liquefaction include differential settlement, loss of ground support for foundations, ground cracking, heaving and cracking of structure slabs due to sand boiling, and buckling of deep foundations due to ground settlement. *Dynamic settlement* (i.e., pronounced consolidation and settlement from seismic shaking) may also occur in loose, dry sands above the water table, resulting in settlement of and possible damage to overlying

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<sup>6</sup> Also referred to as WGCEP 2014, this is a working group composed of seismologists from the USGS, CGS, Southern California Earthquake Center, and California Earthquake Authority.

structures. In general, a relatively high potential for liquefaction exists in loose, sandy soils that are within 50 feet of the ground surface and are saturated (below the groundwater table). Lateral spreading can move blocks of soil, placing strain on buried pipelines that can lead to leaks or pipe failure.

According to the EQ Zapp, the Project site is not within or near any known liquefaction zone (CGS 2021). Additionally, according to monitoring well data (from a well approximately 12 miles to the northeast of the Project site), the measured depth to groundwater was 39.97 feet below ground surface (bgs) in October 2005 (Appendix G1). Groundwater fluctuations can occur due to seasonal variations in rainfall, runoff, and other factors; therefore, groundwater levels at the Project site may be higher or lower than expected during construction. Due to the well-drained soils and deep groundwater, the liquefaction risk at the Project site is considered low (Appendix G1).

### **Landslides**

*Landslides* are one of the various types of downslope movements in which rock, soil, and other debris are displaced due to the effects of gravity. The potential for material to detach and move down slope depends on multiple factors including the type of material, water content, and steepness of terrain.

Landslides and other slope failures are not anticipated at the Project site due to the relatively flat surrounding area (Appendix G1). Based on Google Earth imagery, there are no signs of previous landslides within or around the Project site. Additionally, based on a review of geologic maps of the area, there are no mapped historical landslides in the vicinity of the Project site (Jennings and Strand 1958; Dibblee and Minch 2007).

### **Subsidence and Ground Settlement**

*Land subsidence* is the gradual settling or sudden sinking of the earth's surface due to subsurface movement of earth materials (USGS 1999). Subsidence in alluvial valley areas is typically associated with groundwater or petroleum withdrawal, and regional ground subsidence or settlement is typically caused by compaction of alluvial deposits, or other saturated deposits in the subsurface (USGS 1999).

The San Joaquin Valley has a history of land subsidence due to groundwater pumping and related compaction of sand and clay layers in Valley sediments. The Project site is in an area that has experienced moderate land subsidence in the past (Sneed et al. 2018). Based on data from the USGS Central Valley Drought Indicators interactive map, a subsidence of approximately 25 millimeters was observed at the Project site between 2008 and 2010 (Appendix G1).

### **Soil Types**

Soils on the Project site are classified as Kimberlina sandy loam, Westhaven loam, and Wasco sandy loam (see Appendix G1). Kimberlina is a coarse soil averaging 5 to 20 percent clay, Westhaven averages 18 to 35 percent clay, and Wasco is a coarse-loamy soil. These soil series represent a range of non- to moderately plastic soils with mixed coarse-grained textures.

## Expansive Soils

*Expansive soils* are soils that possess a “shrink-swell” characteristic, also referred to as *linear extensibility*. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying; the volume change is reported as a percent change for the whole soil. This property is measured using the coefficient of linear extensibility (COLE) (NRCS 2017). The U.S. Natural Resources Conservation Service (NRCS) relies on linear extensibility measurements to determine the shrink-swell potential of soils. If the linear extensibility percent is more than 3 percent (COLE=0.03), shrinking and swelling may cause damage to buildings, roads, and other structures (NRCS 2017). Changes in soil moisture can result from rainfall, landscape irrigation, utility leakage, roof drainage, and/or perched groundwater.<sup>7</sup> Expansive soils are typically very fine-grained and have a high to very high percentage of clay. Structural damage may occur incrementally over a long period of time, usually as a result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils.

The Geology and Geohazards Desktop Review prepared for this Project indicates that the Project site is not mapped within moderately high or high soil expansion potential soils (Appendix G1). The NRCS Web Soil Survey data reflect this finding as well; the linear extensibility rating for the soils underlying the Project site is between 2.0 and 3.2 percent, indicating a low to moderate soil expansion potential (NRCS 2022).

## Paleontological Resources

*Paleontological resources* are the fossilized remains or impressions of plants and animals, including vertebrates (animals with backbones; e.g., mammals, birds, fish), invertebrates (animals without backbones; e.g., starfish, clams, coral), and microscopic plants and animals (microfossils). They are valuable, nonrenewable scientific resources used to document the existence of extinct life forms and to reconstruct the environments in which they lived. Fossils can be used to determine the relative ages of the depositional layers in which they occur and of the geologic events that created those deposits. The age, abundance, and distribution of fossils depend on the geologic formation in which they occur and the topography of the area in which they are exposed. The geologic environments within which the plants or animals became fossilized usually were quite different from the present environments in which the geologic formations now exist.

The Paleontological Resources Assessment Report for this Project identifies and summarizes paleontological resources that may occur in and around the Project site (Appendix G2). The analysis provided in the report is based on a review of the available paleontological literature and geologic maps, as well as a record search of the paleontological collections at the Natural History Museum of Los Angeles County (NHMLA).

Based on geologic mapping, the surficial geology at the Project site consists of Holocene-age alluvium, with older, Pleistocene-age nonmarine deposits (Tulare Formation) mapped

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<sup>7</sup> *Perched groundwater* is a local saturated zone above the water table that typically exists above an impervious layer (such as clay) of limited extent.

approximately 200 feet to the southwest of the Project site (Appendix G2). Based on geologic mapping, the Pleistocene-age deposits are present in the subsurface at a conservatively estimated depth of approximately 10 feet bgs (Appendix G2). The record search from NHMLA indicates that there are no paleontological resources within the Project site. However, based on records search results from NHMLA, deposits that date to the Pleistocene Epoch are known to produce scientifically significant paleontological resources in Fresno County (Appendix G2).

The University of California Museum of Paleontology (UCMP) fossil locality online database also indicates that there are no fossil localities within the Project site. The search does indicate that 10 vertebrate fossils have been discovered in Holocene-age sediments and 163 vertebrate fossils have been discovered in Pleistocene-age sediments in Fresno County (UCMP 2022a). The nearest fossil locality is approximately 14 miles northwest of the Project site in Coalinga, California (O'Dell et al. 2017; UCMP 2022a). Another notable fossil site is approximately 34 miles north-northwest of the Project site, in the town of Tranquillity (Hewes 1946; UCMP 2022a). Additionally, the UCMP records indicate that there are 52 fossil localities (14 vertebrate, 37 invertebrates, and 2 plant fossil localities) within Tulare Formation deposits throughout California (Alameda, Fresno, Kern, Kings, San Bernardino, San Joaquin, and Stanislaus counties) (UCMP 2022b).

In general, Holocene-age deposits have a low potential to contain significant paleontological resources due to the relatively young age (less than 11,700 years old) of those deposits (SVP 2010; Appendix G2), however, Holocene-age fossils have been discovered in Fresno County (O'Dell et al. 2017; UCMP 2022a). Conversely, Pleistocene-age sedimentary deposits are generally considered to have a moderate to high potential to contain significant paleontological resources due to their age and because there have been numerous similar finds in Fresno County (Hewes 1946; Dundas et al. 1996; Trayler 2012; Appendix G2), and throughout California (Jefferson 1991a, 1991b; SVP 2010; Sub Terra Consulting 2017; Appendix G2).

While no records of paleontological resources were identified within the Project site, the presence of nearby Holocene and Pleistocene-age fossil discoveries indicates that the potential exists to encounter paleontological resources. As mentioned previously, Holocene-age deposits generally have a low potential to contain significant paleontological resources, so the deposits underlying the Project site have a low potential from 0 to 10 feet bgs (Appendix G2). Generally, Pleistocene-age deposits are considered to have a moderate to high potential to contain significant paleontological resources; however, because the Pleistocene-age deposits underlying the Project site are only estimated to occur at 10 feet bgs and below, these deposits have a potential to contain significant paleontological resources below 10 feet (Appendix G2).

### **3.8.1.3 Regulatory Setting**

#### ***Federal***

No federal regulations related to geology, soils, or paleontological resources apply to the Project.

## **State**

### **Alquist-Priolo Earthquake Fault Zoning Act**

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) was enacted in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the State Geologist established regulatory zones, called “earthquake fault zones,” around the surface traces of Holocene-active faults and published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of Holocene-active faults. Each earthquake fault zone extends approximately 200–500 feet on either side of the mapped fault trace, because many active faults are complex and consist of more than one branch. There is the potential for ground surface rupture along any of the branches.

### **Seismic Hazards Mapping Act**

The Seismic Hazards Mapping Act was enacted in 1990 following the Loma Prieta earthquake to reduce threats to public health and safety and to minimize property damage caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones, and cities, counties, and other local permitting agencies to regulate certain development projects within these zones. For projects that would locate structures for human occupancy within designated Zones of Required Investigation, the Seismic Hazards Mapping Act requires project applicants to perform a site-specific geotechnical investigation to identify the potential site-specific seismic hazards and corrective measures, as appropriate, prior to receiving building permits. The CGS *Guidelines for Evaluating and Mitigating Seismic Hazards* (Special Publication 117A) provide guidance for evaluating and mitigating seismic hazards (CGS 2008). The CGS is producing official maps based on USGS topographic quadrangles. However, to date, the CGS has not completed a delineation for the USGS quadrangle in which Project components are proposed.

### **California Building Code**

The California Building Code (CBC), codified in Title 24, Part 2 of the California Code of Regulations, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, means of egress to facilities (entering and exiting), and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. The California Building Standards Commission administers Title 24, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California, and would apply to structures proposed on the Project site.

Relevant to the Project, Chapter 18 of the CBC covers the requirements of geotechnical investigations, including expansive soils (Section 1803); excavation, grading, and fills (Section 1804); load-bearing of soils (Section 1806); and foundations (Section 1808), shallow foundations (Section 1809), and deep foundations (Section 1810). Chapter 18 requires analysis of slope

instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss, and lateral movement or reduction in foundation soil-bearing capacity. It also addresses mitigation measures to be considered in structural design, which may include ground stabilization, selection of appropriate foundation type and depths, selection of appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions. For a given project, a preliminary geotechnical report based on the initial design is prepared and may be considered as part of the CEQA process. For this Project, the site-specific Geology and Geohazards Desktop Review prepared by Rincon Consultants, Inc. (October 2022) on the Applicant's behalf is included in Appendix G1.

### **National Pollutant Discharge Elimination System Construction General Permit**

Construction of the Project, including the interconnection infrastructure described in Section 2.5.10 of Chapter 2, *Project Description*, would disturb more than 1 acre of land surface affecting the quality of stormwater discharges into waters of the United States. The Project would therefore be subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, or Construction General Permit (Order 2022-0057-DWQ, NPDES No. CAS000002). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the United States from construction sites that disturb 1 acre or more of land surface, or that are part of a common plan of development or sale that disturbs more than 1 acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving waters from the sediment discharge. Depending on the risk level, the construction projects could be subject to the following requirements:

- Effluent standards.
- Good site management “housekeeping.”
- Non-stormwater management.
- Erosion and sediment controls.
- Run-on and runoff controls.
- Inspection, maintenance, and repair.
- Monitoring and reporting requirements.

The Construction General Permit requires the development and implementation of a storm water pollution prevention plan (SWPPP) that includes specific best management practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater from moving off-site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the Clean Water Act Section 303(d) list of impaired waters on the basis of its sediment load.

The SWPPP must be prepared before construction begins. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the Project area. The SWPPP must list BMPs and the placement of those BMPs that the applicant would use to protect stormwater runoff. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The Construction General Permit also sets post-construction standards (i.e., implementation of BMPs to reduce pollutants in stormwater discharges from the site following construction).

In the Project area, the Construction General Permit is implemented and enforced by the Central Valley Regional Water Quality Control Board, which administers the stormwater permitting program. Dischargers must electronically submit a notice of intent and permit registration documents to obtain coverage under this Construction General Permit. Dischargers are to notify the Central Valley Regional Water Quality Control Board of violations or incidents of noncompliance and to submit annual reports identifying deficiencies in the BMPs and explaining how the deficiencies were corrected. The risk assessment and SWPPP must be prepared by a State Qualified SWPPP Developer, and implementation of the SWPPP must be overseen by a State Qualified SWPPP Practitioner. A legally responsible person, who is legally authorized to sign and certify permit registration documents, is responsible for obtaining coverage under the permit.

## **Local**

### **2000 Fresno County General Plan**

**Goal OS-J:** To identify, protect, and enhance Fresno County’s important historical, archeological, paleontological, geological, and cultural sites and their contributing environment.

**Policy OS-J.1:** The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, paleontological, and cultural sites and their contributing environment from damage, destruction, and abuse to the maximum extent feasible. Project-level mitigation shall include accurate site surveys, consideration of project alternatives to preserve archeological and historic resources, and provision for resource recovery and preservation when displacement is unavoidable.

**Policy OS-J.9:** In approving new development, the County shall ensure, to the maximum extent practicable, that the location, siting, and design of any project be subordinate to significant geologic resources.

**Goal HS-D:** To minimize the loss of life, injury, and property damage due to seismic and geologic hazards.

**Policy HS-D.2:** The County shall ensure that the General Plan and/or County Ordinance Code is revised, as necessary, to incorporate geologic hazard areas formally designated by the State Geologist (e.g., Earthquake Fault Zones and Seismic Hazard Zones). Development in such areas, including public infrastructure projects, shall not be allowed until compliance with the investigation and mitigation requirements established by the State Geologist can be demonstrated.

**Policy HS-D.3:** The County shall require that a soils engineering and geologic-seismic analysis be prepared by a California-registered engineer or engineering geologist prior to permitting development, including public infrastructure projects, in areas prone to geologic or seismic hazards (i.e., fault rupture, ground shaking, lateral spreading, lurchcracking, fault creep, liquefaction, subsidence, settlement, landslides, mudslides, unstable slopes, or avalanche).

**Policy HS-D.4:** The County shall require all proposed structures, additions to structures, utilities, or public facilities situated within areas subject to geologic-seismic hazards as identified in the soils engineering and geologic-seismic analysis to be sited, designed, and constructed in accordance with applicable provisions of the Uniform Building Code (Title 24 of the California Code of Regulations) and other relevant professional standards to minimize or prevent damage or loss and to minimize the risk to public safety.

**Policy HS-D.5:** Pursuant to the Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code, Chapter 7.5), the County shall not permit any structure for human occupancy to be placed within designated Earthquake Fault Zones unless the specific provisions of the Act and Title 14 of the California Code of Regulations have been satisfied.

**Policy HS-D.7:** The County shall ensure compliance with State seismic and building standards in the evaluation, design, and siting of critical facilities, including police and fire stations, school facilities, hospitals, hazardous material manufacture and storage facilities, bridges, large public assembly halls, and other structures subject to special seismic safety design requirements.

**Policy HS-D.8:** The County shall require a soils report by a California-registered engineer or engineering geologist for any proposed development, including public infrastructure projects, that requires a County permit and is located in an area containing soils with high “expansive” or “shrink-swell” properties. Development in such areas shall be prohibited unless suitable design and construction measures are incorporated to reduce the potential risks associated with these conditions.



**Policy HS-D.9:** The County shall seek to minimize soil erosion by maintaining compatible land uses, suitable building designs, and appropriate construction techniques. Contour grading, where feasible, and revegetation shall be required to mitigate the appearance of engineered slopes and to control erosion.

**Policy HS-D.15:** The County Board of Review or other subsequently appointed body shall serve as the review body on appeals from seismic and geologic hazard requirements.

## 3.8.2 Significance Criteria

The Project would result in significant impacts to geology, soils, and paleontological resources if it would:

- a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42;
  - ii. Strong seismic ground shaking;
  - iii. Seismic-related ground failure, including liquefaction;
  - iv. Landslides;
- b) Result in substantial soil erosion or the loss of topsoil;
- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- d) Be located on expansive<sup>8</sup> soil creating substantial direct or indirect risks to life or property;
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; or
- f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

## 3.8.3 Direct and Indirect Effects

### 3.8.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts on a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of them, the actions described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*, and Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, are relevant to the analysis

<sup>8</sup> The CBC, based on the International Building Code and the now-defunct Uniform Building Code, no longer includes a Table 18-1-B. Instead, Section 1803.5.3 of the CBC describes the criteria for analyzing expansive soils.

below. Based on the Applicant's commitment in Section 2.5.9.8, this analysis assumes that construction and design of Project components would utilize standard site preparation practices, engineering designs, and seismic safety techniques that are required under the CBC and other state and local geologic hazard–related laws, regulations, and policies summarized in Section 3.8.1.2, *Regulatory Setting*.

Further, the Project has been designed consistent with Low Impact Development standards such as minimizing impermeable surfaces and use of gravel surfacing where possible instead of hardscape surfaces. Impermeable surfaces are broken into individual areas that would drain through gravel that would help maximize infiltration and to disburse flows, and through bioretention swales that would further slow runoff and facilitate infiltration (see Figure 2-3, *Preliminary Site Plan—Lithium Ion Option*, and Figure 2-4, *Preliminary Site Plan—Lithium Ion and Iron Flow Option*, in Chapter 2, *Project Description*).

### **3.8.3.2 Methodology**

The following impact analysis considers the potential impacts related to geology, soils, seismicity, and paleontological resources associated with the construction, operation and maintenance, and decommissioning of the Project. Compliance by the Project with applicable federal, state, and local laws and regulations and implementation of the other identified Applicant Proposed Measures are assumed in this analysis. Further, local and state agencies are expected to continue to enforce applicable requirements to the extent that they do so now.

In 2015, the California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District (CBIA v. BAAQMD)*, 2015, 62 Cal.4th 369, held that CEQA generally does not require a lead agency to consider the impacts of existing environmental conditions on the future occupants or users of a project. However, if a project could exacerbate preexisting environmental hazards or conditions, then the lead agency must analyze the impact of that exacerbated condition on the environment, which may include future occupants and users within the project area. Generally, energy storage projects would not exacerbate existing environmental hazards related to geological and soil conditions. Nonetheless, consistent with past practice, information is presented on geologic hazards that may be of use to the lead agency.

Impacts related to geologic and seismic hazards are considered significant if they would result in injury, structural collapse, unrepairable facility or utility damage, erosion of on-site and off-site areas, or severe service disruption. Impacts on paleontological resources are considered significant if construction of the Project would disturb or destroy significant paleontological resources.

### 3.8.3.3 Direct and Indirect Effects of the Project

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**Criterion a.i)** Whether the Project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map.

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**Impact 3.8-1: The Project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. (*Less-than-Significant Impact*)**

Although no active faults designated as Alquist-Priolo fault zones have been mapped across the Project site, sections of the Great Valley thrust fault system (GV 13 and GV 14) that do not display surface rupture are inferred to pass through the Project site area and may pass beneath the Project site. Rupture of an active fault across the Project site could damage the energy storage facility components, resulting in risks to on-site workers and disruption of the electrical energy supply that, secondarily, could cause impacts on the physical environment. During Project construction, the peak daily workforce would be up to approximately 150 workers; on average, there would be fewer workers than this on-site. Construction workers would work 8- to 10-hour days, Monday through Friday. While weekend and overtime construction is not anticipated, it may occasionally be needed. Once constructed, up to seven employees would be present on-site. The workforce needed for decommissioning would be similar to or less than what was needed for construction.

The Project does not include the injection of water or liquid wastes or the extraction of crude oil or natural gas. Therefore, the Project would not directly include activities that could trigger movement along a fault.

During construction, some water would be used for dust suppression, which could be supplied by the on-site water supply well (see Location C on Figure 3.10-1 in Section 3.10, *Hazards and Hazardous Materials*). The volume of water used would range from 35 to 171 acre-feet per year over a period of 68–76 months (see Appendix L, *Water Supply Assessment*). Some of the water would infiltrate back into the underlying aquifer after use for dust suppression. This short-term use would not be anticipated to trigger significant shifting of underlying soil and geologic units; the removal of groundwater would result in less water available that could serve to lubricate fault planes and trigger movement along the fault. During Project operation, the on-site water demand would decrease from construction levels to 1,036 gallons per year or 0.003 acre-feet per year. This short-term use would not be anticipated to trigger significant shifting of underlying soil and geologic units.

Currently available information does not identify the Project site as within or within 0.5 mile of an established EFZ. Accordingly, the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo EFZ map. However, potential future surface fault rupture cannot be entirely ruled out along the Great Valley thrust fault system on or near the Project site. The possibility exists for the Project to indirectly cause

potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of the Great Valley thrust fault system, by creating the potential for risks to people or infrastructure from being located near the GV 13 and GV 14 faults during an earthquake. The potential Project-caused risk would be low because the likelihood of surface rupture is low, no Project structures are proposed for human occupancy, a maximum of 120–150 workers could be on-site during construction and decommissioning, and much more limited numbers of workers could be present during operation and maintenance activities.

Because the Project site is not within an established EFZ and does not include activities that would trigger movement along a fault, the potential for the Project to result in impacts related to the risk of loss, injury, or death involving rupture of a known earthquake fault would be less than significant.

**Mitigation:** None required.

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**Criterion a.ii)** Whether the Project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

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**Impact 3.8-2: The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. (*Less-than-Significant Impact*)**

Given the proximity of the Project site to the Great Valley thrust, Nunez, and San Andreas fault systems, the Project site is potentially subject to strong seismic ground shaking. Should strong seismic ground shaking occur that affects the Project site, damage to Project structures could result in falling debris that injures site workers or damage to the energy storage system that disrupts service.

As discussed in the context of Impact 3.8-1, the Project does not include the injection of water or liquid wastes and does not include the extraction of crude oil or natural gas. The Project would not include the extraction of groundwater in such a manner that would trigger movement on a fault. Therefore, the Project would not directly include activities that could trigger movement along a fault.

In addition, the Project would be subject to the seismic design criteria of the CBC, which requires that all improvements be constructed to withstand anticipated ground shaking from regional fault sources. The CBC requires that a licensed geotechnical engineer be retained to design the Project components to withstand probable seismically induced ground shaking and consolidate recommendations into a site-specific geotechnical report. In the case of the Project, the Geology and Geohazards Desktop Review (see Appendix G1) provides background information about the Project site, as it relates to geology and potential geotechnical hazards, but does not provide the specific soil engineering and design parameters that would be implemented during construction. The CBC requires that a final geotechnical investigation be performed after Project design plans are finalized and prior to construction, and that a final geotechnical report be completed to

provide engineering and design requirements. All construction would adhere to the specifications, procedures, and site conditions contained in the final design plans, which would comply with the seismic recommendations of a California-registered, professional geotechnical engineer contained in the geotechnical report in accordance with the CBC. The final structural design would be subject to approval and follow-up inspection by the Fresno County Building and Safety Team. Final design requirements would be provided to the on-site construction supervisor and the Fresno County Building Inspector to ensure compliance.

Implementation of the applicable CBC requirements (including design requirements provided in a site-specific geotechnical report) and local agency enforcement would ensure that the Project would not directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Therefore, impacts related to ground shaking during Project construction, operation and maintenance, or decommissioning would be less than significant.

**Mitigation:** None required.

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**Criterion a.iii)** Whether the Project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.

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**Impact 3.8-3: The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. (*Less-than-Significant Impact*)**

Liquefaction triggered by a seismic event could damage the energy storage system and could result in falling debris that injures site workers or damage to the energy storage system that disrupts electrical service. Available data suggest that the risk of soil liquefaction at the Project site is low. This is in part due to the anticipated absence of groundwater within 50 feet of the ground surface underlying the Project site, which is necessary to liquefy soil during an earthquake. Additionally, data from the CGS EQ Zapp indicates that the Project site is not located within a liquefaction hazard zone.

As discussed in Impact 3.8-2, above, the Project would be subject to the seismic design criteria of the CBC, which requires that all improvements be constructed to withstand potential impacts caused by liquefaction. The CBC requires that a licensed geotechnical engineer be retained to investigate the subsurface conditions at the Project site to determine the liquefaction potential of the underlying soils and consolidate recommendations into a site-specific geotechnical report, to ensure that Project structures are designed to withstand impacts related to liquefaction and other seismic-related ground failures.

Compliance with CBC requirements (including the recommendations provided in a site-specific geotechnical report) would ensure the risks related to liquefaction and seismic-related ground failures would be less than significant.

**Mitigation:** None required.

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**Criterion a.iv)** Whether the Project would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

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The Project site has a nearly flat topography and a very gentle long slope. There are no mapped landslides on or around the site. For these reasons, there is no potential for landslide hazards at the site. Therefore, the Project would cause no impact from directly or indirectly causing potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. (*No Impact*)

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**Criterion b)** Whether the Project would result in substantial soil erosion or loss of topsoil.

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**Impact 3.8-4: The Project would not result in substantial soil erosion or loss of topsoil. (*Less-than-Significant Impact*)**

Project construction would include ground-disturbing activities that could increase the risk of erosion or sediment transport, such as soil excavation, grading, trenching, and soil stockpiling. Because the overall footprint of construction activities would exceed 1 acre, the Project would be required to comply with the Construction General Permit, described above in Section 3.8.1.3, *Regulatory Setting*. This state requirement was developed to ensure that stormwater is managed, and erosion is controlled on construction sites. The Construction General Permit requires preparation and implementation of a SWPPP, which requires implementation of BMPs to control stormwater run-on and runoff from construction work sites. BMPs may include, but would not be limited to, physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of infiltration swales, protection of stockpiled materials, and a variety of other measures to be identified by a qualified SWPPP developer that would substantially reduce or prevent erosion from occurring during construction.

In addition, the Applicant-proposed erosion and sediment control and pollution prevention measures described in Section 2.5.9.3 would be enforced during construction to reduce substantial erosion and the loss of topsoil. As discussed in Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, the Applicant has committed to complying with all applicable laws and standards.

Compliance with applicable federal, state, and local requirements and the applicable Applicant Proposed Measures would ensure the Project's potential impacts associated with soil erosion and loss of topsoil during construction would be less than significant.

**Mitigation:** None required.

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**Criterion c)** Whether the Project would be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

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As discussed in the context of significance criterion a.iv, the Project would cause no impact related to landslides because the relevant area is relatively flat with no evidence of landslides. Similarly, the Project would not have the potential to result in on- or off-site landslide due to presence on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project. (*No Impact*)

**Impact 3.8-5: The Project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site lateral spreading, subsidence, liquefaction, or collapse. (*Less-than-Significant Impact*)**

Project construction would include ground-disturbing activities that could increase the risk of causing or being subject to damage from unstable geologic units or soils. Movement of unstable units could damage structures and injure site workers. As discussed previously, there would be a less-than-significant impact related to liquefaction, lateral spreading, or other seismic-induced ground failure. The Project site is in an area that has experienced land subsidence in the past, and the San Joaquin Valley has a history of land subsidence due to groundwater pumping. As noted in Section 2.5.5.1, *Water and Wastewater*, water supply for construction and operation may be provided by the on-site water supply well. As discussed above in Impact 3.8-1, the volume of water used is not anticipated to be significant and is not expected to contribute to local subsidence or collapse. Therefore, impacts related to unstable geologic units or soils would be less than significant. Compliance with applicable laws and standards, including the CBC, would ensure that any impact relating to the stability of geologic units or soils related to the Project would be less than significant.

**Mitigation:** None required.

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**Criterion d)** Whether the project would be located on expansive soil, as defined in California Building Code (2019) Section 1803.5.3, creating substantial direct or indirect risks to life or property.

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**Impact 3.8-6: The Project could be located on expansive soil, creating substantial direct or indirect risks to life or property. (*Less-than-Significant Impact*)**

Construction on expansive soils could increase the risk of causing or being subject to damage from expansive soil because the swelling and shrinking of expansive soil could damage structures or injure site workers. However, the Geology and Geohazards Desktop Review (Appendix G1) indicates that the Project site is not mapped within moderately high or high soil expansion potential soils. The NRCS Web Soil Survey data reflect this finding as well; the linear extensibility rating for the soils underlying the Project site is between 2.0 and 3.2 percent, indicating a low to moderate soil expansion potential.

As stated above, CBC would require the preparation of a final, site-specific geotechnical report, which would include further site investigations. If these investigations find (contrary to existing data) that expansive soils are present at the Project site, then the report would include recommendations to ensure that any structural improvements proposed to be constructed on such soils would be avoided, removed, or engineered to be suitable. Adherence to the requirements of the CBC and geotechnical investigation would avoid impacts resulting from potentially expansive soils on the Project site, if any. Therefore, the Project would not create substantial direct or indirect risks to life or property related to expansive soils, and impacts would be less than significant.

**Mitigation:** None required.

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**Criterion e)** Whether the Project would have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater.

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**Impact 3.8-7: The Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater. (*Less-than-Significant Impact*)**

During construction and decommissioning, portable restroom facilities would be provided and serviced by licensed providers. For operations, a 2,500-square-foot operation and maintenance building would be constructed on-site and would include a kitchen and restroom. Wastewater from these facilities is expected to be disposed of using a septic tank or a wastewater removal service. Should a septic tank be installed, the capacity of the septic tank would be determined based on site-specific soil conditions, among other factors. The soils at the Project site are well-drained and do not exhibit high swelling potential, which lowers the risk of effluent surfacing (see Appendix G1). Further, the flat topography would not be expected to present challenges to the construction or maintenance of a septic tank and leach field wastewater disposal system. Therefore, the impacts associated with soil capable of supporting septic tanks or alternative wastewater disposal systems would be less than significant.

**Mitigation:** None required.

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**Criterion f)** Whether the Project would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

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**Impact 3.8-8: The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (*Less-than-Significant Impact*)**

Construction equipment would be used to grade and excavate on-site soils. Such activities could destroy paleontological resources or unique geologic features if they are present.



Geologic mapping indicates that the surficial deposits at the Project site consist of Holocene-age fan-derived alluvial sediments, with older, Pleistocene-age sediments (Tulare Formation) mapped in the vicinity and likely present at an estimated depth of approximately 10 feet bgs. These units are not considered unique geologic features. Generally, surficial Holocene-age sediments have a low potential to contain significant paleontological resources; however, several significant fossils have been discovered within Holocene-age sediments in Fresno County.

Pleistocene-age sediments are considered to have a high potential to contain significant paleontological resources due to their age and the well-documented presence of significant fossil finds in Fresno County and throughout California. The actual depth to Pleistocene-age deposits is unknown, and the potential to encounter significant paleontological resources below 10 feet bgs is undetermined. Therefore, construction of the Project could encounter paleontological resources in Pleistocene-age sediments areas where excavations result in disturbance at depths at or below 10 feet.

The risks of uncovering or destroying paleontological resources vary based on the amount of ground disturbance; for example, ground-disturbing activities that would involve minimal excavation of soil (such as driving a post into the ground) would have a minimal impact on paleontological resources, as there would be little to no material to observe, while excavations involving greater volumes would have a greater potential impact. Project construction would require varying degrees of ground disturbance, including grading and minor cuts to install access roads and construct foundations for the medium voltage stations. Additionally, an operations and maintenance building would be constructed on the Project site. Installation of the transmission line poles would require the deepest excavations and/or other ground disturbance at approximately 15 feet bgs.

To avoid or substantially reduce potential impacts on paleontological resources, if present, during construction, **Mitigation Measure 3.8-1** would require that all earthwork halt in the event of a fossil discovery and that a qualified paleontologist assess the discovery. If the discovery is determined to be significant by the qualified paleontologist, it would be recovered using appropriate recovery techniques, identified, catalogued, and prepared for storage in a recognized paleontological repository. In the event of a discovery, the qualified paleontologist may recommend paleontological resource monitoring on an as-needed basis.

**Mitigation Measure 3.8-1: Paleontological Monitoring.** The qualified paleontologist shall oversee paleontological monitoring of all excavation at depths at or greater than 10 feet in previously undisturbed sediments. Monitoring shall be conducted by a paleontological monitor meeting the standards of the SVP (2010). If a paleontological resource is found, regardless of depth or setting, the Project contractor shall cease ground-disturbing activities within 50 feet of the find and contact the qualified paleontologist. The qualified paleontologist shall evaluate the significance of the resources and recommend appropriate treatment measures. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any significant fossils encountered and recovered shall be catalogued and curated at an accredited institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County. Accompanying notes, maps, and

photographs shall also be filed at the repository. The qualified paleontologist shall prepare a report documenting evaluation and/or additional treatment of the resource. The report shall be filed with the County and with the repository.

**Significance after Mitigation:** Less than significant. Implementation of Mitigation Measure 3.8-1 would substantially reduce the potential for a significant impact to paleontological resources by halting work upon discovery and establishing appropriate next steps.

### ***PG&E Infrastructure***

As described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. As noted previously, the minor modifications (replacement and upgrades) to equipment within the existing PG&E Midway Substation would not require any ground disturbance.

Incremental impacts specific to the PG&E work would be less than significant related to earthquake faults, seismic shaking, seismic-induced ground failures (e.g., liquefaction), and unstable geologic units and soils (e.g., landslides, soil erosion or the loss of topsoil, expansive soils, alternative wastewater disposal). Construction of the transmission line would cause a significant impact on a paleontological resource, if ground disturbance occurs below 10 feet and a significant resource is discovered. However, because PG&E is not an applicant subject to the mitigation measures identified in this Draft EIR, the Applicant would be responsible for compliance with any necessary mitigation. PG&E will comply with the CPUC's General Order 131-D and would coordinate with the Applicant in complying with any required mitigation, which in the instance of a significant impact to paleontological resources would consist of Mitigation Measure 3.8-1.

## **3.8.4 Cumulative Effects Analysis**

As discussed above, the Project would not cause any impact with respect to landslides. Therefore, it could not cause or contribute to any cumulative impact related to landslides. For the remaining geology, soils, or paleontological resources considerations, this section analyzes the potential significance of the cumulative effects of the Project's incremental impact in combination with the incremental impacts of one or more of the cumulative projects identified in Table 3.1-1, *Cumulative Projects List*, discussed in Section 3.1.3.1, *Cumulative Scenario*, and shown in Figure 3.1-1, *Cumulative Projects within 15 Miles of the Project Site*.

For Project impacts to combine with the impacts of other projects, the collective incremental impacts must overlap both geographically and temporally. The geographic area affected by the Project and its potential to contribute to cumulative impacts related to geology, soils, and paleontological resources encompasses and is limited to the Project site and its immediately adjacent area because the Project would not cause or contribute to any potential significant impact

beyond this range. The time frame during which the Project could contribute to cumulative impacts related to geology, soils, and paleontological resources would begin with on-site ground-disturbing construction activities and conclude with the cessation of decommissioning and site restoration-related activities because the Project could not cause or contribute to any cumulative impacts outside this time frame.

**Impact 3.8-9: The Project would not cause or contribute to a significant cumulative effect related to seismicity. (*Less-than-Significant Impact*)**

The Project site would be subject to strong, seismically induced ground shaking. As discussed in Section 3.8.3.3, *Direct and Indirect Effects of the Project*, the Project would be designed and constructed in accordance with the most current building code requirements; accordingly, the potential for the Project to exacerbate seismic hazards would be less than significant. State and local building regulations and standards have been established to address and reduce the potential for projects to cause or exacerbate seismic hazard impacts. All projects occurring near the Project would be required to comply with the same applicable provisions of these laws and regulations. Compliance with these requirements would reduce impacts to a less-than-significant level. The purpose of the CBC and related local ordinances is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Based on compliance with these requirements, the incremental, less-than-significant impacts of the Project combined with impacts of other projects in the area would not combine to cause a significant cumulative impact related to seismic hazards.

**Impact 3.8-10: The Project would not cause or contribute to a significant cumulative effect related to erosion or the loss of topsoil. (*Less-than-Significant Impact*)**

If site drainage is not managed properly, then drainage from the Project site in combination with drainage from other project sites could cause soil erosion or loss of topsoil at a local and regional level. As with the Project, all other projects would be required to comply with existing codes, standards, and permitting requirements (e.g., preparation of a SWPPP under the state Construction General Permit) to prevent significant erosion impacts. Potential significant impacts of the Project related to soil erosion and loss of topsoil would be prevented through implementation of the BMPs identified in the SWPPP. Requirements in the state Construction General Permit are designed to reduce adverse cumulative effects of erosion and sedimentation. Cumulative projects would be required to implement similar stormwater control requirements. Therefore, based on compliance with these requirements, the incremental impacts of the Project combined with impacts of other projects in the relevant geographic area would not cause or contribute to a significant cumulative impact related to erosion and loss of topsoil, and the Project's contribution to any cumulative impact would not be cumulatively considerable.

**Impact 3.8-11: The Project would not cause or contribute to a significant cumulative effect to paleontological resources. (*Less-than-Significant with Mitigation Incorporated*)**

The geographic scope of cumulative impacts on paleontological resources includes the Project site and adjacent areas where deposits with a high potential to contain paleontological resources could be disturbed. If paleontological resources extend across areas of ground disturbance of the

Project and cumulative projects, then a cumulative loss of paleontological resources could result and, if so, would be a significant impact. However, implementation of Mitigation Measure 3.8-1 at the Project level would effectively reduce the Project's incremental contribution to any cumulative impact by limiting the potential loss of such resources, if discovered during Project-related ground disturbance. There is no evidence of an existing adverse cumulative paleontological impact, and the Project's incremental contribution would not cause or contribute to one. Therefore, the Project's contribution to any cumulative effect would not be cumulatively considerable, and this impact would be less than significant.

**Mitigation:** Implement Mitigation Measure 3.8-1.

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## 3.9 Greenhouse Gas Emissions

This section identifies and evaluates issues related to greenhouse gas (GHG) emissions. It includes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment. The County received scoping comments from the San Joaquin Valley Air Pollution Control District (SJVAPCD) pertaining to air pollutant emissions (Appendix A, *Scoping Report*). SJVAPCD recommended measures to address air quality impacts but not GHG emissions.

The analysis in this section is based in part on the Project-specific air quality and GHG study prepared on the Applicant's behalf (**Appendix D1**). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.9.1 Setting

#### 3.9.1.1 Study Area

GHG emissions and climate change are a cumulative global issue. The California Air Resources Board (CARB) and U.S. Environmental Protection Agency (USEPA) regulate GHG emissions within California and the United States, respectively. While CARB has primary regulatory responsibility within California for GHG emissions, local agencies have authority to adopt policies for GHG emissions reductions.

CARB has divided California into regional air basins. The Project site is located in the San Joaquin Valley Air Basin (SJVAB), which is under the jurisdiction of SJVAPCD. Although GHG emissions impacts are global in nature, the study areas for purposes of this analysis of potential GHG emissions-related impacts are the SJVAB and the state.

#### 3.9.1.2 Environmental Setting

##### ***Climate Change***

According to USEPA, the term *climate change* refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (several decades or longer). There is scientific consensus that climate change is occurring, and that human activity contributes in some measure (perhaps substantially) to that change. Gases that trap heat in the atmosphere are referred to as GHGs. Emissions of GHGs, if not sufficiently curtailed, are likely to contribute further to increases in global temperatures.

The potential effects of climate change in California include sea level rise and reductions in snowpack, as well as an increased number of extreme-heat days per year, high-ozone days, large forest fires, and drought years (CARB 2022a). Globally, climate change could affect numerous environmental resources through potential, though uncertain, changes in future air temperatures and precipitation patterns. According to the Intergovernmental Panel on Climate Change (IPCC),

the projected effects of climate change are likely to vary regionally, but are expected to include the following direct effects (IPCC 2021):

- Higher maximum temperatures and more hot days over nearly all land areas.
- Higher minimum temperatures (fewer cold days and frost days over nearly all land areas).
- Reduced diurnal temperature range over most land areas.
- Increase in heat index over most land areas.
- More intense precipitation events.

In addition, many secondary effects are projected to result from climate change, including a global rise in sea level, ocean acidification, impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity. The possible outcomes and feedback mechanisms involved are not fully understood, and much research remains to be done; however, over the long term, the potential exists for substantial environmental, social, and economic consequences.

Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the Earth's temperature; however, emissions from human activities (such as fossil fuel-based electricity production and the use of motor vehicles) have elevated the concentration of GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the temperature of the Earth's atmosphere and to global climate change.

### **Greenhouse Gas Emissions**

GHG emissions that result from human activities primarily include carbon dioxide (CO<sub>2</sub>), with much smaller amounts of nitrous oxide; methane, often from unburned natural gas; sulfur hexafluoride from high-voltage power equipment; and hydrofluorocarbons and perfluorocarbons from refrigeration/chiller equipment. These GHGs have different *warming potentials* (i.e., the amount of heat trapped in the atmosphere by a certain mass of the gas), and CO<sub>2</sub> is used as the reference gas for climate change. Therefore, GHG emissions are quantified and reported as CO<sub>2</sub>-equivalent (CO<sub>2</sub>e) emissions based on the reference gas. The global warming potential (GWP) is based on the intensity of infrared absorption by each GHG as well as how long emissions remain in the atmosphere. For example, while sulfur hexafluoride represents a small fraction of the total annual GHGs emitted worldwide, this gas has a very high capacity for infrared absorption and remains in the atmosphere for thousands of years, with 23,900 times the GWP of CO<sub>2</sub>. Therefore, an emission of 1 metric ton (MT) of sulfur hexafluoride would be reported as 23,900 MT CO<sub>2</sub>e. The GWPs of methane and nitrous oxide are 25 times and 298 times that of CO<sub>2</sub>, respectively (CARB 2023). The principal GHGs resulting from human activity that enter and accumulate in the atmosphere are described below.

### **Carbon Dioxide**

CO<sub>2</sub> is a naturally occurring gas that enters the atmosphere through both natural and anthropogenic (human) sources. Key anthropogenic sources include the burning of fossil fuels (e.g., oil, natural gas, and coal), solid waste, trees, wood products, and other biomass, as well as industrially relevant



chemical reactions such as those associated with manufacturing cement. CO<sub>2</sub> is removed from the atmosphere when it is absorbed by plants as part of the biological carbon cycle.

### **Methane**

Like CO<sub>2</sub>, methane is emitted from both natural and anthropogenic sources. Key anthropogenic sources of methane include gaseous emissions from landfills, releases associated with mining and materials extraction industries (particularly coal mining), and fugitive releases associated with the extraction and transport of natural gas and crude oil. Methane emissions also result from livestock and agricultural practices. Small quantities of methane are released during fossil fuel combustion.

### **Nitrous Oxide**

Nitrous oxide is also emitted from both natural and anthropogenic sources. Important anthropogenic sources include industrial activities, agricultural activities (primarily the application of nitrogen fertilizer), the use of explosives, combustion of fossil fuels, and decay of solid waste.

### **Fluorinated Gases**

Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic gases emitted from a variety of industrial processes, and they contribute substantially more to the greenhouse effect on a pound-for-pound basis than the GHGs described previously. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in small quantities, but because of their potency, they are sometimes referred to as *high-GWP gases*. Fluorinated gases in the form of sulfur hexafluoride are used in electrical equipment such as switchgear and circuit breakers that would be associated with the Project.

### **Greenhouse Gas Sources**

Anthropogenic GHG emissions in the United States are derived mostly from the combustion of fossil fuels for transportation and power production. Energy-related CO<sub>2</sub> emissions resulting from fossil fuel exploration and use account for approximately three-quarters of the human-generated GHG emissions in the United States, primarily in the form of CO<sub>2</sub> emissions from burning fossil fuels. More than half of the energy-related emissions come from large stationary sources, such as power plants; approximately one-third derive from transportation sources; and a majority of the remaining sources are industrial processes, agriculture, commercial, and residential (USEPA 2023a).

In 2020, California produced approximately 369 million MT CO<sub>2e</sub>, with the combustion of fossil fuels in the transportation sector being the single largest source of GHG emissions, accounting for 37 percent of total GHG emissions in the state. This represents a decrease of 35 million MT CO<sub>2e</sub> from 2019, likely associated with the COVID-19 pandemic-related economic shutdowns that year. This sector was followed by the industrial sector (20 percent), the electric power sector (including both in-state and out-of-state sources) (16 percent), the agriculture and forestry sector (9 percent), and the commercial and residential sector (11 percent). High-GWP emissions from refrigerants and other sources made up 5 percent of the emissions while the waste sector resulted in 2 percent of the emissions (CARB 2022b).

### 3.9.1.3 Regulatory Setting

#### ***Federal***

##### **Clean Air Act**

On April 2, 2007, in *Massachusetts v. USEPA* (549 US 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. On April 17, 2009, the USEPA Administrator signed proposed *endangerment* and *cause or contribute* findings for GHGs under Section 202(a) of the Clean Air Act. USEPA found that six GHGs, taken in combination, endanger both the public health and the public welfare of current and future generations. Pursuant to Code of Federal Regulations (CFR) Title 40, Part 52, *Proposed Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, USEPA has mandated that Prevention of Significant Deterioration (PSD) and Title V requirements apply to facilities whose stationary-source CO<sub>2</sub>e emissions exceed 100,000 tons per year (USEPA 2022). The Project would not trigger PSD or Title V permitting under this regulation because it would generate less than 100,000 tons of CO<sub>2</sub>e emissions per year.

##### **40 CFR Part 98, Use of Electric Transmission and Distribution Equipment**

Pursuant to federal regulations (40 CFR Part 98, Subpart DD), operators of certain electrical facilities, such as sulfur hexafluoride–containing circuit breakers, are required to report sulfur hexafluoride emissions to USEPA (USEPA 2023b). Sulfur hexafluoride–containing circuit breakers associated with the Project would be subject to reporting under this regulation.

#### ***State***

A variety of statewide rules and regulations mandate quantifying GHG emissions and, if the emissions exceed established thresholds, reducing such emissions. CEQA requires lead agencies to evaluate project-related GHG emissions and the potential for projects to contribute to climate change and to provide appropriate mitigation in cases where the lead agency determines that a project would result in a significant addition of GHGs to the atmosphere.

##### **Executive Order S-3-05**

In June 2006, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which established the following statewide emission-reduction targets through the year 2050:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

This executive order does not contain any requirements that directly pertain to the Project; however, future actions taken by the State of California to implement these goals may affect the Project, depending on the specific implementation measures developed.

## **Assembly Bill 32 and Global Warming Solutions Act**

In 2006, the California Legislature enacted Assembly Bill (AB) 32 (Health and Safety Code Division 25.5, Section 38500 et seq.), also known as the Global Warming Solutions Act. AB 32 required CARB to design and implement feasible and cost-effective emissions limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). AB 32 anticipated that the GHG reduction goals would be met, in part, through local government actions. CARB identified a GHG reduction target of 15 percent from current levels for local governments (municipal and community-wide). CARB noted that successful implementation of the plan relies on local governments' land use planning and urban growth decisions: Local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. The initial AB 32 emissions reduction limit was achieved in 2017, 3 years before the 2020 goal.

## **Senate Bill 375**

In addition to policy directly guided by AB 32, the California Legislature in 2008 enacted SB 375, which provided for regional coordination in land use and transportation planning and funding to help meet the AB 32 GHG reduction goals. SB 375 aligns regional transportation planning efforts, regional GHG emissions reduction targets, and land use and housing allocations. SB 375 requires that regional transportation plans (RTPs) developed by the state's 18 metropolitan planning organizations incorporate sustainable communities strategies that achieve GHG emission reduction targets set by CARB and coordinate regional housing and transportation. The Fresno Council of Governments (Fresno COG) is the federally recognized metropolitan planning organization for Fresno County.

The Fresno COG is the regional planning agency for Fresno County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. The Fresno COG has prepared the *2022 Regional Transportation Plan and Sustainable Communities Strategy* (2022 RTP/SCS) for the region (Fresno COG 2022). In 2010, as part of its mandate under SB 375, CARB set specific GHG emission reduction targets for cars and light trucks for each of the state's 18 metropolitan planning organizations from a 2005 base year. The GHG targets set for the Fresno region in 2010 called for a 5 percent per capita reduction by 2020 and a 10 percent per capita reduction by 2035. SB 375 required that the Fresno COG demonstrate in its sustainable communities strategy that GHG emission reduction targets will be met for 2020 and 2035. Project consistency with the 2022 RTP/SCS would therefore support AB 32 and SB 32 GHG reduction goals.

## **Senate Bill 32 and Assembly Bill 197**

Signed into law on September 8, 2016, SB 32 (Amendments to California Global Warming Solutions Act of 2006: Emission Limit) amended Health and Safety Code Division 25.5 and codified the 2030 target in EO B-30-15 (40 percent below 1990 levels by 2030), while AB 197 included provisions to ensure that the benefits of state climate policies include disadvantaged communities. The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by EO B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below

1990 levels. SB 32 states the intent of the legislature to continue to reduce GHGs for the protection of all areas of the state and especially the state's most disadvantaged communities, which are disproportionately affected by the deleterious effects of climate change on public health. .

### **Climate Change Scoping Plan**

Pursuant to AB 32, CARB adopted the *Climate Change Scoping Plan* in December 2008 (re-approved by CARB on August 24, 2011) outlining measures to meet the 2020 GHG reduction goals (CARB 2008). To meet these goals, California had to reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from 2008 levels. The Scoping Plan relied on the requirements of SB 375 (discussed above) to implement the carbon emission reductions anticipated from land use decisions.

AB 32 requires that the Scoping Plan be updated at least every 5 years. The *First Update to the Climate Change Scoping Plan* describes progress made to meet near-term emissions goals of AB 32, defines California's climate change priorities and activities for the next few years, and describes the issues facing the State of California as it establishes a framework for achieving air quality and climate goals beyond the year 2020. On December 14, 2017, CARB approved the final version of California's *2017 Climate Change Scoping Plan*, which outlines the proposed framework of action for achieving the 2030 GHG target of a 40 percent reduction in GHG emissions relative to 1990 levels (CARB 2017). The 2017 Scoping Plan identifies key sectors of the implementation strategy, which includes improvements in the low-carbon-energy industry, transportation sustainability, natural and working lands, waste management, and water. CARB determined that the statewide 2030 emissions limit target is 260 million MT CO<sub>2</sub>e, and that further commitments will need to be made to achieve an additional reduction of 50 million MT CO<sub>2</sub>e beyond current policies and programs. The cornerstone of the 2017 Scoping Plan Update is an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal represented by SB 32 and ensure achievement of the 2050 limit set forth by EO B-30-15.

The 2022 Climate Change Scoping Plan, adopted on December 15, 2022, assesses progress toward achieving the SB 32 2030 target and lays out the path to achieve carbon neutrality by 2050 (CARB 2022a). The actions and outcomes in the plan are intended to achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon. There are several goals related to transitioning existing energy production and transmission infrastructure to support the generation of clean energy, such as expanding energy storage. A construction-equipment-sector action for the Scoping Plan Scenario commits 25 percent of energy demand to be electrified by 2030 and 75 percent electrified by 2045.

### **Executive Order B-30-15**

In 2015, Governor Edmund G. Brown Jr. issued Executive Order (EO) B-30-15, establishing a GHG reduction target of 40 percent below 1990 levels by 2030. This goal was set to make it possible to reach the ultimate goal of AB 32 to reduce GHG emissions by 80 percent under 1990

levels by 2050. Specifically, the order directed CARB to update the *Climate Change Scoping Plan* (Scoping Plan) (discussed below) to express this 2030 target in metric tons. As discussed below, on September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which codified the 2030 reduction target called for in EO B-30-15. CARB's Scoping Plans address the 2030 target.

### **Executive Order B-55-18**

On September 10, 2018, Governor Brown issued EO B-55-18, committing California to total, economy-wide carbon neutrality by 2045. EO B-55-18 directs CARB to work with relevant state agencies to develop a framework to implement an accounting to track progress toward this goal. AB 1395 would codify this carbon neutral target.

### **California Renewable Energy Programs**

In 2002, California initially established its Renewables Portfolio Standard (RPS), with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent by 2017. State energy agencies recommended accelerating that goal, and California EO S-14-08 (November 2008) required California utilities to reach the 33 percent renewable electricity goal by 2020, consistent with the AB 32 Scoping Plan. In April 2011, SB 2 of the First Extraordinary Session (SB X1-2) was signed into law. SB X1-2 expressly applied the new 33 percent RPS by December 31, 2020, to all retail sellers of electricity and established renewable energy standards for interim years before 2020. In 2018, SB 100, the California Clean Energy Act of 2017, was signed into law. This bill established a target to supply the state with 100 percent renewable and zero-carbon energy resources by 2045.

### **Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear**

The purpose of this regulation (California Code of Regulations [Cal. Code Regs.] Title 17, Section 95350 et seq.) is to achieve GHG emission reductions by reducing sulfur hexafluoride emissions from gas-insulated switchgear. Owners of such switchgear must not exceed maximum allowable annual emissions of 1.0 percent of the total sulfur hexafluoride capacity of all of the owner's active gas-insulated switchgear equipment. As defined by the regulation, the annual emissions rate equals the gas-insulated switchgear owner's total annual sulfur hexafluoride emissions from all active gas-insulated switchgear equipment divided by the average annual sulfur hexafluoride nameplate capacity of all active gas-insulated switchgear equipment. Owners must regularly conduct an inventory of gas-insulated switchgear equipment, measure quantities of sulfur hexafluoride, and maintain records of these for at least 3 years. Additionally, by June 1 of each year, owners also must submit an annual report to CARB's Executive Officer for emissions that occurred during the previous calendar year (CARB 2011).

### **Local**

#### **San Joaquin Valley Air Pollution Control District**

CEQA requires lead agencies to establish specific procedures for administering its responsibilities under CEQA, including orderly evaluation of projects and preparation of environmental

documents. The Project site is located within the jurisdiction of SJVAPCD. As a response to this CEQA requirement, the SJVAPCD's Governing Board adopted the *Climate Change Action Plan* (CCAP) in August 2008. The CCAP directed the SJVAPCD Air Pollution Control Officer to develop guidance to assist lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project-specific GHG emissions on global climate change.

On December 17, 2009, SJVAPCD adopted *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and *District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency* (SJVAPCD 2009a, 2009b). The guidance and policy rely on the use of performance-based standards, otherwise known as Best Performance Standards (BPS), to assess the significance of project-specific GHG emissions on global climate change during the environmental review process, as required by CEQA.

The use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emissions reduction measure. Projects implementing BPS would have a less than cumulatively considerable impact. However, SJVAPCD's adopted BPS are specifically directed at reducing GHG emissions from stationary sources that require a permit from SJVAPCD, or from improved energy efficiency and reduced vehicle miles traveled associated with operations of development projects. The Project would not include a stationary source of exhaust emissions and is not a typical development project that would consume a large amount of energy or result in a large increase in vehicle miles traveled; therefore, the adopted BPS would not be applicable to the Project. For CEQA reviews of projects not implementing BPS, SJVAPCD recommends quantifying project-specific GHG emissions and demonstrating that such emissions would be reduced or mitigated by at least 29 percent, compared to Business as Usual (BAU), including GHG emission reductions achieved since the 2002–2004 baseline period. Projects that would reduce GHG emissions by at least 29 percent compared to BAU are considered consistent with the AB 32 emissions reduction goal for 2020.

However, since the 2009 publication of SVJAPCD's GHG guidance, the California Supreme Court has considered the CEQA issue of determining the significance of GHG emissions, in its decision in *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204 (referred to as the *Newhall* decision in recognition of the real party in interest). In the *Newhall* decision, the court questioned a common CEQA approach to GHG analyses for development projects that compared project emissions to the reductions from BAU that would be needed statewide to reduce emissions to 1990 levels by 2020, as required by AB 32. The court upheld the BAU method as valid in theory but concluded that the method was applied improperly in the case of the *Newhall* project: The project's target was incorrectly deemed consistent with the statewide emission target of 29 percent below BAU for the year 2020. In other words, the court said that the percent-below-BAU target developed by the AB 32 Scoping Plan is intended as a measure of the GHG reduction effort required by the state, and it cannot necessarily be applied to the impacts of a specific project in a specific location. In addition, this quantitative approach is no longer valid because it is based on a reduction target year that has already passed and ignores

additional reduction targets for year 2030 implemented by the Climate Change Scoping Plan Update and SB 32, as described above.

### **Fresno Council of Governments**

As noted above, the Fresno COG is the regional planning agency for Fresno County and serves as a forum for regional issues related to transportation, the economy, community development, and the environment. The Fresno COG's 2022 RTP/SCS (Fresno COG 2022) addresses GHG emissions reductions and other air pollutant emissions related to transportation, with the goal of preparing for future growth in a sustainable manner through the year 2046. Policies in the 2022 RTP/SCS are implemented to protect the region's air quality, and they build on the short-range program's successes; on both federal and California policies and mandates related to air quality and GHG emissions; and on available funding. Long-term strategies are those that are often aimed at changing attitudes and behavior toward new and alternate transportation systems and fuels, alternative means of commuting to work, and land-use changes over time.

### **Fresno County 2000 General Plan**

The Fresno County General Plan does not contain any goals or policies applicable to GHG emissions and climate change. The General Plan includes energy efficiency goals and policies applicable to new and existing housing. These would not apply to the Project.

## **3.9.2 Significance Criteria**

The Project would result in significant impacts associated with GHG emissions if it would:

- a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

## **3.9.3 Direct and Indirect Effects**

### **3.9.3.1 Applicant-Proposed Measures and Design Features**

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Although none of the actions specifically target potential GHG emissions-related impacts, one or more among them could result in a benefit to the reduction of GHG emissions.

### 3.9.3.2 Methodology

Neither CEQA Guidelines Section 15064.4 nor any other law<sup>1</sup> requires or endorses a specific analytical methodology or quantitative criterion for determining the significance of GHG emissions-related impacts. Rather, lead agencies are to make a “good faith effort” to “describe, calculate or estimate” GHG emissions and to consider the extent to which the project would increase or reduce GHG emissions; exceed a locally applicable threshold of significance; or comply with “regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.” A project may be found to have a less-than-significant impact related to GHG emissions if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (14 Cal. Code Regs. 15064[h][3]).

SJVAPCD has adopted its *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA*. A GHG emissions analysis is required to be included in CEQA documents for all non-exempt projects. The SJVAPCD guidance does not limit a lead agency’s authority in establishing its own process and guidance for determining the significance of project-related impacts on the global climate (SJVAPCD 2009a). SJVAPCD’s adopted BPS are specifically directed at reducing GHG emissions from stationary sources or from improved energy efficiency and reduced vehicle miles traveled, and adopted quantitative thresholds do not apply to this Project. Therefore, this analysis evaluates the Project’s GHG emissions relative to Project compliance with applicable plans, policies, regulations, and requirements adopted for the reduction or mitigation of GHG emissions to determine whether the Project’s GHG emissions would result in a significant impact.

Because construction and decommissioning activities for both energy storage options would occur over a relatively short-term period, they would contribute a relatively small portion of the Project’s overall lifetime GHG emissions. It is common practice to amortize construction-related GHG emissions over a project’s lifetime to include these emissions as part of the project’s annualized total emissions; thus, any GHG reduction measures would address construction GHG emissions as part of the operational GHG reduction strategies. As stated in Chapter 2, *Project Description*, the requested conditional use permit (CUP) would have a 40-year term, during which the Project would be constructed in phases, operated and maintained, and then decommissioned. For the purposes of this analysis, the construction and decommissioning GHG emissions have been annualized over a 30-year period and considered along with the annual operational emissions.

For this Project, the major source of GHG emissions during construction would be the combustion of fuel in construction equipment, in vehicles used to haul materials, and in vehicles used by workers commuting to and from the Project site. Operational GHG emissions would result from employee vehicle trips made to and from the site and could result from leaks, if any,

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<sup>1</sup> See *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal.4th 204, which identifies three “potential options” for lead agencies evaluating the cumulative significance of a proposed land use development’s GHG emissions and explicitly states that none of the three options came with a “guarantee” that it would be sufficient if later challenged.



of sulfur hexafluoride from circuit breakers. GHG emissions from construction were estimated using the California Emissions Estimator Model (CalEEMod) (v. 2022.1.0).

Project emissions of CO<sub>2</sub>, methane, and nitrous oxide were multiplied by their respective GWPs of 1, 25, and 298, respectively, and summed to estimate CO<sub>2</sub>e emissions. (See Section 3.4, *Air Quality*, for a more detailed discussion of exhaust emission assumptions.) Additionally, Project GHG emissions could include fugitive emissions of sulfur hexafluoride from high-voltage circuit breakers at the on-site substation. The GWP of sulfur hexafluoride is equivalent to 22,800 times that of CO<sub>2</sub>. CO<sub>2</sub>e emissions resulting from sulfur hexafluoride gas leakage at the Project site were estimated for the circuit breakers, assuming a maximum leak rate of 1.0 percent per year. Sulfur hexafluoride emissions were calculated to be approximately 888 MT CO<sub>2</sub>e per year (Appendix D1).

The potential for the Project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHG was assessed by examining any potential conflicts of the Project with the GHG reduction measures related to implementation of AB 32 and SB 32 goals, with CARB's Climate Change Scoping Plans, and with SB 375. Under SJVAPCD's CEQA guidance for analysis of GHG emissions, a project would not have a significant GHG impact if it is consistent with an applicable qualified plan to reduce GHG emissions (SJVAPCD 2009a).

### 3.9.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

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**Impact 3.9-1: The Project would generate GHG emissions, directly and indirectly, that could have a significant impact on the environment. (*Less-than-Significant Impact*)**

#### Construction and Decommissioning

The Project's construction activities would involve the use of off-road construction equipment, vendor trucks, and worker vehicles, all of which would emit GHGs. Project construction was analyzed for both battery scenarios and modeled to last over a period of 6 years ending in 2031. Decommissioning activities are anticipated to require types and levels of equipment similar to those used during construction. Emissions associated with decommissioning were modeled over 2 years. **Table 3.9-1** and **Table 3.9-2** present construction and decommissioning emissions for both scenarios from on-site and off-site emission sources. Additional details on calculations and CalEEMod output files can be found in the Air Quality and Greenhouse Gas Study included as Appendix D1.

**TABLE 3.9-1  
 CONSTRUCTION GREENHOUSE GAS EMISSIONS FOR THE LITHIUM ION BATTERY OPTION**

| Construction Phase                            | CO <sub>2</sub> e (metric tons/year) |
|---|--------------------------------------|
| <b>Construction</b>                           |                                      |
| Phase 1                                       | 2,109                                |
| Phase 2                                       | 2,282                                |
| Phase 3                                       | 3,988                                |
| Phase 4                                       | 3,912                                |
| Total   | 12,290                               |
| Total Project Annual, amortized over 30 years | 410                                  |
| <b>Decommissioning</b>                        |                                      |
| Total   | 8,919                                |
| Total Project Annual, amortized over 30 years | 297                                  |

NOTE: CO<sub>2</sub>e = carbon dioxide equivalent  
 SOURCE: Table 9 of Appendix D1

**TABLE 3.9-2  
 CONSTRUCTION GREENHOUSE GAS EMISSIONS FOR THE LITHIUM ION BATTERY WITH IRON FLOW OPTION**

| Construction Year                             | CO <sub>2</sub> e (metric tons/year) |
|---|--------------------------------------|
| <b>Construction</b>                           |                                      |
| Phase 1                                       | 3,680                                |
| Phase 2                                       | 2,518                                |
| Phase 3                                       | 4,729                                |
| Total   | 10,928                               |
| Total Project Annual, amortized over 30 years | 364                                  |
| <b>Decommissioning</b>                        |                                      |
| Total   | 8,919                                |
| Total Project Annual, amortized over 30 years | 297                                  |

SOURCE: Table 9 of Appendix D1

As shown in Table 3.9-1, construction activities under the Lithium Ion Battery option would generate a total of 12,290 MT CO<sub>2</sub>e. Table 3.9-2 shows that the total construction emissions generated under the Lithium Ion Battery with Iron Flow option would be 10,928 MT CO<sub>2</sub>e. When amortized over a 30-year period, annual construction emissions would be 410 MT CO<sub>2</sub>e per year for the Lithium Ion Battery option and 364 MT CO<sub>2</sub>e per year for the Lithium Ion Battery with Iron Flow option. Decommissioning emissions for both options would total 8,919 MT CO<sub>2</sub>e; when averaged over 30 years, annual decommissioning emissions would be 297 MT CO<sub>2</sub>e per year.

### Operation and Maintenance

Emissions during Project operation would result from vehicle visits to the Project sites for periodic operation and maintenance activities. CalEEMod was used to estimate annual operational emissions for both the Lithium Ion Battery option and the Lithium Ion Battery with Iron Flow option, which for Phase 1 would first occur in 2025 and 2026, respectively. Additionally, the Project would include installation and operation of 17 500-kilovolt (kV) gas-insulated circuit breakers, which would contain sulfur hexafluoride. CARB’s regulations dictate that the maximum allowable sulfur hexafluoride leak rate for 2020 and beyond is 1 percent. Therefore, Project operations for both options are assumed to achieve the currently required maximum leak rate of 1 percent. This is considered conservative because the Project’s actual sulfur hexafluoride leak rates may be less than the maximum allowed 1 percent. The Project is estimated to result in annual sulfur hexafluoride emissions of approximately 888 MT CO<sub>2</sub>e (Appendix D1). **Table 3.9-3** and **Table 3.9-4** present the Project’s operation and maintenance GHG emissions under both battery options.

**TABLE 3.9-3  
OPERATIONAL GREENHOUSE GAS EMISSIONS FOR THE LITHIUM ION BATTERY OPTION**

| Operational Source                         | CO <sub>2</sub> e (metric tons/year) |
|--|--------------------------------------|
| Area                                       | 0                                    |
| Energy                                     | 6                                    |
| Mobile                                     | 2                                    |
| Waste                                      | 0                                    |
| Water                                      | <1                                   |
| Sulfur Hexafluoride Circuit Breaker Leaks  | 888                                  |
| Refrigerant                                | <1                                   |
| <b>Total Project Operational Emissions</b> | <b>896</b>                           |
| Amortized Construction Emissions           | 410                                  |
| Amortized Decommissioning Emissions        | 297                                  |
| <b>Total Project Emissions</b>             | <b>1,603</b>                         |

NOTE: CO<sub>2</sub>e = carbon dioxide equivalent

SOURCE: Table 10 of Appendix D1

**TABLE 3.9-4  
 OPERATIONAL GREENHOUSE GAS EMISSIONS FOR THE LITHIUM ION BATTERY OPTION**

| Operational Source                         | CO <sub>2</sub> e (metric tons/year) |
|--|--------------------------------------|
| Area                                       | 0                                    |
| Energy                                     | 6                                    |
| Mobile                                     | 2                                    |
| Waste                                      | 0                                    |
| Water                                      | <1                                   |
| Sulfur Hexafluoride Insulation Leaks       | 888                                  |
| Refrigerant                                | <1                                   |
| <b>Total Project Operational Emissions</b> | <b>896</b>                           |
| Amortized Construction Emissions           | 364                                  |
| Amortized Decommissioning Emissions        | 297                                  |
| <b>Total Project Emissions</b>             | <b>1,558</b>                         |

NOTE: CO<sub>2</sub>e = carbon dioxide equivalent

SOURCES: Table 10 of Appendix D1

Most operational emissions from the Project would be derived from potential circuit breaker leaks of sulfur hexafluoride. As discussed above, the GWP of sulfur hexafluoride is much higher than that of other principal GHGs and thus poses a greater concern. However, sulfur hexafluoride emissions for this Project were estimated conservatively, as the actual sulfur hexafluoride content used in the circuit breakers could be substantially less.

The increase in renewable energy supplying electricity to California’s power grid has resulted in an increased need for expanded energy storage systems to ensure that the supply in the grid matches the demand at all times, including at night when solar power cannot be generated. The Project would provide the capacity to store up to 3 gigawatts of energy during times of excess generation, which would later be dispatched into the existing electrical grid when needed. This would have a beneficial effect on peak and base periods of demand for electricity and would support the grid’s overall reliability and resiliency. By supporting the storage of and deployment of excess renewable energy, the Project would offset the future GHG emissions from electricity produced by nonrenewable sources. Thus, this would also offset the annual GHG emissions anticipated from the Project, and the Project would generate GHG emissions that would have an overall less-than-significant impact on the environment.

**Mitigation:** None required.

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**Criterion b)** Whether the Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

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**Impact 3.9-2: The Project could conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. (*Less than Significant*)**

Under SJVAPCD’s CEQA guidance for GHGs, a project would not have a significant GHG impact if it is consistent with an applicable plan to reduce GHG emissions. A CEQA-compliant analysis was completed for the GHG reduction plan. As discussed in the context of Impact 3.9-1, excess renewable energy stored by the Project would replace existing fossil fuel-generated energy, and would help the state achieve the renewable energy targets established under the Scoping Plan and SB 100 by supporting the dispatch of renewable energy to achieve the RPS of 60 percent by the end of 2030 and 100 percent by 2045. The Project would address the critical need for the rapid expansion and deployment of clean energy storage resources as described in the Scoping Plan to reduce GHG emissions. Although the Project would generate short-term GHG emissions from construction and decommissioning, as well as from long-term operation and maintenance, it would result in a net reduction in GHG emissions from the dispatch of excess renewable energy that would potentially replace energy generated by fossil fuels. In addition, the Project would support the decarbonization of the electric grid and improve accessibility to renewable energy by allowing energy to be used more efficiently. The Project would assist in the attainment of the state’s goals, and therefore would comply with the goals and objectives of the Scoping Plan.

**Mitigation:** None required.

***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E’s construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., less-than-significant impacts related to generation of GHG emissions that may have a significant impact and to a conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

**Mitigation:** None required.

### 3.9.4 Cumulative Effects Analysis

GHG emissions are inherently a cumulative concern that is understood for CEQA purposes to be significant and adverse. Accordingly, the significance of GHG emissions in this analysis is

determined based on whether such emissions would have a cumulatively considerable impact on global climate change. Although the geographic scope of cumulative impacts related to GHG emissions is global, this analysis focuses on the Project's direct and/or indirect generation or offset of GHG emissions on the region and the state. The California Air Pollution Control Officers Association considers GHG impacts to be exclusively cumulative impacts, in that no single project could, by itself, result in a substantial change in climate (CAPCOA 2008). Therefore, the evaluation of cumulative GHG impacts presented above evaluated whether the Project would make a considerable contribution to cumulative climate change effects. The Project would be expected to result in a net reduction in GHG emissions over the duration of the use permit period and would not conflict with the state's GHG reduction goals. Therefore, the Project-specific incremental impact on GHG emissions would not be cumulatively considerable and the cumulative impact would be less than significant.

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## 3.10 Hazards and Hazardous Materials

This section identifies and evaluates issues related to hazards and hazardous materials. This section describes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment. The County received no scoping input pertaining to hazards and hazardous materials (**Appendix A, Scoping Report**). Issues and impact analysis concerning air quality and air toxics are presented in Section 3.4, *Air Quality*. Issues and impact analysis concerning noise are presented in Section 3.14, *Noise and Vibration*. Issues and impacts concerning wildfires are addressed in Section 3.20, *Wildfires*.

The analysis in this section is based in part on a site-specific Phase I environmental site assessment (Phase I assessment) prepared on the Applicant's behalf (**Appendix H, Hazards and Hazardous Materials**). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.10.1 Environmental Setting

#### 3.10.1.1 Study Area

The study area for hazards and hazardous materials impacts encompasses and is limited to the Project site and its immediately adjacent area, with two exceptions discussed below. This is because impacts related to hazardous materials are generally site specific and depend on the nature and extent of a hazardous materials release. For example, hazardous materials incidents tend to be limited to a smaller and more localized area surrounding the immediate spill location and extent of the release, and they are typically limited to the site and possibly the immediately adjacent properties. The study area for proximity to schools and airports extends to 0.25 mile and 2 miles, respectively, beyond the borders of the Project site. These distances are specified in the CEQA Guidelines Appendix G significance criteria. The distance for proximity to schools reflects that children are sensitive receptors. The distance for airports has been selected to allow analysis for constructed structures that might interfere with navigable airspace.

Although it is not contiguous with a large majority of the Project on West Jayne Avenue, the PG&E Midway Substation property in Buttonwillow is included in the study area for hazards and hazardous materials because the proposed activities of minor modifications (replacement and upgrades) to equipment within the existing facility could include the transportation, storage, use, and disposal of hazardous materials.

#### 3.10.1.2 Environmental Setting

Materials and waste may be considered hazardous if they are poisonous (toxic); can be ignited by open flame (ignitable); corrode other materials (corrosive); or react violently, explode, or generate vapors when mixed with water (reactive). The term *hazardous material* is defined in

California Health and Safety Code Section 25501(p) as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

In some cases, past industrial or commercial uses on a site can result in spills or leaks of hazardous materials and petroleum products to the environment, thus resulting in soil and groundwater contamination. Federal and state laws require that soils with concentrations of contaminants such as lead, gasoline, or industrial solvents exceeding certain acceptable levels be handled and disposed as hazardous waste during excavation, transportation, and disposal. California Code of Regulations Title 22, Sections 66261.20 through 66261.24 (22 Cal. Code Regs. Sections 66261.20–66261.24) contains technical descriptions of characteristics that would cause soil to be classified as a hazardous waste.

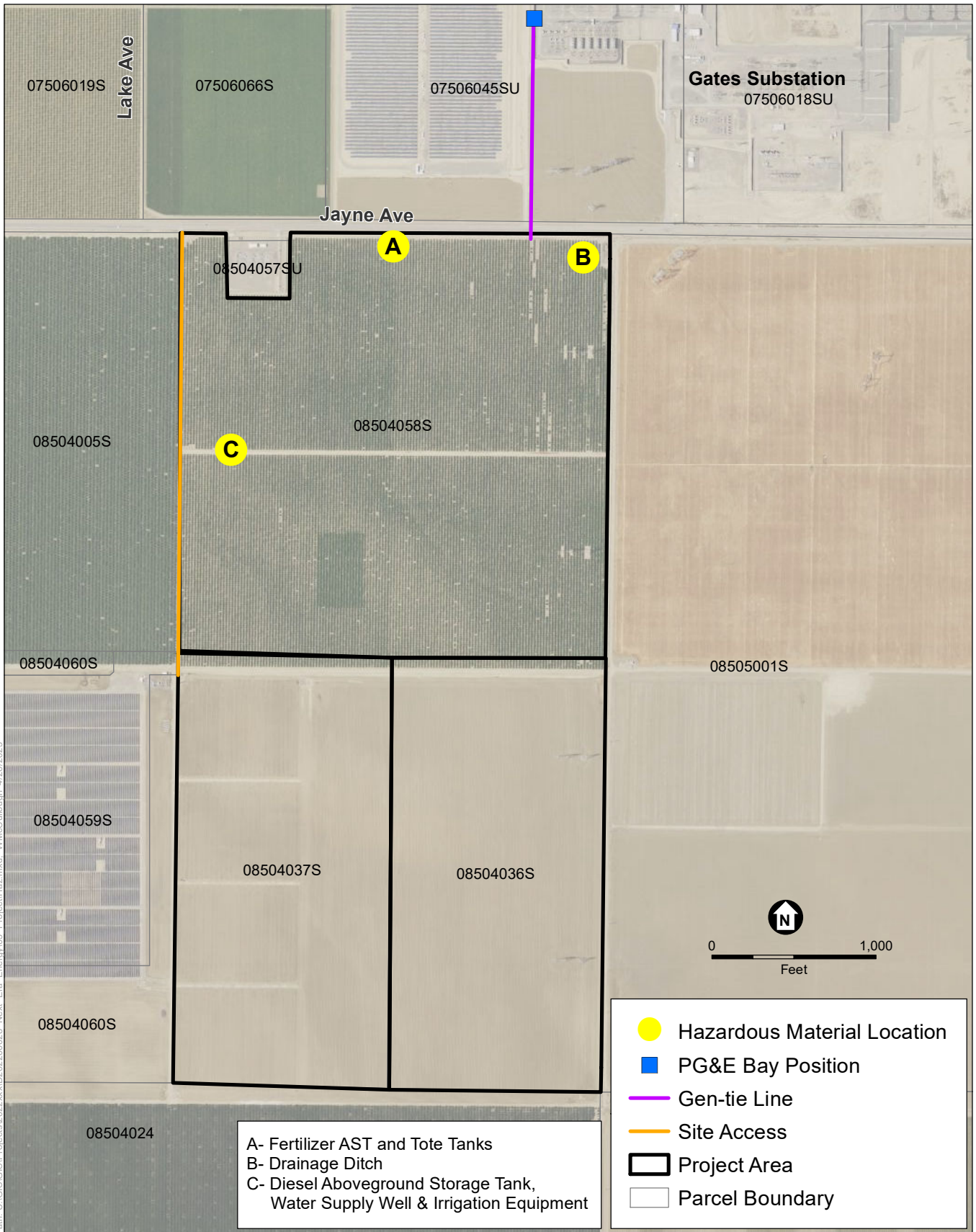
Federal and state laws also require that hazardous materials be specially managed. California regulations are compliant with federal regulations and in most cases are more stringent. Regulations also govern the management of potentially hazardous building materials, such as asbestos-containing materials, lead-based paint, and polychlorinated biphenyls (PCBs) during demolition activities that could potentially disturb existing building materials.

### ***Hazardous Materials Database Search***

A Phase I assessment was prepared for the Project, in conformance with American Society for Testing and Materials (ASTM) E1527-13 and E1527-21 (Appendix H). The objective of the Phase I assessment is to determine the presence or absence of recognized environmental conditions (RECs), controlled RECs, and historical RECs, as defined in ASTM E1527-13 and E1527-21. The findings and opinions provided in the Phase I assessment are based on findings derived from site reconnaissance, review of an environmental database report, review of specified regulatory records and historical sources, and comments made by interviewees knowledgeable about site land uses.

The Phase I assessment included a thorough review of environmental databases maintained by federal, state, and local agencies, to identify sites with releases of hazardous materials or just documented uses of hazardous materials. The findings of the assessment determined that there are no identified RECs in connection with the Project site. According to the Phase I assessment, there is no evidence that hazardous materials or petroleum products exist at the Project site at levels that would require mitigation. The Phase I assessment identified three notable findings in connection with the Project site, listed below and shown on **Figure 3.10-1**:

- An on-site natural gas pipeline and on-site petroleum and natural gas easements traverse the northern and southeastern Project site parcels (see Figure 3.10-1). The Project design has accounted for the location of the natural gas pipeline and easement.
- Contaminated soil from a diesel aboveground storage tank (AST) associated with a water supply well, indicating a minor release, was observed on the western portion of the northernmost Project site parcel (see Location C on Figure 3.10-1). As discussed in Section 2.5.5.1, *Water and Wastewater*, in Chapter 2, *Project Description*, the water supply well may be used for water supply or may be capped and left in place.



Key Energy Storage Project

**Figure 3.10-1**  
 Hazardous Materials

- One former abandoned groundwater well is reportedly on the site. However, a groundwater well whether present or not would not constitute a hazardous materials condition and is not discussed further.

The Phase I assessment identified three *de minimis* conditions<sup>1</sup> for the Project site, as listed below:

- The subject property and adjacent properties appear to have been used for agricultural purposes since at least 1955. Agriculture is typically associated with the use of pesticides, herbicides, and arsenic, which may result in residual levels of those compounds being present in soil and/or groundwater. The Phase I assessment did not identify information regarding the specific historical use of such chemicals on the subject property. If such chemicals were used and applied to land consistent with their intended use, this application would not be considered a release. Note that the subject property would be redeveloped as a solar facility with limited grading and no soil will be transported offsite; no residential use is proposed. As such, the use of the subject property for agricultural purposes is considered a *de minimis* condition.
- The Phase I assessment noted that a natural gas pipeline and crude oil pipeline are located on nearby properties. However, no releases have been reported, and based on the planned use of the subject property as a solar array with no planned habitable structures, the nearby pipelines are considered a *de minimis* condition.
- Two tote tanks were observed along the northern portion of the subject property during the Phase I assessment (see Figure 3.10-1). Staining was observed in the vicinity of the tote tanks. However, because it appears that the tote tanks are associated with SoilBasics, a plant food/fertilizer, minor releases to the soil are not expected to impact the subject property and are considered a *de minimis* condition.

Based on the reviewed database maps and detailed listings, two facilities/properties were determined to be of potential environmental concern to the Project site. Each is discussed below. In accordance with ASTM E1527-13 and E1527-21, contamination pathways in soil, groundwater, and soil vapor were considered in the analysis of off-site properties of potential environmental concern.

- **Century Link–Huron/PG&E West Gates Solar Station/Level 3 Communications, LLC.** 18364 West Jayne Avenue, adjacent property northeast of the Project site. This site has been identified by the Certified Unified Program Agency (CUPA) of Fresno County, the HazMat Compliance Program, as a Small Hazardous Materials Handler, with violations noted in the California Environmental Reporting System Hazardous Waste Sites. The violations were noted and the site was returned to compliance (Appendix H).
- **PG&E Gates Substation:** 18336 West Jayne Avenue, adjacent property northeast of the Project site. This site was identified in 2003, 2006, and 2007 as having a historic 3,000-gallon AST associated with it. The site is also listed for a petroleum tank that was delisted in 2019 (Appendix H).

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<sup>1</sup> A *de minimis* condition defined pursuant to ASTM E1527-21 is “a condition related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. A condition determined to be a *de minimis* condition is not a recognized environmental condition nor a controlled recognized environmental condition.

An independent review of the California Department of Toxic Substances Control (DTSC) EnviroStor (DTSC 2022) and State Water Resources Control Board GeoTracker (State Water Board 2022) hazardous materials databases confirms the findings of the database search included in the Phase I assessment: There are no active or closed hazardous materials sites within the Project site boundary. The Century Link–Huron/PG&E West Gates Solar Station/Level 3 Communications, LLC, and PG&E Gates Substation site, listed above, are not considered RECs and are not known to have adversely affected the Project site (Appendix H). In addition, the GeoTracker and Envirostor website were checked for listings at the Midway substation; no hazardous materials sites were listed (SWRCB/DTSC 2023).

### ***Schools and Day Care Centers***

There are no schools within 0.25 mile of the Project site. The nearest schools are Huron Migrant Head Start and Huron Middle School. Each is approximately 4 miles northeast of the Project site. There are no schools near the Midway Substation. The nearest school is the Buttonwillow Union School, located about 1 mile west of the substation.

### ***Airports***

There are no airports within 2 miles of the Project site. The nearest airports are the New Coalinga Municipal Airport (approximately 8 miles west of the Project site) and the Harris Ranch Airport (approximately 9 miles northwest of the Project site). According to the Fresno County Airport Land Use Compatibility Plan, the Project site is not within any safety zone or noise contours associated with the New Coalinga Municipal or Harris Ranch airports (Fresno County ALUC 2018). There are no airports within 2 miles of the Midway Substation. The nearest airport is the Elk Hills-Buttonwillow Airport, located approximately 3.75 south of the substation.

### ***Emergency Response***

In Fresno County, the Fresno County Multi-Jurisdictional Hazard Mitigation Plan (Fresno County 2018) and Master Emergency Services Plan (Fresno County 2017) are the guiding documents for emergency procedures.

## **3.10.1.3 Regulatory Setting**

### ***Federal***

#### **Hazardous Materials Management**

The primary federal agencies with responsibility for hazardous materials management are the U.S. Environmental Protection Agency (USEPA), U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and U.S. Department of Transportation. State and local agencies often have either parallel or more stringent regulations than federal agencies with respect to hazardous materials. In most cases, state law mirrors or overlaps federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are discussed under either the state or local agency section.

### **Resource Conservation and Recovery Act**

Under the federal Resource Conservation and Recovery Act of 1976 (RCRA), individual states may implement their own hazardous waste programs in lieu of the RCRA as long as the state program is at least as stringent as federal RCRA requirements and is approved by USEPA. USEPA approved California's RCRA program, referred to as the Hazardous Waste Control Law, in 1992.

### **Toxic Substances Control Act**

The Toxic Substances Control Act of 1976 was enacted by Congress to give USEPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. USEPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human-health hazard. USEPA can ban the manufacture and import of those chemicals that pose an unreasonable risk.

### **Hazardous Materials Transportation**

The U.S. Department of Transportation regulates the transportation of hazardous materials on all interstate roads. The state agencies primarily responsible for enforcing federal and state regulations and responding to transportation emergencies in California are the California Highway Patrol (CHP) and California Department of Transportation (Caltrans). Together, federal and state agencies determine driver-training requirements, load labeling procedures, and container specifications. Although special requirements apply to transporting hazardous materials, requirements for transporting hazardous waste are more stringent, and hazardous waste haulers must be licensed to transport hazardous waste on public roads.

### **Occupational Safety**

OSHA is the agency responsible for ensuring worker safety in the handling and use of chemicals in the workplace. Federal regulations pertaining to worker safety are contained in Code of Federal Regulations (CFR) Title 29, as authorized in the Occupational Safety and Health Act of 1970. They provide standards for safe workplaces and work practices, including standards related to hazardous materials handling. At sites known or suspected to have soil or groundwater contamination, construction workers must receive training in hazardous materials operations and a site health and safety plan must be prepared. The health and safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

### **Oil Pollution Prevention**

The Code of Federal Regulations (40 CFR 112) establishes procedures, methods, equipment, and other requirements to prevent discharges from non-transportation-related onshore and offshore facilities that enter into or upon the navigable waters of the United States or that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States. These regulations require facilities with a single tank or cumulative aboveground storage capacities of 1,320 gallons or greater of petroleum to prepare and implement a spill prevention, control, and countermeasure (SPCC) plan (40 CFR 112.1). The purpose of an SPCC plan is to form a comprehensive federal/state spill prevention program that minimizes the

potential for discharges. The SPCC plan must address all relevant spill prevention, control, and countermeasures necessary at the specific facility for which the SPCC plan is written.

### **Federal Regulation 49 CFR Part 77**

The Federal Aviation Administration (FAA) is the federal agency that identifies potential impacts related to air traffic and related safety hazards. Federal Regulation 49 CFR Part 77 establishes standards and notification requirements for objects affecting navigable airspace. This notification serves as the basis for evaluating the effect of the proposed construction or alteration on operating procedures; determining the potential hazardous effect of the proposed construction on air navigation; identifying mitigating measures to enhance safe air navigation; and charting new objects. Federal Aviation Regulation Part 77 includes the establishment of *imaginary surfaces* (airspace that provides clearance of obstacles for runway operation) that allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing adverse impacts on the safe and efficient use of navigable airspace. The regulations identify three-dimensional imaginary surfaces through which no object should penetrate.

### **Emergency Planning and Community Right-to-Know Act**

The Emergency Planning and Community Right-to-Know Act (EPCRA), from Superfund Amendments and Reauthorization Act Title III, improved community access to information regarding chemical hazards and facilitated the development of business chemical inventories and emergency response plans. EPCRA also established reporting obligations for facilities that store or manage specified chemicals. EPCRA applies to this program because the contractors that conduct cleanup, remove hazardous materials from the Project site, and construct remediation systems would be required to prepare and implement written emergency response plans to properly manage hazardous materials and respond to accidental spills.

## **State**

### **California Code of Regulations**

The California Code of Regulations (Title 22, Sections 66261.20 through 66261.24) contains technical descriptions of the characteristics that would classify wasted material, including soil, as hazardous waste. When excavated, soils with concentrations of contaminants higher than certain acceptable levels must be handled and disposed of as hazardous waste.

### **Government Code Section 65962.5 (Cortese List)**

The provisions in Government Code Section 65962.5 are commonly referred to as the *Cortese List* (after the author of the associated legislation). The list, or a site's presence on the list, has bearing on the local permitting process and CEQA compliance. The Cortese List includes hazardous waste and substances sites, leaking underground storage tank sites, solid waste disposal sites with waste constituents above hazardous waste levels outside the waste management unit, sites with active cease-and-desist orders and cleanup and abatement orders, and hazardous waste facilities subject to corrective action.

Government Code Section 65962.5 was enacted in 1985 and, as stated in subsection (g), the effective date of the changes called for under the amendments to this section was January 1, 1992. Because this statute was enacted more than 30 years ago, some of the provisions refer to agency activities that are no longer being implemented and, in some cases, the information to be included in the Cortese List does not exist. For example, although Government Code Section 65962.5 refers to the preparation of a “list,” many changes related to web-based information access have occurred since 1992, and this information is now largely available on the websites of the responsible organizations. Those requesting a copy of the Cortese “list” are now referred directly to the appropriate information resources contained on the websites of the boards or departments that are referenced in the statute.

### **NPDES Construction General Permit**

The Central Valley Regional Water Quality Control Board (RWQCB) administers the stormwater permitting program in the Central Valley Region pursuant to authority delegated under the federal Clean Water Act’s National Pollutant Discharge Elimination System (NPDES) program. Construction activities disturbing 1 acre or more of land are subject to the permitting requirements of the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) and must apply for Construction General Permit coverage. Additional details of the Construction General Permit are provided in Section 3.8, *Geology, Soils, and Paleontological Resources*. Some of the best management practices (BMPs) included in the Construction General Permit include requirements to contain hazardous materials.

### **Unified Hazardous Waste and Hazardous Materials Management Regulatory Program**

In January 1996, the California Environmental Protection Agency adopted regulations implementing the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements: hazardous waste generators and hazardous waste on-site treatment; underground storage tanks; aboveground storage tanks; hazardous materials release response plans and inventories; risk management and prevention programs; and Unified Fire Code hazardous materials management plans and inventories. The plan is implemented at the local level. A CUPA is the local agency that is responsible for the implementation of the Unified Program. The HazMat Compliance Program is the certified local CUPA for Fresno County.

### **Hazardous Materials Release Response Plans and Inventory Law**

The Hazardous Materials Release Response Plans and Inventory Act of 1985 (Health and Safety Code Sections 25500 et seq.), also known as the Business Plan Act, requires businesses that use hazardous materials to prepare a hazardous materials business plan (HMBP) describing their facilities, inventories, emergency response plans, and training programs. HMBPs contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of. This code and the related regulations in 19 Cal. Code Regs. Section 2620 et seq. require local governments to regulate local businesses’ storage of hazardous materials exceeding certain quantities. The law also requires that entities storing hazardous materials be prepared to respond to releases. Those using and storing hazardous materials are required to submit a HMBP to their local CUPA and to report releases to their CUPA and the state office of emergency



services. The California Governor's Office of Emergency Services is responsible for implementing the accident prevention and emergency response programs established under the Business Plan Act and implementing regulations. See the *Unified Hazardous Waste and Hazardous Management Regulatory Program* section above for more information.

The HMBP would apply to the Project because contractors working on the Project site that use hazardous materials would be required to comply with requirements for the use, handling, transportation, storage, and disposal of hazardous materials. The HMBP would include a spill response plan.

### **Hazardous Waste Handling**

DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. Federal and state laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, if such materials are accidentally released, to prevent or to mitigate injury to health or the environment. Laws and regulations require users of hazardous materials to store these materials appropriately and to train employees to manage them safely.

Under the RCRA, individual states may implement their own hazardous waste programs in lieu of the RCRA, as long as the state program is at least as stringent as federal RCRA requirements. In California, DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous waste that cannot be disposed of in landfills.

### **Hazardous Materials Transportation**

The State of California has adopted U.S. Department of Transportation regulations for the intrastate movement of hazardous materials; state regulations are contained in Title 26 of the California Code of Regulations. In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing through the state. Both regulatory programs apply in California.

The two state agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the CHP and Caltrans. The CHP enforces hazardous materials and hazardous waste labeling and packing regulations to prevent leakage and spills of materials in transit and to provide detailed information to cleanup crews in the event of an accident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are the responsibility of the CHP, which regularly inspects licensed transporters to assure regulatory compliance. Caltrans has emergency chemical spill identification teams at as many as 72 locations throughout the state that can respond quickly in the event of a spill.

Common carriers are licensed by the CHP, pursuant to California Vehicle Code Section 32000. This section requires the licensing of every motor (common) carrier that transports, for a fee,

more than 500 pounds of hazardous materials at one time, and every carrier, if not for hire, that carries more than 1,000 pounds of hazardous material of the type requiring placards.

Every hazardous waste package type used by a hazardous materials shipper must undergo tests that imitate some of the possible rigors of travel. Every package is not put through every test. However, most packages must be able to be kept under running water for a time without leaking, dropped fully loaded onto a concrete floor, compressed from both sides for a period of time, subjected to low and high pressure, and alternately frozen and heated.

### **Occupational Safety**

The California Department of Industrial Relations Division of Occupational Safety and Health (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations at least as stringent as those found in CFR Title 29.

Cal/OSHA regulations concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and preparation of emergency action and fire prevention plans. Cal/OSHA enforces hazard communication program regulations, which contain training and information requirements, including procedures for identifying and labeling hazardous substances, and for communicating hazard information related to hazardous substances and their handling. The hazard communication program also requires making material safety data sheets available to employees and documenting employee information and training programs. These regulations also require preparation of emergency action plans (escape and evacuation procedures, rescue and medical duties, alarm systems, and training in emergency evacuation).

### **Emergency Response**

Pursuant to the Emergency Services Act, California has developed an emergency plan to coordinate emergency services provided by federal, state, and local governmental agencies and private persons. Response to hazardous materials incidents is one part of this plan. The plan is administered by the California Governor's Office of Emergency Services. The California Governor's Office of Emergency Services coordinates the responses of other agencies, including USEPA, the CHP, the California Department of Fish and Wildlife, the RWQCBs (in this case, the Central Valley RWQCB [Fresno Office]), the local air districts (in this case, the San Joaquin Valley Air Pollution Control District) and local agencies. The State Emergency Plan defines the "policies, concepts, and general protocols" for proper implementation of the California Standardized Emergency Management System, an emergency management protocol that agencies in California must follow during multi-agency response efforts whenever state agencies are involved.

### **Underground Infrastructure**

California Government Code Sections 4216 through 4216.9, "Protection of Underground Infrastructure," require an excavator to contact a regional notification center at least 2 days before excavation of any subsurface installations. Any utility provider seeking to begin a project that

could damage underground infrastructure can call USA North 811, the regional notification center for Northern California. USA North 811 notifies the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area before the start of project activities in the area.

### **2022 California Fire Code**

The 2022 California Fire Code is contained within Title 24, Part 9 of the California Code of Regulations. It is an enforceable set of regulations consistent with nationally recognized and accepted practices for safeguarding life and property from the hazards of fire and explosion; dangerous conditions arising from the storage, handling, and use of hazardous materials and devices; and hazardous conditions in the use or occupancy of buildings or premises. It also contains provisions to assist emergency response personnel (International Code Council 2023).

Section 1207 of the 2022 California Fire Code addresses design, construction, operation and maintenance, decommissioning, and hazard response (including for both fire and spill hazards) for electrical energy storage systems. The California Fire Code includes requirements and standards established by the National Fire Protection Association and Underwriters Laboratories (UL) (recently renamed “UL Solutions”). Fresno County and the California Department of Forestry and Fire Protection have adopted the 2022 version of the California Fire Code (CAL FIRE 2023).

### **Local**

#### **2000 Fresno County General Plan**

The following goal and policies of the Fresno County General Plan’s Health and Safety Element related to hazardous materials apply to the Project:

**Goal HS-F:** To minimize the risk of loss of life, injury, serious illness, and damage to property resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous wastes.

**Policy HS-F.1:** The County shall require that facilities that handle hazardous materials or hazardous wastes be designed, constructed, and operated in accordance with applicable hazardous materials and waste management laws and regulations.

**Policy HS-F.3:** The County, through its Hazardous Materials Incident Response Plan, shall coordinate and cooperate with emergency response agencies to ensure adequate countywide response to hazardous materials incidents.

**Policy HS-F.4:** For redevelopment or infill projects or where past site uses suggest environmental impairment, the County shall require that an investigation be performed to identify the potential for soil or groundwater contamination. In the event soil or groundwater contamination is identified or could be encountered during site development, the County shall require a plan that identifies potential risks and actions to mitigate those risks prior to, during, and after construction.

### ***Battery Energy Storage System Codes and Standards***

Energy storage facilities create extreme hazards for firefighters and emergency responders with the possibility of explosions, flammable gases, toxic fumes, water-reactive materials, electrical shock, corrosives, and chemical burns. Utility-scale energy storage requires specialized and reliable equipment to perform firefighting operations safely and effectively to California Fire Code (described above), National Fire Protection Association (NFPA), OSHA, UL, and Fresno County Fire Protection District codes and standards. These include but are not limited to the following:

NFPA:

- 1—Fire Code
- 68—Standard on Explosion Protection by Deflagration Venting
- 69—Standard on Explosion Prevention System
- 70—National Electrical Code
- 855—Standard for the Installation of Energy Storage System
- 111—Stored Electrical Energy Emergency and Standby Power System
- 855—Standard for the Installation of Stationary Energy Storage Systems)
- 1072—Standard for Hazardous Materials/Weapons of Mass Destruction  
Emergency Response Personnel Professional Qualifications
- 1710—Standard for Organization and Deployment of Fire Suppression  
Operations, Emergency Medial Operations, and Special Operations to the Public  
by Career Fire Departments

OSHA:

- 29 CFR 1910.134(g)(4)—Respiratory Protection
- 29 CFR 1910.1000—Limits for Air Contaminants. Regulation, Occupational  
Safety and Health Administration

Underwriters Laboratories (UL):

- UL 1642—Standard for Lithium Batteries
- UL 1741—Standard for Inverters, Converters, Controllers and Interconnection  
System Equipment for Use with Distributed Energy Resources
- UL 1973—Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power  
and Light Electric Rail (LER) Applications
- UL 9540—Standard for Energy Storage Systems and Equipment
- UL 9540A—Test Method for Evaluating Thermal Runaway Fire Propagation in  
Battery Energy Storage System.

### **3.10.2 Significance Criteria**

The Project would result in a significant impact related to hazards and hazardous materials if it would:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area; or
- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The environmental checklist included in CEQA Guidelines Appendix G further suggests that the Project would result in significant impacts related to hazards and hazardous materials if it would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. Potential impacts related to wildfire are addressed in Section 3.20.

### 3.10.3 Direct and Indirect Effects

#### 3.10.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of them, the actions described in Section 2.5.9.2, *Fire Protection*; Section 2.5.9.7, *Emergency Action Plan*; Section 2.5.9.8, *Compliance with Applicable Laws and Standards*; and Section 2.5.9.6, *Pest Management*, could reduce potential Project impacts related to hazards and hazardous materials.

#### 3.10.3.2 Methodology

The following impact analysis considers the potential impacts related to hazards and hazardous materials associated with the Project's construction, operation and maintenance, and decommissioning phases. This analysis assumes Project compliance with applicable federal, state, and local laws and regulations and implementation of the other identified Applicant-proposed measures. Further, state and local agencies are expected to continue to enforce applicable requirements to the extent that they do so now. The analysis is based on Phase I environmental site assessment conducted for the project and through a review of relevant literature and occurrences databases, such as the SWRCB Geotracker and DTSC Envirostor websites. Note that the changes proposed for the Midway Substation consist of changes to equipment that would not

include the use of hazardous materials. Therefore, the Midway Substation is not discussed further in this section.

Impacts related to hazards and hazardous materials would be considered significant if the Project would result in exposure of people and the environment to hazardous materials, be located on a listed hazardous materials site, or have the potential to conflict with an established airport land use compatibility plan or emergency response/evacuation plan.

### 3.10.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

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**Impact 3.10-1: The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (*Less-than-Significant Impact*)**

#### **Construction**

During the construction phase, construction equipment and materials would include fuels, oils and lubricants, solvents and cleaners, cements and adhesives, paints and thinners, degreasers, cement and concrete, and asphalt mixtures, all of which are commonly used in construction. The routine use could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment. Construction would generate limited amounts of hazardous wastes, such as used lubricants, cleaning solvents, and other chemicals. Additional hazardous wastes that could be encountered or released during construction include contaminated soils, incidental spill waste, and concrete washout. Finally, the known presence of the contaminated soil associated with the AST on-site could potentially pose a risk to the construction crew (skin and eye irritant) and the environment, if excavated and improperly moved to or disposed of in natural habitat or waterways.

As discussed in Section 3.10.1.2, *Regulatory Setting*, and in Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, an HMBP would be prepared before the beginning of construction. The plans would be prepared in accordance with relevant federal and state guidelines and regulations (i.e., Health and Safety Code and California Code of Regulations). All hazardous materials would be stored, handled, and used in accordance with applicable regulations, and material safety data sheets would be made available at the construction site for all crew workers. Although such a scenario is not expected, should preexisting hazardous waste be encountered on the Project site, it would be removed and disposed of in a manner consistent with all federal and state regulations.

The HMBP would include protocols to follow to ensure that wastes generated or encountered would be handled, contained, and disposed of according to federal, state, and local regulations. In addition, the HMBP would describe protocols for the use, transport, storage, management, and disposal of hazardous materials. This could include containment and transport in U.S. Department

of Transportation–approved vessels, use of secondary containment, and training of material handlers to ensure worker safety and the reduction of cross contamination. As discussed in more detail in Section 3.8, *Geology, Soils, and Paleontological Resources*, construction contractors would be required to prepare a storm water pollution prevention plan (SWPPP) for construction activities according to the NPDES General Construction Permit requirements. The SWPPP would list the hazardous materials (including petroleum products) proposed for use during construction; describe spill prevention measures, equipment inspections, and equipment and fuel storage; identify protocols for responding immediately to spills; and describe best management practices (BMPs) for controlling site runoff.

Construction waste would be disposed of properly and in accordance with all applicable federal, state, and local laws regarding solid and hazardous waste, including the California Integrated Waste Management Act of 1989, which set reduction rates for solid waste sent to landfills.

### **Operation and Maintenance**

Once constructed, the operation and maintenance of the Project would result in the transportation, storage, use, and disposal of fewer hazardous materials than during construction. During operation, relatively limited quantities of hazardous materials would be stored on-site in accordance with regulatory requirements and the HMBP. Other than the batteries, hazardous materials stored on-site would include coolants for the HVAC system, fire protection chemicals, diesel fuel for the generator, and small quantities of common commercial cleaning solutions for the office, kitchen, and restroom (e.g., bleach, toilet cleaning solutions). In addition, the cessation of agricultural land use would also result in no use of pesticides. Finally, as discussed in Section 2.5.9.6, *Pest Management*, the Applicant has prepared a Pest Management Plan (provided in Appendix B2) that describes the chemicals that may be used in pest management (e.g., zinc phosphide for rodent bait in traps, and herbicides having U.S. Environmental Protection Agency ratings of the lowest concern). The Pest Management Plan includes a description of spill control measures. Compliance with applicable federal, state, and local regulations and the applicable BMPs and HMBP would ensure that any potential impact would be less than significant during Project operation and maintenance.

### **Decommissioning and Site Restoration**

During decommissioning and site restoration, tanks and vessels containing fuels, hydraulic fluids, and oils would be transferred directly to tanker trucks, the tanks and vessels would be rinsed, and the rinse water then would be transferred to tanker trucks. These hazardous materials would be stored properly until proper disposal or recycling is available. All personnel in charge of handling and disposing of hazardous materials would be trained on how to properly handle these materials. Any enclosure used to store hazardous materials would be monitored regularly to check for leaks or structural failures.

As further discussed in Section 2.5.8.2, *Project Decommissioning*, at the end of the Project's life span, the steel, aluminum, and concrete components of the energy storage system and substation would be recycled. Batteries from the energy storage system may include lithium-ion, which degrades but can also be recycled or repurposed. Electrical conduit and other structures and materials that break off more than 4 feet underground would be decommissioned and abandoned

in place. Metal and scrap equipment and parts that do not have free-flowing oil would be sent for salvage at local recycling facilities. It is anticipated that oils and batteries would be recyclable and would be disposed of at the proper facilities.

As discussed in Appendix B1, *Reclamation Plan*, a final Reclamation Plan will be prepared during the environmental review process. The plan will then be updated and finalized in coordination with the final design plans and will be submitted with the Project's grading and building permit applications. Relative to hazardous materials, the reclamation plan would require all decommissioning, reclamation, and restoration activities adhere to the requirements of appropriate governing authorities and in accordance with all applicable federal, state, and local permits. Appropriate temporary (construction related) erosion and sedimentation control best management practices (BMP) would be used during the reclamation phase of the Project.

Compliance with applicable federal, state, and local requirements and related BMPs and plans would ensure that the Project would not create a significant hazard to the public through the routine transport, use, or disposal of hazardous materials. Therefore, this impact would be less than significant.

**Mitigation:** None required.

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**Criterion b)** Whether the Project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

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**Impact 3.10-2: The Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the energy storage system and release of hazardous materials into the environment. (*Less than Significant Impact with Mitigation Incorporated*)**

During all Project phases, activities may involve the transportation, storage, use, and/or disposal of a variety of hazardous materials, including batteries, hydraulic fluid, diesel fuel, gasoline, grease, lubricants, paints and thinners, solvents and cleaning solutions, and glues and adhesives. Accidents or mechanical failures involving heavy equipment could result in the accidental release of fuel, lubricants, hydraulic fluid, or other hazardous substances. As discussed in Section 3.10.1.1, *Environmental Setting*, the Phase I assessment identified the existence of an on-site natural gas pipeline and petroleum and natural gas easements, and an on-site diesel AST with stained soil associated with the on-site water supply well. The accidental release (e.g., breaking the natural gas pipeline during construction activities) or exacerbation of an existing release of hazardous materials (e.g., spreading contaminated soil from the diesel AST located on the western boundary of Assessor's Parcel Number 085-040-58 into drainages that lead to waterways) could create a significant hazard to the public or the environment. Finally, the Project site has a history of agricultural use that may have included the use of pesticides, residual levels of which could remain in soil at the Project site.



### Battery Energy Storage System Components

Accidental hazards for lithium-ion batteries include a potential for overheating, swelling, electrolyte leakage venting, fires, smoke, and explosions in worst-case scenarios involving thermal runaway (ACS 2022).<sup>2</sup> Failures associated with lithium-ion batteries are described to be deflagration in nature.<sup>3</sup> The gases (e.g., hydrogen, carbon monoxide, methane, ethylene, and propylene) produced as a result of a fire, smoke, and/or thermal runaway can accumulate to a combustible level in the installation location and cause an explosion (detonation). In general, the off-nominal conditions that can cause the occurrence of catastrophic events with lithium-ion batteries can be categorized into electrical, mechanical, and environmental types. The most common electrical hazards are over-charge, over-discharge, and external and internal short circuits. Environmental hazards include off-nominal conditions, such as temperatures beyond the manufacturer's recommended range. Other environmental hazard causes include floods and rain entering the batteries. Mechanical hazards include vibration, shock, and impact encountered under transportation conditions. As discussed in Section 2.5.9.2, *Fire Protection*, flow batteries are generally not flammable and do not require fire suppression systems.

As listed in Section 3.10.1.3, *Regulatory Setting*, under *Battery Energy Storage System Codes and Standards*, there are numerous regulations for the construction and operation of battery energy storage systems. These include requirements for the components that compose the systems; the installation of the systems; the enclosures within which the systems are contained; hazard detection systems; fire protection systems; temperature and venting components; and training to evaluate for and respond to hazards. The battery modules would be sealed such that in the unlikely event of a fluid leak, fluids would be contained. As discussed in Section 2.5.9, *Applicant-Proposed Measures and Design Features*, in Chapter 2, *Project Description*, the Applicant would implement the fire protection, prevention, and detection measures and design features in accordance with the 2022 California Fire Code, including redundant separate methods of failure detection. In addition, the Applicant would develop an emergency action plan in advance of construction to train local emergency response personnel during development and operation of the facility. The plan would be completed in accordance with existing state regulations such as Health and Safety Code Section 25504(b), *Hazardous Materials Business Plans*; and 19 Cal. Code Regs. 2658, *Emergency Response Plans and Procedures*. The contents of the emergency action plan would comply with existing state regulations, would be developed in consultation with the Fresno County Fire Department and the energy storage system supplier, and would include defined roles and responsibilities and training for local first responders.

Compliance with applicable federal, state, and local requirements and implementation of Applicant design features would ensure that the Project would not create a significant hazard to the public through the accidental release of hazardous materials. Therefore, this impact would be less than significant.

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<sup>2</sup> *Thermal runaway* describes a process that is accelerated by increased temperature, in turn releasing energy that further increases temperature. Thermal runaway occurs in situations where an increase in temperature changes the conditions in a way that causes a further increase in temperature, often leading to a destructive result. It is a kind of uncontrolled positive feedback.

<sup>3</sup> *Deflagration* is combustion that propagates through a gas or across the surface of an explosive at subsonic speeds, driven by the transfer of heat.

### General Accidental Spills

Accidental spills resulting from construction activities are typically small and localized and are cleaned up in a timely manner. Construction contractors are contractually responsible for their hazardous materials and are required under their contract to store and dispose of these materials properly in compliance with federal and state laws, including through implementation of a HMBP. As discussed in Impact 3.10-1, above, the HMBP would include BMPs for construction activities, as well as spill control and spill response measures. In the unlikely event of a spill, the HMBP would include appropriate measures to ensure that workers cease work activities to contain any release and enact the protocols for cleanup, including the notification of appropriate agencies and the use of materials stored on-site (e.g., absorbent pads) to minimize the spread or exposure. In addition, as discussed previously, the Project would require coverage under the Construction General Permit, and thus would be subject to the protections included in a SWPPP, which would outline BMPs to contain a potential release and to prevent any such release from reaching an adjacent waterway or stormwater collection system (e.g., erosion control, sediment control, and waste management). Therefore, implementation of the requirements of HMBPs and the site-specific SWPPP would ensure that accidental spills would not adversely affect construction workers or the environment. Compliance with applicable federal, state, and local requirements and implementation of Applicant design features would ensure that the Project would not create a significant hazard to the public through the accidental release of hazardous materials. Therefore, this impact would be less than significant.

### Underground Utilities

As discussed in 3.10.1.2, *Regulatory Setting*, state law requires an excavator to contact a regional notification center (i.e., USA North 811) to identify any underground utility before excavation activities. As such, any utilities would be identified before excavation. In addition, and as shown on the site plans in Chapter 2, *Project Description*, the Project design has accounted for the location of the natural gas pipeline and easement. Therefore, the natural gas pipeline would not be disturbed during construction activities. Therefore, this impact would be less than significant.

### Diesel Aboveground Storage Tank

As discussed in Section 3.10.1.2, *Environmental Setting*, under *Hazardous Materials Database Search*, soil around the diesel AST along the western portion of the northernmost Project site parcel (Location C on Figure 3.10-1) is stained with diesel fuel. The concentration of diesel has not been determined, and it is unknown whether the concentration of diesel is high enough to pose a risk to construction workers or the environment. As discussed in Section 2.5.5.1, *Water and Wastewater*, in Chapter 2, *Project Description*, the existing on-site water supply well may be used for water supply or may be capped and left in place. In either case, the area of contaminated soil may be disturbed during construction or operations. To reduce the potential adverse impact of the known contaminated soil, and to mitigate currently unknown contaminated soil that may be discovered during construction activities, the Applicant would implement **Mitigation Measure 3.10-1**, described further below to ensure that the contaminated soils associated with the AST are handled, removed, and disposed of properly. With implementation of this mitigation measure, this impact would be less than significant.

### **Residual Pesticides in Soil**

As discussed in Section 3.10-1, *Environmental Setting, Hazardous Materials Database Search*, the Project site has been used for agricultural purposes and could have residual levels of pesticides soil and/or groundwater; the specific pesticides used at the project site are unknown. If pesticides were applied consistent with their intended use, the residual concentrations of pesticides would be expected to be below levels that would pose a risk to human health or the environment. However, given that the specific pesticides and nature of use are unknown, residual levels could pose a risk to construction workers or the environment. To reduce the potential adverse impact of the known contaminated soil, and to mitigate currently unknown contaminated soil that may be discovered during construction activities, the Applicant would implement **Mitigation Measure 3.10-1**, set forth below, to ensure that the contaminated soils associated with previous agricultural land use tested, and if above regulatory action levels, removed and disposed of properly. With implementation of this mitigation measure, this impact would be less than significant.

**Mitigation Measure 3.10-1: Soil Management Plan.** The Applicant shall require that its contractor(s) develop and implement a soil management plan before the start of any ground-disturbing activity. The soil management plan shall describe the hazardous materials that may be encountered (specifically, the previously noted areas that may have contaminated soil); the roles and responsibilities of on-site workers and supervisors; training for site workers focused on the recognition of and response to encountering hazardous materials; and protocols for testing the soil to evaluate the proper handling, removing, transporting, and disposing of all excavated materials in a safe, appropriate, and lawful manner.

Prior to issuance of grading permits, soil shall be tested for total petroleum hydrocarbons near the on-site agricultural wells and pumps, fuel ASTs, turbine oil ASTs, diesel powered agricultural engines, and engine oil ASTs under the supervision of a professional geologist or professional engineer. In addition, soil shall be tested at four locations in a grid pattern and analyzed for pesticides and metals. The County shall review the results of the soil sampling to determine if any additional investigation or remedial activities are deemed necessary. No work shall resume in that area until the County has provided written authorization that the area does not warrant any additional action. If concentrations of contaminants are identified in areas of the Project site and are confirmed to pose a potential risk to human health and/or the environment by a qualified environmental specialist, contaminated materials shall be remediated either prior to or concurrent with construction. Remediation shall generally include a management plan which establishes design and implementation of remediation. Cleanup may include excavation, disposal, bioremediation, and/or any other treatment of conditions subject to regulatory action. All necessary reports, regulations and permits shall be followed to achieve cleanup of the site. The contaminated materials shall be remediated under the supervision of an environmental consultant licensed to oversee such remediation and under the direction of the lead oversight agency. The remediation program shall also be approved by the County. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation, the environmental consultant shall

prepare a report summarizing the project, the remediation approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests.

**Significance after Mitigation:** Less than significant. Implementing Mitigation Measure 3.10-1 would ensure that contaminated soil is properly removed and disposed of in accordance with all applicable federal, state, and local regulations. This would prevent adverse water quality effects from management of a contaminated material and adverse effects on construction workers, the public, and the environment.

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**Criterion c)** Whether the Project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

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The Project site is not located within 0.25 mile of a school. The nearest schools are Huron Migrant Head Start and Huron Middle School, each approximately 4 miles northeast of the Project site. The Project would not emit hazardous emissions or handle hazardous materials within 0.25 mile of a school; no impact would occur. (*No Impact*)

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**Criterion d)** Whether the Project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

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As documented in the Phase I assessment included as Appendix H, the Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Cortese List), nor is it near any such site. An independent review of the EnviroStor and GeoTracker hazardous materials databases confirms that the Project site is not included in those databases and that there are no active or closed hazardous materials sites within the boundaries of the Project site. Therefore, the Project would cause no impact under this criterion. (*No Impact*)

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**Criterion e)** Whether the Project would be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would result in a safety hazard or excessive noise for people residing or working in the Project area.

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The Project site is not located within 2 miles of a public or public use airport. The nearest airports are the New Coalinga Municipal Airport (approximately 8 miles west of the Project site) and the Harris Ranch Airport (approximately 9 miles northwest of the Project site). The Project would not result in a safety hazard or excessive noise for people residing or working in the area; no impact would occur. (*No Impact*)

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**Criterion f)** Whether the Project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

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No specific evacuation routes are delineated in the Fresno County Multi-Jurisdictional Hazard Mitigation Plan (Fresno County 2018), Master Emergency Services Plan (Fresno County 2017), or Fresno County General Plan (Fresno County 2000). Evacuation routes would be identified and coordinated by local law enforcement and emergency service responders as needed during an emergency. Because no adopted emergency response plan or emergency evacuation plan applies to the Project, the Project would have no impact on an adopted plan. However, the possibility remains that construction of the Project could affect emergency response or evacuation should either be required.

**Impact 3.10-4: The Project could impair implementation of or physically interfere with emergency response or emergency evacuation. (*Less than Significant with Mitigation Incorporated*)**

As discussed in Section 2.5.9.7, *Emergency Action Plan*, in Chapter 2, *Project Description*, the Applicant proposes to construct and operate the facility in accordance with all applicable statutes, regulations, and other requirements, including by developing an emergency action plan in advance of construction to train local emergency response personnel during development and operation of the facility. The plan would be completed in accordance with existing state regulations (Health and Safety Code Section 25504[b]; 19 Cal. Code Regs. Section 2731; 22 Cal. Code Regs. Section 66262.34[a][4]). The contents of the emergency action plan would comply with existing state regulations, would be developed in consultation with the Fresno County Fire Department and energy storage system supplier, and would include defined roles and responsibilities and training for local first responders. With successful implementation of the emergency action plan, impacts on emergency response would be less than significant.

The Project site is bordered to the north by West Jayne Avenue, which connects State Route 269 (South Lassen Avenue) and Interstate 5 (I-5), approximately 1.5 mile east and 1,700 feet southwest of the Project site, respectively. There are several other pathways to I-5 and there are no residences or businesses near the Project site. However, the installation of the power lines across West Jayne Avenue would require a short-term temporary closure during the stringing activities. This short-term temporary closure would cause a significant adverse impact if it were to prevent or delay emergency response or evacuation such that it resulted in a significant hazard to the public or the environment.

To ensure that the installation of the power lines across West Jayne Avenue would not delay emergency response vehicles or preclude evacuation efforts, implementation of **Mitigation Measure 3.10-2** is required. Mitigation Measure 3.10-2 requires the preparation and implementation of a traffic management plan addressing traffic safety and control through the work zone, including during temporary lane closures, and requires that appropriate signage be provided along the affected routes to indicate the hazard and advise alternative routes.

**Mitigation Measure 3.10-2: Construction Traffic Management Plan.** At least 30 days prior to the issuance of construction or building permits, including for the initiation of on-site work to install power lines across West Jayne Avenue, the Project owner and/or its construction contractor shall prepare and submit a traffic management plan to the Fresno County Public Works Department and Caltrans District 6, as appropriate, for approval. The traffic management plan must be prepared in accordance with both the Caltrans *Manual on Uniform Traffic Control Devices* and *Work Area Traffic Control Handbook* and must include, but not be limited to, the following elements:

- A temporary traffic control plan that addresses traffic safety and control through the work zone, including during temporary lane closures (if needed) to accommodate materials delivery, transmission line stringing activities, or any other utility connections.
- Identification of the timing of deliveries of heavy equipment and building materials and duration of proposed road closures or obstructions.
- Requirement for designated construction staff to be assigned as flaggers to direct traffic into and/or through temporary traffic control zones, as needed.
- Requirement to place temporary signage, lighting, and traffic control devices if required, including but not limited to appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic and to advise of alternate routes.
- Measures to ensure access for emergency vehicles to the Project site.
- Maintenance of access to adjacent properties.
- Specification of construction-related vehicle travel and oversize-load haul routes, minimization of construction traffic during the a.m. and p.m. peak hours, distribution of construction traffic flow across alternative routes to access the Project site, and avoidance of residential neighborhoods to the maximum extent feasible.
- Requirement to obtain all necessary permits for the work within the road right-of-way or the use of oversized/overweight vehicles that would utilize County-maintained roads, which may require escort by the California Highway Patrol or a pilot car. Copies of the approved traffic plan and issued permits shall be submitted to the Fresno County Divisions of Public Works and Planning.
- A secured agreement between the Applicant and Fresno County to ensure that any County roads that are demonstrably damaged by Project-related activities are promptly repaired and, if necessary, paved, slurry-sealed, or reconstructed as per requirements of the state and/or Fresno County.

The traffic management plan elements listed above would reduce the potentially significant effects of short-term and intermittent construction-related congestion caused by construction vehicles/equipment on local roadways.

**Significance after Mitigation:** Less than significant. The traffic management plan elements listed above would reduce the potentially significant effects of construction-related blockage or congestion of West Jayne Avenue that could substantially delay emergency response or preclude evacuation such that a significant hazard to the public or the environment resulted.

### ***PG&E Infrastructure***

As described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line on lattice towers each up to 200 feet tall on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project.

Incremental impacts specific to the PG&E work would be less than significant related to exposure of people and the environment to hazardous materials, to being located on a listed hazardous materials site, and to the potential for a project to conflict with an established airport land use compatibility plan.

As discussed in Impact 3.10-4, installation of the power lines across West Jayne Avenue to the Gates Substation would require a short-term, temporary closure during the stringing activities. To ensure that the Project would not substantially delay emergency response or preclude evacuation such that a significant hazard to the public or the environment would result, implementation of Mitigation Measure 3.10-2 would be required. However, because PG&E is not an applicant subject to the mitigation measures identified in this Draft EIR, the Applicant would be responsible for compliance with any necessary mitigation. PG&E will comply with the CPUC's General Order 131-D and would coordinate with the Applicant in complying with any required mitigation, which in the instance of a significant impact to hazards would consist of Mitigation Measure 3.10-2.

The proposed activities of minor modifications (replacement and upgrades) to equipment within the existing PG&E Midway Substation property in Buttonwillow would occur entirely within the facility and would not require any road closures or restrictions.

### **3.10.4 Cumulative Effects Analysis**

As discussed above, the Project would cause no impact with respect to the emission of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of a school; no impact related to location on a site that is included on the Cortese List; and no impact related to location within an airport land use plan or within 2 miles of a public airport or public use airport. Therefore, the Project could not cause or contribute to any cumulative impact related to these considerations. For the remaining hazards and hazardous materials considerations, this section analyzes the potential significance of the cumulative effects of the Project's incremental impact in combination with the incremental impacts of one or more of the cumulative projects identified in Table 3.1-1, *Cumulative Projects List*, discussed in Section 3.1.3.1, *Cumulative Scenario*, and shown in Figure 3.1-1, *Cumulative Projects within 15 Miles of the Project Site*.

For Project impacts to combine with the impacts of other projects, the collective incremental impacts must overlap both geographically and temporally, and thus must threaten the same ecosystem, resource, or people. The geographic area affected by the Project and its potential to

contribute to cumulative impacts related to hazardous materials encompasses and is limited to the Project site and its immediately adjacent area. This is because hazardous materials impacts are generally site specific and depend on the nature and extent of the hazardous materials release, and on existing and future soil and groundwater conditions. For example, hazardous materials incidents tend to be limited to a smaller and more localized area surrounding the immediate spill location and extent of the release. The time frame during which the Project could contribute to cumulative impacts related to hazards and hazardous materials includes the duration of on-site activities.

**Impact 3.10-5: The Project would not cause or contribute to a significant cumulative hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving a release of hazardous materials into the environment. (*Less than Significant with Mitigation Incorporated*)**

As described in Section 3.10.3.3, *Direct and Indirect Effects of the Project*, the Project's incremental impacts regarding the transport, storage, use, and disposal of hazardous materials and reasonably foreseeable upset and accident conditions involving the battery energy storage system would be less than significant. With implementation of Mitigation Measure 3.10-1, the Project's incremental impacts regarding reasonably foreseeable upset and accident conditions involving accidental spills also would be less than significant.

Current and reasonably foreseeable cumulative projects would be required to comply with all applicable federal, state, and local regulatory requirements, including those described in Section 3.10.1.3, *Regulatory Setting*. Compliance with legal regulations governing hazards and hazardous materials is effective in minimizing releases where emissions or accidental releases tend to be localized and do not combine to become cumulatively considerable. Therefore, based on compliance with these requirements, the incremental impacts of the Project combined with impacts of other projects in the relevant geographic area would not cause or contribute to a significant cumulative impact related to the transport, storage, use, and disposal of hazardous materials or reasonably foreseeable upset and accident conditions, and the Project's incremental contribution to cumulative effects would not be cumulatively considerable. This impact would be less than significant with the implementation of Mitigation Measure 3.10-1.

**Mitigation:** Implement Mitigation Measure 3.10-1.

**Impact 3.10-6: The Project would not cause or contribute to a significant cumulative hazard due to physical interference with emergency response or emergency evacuation. (*Less than Significant with Mitigation Incorporated*)**

The proposed transmission line installation would cause temporary closure of West Jayne Avenue and, as a result, could preclude or substantially delay emergency response or evacuation such that a significant hazard to the public or the environment would result if an emergency were to occur while the road was closed. Implementation of Mitigation Measure 3.10-2 would reduce this impact to less than significant at the Project level. Because none of the cumulative projects would require temporary or permanent closure of West Jayne Avenue, there is no significant cumulative



impact to which the Project could contribute and, as mitigated, the Project's incremental less-than-significant impact would not cause one. This impact would be less than significant with the implementation of Mitigation Measure 3.10-2.

**Mitigation:** Implement Mitigation Measure 3.10-2.

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### 3.10.5 References

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International Code Council, 2023. 2022 California Fire Code, Title 24, Part 9. Available: <https://codes.iccsafe.org/content/CAFC2022P1>. Accessed January 10, 2023.

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State Water Board (State Water Resources Control Board) and Department of Toxic Substances Control (DTSC), 2023. GeoTracker and Envirostor Sites near Midway Substation, Buttonwillow, California. August 19.

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## 3.11 Hydrology and Water Quality

This section identifies and evaluates issues related to hydrology and water quality. It describes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment. The County received no scoping input pertaining to hydrology or water quality (**Appendix A**, *Scoping Report*).

The analysis in this section is based in part on a site-specific water supply assessment prepared for the Project on the Applicant's behalf (**Appendix L**, *Water Supply Assessment*). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance on (in combination with other materials included in the record) in the preparation of this Draft EIR.

### 3.11.1 Setting

#### 3.11.1.1 Study Area

For the purposes of this hydrology and water quality analysis, the study area relative to surface water consists of the Arroyo Vadoso subwatershed, including agricultural ditches or other drainage features that convey stormwater or surface flow to receiving waters (USGS 2013). The study area for groundwater consists of the Westside Subbasin of the San Joaquin Valley Groundwater Basin (Luhdorff and Scalmanini 2022).

The PG&E Midway Substation property is not included in the study area for hydrogeology and water quality because the proposed activities would consist only of minor modifications (replacement and upgrades) to equipment within the existing facility that would not require any ground disturbance or significant use of water.

#### 3.11.1.2 Environmental Setting

The Project site is located in the San Joaquin Valley, bounded by the Sacramento–San Joaquin Delta to the north, the Sierra Nevada to the east, the Tehachapi Mountains to the south, and the Diablo Range (part of the Coast Ranges) to the west (DWR 2015). The Project site is within the Tulare Lake Hydrologic Region, which encompasses Kings, Tulare, Fresno, and Kern counties and is internally drained by the Kings, Kaweah, Tule, and Kern rivers. Average annual precipitation in the Project vicinity is 6–11 inches and generally falls between October and April.

#### ***Surface Hydrology***

The site is located in the Great Valley Geomorphic Province of California (Terracon 2019). The Great Valley is characterized mainly by sedimentary strata from the Sierra Nevada and Coast Ranges. Surface geology near the site is characterized as Quaternary Alluvium, consisting of alluvial gravel, sand, and clay of the valley areas.

The Project site is in the California Region hydrologic unit, Arroyo Vadoso subwatershed, which has a drainage area of 28,623 acres (USGS 2013). The Project site is at an elevation of approximately 400 feet above mean sea level and has generally flat topography. There are no surface streams in the immediate vicinity of the Project site. Natural drainages in the surrounding vicinity include the intermittent Arroyo Vadoso, approximately 2.5 miles south of the site; the perennial Zapato Chino Creek (west of Interstate 5), approximately 3 miles to the west; and Los Gatos Creek, an ephemeral waterway 3.5 miles north of the site.<sup>1</sup> The human-made California Aqueduct is 4 miles east of the Project site and is listed on the 303(d) list of impaired waters for pH with sources unknown (State Water Board 2022). Los Gatos Creek, with a segment of 49 miles within Fresno County, is listed as impaired<sup>2</sup> for pollutants, including lead and selenium, with sources unknown (State Water Board 2022). Arroyo Vadoso and Zapato Chino Creek are not listed as 303(d) impaired water bodies.

### **Groundwater**

The Project site is within the Westside Subbasin of the San Joaquin Valley Groundwater Basin (Luhdorff and Scalmanini 2022). The Westside Subbasin includes 972 square miles of Fresno and Kern counties and consists primarily of Quaternary and Tertiary-age unconsolidated sediments. The upper and lower water-bearing zones of the subbasin are recharged by natural surface water, applied agriculture irrigation water, and subsurface inflow. The primary sources of recharge are infiltration of surface water from streams located along the eastern front of the Coast Ranges and deep percolation of agricultural irrigation water. Municipal and irrigation groundwater well yields within the Westside Subbasin average 1,100 gallons per minute (gpm) and range from 560 gpm to 2,000 gpm.

The Westside Subbasin has been identified as being in a state of critical overdraft, and the Westside Subbasin is listed as a high-priority basin. Westlands Water District (WWD) is the groundwater sustainability agency for the Westside Subbasin and adopted the groundwater sustainability plan (GSP) prepared by Luhdorff and Scalmanini (2022), as discussed in additional detail below under *Sustainable Groundwater Management Act* in Section 3.11.1.3, *Regulatory Setting*.

The Project site has one former water supply well, located along the west side of the northernmost Project site parcel (see Location C on Figure 3.10-1, in Section 3.10, *Hazards and Hazardous Materials*). The U.S. Geological Survey identification number for this well is 360803120081201 (State Water Board 1968). The well is 2,074 feet deep; well screen interval details are unknown (USGS 2023). The most recent water quality results are from 1968. The total

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<sup>1</sup> An *intermittent stream* flows during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. A *perennial stream* has flowing water year-round during a typical year. An *ephemeral stream* has flowing water only during or for a short duration after precipitation events in a typical year.

<sup>2</sup> An *impaired water* means a water body or water body segment that does not meet its applicable water quality standards due in whole or in part to discharges of pollutants from point or nonpoint sources.

dissolved solids concentration was 710 milligrams per liter (mg/L), just above the secondary drinking water standard of 500 mg/L.<sup>3</sup>

### ***Flood Potential***

The Federal Emergency Management Agency (FEMA) is responsible for mapping areas subject to flooding during a 100-year flood event (i.e., a flood event with 1 percent chance of occurring in any given year). The Project site is located in an area designated as Zone X, an area of minimal flood hazard (FEMA 2009).

### ***Tsunami and Seiche Hazards***

*Tsunamis* are ocean waves generated by vertical movement of the sea floor, normally associated with earthquakes or volcanic eruptions. *Seiches* are oscillations of enclosed or semi-enclosed bodies of water that result from seismic events, wind stress, volcanic eruptions, underwater landslides, and local basin reflections of tsunamis. The Project site is not near the ocean or any large water bodies.

## **3.11.1.3 Regulatory Setting**

### ***Federal***

#### **Clean Water Act**

The Federal Water Pollution Control Act Amendments of 1972 are more commonly known as the Clean Water Act. Major changes have been introduced since 1972 in amendatory legislation including the Clean Water Act of 1977 and the Water Quality Act of 1987.

The Clean Water Act is the primary federal law governing water pollution. Its objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. It is one of the first and most influential modern environmental laws in the U.S. As with many other major federal environmental statutes, it is administered by the U.S. Environmental Protection Agency (USEPA), in coordination with state governments. Its implementing regulations are codified at 40 C.F.R. Subchapters D, N, and O (Parts 100-140, 401-471, and 501-503).

The Clean Water Act authorizes federal, state, and local entities to cooperatively create comprehensive programs for eliminating or reducing the pollution of state waters and tributaries. Amendments to the Clean Water Act in 1972 established the National Pollutant Discharge Elimination System (NPDES) permit program, which prohibits discharge of pollutants into the nation's waters without procurement of a NPDES permit from the USEPA. The purpose of the permit is to translate general requirements of the Clean Water Act into specific provisions tailored

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<sup>3</sup> *Secondary drinking water standards* are guidelines or recommendations by the U.S. Environmental Protection Agency (USEPA) for 15 contaminants that affect the aesthetics, technical use, or consumer acceptance of drinking water. They are not enforced by USEPA but may be regulated by states or state health departments. They are related not to health risks, but to issues such as taste, odor, color, corrosivity, foaming, and staining.

to the operations of each organization that is discharging pollutants. Although federally mandated, the NPDES permit program is generally administered at the state and regional levels.

The USEPA NPDES program requires NPDES permits for: (1) Municipal Separate Storm Sewer Systems (MS4) Permit generally serving, or located in, incorporated cities with 100,000 or more people (referred to as municipal permits); (2) 11 specific categories of industrial activity (including landfills); and (3) construction activity that disturbs five acres or more of land. As of March 2003, Phase II of the NPDES Program extended the requirements for NPDES permits to numerous small municipal separate storm sewer systems, construction sites of 1 to 5 acres, and industrial facilities owned or operated by small municipal separate storm sewer systems, which were previously exempted from permitting.

The following sections discuss specific relevant sections of the Clean Water Act.

#### Clean Water Act Section 303(d): Congressional Declaration of Goals and Policy

Section 303 of the Clean Water Act (33 U.S.C Section 1251) requires states to establish water quality standards consisting of designated beneficial uses of water bodies and water quality standards to protect those uses for all waters of the U.S. Under Section 303(d) of the Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters. Impaired waters are waters that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish a priority ranking for listed waters and develop action plans to improve water quality. This process includes development of Total Maximum Daily Loads (TMDLs) that set discharge limits for non-point source pollutants.

#### Clean Water Act Section 402: National Pollutant Discharge Elimination System

Clean Water Act Section 402 (33 USC Section 1341) establishes the National Pollutant Discharge Elimination System (NPDES) permit program process. In California, NPDES permitting authority is delegated to, and administered by the nine Regional Water Quality Control Boards (RWQCBs). Pursuant to Section 402, a discharge of any pollutant from a point source into navigable waters, are prohibited unless an NPDES permit is obtained. Point sources are discrete conveyances such as pipes or manmade ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. The NPDES permit program is discussed in detail below in the *State* section.

#### **Federal Emergency Management Agency National Flood Insurance Program**

Under Executive Order 11988, FEMA is responsible for management of *floodplain areas*, defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to a 1 percent or greater chance of flooding in any given year (the 100-year floodplain). FEMA's mission is to support citizens and first responders to ensure that the United States builds, sustains, and improves capabilities to prepare for, protect against, respond to, recover from, and mitigate all hazards. Regarding flooding, FEMA provides information, guidance, and regulation associated with flood prevention, mitigation, and response. Under the provisions of Executive Order 11988, FEMA

requires each local government covered by the federal flood insurance program to enact and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year floodplain. Through its Flood Insurance and Mitigation Administration, FEMA manages the National Flood Insurance Program, which includes flood insurance, floodplain management, and flood hazard mapping functions. FEMA determines flood elevations and floodplain boundaries and distributes the flood insurance rate maps used in the National Flood Insurance Program. These maps identify the locations of special flood hazard areas, including 100-year floodplains.

Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations. Those regulations enable FEMA to require municipalities participating in the National Flood Insurance Program to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains.

## **State**

### **Porter-Cologne Water Quality Control Act**

The Porter-Cologne Water Quality Control Act (California Water Code Division 7, Section 13000 et seq.) provides for protection of the quality of waters of the state of California for use and enjoyment by the people of California. The California Legislature has assigned primary responsibility to administer and enforce statutes for the protection and enhancement of water quality to the State Water Board and its nine RWQCBs. The State Water Board provides state-level coordination of the water quality control program by establishing statewide policies and plans for the implementation of federal and state regulations. The nine RWQCBs adopt and implement water quality control plans throughout California that recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. Pursuant to the Clean Water Act NPDES program, the Porter-Cologne Water Quality Control Act also delegates authority to the RWQCBs to issue NPDES permits.

### **Water Quality Control Plan—Tulare Lake Basin**

The Project site is located within the jurisdiction of the Central Valley RWQCB (Region 5). Region 5 is the jurisdiction tasked with implementing the adopted *Water Quality Control Plan for the Tulare Lake Basin* (Basin Plan) through planning, permitting, and enforcement of established water quality objectives (Central Valley RWQCB 2018). In accordance with the State Policy for Water Quality Control, Region 5 employs a range of beneficial use designations for surface waters, groundwater basins, marshes, and mudflats that serve as the basis for establishing water quality objectives, discharge conditions, and prohibitions (**Table 3.11-1**). The Basin Plan has identified existing and potential beneficial uses supported by the key surface water drainages throughout its jurisdictional planning area. The existing beneficial uses designated in the Basin Plan for surface water and groundwater in the study area, defined as the area of influence within the Westside Groundwater Basin, include agricultural, industrial process water, and municipal uses. Multiple other beneficial uses are designated for water bodies in the surrounding area, as shown in Table 3.11-1 (Central Valley RWQCB 2018).

**TABLE 3.11-1  
 DESIGNATED BENEFICIAL USES OF WATER BODIES IN THE STUDY AREA**

| Water Body                                      | Designated Beneficial Uses                   |
|---|--|
| Valley Floor Waters                             | AGR, IND, PRO, REC-1, REC-2. WARM, RARE. GWR |
| Pleasant Valley and Westside Groundwater Basins | MUN, AGR, IND                                |

NOTES:

Existing and Potential Beneficial Uses Key:

AGR = Agricultural Supply; COLD = Cold Freshwater Habitat; GWR = Groundwater Recharge; IND = Industrial Service Supply; MUN = Municipal and Domestic Supply; PRO = Industrial Process Supply; RARE = Rare Threatened and Endangered Species; REC-1 = Body Contact Recreation; REC-2 = Noncontact Recreation; WARM = Warm Freshwater Habitat; WILD = Wildlife Habitat.

SOURCE: Central Valley RWQCB 2018

**NPDES General Permit for Discharges of Stormwater Associated with Construction Activities (Order 2022-0057-DWQ)**

The NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order WQ 2022-0057-DWQ, NPDES No. CAS000002), commonly referred to as the Construction General Permit, is required for projects that would disturb 1 or more acres of soil during construction. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines. Because the Project would disturb 1 or more acres of soil, it would be subject to the Construction General Permit. A storm water pollution prevention program (SWPPP) would be required for the Project if it would result in discharges of pollutants into waters of the United States and disturb 1 or more acres of soil.

The SWPPP would include best management practices (BMPs) to be implemented during construction, including erosion control, sediment control, and good housekeeping measures. The BMPs would include dewatering procedures, stormwater runoff quality control measures, concrete waste management, watering for dust control, and construction of perimeter silt fences, as needed. The SWPPP would be submitted to the State Water Board and Fresno County for review and approval before the issuance of any building or grading permits. The Construction General Permit is described in more detail in Section 3.8, *Geology, Soils, and Paleontological Resources*, under *NPDES Construction General Permit*.

**Sustainable Groundwater Management Act**

The Sustainable Groundwater Management Act of 2014 (SGMA) (Water Code Section 10723) provides a framework for the sustainable management of groundwater resources. In groundwater basins designated by the California Department of Water Resources (DWR) as medium and high priority, local public agencies and locally controlled groundwater sustainability agencies are required to develop and implement GSPs or alternatives to GSPs. Each GSP or alternative must include measurable objectives and interim milestones for achieving sustainability goals for the given groundwater basin. Plans must also include a physical description of the basin, including information on groundwater levels, groundwater quality, subsidence and groundwater/surface-



water interaction, historical and projected water demand and supply data, monitoring and management provisions, and a description of how the plan would affect other plans.

The Project site overlies the Westside Subbasin in the western portion of the San Joaquin Valley Groundwater Basin, which is managed by WWD as groundwater sustainability agency under the SGMA. The Westside Subbasin has been identified by DWR as a high-priority groundwater basin under the SGMA and one in a condition of critical overdraft (Luhdorff and Scalmanini 2022).

Municipal and industrial groundwater well locations would be subject to the GSP if the extraction rates exceed 2 acre-feet per year (AFY); however, municipal and industrial users currently are not subject to the allocation management plan.<sup>4</sup> Water is provided through an agreement with WWD and from groundwater through an on-site well. WWD supplements its own water through surface and groundwater purchased through the Central Valley Project (CVP). In drought years, no water allocations from CVP are provided because of the low storage levels in CVP reservoirs. The SGMA also constrains groundwater allocations to maintain adequate water levels in the groundwater basin (and thereby avoid undesirable effects). Thus, groundwater pumping is effectively restricted during drought conditions, for the purposes of groundwater sustainability.

## **Local**

### **Fresno County Ordinance Code**

Title 14 of the Fresno County Ordinance Code specifies regulations to conserve and protect water resources throughout the county. Chapter 14.01 pertains to water conservation to prevent the unreasonable use of county water supplies and regulates the use of water services and facilities. Chapter 14.03 pertains to groundwater management by establishing a policy prohibiting the direct or indirect transfer of groundwater outside of Fresno County. Chapter 14.04 establishes standards and regulations for well construction, pump installation, and well destruction to protect persons from contaminated or polluted water and to maintain groundwater quality.

### **Fresno County 2000 General Plan**

The following policies identified in the Open Space and Conservation Element of the Fresno County General Plan are applicable to the Project:

***Policy OS-A.13:*** The County shall encourage, where economically, environmentally, and technically feasible, efforts aimed at directly or indirectly recharging the county's groundwater.

***Policy OS-A.19:*** The County shall require the protection of floodplain lands and, where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access, and recreation.

***Policy OS-A.23:*** The County shall protect groundwater resources from contamination and overdraft by pursuing the following efforts:

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<sup>4</sup> Pursuant to the GSP, continued extraction of groundwater by any agricultural or municipal and industrial water user will require metering by the January 1, 2025, deadline.

- a. Identifying and controlling sources of potential contamination;
- b. Protecting important groundwater recharge areas;
- c. Encouraging water conservation efforts and supporting the use of surface water for urban and agricultural uses wherever feasible;
- d. Encouraging the use of treated wastewater for groundwater recharge and other purposes (e.g., irrigation, landscaping, commercial, and non-domestic uses);
- e. Supporting consumptive use where it can be demonstrated that this use does not exceed safe yield and is appropriately balanced with surface water supply to the same area;
- f. Considering areas where recharge potential is determined to be high for designation as open space; and
- g. Developing conjunctive use of surface and groundwater.

**Policy OS-A.25:** The County shall minimize sedimentation and erosion through control of grading, cutting of trees, removal of vegetation, placement of roads and bridges, and use of off-road vehicles. The County shall discourage grading activities during the rainy season unless adequately mitigated to avoid sedimentation of creeks and damage to riparian habitat.

**Policy OS-A.26:** The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff.

**Policy OS-A.27:** The County shall monitor water quality regularly and take necessary measures to prevent contamination, including the prevention of hazardous materials from entering the wastewater system.

**Policy OS-D.3:** The County shall require development to be designed in such a manner that pollutants and siltation do not significantly degrade the area, value, or function of wetlands. The County shall require new developments to implement the use of Best Management Practices (BMPs) to aid in this effort.

### 3.11.2 Significance Criteria

The Project would result in a significant impact related to hydrology and water quality if it would:

- a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
  - i. result in substantial erosion or siltation on- or off-site,
  - ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site,

- iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or
- iv. impede or redirect flood flows;
- d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or
- e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

### 3.11.3 Direct and Indirect Effects

#### 3.11.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of these, the actions described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*, and Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, are relevant to the analysis below.

In addition, the following Project design features would minimize impacts on water quality:

- No outdoor storage areas are proposed.
- No exterior wash-down areas are proposed.
- No on-site repair or maintenance bays or fueling areas are proposed.
- Pest management would occur only as described in Section 2.5.10.6, *Pest Management*.
- Water quality controls would be maintained on an ongoing basis and periodic inspections would be conducted to ensure proper performance.

The Project has been designed consistent with low impact development standards such as minimizing impermeable surfaces and using gravel surfaces where possible instead of hardscape surfaces. Impermeable surfaces would be broken into individual areas that would drain through gravel, which would help to maximize infiltration and disperse flows, and through bioretention swales and retention basins that would further slow runoff and facilitate infiltration. These design features are shown on the site plans provided as Figure 2-3, *Preliminary Site Plan—Lithium Ion Option*, and Figure 2-4, *Preliminary Site Plan—Lithium Ion and Iron Flow Option*, in Chapter 2, *Project Description*.

#### 3.11.3.2 Methodology

The following impact analysis considers the potential impacts on hydrology and water quality associated with the Project's construction, operation and maintenance, and decommissioning phases. This analysis assumes Project compliance with applicable federal, state, and local laws and regulations and implementation of the other identified Applicant-proposed measures. Further,

state and local agencies are expected to continue to enforce applicable requirements to the extent that they do so now. The analysis considers the potential direct, indirect, and cumulative impacts on water resources and any mitigation measures that would be implemented to avoid or minimize such impacts, as appropriate. This analysis assumes that project design features as described in Chapter 2, *Project Description*, would be implemented to reduce or avoid impacts and that the Project would comply with all regulatory requirements with respect to water quality.

### 3.11.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

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**Impact 3.11-1: The Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. (*Less than Significant with Mitigation Incorporated*)**

The Project site is located in the Tulare Lake Basin, which is under the water quality jurisdiction of the Central Valley RWQCB. The Project site is within the vicinity of Los Gatos Creek located approximately 4 miles northwest of the site, the California Aqueduct located approximately 4 miles east of the site, Arroyo Vadoso about 2 miles south of the site, and Zapato Chino Creek about 3 miles to the west of the site. As noted in Section 3.11.1.2, *Environmental Setting*, under *Surface Hydrology*, the California Aqueduct and Los Gatos Creek are listed as impaired on the State Integrated Clean Water Act Section 303(d) and 305(b) list: Los Gatos Creek is listed for lead and selenium and the California Aqueduct is listed for pH. A significant impact could occur if Project construction, operation, maintenance, or decommissioning activities would result in a water quality violation or substantially degrade surface water or groundwater quality.

#### Construction and Decommissioning

During site preparation for construction of the energy storage facility, ground alteration would occur including the removal of existing crops, grading, construction of stormwater retention basins, and other earthwork, as described in Section 2.5, *Description of the Project*, in Chapter 2. As listed on Table 2-1, for the Lithium-Ion Battery Option, ground disturbance for Phases 1 through 4 would be 27.6, 22.2, 60.8, and 97.4 acres respectively. As listed on Table 2-2, for the Lithium-Ion and Iron Flow Option, ground disturbance for Phases 1 through 3 would be 56, 43.4, and 108.6 acres respectively. Foundations for the energy storage enclosures, substation, and gentle pole structures would be erected to support the proposed structures. Site plans are provided in Figures 2-3 and 2-4. Decommissioning activities would mirror the soil disturbances associated with construction. A preliminary site reclamation plan has been prepared describing the proposed process for removing site structures following the Project's term of use (see Appendix B2). With the proposed site alteration and soil-disturbing activities during construction and decommissioning, in the absence of measures to prevent contamination, sediment and other pollutants could be mobilized and transported off-site through runoff, which could result in impacts on surface water or groundwater quality.

As discussed in Section 3.8, *Geology, Soils, and Paleontological Resources*, construction contractors would be required to prepare and implement a SWPPP for construction activities in compliance with the NPDES Construction General Permit requirements. The SWPPP would specify best management practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater from moving off-site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. The SWPPP would list the hazardous materials (including petroleum products) proposed for use during construction; describe spill prevention measures, equipment inspections, equipment and fuel storage; identify protocols for responding immediately to spills; and describe BMPs for controlling site runoff. Compliance with this regulation would prevent sediment and other pollutants from being discharged from the Project site and entering waterways or groundwater.

As described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*, in Chapter 2, *Project Description*, Applicant-proposed measures are proposed for inclusion as part of the Project to reduce the potential for erosion and limit mobilization of pollutants off-site through runoff during construction. These measures include stabilization of soil piles, dust suppression measures, and suspension of work during high winds. In addition, the Project does not include outdoor storage areas, exterior wash-down areas, and on-site repair or maintenance bays or fueling areas.

As discussed in Section 3.10, *Hazards and Hazardous Materials*, the Project would include preparation of a hazardous materials business plan, which is a regulatory requirement to ensure that hazardous materials are properly transported, stored, used, and disposed of. Given compliance with the requirements of the hazardous materials business plan, the Project would not result in inadvertent releases of potentially toxic substances used during construction. Compliance with these permit conditions and regulatory requirements would ensure the protection of water quality.

Because of the presence of contaminated soil associated with an on-site diesel aboveground storage tank and the possible use of pesticides from previous agricultural activities (described in Section 3.10, *Hazards and Hazardous Materials*, in the context of Impact 3.10-2, and Appendix H), soil-disturbing activities during construction could mobilize contaminated soil, which could adversely affect water quality. As described in Section 3.10, with implementation of Mitigation Measure 3.10-2, *Soil Management Plan*, the potentially significant impacts would be reduced to less than significant.

**Mitigation:** Implement Mitigation Measure 3.10-1: Soil Management Plan (described in Section 3.10, *Hazards and Hazardous Materials*).

**Significance after Mitigation:** Less than significant. Implementation of Mitigation Measure 3.10-1 would ensure that contaminated soil is properly removed and disposed of in accordance with all applicable federal, state, and local regulations to prevent adverse water quality effects from the management of contaminated material.

### **Operation and Maintenance**

During the operation and maintenance of the Project, stormwater falling on the site could runoff and cause erosion. As shown on the site plans, the Project design proposes features consistent with low impact development standards, including bioretention swales and retention basins. These stormwater features would collect and control stormwater flow, direct the flow to bioswales and retention basins that would facilitate infiltration of stormwater into the water table, and slow and control the rate of runoff during storm events. Additionally, the Project would be subject to post-construction requirements of the Construction General Permit, which requires restoration to and maintenance of pre-Project drainage patterns if stormwater has the potential to discharge to waters of the United States. Compliance with the requirements of the Construction General Permit and construction of Project design features would control site runoff and prevent it from degrading water quality through the release of sediment or other pollutants from the Project site during operation and maintenance.

As described in Chapter 2, Section 2.5.5.3, *Hazardous Waste and Hazardous Materials*, operation and maintenance of the Project could involve the use of hydraulic fluids and oils, lubricants, paints and thinners, solvents and cleaning solutions, and diesel fuel for an on-site generator. Improper use of these chemicals could result in a release of chemicals that could adversely affect the water quality of surface waters. During the operation and maintenance phase, the Project would be subject to regulatory requirements that would prevent contamination of surface water and groundwater. As discussed previously, the Project would be required to implement a hazardous materials business plan to ensure that these substances would be used, stored, handled, and transported consistent with regulatory requirements. In addition, during the operation and maintenance phase, the Project would implement a spill prevention, control, and countermeasure plan as described in Section 3.10, *Hazards and Hazardous Materials*, under *Oil Pollution Prevention*, to ensure proper management of diesel fuel stored in aboveground storage tanks. The Project's operation and maintenance impacts would be less than significant.

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**Criterion b)** Whether the Project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.

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#### **Impact 3.11-2: The Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. (*Less-than-Significant Impact*)**

The Project site overlies the Westside Subbasin, which covers an area of 972 square miles in the western portion of the San Joaquin Valley Groundwater Basin. The Westside Subbasin is a high-priority subbasin and one identified by DWR as being in a condition of critical overdraft. The majority of the subbasin is within WWD's service area; WWD serves as the groundwater sustainability agency for the portion of the subbasin in Fresno County where the Project would be located. The pumping of groundwater could substantially decrease groundwater supplies or the addition of impervious surfaces could interfere with groundwater recharge, either of which would

decrease the availability of groundwater supplies to users of groundwater within the subbasin and impede the sustainable groundwater management of the basin.

Project construction would require water for dust control, grading, and site compaction, which could be provided in part through groundwater resources, possibly including the existing on-site water supply well. The water supply assessment prepared for the Project assumed a peak construction and decommissioning water demand of 153.4 AFY for the Project's Lithium Ion Option; a peak construction water demand of 171 AFY was assumed for the Lithium Ion and Iron Flow Option (see Appendix L). Each of the four construction phases would last 1 year, for a total of 4 years of construction. The water supply assessment estimated an annual water demand of 1,036 gallons (0.003 AFY) for the Project's proposed operation and maintenance building uses. Over the Project's life span, this would equate to a total of 767–855 acre-feet of water.

Currently, the approximately 150-acre northern parcel of the Project site is used for growing almonds; the southern two parcels are fallow. The existing almond and citrus orchards on the Project site's northern parcel are irrigated regularly. Although the baseline irrigation use (water demand) for this parcel is unknown, almond orchard irrigation is known to be a water-intensive land use. Typical almond water use is estimated at 3.7 to 4 AFY (CWIN 2022; Pacific Institute 2015). Over a 35-year period of time (roughly equivalent to the Project's operation and maintenance period as explained in Section 2.5.1, *Project Phasing*) and assuming 4 AFY, this would equate to a total of 21,000 acre-feet of water. Therefore, conversion of the existing orchards out of irrigated agriculture would reduce demand for groundwater resources compared to existing conditions.

The Project would alter conditions for groundwater recharge in a high-priority subbasin currently in a condition of critical overdraft. Through the placement of foundations to support the energy storage systems and/or the energy storage containers, the Project would add impervious surfaces on the site, which could reduce the Westside Subbasin's overall groundwater recharge area compared to existing conditions. However, stormwater falling on impervious surfaces would flow into bioswales and detention basins, as shown on the site plans, or would flow off to surrounding pervious soil or gravel base and infiltrate into the ground, as it does now. In either case, impacts of the Project's proposed use of groundwater and addition of impervious surfaces would result in a decrease in groundwater use and no change in groundwater recharge capability across the site. Therefore, the impacts relative to groundwater supply and recharge would be less than significant.

**Mitigation:** None required.

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**Criteria c.i-c.iv)** Whether the Project would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) Result in substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; iii) create or contribute runoff water which would

exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows.

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**Impact 3.11-3: The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which: (i) Results in substantial erosion or siltation on- or off-site; (ii) substantially increases the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) creates or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provides substantial additional sources of polluted runoff; or (iv) impedes or redirects flood flows. (*Less-than-Significant Impact*)**

The Project would result in the construction of an energy storage system facility that would include grading, the construction and use of bioswales and detention basins, and the addition of foundations for the battery enclosures. These activities could change the drainage patterns of the Project site and lead to erosion, siltation, issues with flooding, or pollute runoff.

### **Erosion and Siltation**

The Project is proposed on three parcels of agricultural land that are relatively flat. There are no surface waters in the immediate vicinity (or within 4 miles) of the site. Alteration of the site would take place during construction, operation, and decommissioning. To prepare the site for use as an energy storage facility, site clearing, excavation, trenching, and other site work would take place on approximately 260 acres of the 318-acre site in four phases for the lithium-ion battery option or three phases for the lithium-ion and iron-flow option, as described in Chapter 2, *Project Description*. Given the site's relatively flat topography, erosion during construction is unlikely to be substantial. The implementation of the BMPs required for the previously discussed SWPPP would prevent erosion and siltation during construction through the use of silt fences and straw wattles to capture sediment in the event of rain. The construction and operation of the bioswales and detention basins would prevent erosion and siltation during operation and maintenance by capturing stormwater runoff, thus preventing erosion. The decommissioning of the facility after its useful life would return the site to its current conditions. Therefore, impacts relative to erosion and siltation would be less than significant.

### **On-Site or Off-Site Flooding, or Impedance of Flood Flows**

Drainage patterns would be altered by site grading and other ground-disturbing construction work that could result in on-site or off-site flooding if stormwater is not properly controlled. In addition, the Project would add impervious surfaces such as foundations to support the proposed infrastructure and the energy storage containment structures, which could reduce infiltration and increase flooding. As discussed above, the implementation of the BMPs required for the previously discussed SWPPP would prevent flooding during construction through the use of silt fences and straw wattles to control stormwater and associated sediment. These BMPs would reduce the energy of water flow on the site and slow the flow of water, enabling the water to infiltrate into the subsurface as it does now. The construction and operation of the bioswales and detention basins would prevent flooding during operation and maintenance by capturing runoff and infiltrating stormwater into the subsurface, thus preventing flooding. The decommissioning



of the facility after its useful life would return the site to its current conditions. Therefore, impacts relative to flooding would be less than significant.

### **Planned Stormwater Drainage System**

Under existing conditions, there is no stormwater drainage system that services the Project site. As discussed above, the proposed Project would construct a stormwater capture and infiltration system to manage stormwater. Therefore, there is no stormwater drainage system to be affected by the Project, resulting in no impact.

### **Additional Sources of Polluted Runoff**

As discussed above, stormwater would be captured and infiltrated during construction, operation, and maintenance of the project. Hazardous materials used during construction, operation, maintenance, and decommissioning would be properly stored, used, and disposed of as previously discussed above and in Section 3.10, *Hazards and Hazardous Materials*. The decommissioning of the facility after its useful life would return the site to its current condition. No additional sources of polluted runoff would be created. Therefore, impacts relative to additional sources of polluted runoff would be less than significant.

### **Summary**

The Project proposes design measures, including bioswales and detention basins, which would collect stormwater flows, facilitate infiltration, and slow the rate of runoff, consistent with low impact development standards. The proposed stormwater collection and infiltration systems are shown on the site plans. These stormwater facilities would be designed to retain stormwater during a 100-year, 48-hour rain event consistent with state, regional, and Fresno County requirements. The stormwater would then infiltrate into the subsurface as it does now, but in a controlled fashion to prevent erosion and flooding. Impacts under this criterion would be less than significant.

**Mitigation:** None required.

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**Criterion d)** Whether the Project would be located in a flood hazard, tsunami, or seiche zone, and risk the release of pollutants due to Project inundation.

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The Project would not be located in a flood hazard zone, nor would the site be subject to tsunami or seiche hazards, given its inland location. Because the Project site is not located in the coastal zone or near a large body of water that could be susceptible to seiches, or in a flood hazard zone identified by FEMA, there is no risk of inundation associated with such hazards. Therefore, no release of pollutants from inundation would occur with construction, operation, or eventual decommissioning of the Project. The Project would have no impact associated with this criterion. *(No Impact)*

**Criterion e)** Whether the Project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

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**Impact 3.11-4: The Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. (*Less than Significant with Mitigation Implemented*)**

The local Water Quality Control Plan (Basin Plan) and Sustainable Groundwater Management Plan (GSP) are described in Section 3.11.1.3, *Regulatory Setting, State*. The overall objectives of these plans are to maintain the high quality of surface waters and groundwaters. The GSP also has the objective of maintaining groundwater supplies. As previously discussed, the Project would result in the construction of an energy storage system facility that would include grading, the construction and operation of a battery energy storage system. These activities could adversely affect water quality or reduce groundwater supplies.

As discussed under Impacts 3.11-1 and 3.11-3, construction would involve soil-disturbing activities that would effectively be controlled through implementation of erosion control measures and BMPs as part of the SWPPP in compliance with Construction General Permit. Additionally, Mitigation Measure 3.10-1, *Soil Management Plan*, would be implemented to ensure that contaminated soils associated with a diesel aboveground storage tank (see Location C on Figure 3.10-1) and residual pesticides from previous agricultural activities would be handled, disposed of, and managed in a manner that would not result in mobilization of contaminants into the groundwater table and in compliance with all applicable federal, state, and local regulations. With implementation of these measures and the recommended mitigation, the Project would not affect groundwater quality and thus would not conflict with the water quality objectives of the Basin Plan or GSP and therefore would not interfere with beneficial uses of surface water and groundwater.

As discussed in Impact 3.11-2, the estimated volume of water used over the Project's life span would be less than the current irrigated land use over the same conditional use permit period. This reduction in water use would be consistent with the Basin Plan and the GSP, and impacts would be less than significant.

**Mitigation:** Implement Mitigation Measure 3.10-1: Soil Management Plan (described in Section 3.10, *Hazards and Hazardous Materials*).

**Significance after Mitigation:** Implementation of Mitigation Measure 3.10-1 would ensure that contaminated soil is properly removed and disposed of, and thus would prevent a conflict with or obstruction of the implementation of the Basin Plan or sustainable groundwater management plan.

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each

up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. As noted previously, the minor modifications (replacement and upgrades) to equipment within the existing PG&E Midway Substation would not require any ground disturbance. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental contributions of the PG&E infrastructure work to Impacts 3.11-1 through 3.11-4 related to water quality, groundwater supplies and recharge, drainage patterns, flood hazard, tsunami or seiche zones, and conflicts with the Basin Plan or GSP would be less than significant.

**Mitigation:** None required.

### 3.11.4 Cumulative Effects Analysis

This section presents an analysis of the cumulative effects of the Project in combination with other past, present, and reasonably foreseeable future projects that could cause cumulatively considerable impacts. Significant cumulative impacts related to hydrology and water quality could occur if the incremental impacts of the Project would combine with the incremental impacts of one or more of the cumulative projects identified in Table 3.1-1, *Cumulative Projects List*, and discussed in Section 3.1.3.1, *Cumulative Scenario*. The locations of the listed projects are shown there on Figure 3.1-1, *Cumulative Projects within 15 Miles of the Project Site*.

The geographic scope of the analysis of cumulative effects includes the Project site, the Arroyo Vadoso subwatershed for surface water (Cumulative Projects 6 through 9), and the Westside Subbasin (all of the cumulative projects). The time frame during which the Project could contribute to cumulative hydrology and water resources effects includes the 40-year term of the requested conditional use permit.

As discussed previously, the Project would result in no impact with respect to being located in a flood hazard, tsunami, or seiche zone. Therefore, neither the Project nor an alternative could cause or contribute to any potential significant cumulative impact with respect to these considerations. The remaining hydrology and water quality considerations are evaluated below.

**Impact 3.11-5: The Project would make a less than cumulatively considerable contribution to cumulative effects relating to violation of water quality standards or waste discharge requirements or other substantial degradation of surface or groundwater quality. (*Less-than-Significant Impact*)**

Ground disturbance by the Project and cumulative projects could cause the release of sediment and other pollutants into surface water or groundwater. As noted in Table 3.1-1 in Section 3.1, *Introduction to Environmental Analysis*, the cumulative scenario includes multiple projects that, like the Project, involve extensive ground disturbance over relatively flat terrain. Because the topography of the Project site along with the sites of other projects in the cumulative scenario do not contain steep slopes, the potential for erosive conditions is low. Projects that could generate stormwater runoff during soil-disturbing construction activities and discharge to surface waters would be required to adhere to the requirements of the state Construction General Permit and the

conditions of the Fresno County grading permit. Like the Project, these projects would be required to prepare and implement a SWPPP and its associated BMPs along with good housekeeping measures to capture and pre-treat stormwater on-site and effectively control runoff. The regulatory controls and specific requirements contained in the Construction General Permit and Fresno County requirements would reduce the incremental contributions of sediment and other pollutants that could otherwise compromise groundwater or surface waters or violate water quality requirements.

The Project includes bioswales and detention basins to capture and treat stormwater, preventing impacts on water quality. Cumulative projects would be expected to include similar BMPs to capture and treat stormwater. The regulatory controls and specific requirements contained in Fresno County development requirements would reduce the incremental contributions of sediment and other pollutants that could otherwise compromise groundwater or surface waters or violate water quality requirements.

Therefore, based on compliance with these requirements, the incremental impacts of the Project combined with impacts of other projects in the area would not cause a significant cumulative impact related to water quality. The Project's contribution to any related significant cumulative effect would not be cumulatively considerable, and this impact would be less than significant.

**Mitigation:** None required.

**Impact 3.11-6: The Project would not cause a cumulatively considerable contribution to decreased groundwater supplies or substantial interference with groundwater recharge such that the sustainable groundwater management of the basin could be impeded. (*Less-than-Significant Impact*)**

An analysis of cumulative impacts on groundwater considers groundwater extraction associated with the Project when considered along with groundwater extraction from past, current, and reasonably foreseeable future projects. Cumulative projects could increase use of groundwater and decrease groundwater supplies. Cumulative projects could increase impervious areas and interfere with and reduce groundwater infiltration.

WWD, as groundwater sustainability agency for the groundwater basin, is the agency responsible for assessing and planning for the sustainable use of the groundwater basin. WWD manages its water supply portfolio with consideration of these combined uses and their combined effects on the groundwater table associated with cumulative groundwater demand. Impact 3.11-2 discusses the Project's water demand, concluding that the demand on available water supplies would be less than significant, as based on information provided in the Project's water supply assessment (Appendix L). Similarly, cumulative projects would be required to conduct water supply assessments to verify that groundwater or CVP supplies would likely be available without resulting in an appreciable lowering of the groundwater table. The ongoing water demand presented by the Project would be less than under existing (irrigated agricultural) conditions, and thus would not result in direct or indirect impacts that would be cumulatively considerable. Therefore, the incremental impacts of the Project combined with impacts of other projects in the area would not cause a significant cumulative impact related to water supply. The Project's

contribution to cumulative effects would not be cumulatively considerable, and this impact would be less than significant.

Cumulative projects could alter conditions for groundwater recharge by adding impervious surfaces. Similar to the Project, cumulative projects would also be required to address impacts relative to managing stormwater falling on impervious surfaces. Typical BMPs would include capturing stormwater and routing stormwater flow into bioswales and detention basins or having the project designs route stormwater to surrounding pervious areas to infiltrate into the ground, as it does now. Therefore, the impacts relative to interfering with groundwater recharge would be less than significant.

**Mitigation:** None required.

**Impact 3.11-7: The Project would not cause a cumulatively considerable contribution to a significant impact due to substantial alteration of the existing drainage pattern of the site or area. (*Less-than-Significant Impact*)**

Similar to the proposed Project, cumulative projects would be required to implement a SWPPP or comparable pollution prevention plan in compliance with would be implemented for the Project and for other cumulative projects consistent with the state Construction General Permit and local requirements. The regulatory controls and specific requirements contained in the Construction General Permit and Fresno County requirements would prevent the incremental contributions of sediment and other pollutants that could otherwise compromise surface or groundwater through runoff. Low impact development design measures, including features such as bioswales and detention basins to capture, treat, and infiltrate stormwater, would be included as part of the Project and similarly for cumulative projects to prevent erosive or polluted runoff.

Similar to the proposed Project, cumulative projects would be required to prevent flooding by controlling runoff from their site during construction and operation. The regulatory controls and specific requirements contained in the Construction General Permit and Fresno County requirements include capturing and controlling stormwater to prevent on-site and off-site flooding.

As discussed in Impact 3.11-3, the Project does not have and is not connected to an existing or planned stormwater drainage system. Therefore, the Project could not combine with cumulative projects to cumulatively contribute to impacts to stormwater drainage system. In addition, the proposed Project would not result in additional sources of polluted runoff. Therefore, the Project could not combine with cumulative projects to cumulatively contribute to impacts relative to additional sources of polluted runoff.

Therefore, in summary, the incremental impacts of the Project combined with impacts of other projects in the area would not cause a significant cumulative impact related to erosion, siltation, flooding, stormwater drainage systems, or additional sources of polluted runoff. The Project's contribution to cumulative effects would not be cumulatively considerable, and this impact would be less than significant.

**Mitigation:** None required.

**Impact 3.11-8: The Project would not cause a cumulatively considerable contribution that could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. (*Less than Significant with Mitigation Incorporated*)**

The Basin Plan and GSP are described in Section 3.11.1.3, *Regulatory Setting, State*. The overall objectives of these plans are to maintain the high quality of surface waters and groundwaters. The GSP also has the objective of maintaining groundwater supplies. As previously discussed, the Project would result in the construction of an energy storage system facility that would include grading, the construction and operation of a battery energy storage system. These activities could adversely affect water quality or reduce groundwater supplies.

Similar to the Project as analyzed under Impacts 3.11-1 and 3.11-3, cumulative projects that include construction that would involve soil-disturbing activities would be controlled through implementation of erosion control measures and BMPs as part of the SWPPP in compliance with Construction General Permit. Additionally, if cumulative projects have the potential to encounter contaminate soil and/or groundwater, those cumulative projects would be required to implement a mitigation measure similar to Mitigation Measure 3.10-1, *Soil Management Plan*, ensure that contaminated soils and/or groundwater would be handled, disposed of, and managed in a manner that would not result in mobilization of contaminants into the groundwater table and in compliance with all applicable federal, state, and local regulations. With implementation of these measures and mitigation, the Project and cumulative projects would not affect groundwater quality and thus would not conflict with the water quality objectives of the Basin Plan or GSP and therefore would not interfere with beneficial uses of surface water and groundwater. The Project's incremental contribution to cumulative effects would not be cumulatively considerable, and this impact would be less than significant.

As discussed in Impact 3.11-2, the estimated volume of water used over the Project's life span would be less than the current irrigated land use over the same conditional use permit period. This reduction in water use would be consistent with the Basin Plan and the GSP. Therefore, the Project could not contribute to a cumulative impact.

**Mitigation:** Implement Mitigation Measure 3.10-1: Soil Management Plan (described in Section 3.10, *Hazards and Hazardous Materials*).

**Significance after Mitigation:** Implementation of Mitigation Measure 3.10-1 would ensure that contaminated soil is properly removed and disposed of, and thus would prevent a conflict with or obstruction of the implementation of the Basin Plan or sustainable groundwater management plan.

### 3.11.5 References

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## 3.12 Land Use and Planning

This section identifies and evaluates issues related to established communities and any conflicts with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. It includes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment. The County received no scoping input pertaining to land use and planning (**Appendix A**, *Scoping Report*).

The analysis in this section is based in part on the Project-specific land use consistency analyses provided in **Appendix I**, *Land Use and Planning*. The analysis relies on those technical details and the additional materials cited below.

### 3.12.1 Setting

#### 3.12.1.1 Study Area

The study area for the analysis of potential impacts related to land use and planning consists of the 260-acre Project site within the approximately 318-acre area comprising Assessor's Parcel Numbers 085-040-58, 085-040-36, and 085-040-37, as well as the sites of the proposed Project interconnection infrastructure work described in Section 2.5.10 of Chapter 2, *Project Description*.

#### 3.12.1.2 Environmental Setting

Historical agricultural uses on the Project site have included dry farming on two of the parcels (APNs 085-040-36 and 085-040-37) and irrigated farming on the third parcel via an on-site well (APN 085-040-58). More recently, on-site land uses have included irrigated orchard crops (citrus and almonds) (APN 085-040-58), non-irrigated winter wheat (APN 085-040-37), and fallowed land (APN 085-040-36). Dirt roads form the eastern, western, and southern site boundaries, with the paved West Jayne Avenue forming the northern boundary. Two dirt roads cross east-west through the Project site. Existing utility infrastructure is located throughout the Project site. An existing groundwater well is located in the northwest portion of the Project site. One PG&E electrical line runs north to south along the northwest side of the Project site, and two PG&E-owned high-voltage transmission lines run north to south along the entire east side of the Project site. Underground oil, gas, and water pipelines are found in the center of the southern half of the Project site (Key Energy Storage, LLC 2021a). Existing onsite uses are consistent with the Project site's Fresno County General Plan land use designation of Agriculture and zoning designation of AE-40 (Exclusive Agriculture, 40-acre minimum parcel).

The battery energy storage portion of the Project site is identified as Prime Farmland on maps created by the California Department of Conservation's Farmland Mapping and Monitoring Program. Soils are conducive to agricultural uses and consist of Westhaven loam (irrigated and non-irrigated), Kimberlina sandy loam (irrigated and non-irrigated), and Wasco sandy loam (non-irrigated) (**Appendix C**, *Agricultural Resources: Land Evaluation and Site Assessment [LESA]*). The site is also subject to a Williamson Act contract, pursuant to the California Land

Conservation Act of 1965. See Section 3.3, *Agriculture and Forestry Resources*, for additional details. Land uses surrounding the Project site include solar facilities to the north and southwest, a small substation at the Project site's northwest corner (not included within the Project site), and agriculture to the east, south, and west. The nearest community to the Project site is the city of Huron, located approximately 4 miles to the northeast.

The Gates Substation interconnects a major transmission channel from Diablo Canyon to Path 15, which is California's primary corridor for moving electricity from power plants in Southern California to consumers in the San Francisco Bay area. The site's environmental setting related to land use and planning is consistent with its use consistent with North American Industry Classification System (NAICS) Code 221122, *Electric Power Distribution*, and Standard Industrial Classification (SIC) Code 4911, *Electric Services* (USA.com 2014). NAICS is the standard used by Federal statistical agencies in classifying businesses; Code 221122 businesses are comprised of electric power establishments primarily engaged in either operating electric power distribution systems (i.e., consisting of lines, poles, meters, and wiring) or operating as electric power brokers or agents that arrange the sale of electricity via power distribution systems operated by others. SIC codes are established by the U.S. Securities and Exchange Commission Division of Corporation Finance; Code 4911 signifies the electrical services industry. Land uses surrounding the Gates Substation are the same or similar to those surrounding the energy storage facility site described above.

Existing use of the Midway Substation is consistent with the operation and maintenance of transmission lines and supporting towers, poles, underground facilities, and other infrastructure needed for electricity service. Surrounding land uses include Buttonwillow Park and agricultural uses to the west, and agricultural uses to the north, east, and south.

### **3.12.1.3 Regulatory Setting**

#### ***Federal***

No federal statutes, regulations, plans, or policies govern land use or planning on the Project site.

#### ***State***

##### **California Public Utilities Commission General Order No. 131-D**

The California Public Utilities Commission (CPUC) would have sole and exclusive jurisdiction over PG&E's construction, operation, and maintenance of the PG&E infrastructure and improvements needed to connect the Project to the grid because the CPUC regulates activities undertaken by PG&E and the other investor-owned public utilities within the state. PG&E's work (as regulated by the CPUC) would not be subject to the County's or Kern County's land use approval requirements. However, CPUC General Order No. 131-D, Section XIV.B, would require PG&E to "consult with local agencies regarding land use matters" (CPUC 1995).

## **Local**

### **Fresno County General Plan**

The Fresno County General Plan is the County’s long-range planning document. It consists of seven elements: Economic Development; Agriculture and Land Use; Transportation and Circulation; Public Facilities and Services; Open Space and Conservation; Health and Safety; and Housing. The Agriculture and Land Use Element describes the County’s Land Use Diagram and related development standards for land in unincorporated Fresno County, and sets out goals, policies, and implementation programs for Resource Lands (including agriculture), Rural Development (non-agriculture), Urban Development, and Administration (Fresno County 2000).

The public review drafts of the General Plan Background Report, Policy Document, and Zoning Ordinance Update were released on January 26, 2018. On April 14, 2020, the County Board of Supervisors approved a Revised Scope of Work for the General Plan Review and the Zoning Ordinance Update. Public review drafts of the revised General Plan Policy Document, Background Report, and Zoning Ordinance Update were released in July 2021 (Fresno County 2022). The updated General Plan has not been approved, and no resulting revisions to the 2000 General Plan and the Zoning Ordinance have been made. Therefore, the provisions of the 2000 General Plan and the Zoning Ordinance that governed development within the county as of the date of the notice of preparation continue to govern use of the Project site and are considered in this analysis.

The Project site, including the existing Gates Substation, is designated in the General Plan for “Agriculture.” This designation provides for the production of crops and livestock, and for the location of necessary agriculture commercial centers, agricultural processing facilities, and certain non-agricultural activities (General Plan Table LU-3). The Project site is not located within the jurisdiction of a community plan, specific plan, or regional plan as identified by the Fresno County General Plan. The following General Plan goal and policies are relevant to the Project:

**Goal LU-A:** To promote the long-term conservation of productive and potentially productive agricultural lands and to accommodate agricultural-support services and agriculturally related activities that support the viability of agriculture and further the County’s economic development goals.

**Policy LU-A.1:** The County shall maintain agriculturally designated areas for agriculture use and shall direct urban growth away from valuable agricultural lands to cities, unincorporated communities, and other areas planned for such development where public facilities and infrastructure are available.

**Policy LU-A.3:** The County may allow by discretionary permit in areas designated Agriculture, special agricultural uses and agriculturally related activities, including value added processing facilities, and certain non-agricultural uses listed in Table LU-3. Approval of these and similar uses in areas designated Agriculture shall be subject to the following applicable criteria:

- The use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics;

- The use should not be sited on productive agricultural lands if less productive land is available in the vicinity;
- The operational or physical characteristics of the use shall not have a detrimental impact on water resources or the use or management of surrounding properties within at least one-quarter (1/4) mile radius;
- A probable workforce should be located nearby or be readily available.

**Policy LU-A.13:** The County shall protect agricultural operations from conflicts with non-agricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.

**Policy LU-A.14:** The County shall ensure that the review of discretionary permits includes an assessment of the conversion of productive agricultural land and that mitigation be required where appropriate.

The following General Plan programs are relevant to the Project:

**Program LU-A.C:** The County shall develop and implement guidelines for design and maintenance of buffers to be required when new non-agricultural uses are approved in agricultural areas. Buffer design and maintenance guidelines shall include, but not be limited to, the following:

- a. Buffers shall be physically and biologically designed to avoid conflicts between agriculture and non-agricultural uses.
- b. Buffers shall be located on the parcel for which a permit is sought and shall protect the maximum amount of farmable land.
- c. Buffers generally shall consist of a physical separation between agricultural and non-agricultural uses. The appropriate width shall be determined on a site-by-site basis taking into account the type of existing agricultural uses, the nature of the proposed development, the natural features of the site, and any other factors that affect the specific situation.
- d. Appropriate types of land uses for buffers include compatible agriculture, open space and recreational uses such as parks and golf courses, industrial uses, and cemeteries.
- e. The County may condition its approval of a project on the ongoing maintenance of buffers.
- f. A homeowners' association or other appropriate entity shall be required to maintain buffers to control litter, fire hazards, pests, and other maintenance problems.
- g. Buffer restrictions may be removed if agricultural uses on all adjacent parcels have permanently ceased. (See Policy LU-A.16)

**Program LU-A.E:** The County shall continue to implement the County's Right-to-Farm Ordinance, and will provide information to the local real estate industry to help make the public aware of the right-to-farm provisions in their area. (See Policy LU-A.15)

### **Fresno County Zoning Code**

The energy storage facility site is zoned AE-40 (Exclusive Agriculture, 40-acre minimum parcel size) pursuant to Section 816 of the Fresno County Code. The existing Gates Substation site is zoned AE-40 (Exclusive Agriculture, 20-acre minimum parcel size). The “AE” District is intended to be an exclusive agricultural district and for uses integral to an agricultural operation. This district is intended to protect the general welfare of the agricultural community from encroachments of non-agricultural uses, which by their nature would be injurious to the physical and economic well-being of the agricultural district. Permitted uses within the AE district include livestock and poultry (breeding, raising, and maintenance), raising crops, farm dwellings, packaging facilities, and other agriculture-related uses. Uses subject to Fresno County Director review and approval include communications equipment buildings, microwave relay structures, electrical (transmission and distribution) substations, and “commercial land leveling and development establishments when they are not operated in conjunction with, or as part of, a bona fide agricultural operation,” among others.

### **Fresno County Solar Facility Guidelines**

Toward balancing the need to accommodate new renewable energy technology with the need to protect important farmlands and minimize impacts to existing agricultural operations, the County’s land use process for evaluating solar facilities relies on flexible general guidelines and policies rather than specific standards. The Solar Facility Guidelines, adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017, identify consideration to be evaluated as part of the County’s process for evaluating solar facilities within the county (Fresno County 2017). Although the Project does not propose to develop a solar facility, the County’s identified need to maintain flexibility to accommodate new renewable energy technologies, such as battery energy storage, which facilitates the use of solar-generated energy by addressing some of the limitations of the electric grid, applies equally to battery energy storage as to solar energy development. Multiple provisions of the Solar Facility Guidelines are relevant to this analysis of potential impacts related to land use and planning, including the following:

1. Information shall be submitted regarding the historical agricultural operational/usage of the parcel, including specific crop type and crop yield, for the last 10 years (if no agricultural operation in the last 10 years, specify when land was last in agricultural use). ...
3. Identify the current status of the parcel (Williamson Act Contract, Conservation Easement, retired land, etc.), the purpose of any easement, and limitations of the parcel. The applicant shall submit a Title Report or Lot Book Guarantee for verification. ...
5. List all proposed measures and improvements intended to create a buffer between the proposed solar facility and adjacent agricultural operations (detailed information must be shown on Site Plan) and provide factual/technical data supporting the effectiveness of said proposed buffering measure. ...
7. Provide information documenting efforts to locate the proposed solar facility on non-agricultural lands and non-contracted parcels and detailed information explaining why the subject site was selected. ...
9. The applicant must acknowledge the County’s Right to Farm Ordinance and shall be required to record a Right to Farm Notice prior to issuance of any permits. This shall be included as a recommended Condition of Approval of the land use entitlement.

10. Note: The life of the approved land use permit will expire upon expiration of the initial life of the solar lease. If the solar lease is to be extended, approval of new land use permit will need to be obtained.
11. If the project is approved, the applicant shall make all reasonable efforts to establish a point of sale in Fresno County for equipment and construction related items necessary for the project.
12. If the project is approved, the applicant shall make all reasonable efforts to conduct local recruitment efforts and/or coordinate with employment agencies in an attempt to hire from the local workforce.
13. In addition to disclosing the number of trips in the required project Operational Statement, the applicant shall disclose the weight of the shipments anticipated to the site. If the project is approved, pursuant to the CEQA analysis and based upon the existing road conditions and the weight/frequency of shipments to the site, the applicant shall mitigate impacts to County roads.
14. If the project is approved, the applicant shall make all reasonable efforts to purchase products and equipment from local (Fresno County) manufacturing facilities and/or vendors.

### **Kern County**

PG&E's existing Midway Substation is located at 2205 Wasco Way in Buttonwillow, an unincorporated community in Kern County, California. In the General Plan, the site is designated "4.1," which is a special treatment area specific to the Midway Substation (Kern County 2023). The site is zoned Limited Agriculture (A-1). According to Kern County Zoning Ordinance Section 19.14.020(D), transmission lines and supporting towers, poles, and underground facilities for electricity service owned and operated by a public utility company under the jurisdiction of the California Public Utilities Commission are allowed without a permit in the A-1 zone.

## **3.12.2 Significance Criteria**

The Project would result in a significant impact related to land use and planning if it would:

- a) Physically divide an established community; or
- b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

## **3.12.3 Direct and Indirect Effects**

### **3.12.3.1 Applicant-Proposed Measures and Design Features**

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. None of them focus on potential impacts related to land use or planning.

### 3.12.3.2 Methodology

The location of the Project site relative to established communities and the nature of the proposed use were evaluated, including for consistency with County land use and planning documents and requirements, to determine whether the Project would result in a significant change to existing land use and planning conditions.

### 3.12.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would physically divide an established community.

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As described in Section 3.12.1.2, *Environmental Setting*, the Project site is in an unincorporated area of western Fresno County approximately 4 miles southwest of the city of Huron. Typically, the division of an established community would result from the construction of a physical barrier to neighborhood access or the removal of a means of access. This Project would not physically divide an established community because the construction, operation, and decommissioning phases of the Project do not propose any features that would create a physical barrier that would hinder existing community access. Although the Project's construction, operation, and decommissioning phases would include the erection and presence of perimeter fencing surrounding the energy storage facility portion of the Project site, such features would not create a physical barrier that would physically divide an established community or hinder existing community access. Additionally, the Project would not involve the removal of any existing publicly used means of access. Project elements would not cross through any existing community. Similarly, neither the Gates Substation modifications nor the Midway Substation modifications described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*, would physically divide an established community because all work would occur within the existing boundaries of those facilities. Therefore, the Project would have no impact related to criterion a). (*No impact*)

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**Criterion b)** Whether the Project would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

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The Project site is zoned AE-40 (Exclusive Agriculture, 40-acre minimum parcel size), pursuant to Section 816 of the Fresno County Code. Although the zoning designation does not allow for energy storage facilities by right, the proposed use may be permitted in this zone district pending the discretionary approval of an unclassified conditional use permit (CUP) under Fresno County Zoning Code Section 853(B). Compliance with conditions of approval for the CUP would ensure that the Project would not conflict with applicable General Plan, zoning, or other County land use plans, policies, or regulations that have been adopted for the purpose of avoiding or mitigating environmental effects. For example, the Project would be consistent with Policy LU-A.13 regarding the County's protection of agricultural operations from conflicts with non-agricultural uses: The Project would maintain a buffer between the Project and adjacent agricultural operations and would

implement a reclamation plan to return the site to a state of readiness for agricultural use after Project decommissioning. The Project would be consistent with Policy LU-A.14 regarding County review of discretionary permits as including an assessment of the conversion of productive agricultural land, because potential conversion-related impacts have been addressed in Section 3.3, *Agriculture and Forestry Resources*. See Appendix I, *Land Use and Planning*, for additional details about this Project's consistency with the Fresno County General Plan.

Although the Project does not propose to develop a solar facility, the County has identified a need to maintain flexibility to accommodate new renewable energy technology, such as battery energy storage, which facilitates the use of solar-generated energy by addressing some of the limitations of the electric grid. Consequently, the Project would be subject to compliance with the Fresno County Solar Facility Guidelines. As described in Section 3.12.1.3, *Regulatory Setting*, these guidelines have been established to protect important farmlands and minimize the impacts of solar projects on adjacent agricultural operations. To meet these requirements, the Project would, for example, maintain a 50-foot buffer between the Project and adjacent agricultural operations and would implement a reclamation plan to return the site to prior agricultural use after Project decommissioning. Further details of the Project's consistency with the Fresno County Solar Facility Guidelines are provided in Appendix I, *Land Use and Planning*.

Neither the Gates Substation work nor the Midway Substation work would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect because all work would occur within the sites' existing boundaries and would be consistent with existing and allowed uses in those locations.

Therefore, the Project would have no impact related to criterion a). Because the Project would be consistent with applicable provisions of the General Plan, the Zoning Code, and the County Solar Facility Guidelines, it would not cause a conflict with the provisions of any applicable County land use plan, policy, or regulation that would result in a significant environmental impact. (*No Impact*)

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., no impact related to either the physical division of a community or a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental impacts.



**Mitigation:** None required.

### 3.12.4 Cumulative Effects Analysis

Because the Project would cause no impact related to land use and planning, it could not cause or contribute to any cumulative impacts on land use resources.

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### 3.12.5 References

CPUC (California Public Utilities Commission), 1995. General Order 131-D, *Rules Relating to the Planning and Construction of Electric Generation Transmission/Power/Distribution Line Facilities and Substations Located in California*. Adopted June 8, 1994; modified August 11, 1995.

Fresno County, 2000. *Fresno County General Plan Policy Document*. Agriculture and Land Use Element. Adopted by Board of Supervisors December 19, 2000, Resolution No. 00-646. Available: <https://www.co.fresno.ca.us/home/showdocument?id=18117>. Accessed December 12, 2022.

Fresno County, 2017. County of Fresno Solar Facility Guidelines. Revised by Fresno County Board of Supervisors December 12, 2017. Available: <https://www.co.fresno.ca.us/departments/public-works-planning/divisions-of-public-works-and-planning/development-services-division/planning-and-land-use/photovoltaic-facilities-p-1621>. Accessed December 13, 2022.

Fresno County, 2022. General Plan Review & Zoning Ordinance Update. Available: <https://www.co.fresno.ca.us/departments/public-works-and-planning/divisions-of-public-works-and-planning/development-services-and-capital-projects/planning-and-land-use/general-plan-review-zoning-ordinance-update>. Accessed December 12, 2022.

Kern County, 2023. Screenshot of General Plan Land use Designation from Kern County Interactive GIS Mapping. Accessed August 15, 2023.

USA.com, 2014. PG&E Gates Substation. March 25, 2014. Available: <http://www.usa.com/frs/pg-e-gates-substation-110058262785.html>. Accessed August 15, 2023.

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## 3.13 Mineral Resources

This section identifies and evaluates issues related to mineral resources. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment. The County received no scoping input pertaining to mineral resources (**Appendix A, Scoping Report**).

### 3.13.1 Setting

#### 3.13.1.1 Study Area

The study area for this analysis of potential impacts on mineral resources encompasses and is limited to the Project site and its immediately adjacent area, including the Gates Substation. The PG&E Midway Substation site also is included in the study area for mineral resources. The study area is limited to the area within the facility site boundaries because impacts relative to mineral resources are generally site-specific.

#### 3.13.1.2 Environmental Setting

Fresno County historically produces abundant amounts of a wide variety of mineral resources (Fresno County 2000). Mineral resources from Fresno County include aggregate products (sand and gravel), fossil fuels (oil and coal), metals (chromite, copper, gold, mercury, and tungsten), and other minerals used in construction or industrial applications (asbestos, high-grade clay, diatomite, granite, gypsum, and limestone). Aggregate and petroleum are the county's most significant extractive resources.

#### ***Mineral Resources***

Multiple sources of information were consulted to determine the presence of mineral resources in the study area. These include the Mineral Resources Data System (MRDS) administered by the U.S. Geological Survey (USGS), which provides data describing mineral resources, including deposit name, location, commodity, deposit description, production status, and references, and which can be used to confirm the presence or absence of existing surface mines, closed mines, occurrences/prospects, and unknown/undefined mineral resources (USGS 2021). According to the available MRDS data, there are no significant mineral resources at or adjacent to the Project site or in the area.

The California Geological Survey (CGS) maps and regulates the locations of potential mineral resources in California consistent with the Surface Mining and Reclamation Act of 1975 (SMARA). To protect these potential mineral resources, the CGS has classified the regional significance of mineral resources into mineral resource zones (MRZs) and mapped them (see Section 3.13.1.3, *Regulatory Setting*, for more details about SMARA and MRZs). The Project site is within an area that has not been mapped under SMARA, and thus is in an area that has not been designated an MRZ (CGS 2021). A query of the Kern County Interactive GIS Mapping tool revealed that there are no MRZs near the Midway Substation (Kern County 2023).

## Oil, Gas, and Geothermal Resources

The California Geologic Energy Management Division (CalGEM)<sup>1</sup> provides oversight of the oil, natural gas, and geothermal industries, and regulates the drilling, operation, and permanent closure of energy resource wells. CalGEM’s online mapping application, WellFinder, was reviewed to determine the presence of any oil, gas, or geothermal resources in and around the Project site. Well Finder data indicate that there are no significant resources at or adjacent to the Project site (CalGEM 2021).

### 3.13.1.3 Regulatory Setting

#### Federal

No federal regulations governing mineral resources apply to the Project.

#### State

SMARA (Public Resources Code Sections 2710–2796) and its implementing regulations (California Code of Regulations [Cal. Code Regs.] Title 14, 3500 et seq.) establish a comprehensive state policy for the conduct of surface mining operations and for reclaiming mined lands to a usable condition that is readily adaptable for alternative land uses. SMARA encourages the production, conservation, and protection of the state’s mineral resources and recognizes that “the state’s mineral resources are vital, finite, and important natural resources and the responsible protection and development of these mineral resources is vital to a sustainable California” (Public Resources Code Section 2711). Under SMARA, the term *minerals* includes “any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances, including, but not limited to, coal, peat, and bituminous rock, but excluding geothermal resources, natural gas, and petroleum” (14 Cal. Code Regs. 3501).

The CGS maps and regulates the locations of potential mineral resources in California consistent with SMARA. To protect these potential mineral resources, the CGS has classified the regional significance of mineral resources into MRZs and mapped them. **Table 3.13-1** presents descriptions of the MRZ categories. As noted above, the Project site is within an area that has not been given a MRZ designation.

**TABLE 3.13-1**  
**DESCRIPTIONS OF CALIFORNIA MINERAL LAND CLASSIFICATION SYSTEM CATEGORIES**

| Mineral Resource Zone Category | Category Description                      |   |
|--------------------------------|---|---|
| MRZ-1                          | Areas of No Mineral Resource Significance |   |
| MRZ-2                          | Demonstrated Reserves                     | Areas of Identified Mineral Resource Significance   |
| MRZ-3                          | Known Mineral Occurrence                  | Areas of Undetermined Mineral Resource Significance |
| MRZ-4                          | No Known Mineral Occurrence               | Areas of Unknown Mineral Resource Significance      |

SOURCE: SMGB n.d.

<sup>1</sup> Formerly known as the California Division of Oil, Gas, and Geothermal Resources.

## **Local**

### **2000 Fresno County General Plan**

The following goal and policies of the 2000 Fresno County General Plan are relevant to the mineral resources:

**Goal OS-C:** To conserve areas identified as containing significant mineral deposits and oil and gas resources for potential future use, while promoting the reasonable, safe, and orderly operation of mining and extraction activities within areas designated for such use, where environmental, aesthetic, and adjacent land use compatibility impacts can be adequately mitigated.

**Policy OS-C.1:** The County shall not permit incompatible land uses within the impact area of existing or potential surface mining areas.

**Policy OS-C.2:** The County shall not permit land uses incompatible with mineral resource recovery within areas designated as Mineral Resource Zone 2 (MRZ-2). (See Figures 7-9, 7-10, and 7-11 in Fresno County General Plan Background Report.).

**Policy OS-C.10:** The County shall not permit land uses that threaten the future availability of mineral resource or preclude future extraction of those resources.

## **3.13.2 Significance Criteria**

The Project would result in a significant impact on mineral resources if it would:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

## **3.13.3 Direct and Indirect Effects**

### **3.13.3.1 Applicant-Proposed Measures and Design Features**

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. None of the actions specifically targets potential impacts on mineral resources.

### **3.13.3.2 Methodology**

Mineral resources effects of the Project and alternatives are evaluated by identifying whether known mineral resources of statewide, regional, or local importance occur within the Project site. If any such resources are present, an assessment of the extent to which the Project would result in the loss of availability of these resources is provided.

### 3.13.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

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According to the review of available data from USGS, CGS, CalGEM, Fresno County, and Kern County, no significant mineral resources are present at or near the Project site, or at or near either of the PG&E substation sites. Therefore, the Project would not result in the loss of availability of a known mineral resource that would be of value to the region or residents of the state, and no impact would occur. (*No Impact*)

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**Criterion b)** Whether the Project would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

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As stated above, no significant mineral resources are present in or around the Project site. Further, neither the Project site nor either of the PG&E substation sites is identified as a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use. Therefore, Project activities would not result in the loss of availability of any known mineral resources or locally important mineral resources, and no impact would occur. (*No Impact*)

#### **PG&E Infrastructure**

As described in Chapter 2, Section 2.5.10, *PG&E Interconnection Infrastructure*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The proposed activities at the PG&E Midway Substation would consist only of minor modifications (replacement and upgrades) to equipment and, in any event, no mineral resources are present there. Project impacts specific to the PG&E work, like those specific to the proposed energy storage facility, would cause no impact related to the loss of availability of either a known mineral resource that would be of value to the region and the residents of the state or a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

**Mitigation:** None required.

### 3.13.4 Cumulative Effects Analysis

Because the Project would cause no impact on the availability of known mineral resources or mineral resource recovery sites, the Project could not cause or contribute to any significant impact on such resources. As such, cumulatively, the Project would have **no impact** on mineral resources.

### 3.13.5 References

- CalGEM (California Geologic Energy Management Division), 2021. DOC CalGEM WellFinder, Interactive Map. Available:  
<https://maps.conservation.ca.gov/doggr/wellfinder/#openModal/-120.16379/36.17724/12>. Accessed September 22, 2021.
- CGS (California Geological Survey), 2021. CGS Information Warehouse: Mineral Land Classification, Interactive Map. Available:  
<https://maps.conservation.ca.gov/cgs/informationwarehouse/>. Accessed September 22, 2021.
- Fresno County, 2000. *Fresno County General Plan Policy Document*. Adopted by Fresno County Board of Supervisors, October 3, 2000, Resolution No. 00-534.
- Kern County, 2023. Screenshot of General Plan Mineral Resource Zones (in brown) relative to the Midway Substation (in yellow) from Kern County Interactive GIS Mapping. Accessed August 15, 2023.
- SMGB (California State Mining and Geology Board), n.d. *Guidelines for Classification and Designation of Mineral Lands*. California Surface Mining and Reclamation Policies and Procedures Special Publication 51. Sacramento, CA.
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## 3.14 Noise and Acoustics

This section identifies and evaluates issues related to noise and acoustics. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment. The County received no scoping input pertaining to noise and acoustics (**Appendix A, Scoping Report**).

The analysis in this section is based in part on site-specific, Project-specific technical work prepared on the Applicant's behalf (**Appendix J, Noise and Acoustics**). The preparers of this Draft EIR identified in Chapter 5, *Report Preparation*, independently reviewed this and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.14.1 Setting

#### 3.14.1.1 Study Area

The study area for evaluation of noise and vibration impacts from construction encompasses the Project site and the nearest potentially affected sensitive receptors to the proposed facilities. Applying a perimeter extension of 1 mile in all directions around the Project site conservatively captures areas of potential impact, taking into account attenuation with distance.

#### 3.14.1.2 Environmental Setting

##### ***Noise and Acoustics Background***

*Sound* is mechanical energy transmitted by pressure waves through a medium such as air. *Acoustics* is the field of science that deals with the production, propagation, reception, effects, and control of sound. *Noise* can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation (or the speed by which the wavefront of the sound wave passes through a medium), and the pressure level or energy content (*amplitude*). In particular, the *sound pressure level* has become the most common descriptor used to characterize the loudness of an ambient sound level. Sound pressure level is measured in decibels (dB), with 0 dB corresponding roughly to the threshold of human hearing and 120–140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20–20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. Consequently, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as *A-weighting* and is expressed in units of A-weighted decibels (dBA). See **Figure 3.14-1** for examples.

### Noise Exposure and Community Noise

An individual's noise exposure is a measure of the noise experienced by the individual over a specified period of time. A noise level is a measure of noise for a given period of time. However, noise levels rarely persist consistently over a long period of time. In fact, community noise varies continuously with time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. Background noise levels change throughout a typical day, but do so gradually, corresponding with the addition and subtraction of distant noise sources and atmospheric conditions. The addition of short-duration single-event noise sources (e.g., aircraft flyovers, horns, sirens) makes community noise constantly variable throughout a day.

These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. Noise descriptors discussed in this analysis are summarized below:

- $L_{eq}$ : The *equivalent sound level* is used to describe noise over a specified period of time, in terms of a single numerical value. The  $L_{eq}$  is the constant sound level that would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).
- DNL: The *day-night noise level* (DNL; also referred to as  $L_{dn}$ ) is the energy average of the A-weighted sound levels occurring during a 24-hour period, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance of nighttime noises.
- CNEL: Similar to the DNL, the *community noise equivalent level* (CNEL) adds a 5-dBA penalty for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to the 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.
- $L_x$ : This is the sound level that is equaled or exceeded x percent of a specified time period. The  $L_{50}$  represents the median sound level (i.e., the noise level exceeded 50 percent of the time, or 30 minutes out of an hour).
- $L_{max}$ : This is the instantaneous maximum noise level measured during the measurement period of interest.

**NOISE LEVEL**  
**COMMON OUTDOOR ACTIVITIES (dBA)    COMMON INDOOR ACTIVITIES**

|                                   |     |   |
|-----------------------------------|-----|---|
|                                   | 110 | Rock band                                   |
| Jet flyover at 1,000 feet         |     |   |
|                                   | 100 |   |
| Gas lawnmower at 3 feet           |     |   |
|                                   | 90  |   |
| Diesel truck at 50 feet at 50 mph |     | Food blender at 3 feet                      |
|                                   | 80  | Garbage disposal at 3 feet                  |
| Noisy urban area, daytime         |     |   |
| Gas lawnmower at 100 feet         | 70  | Vacuum Cleaner at 10 feet                   |
| Commercial area                   |     | Normal speech at 3 feet                     |
| Heavy traffic at 300 feet         | 60  |   |
|                                   |     | Large business office                       |
| Quiet urban daytime               | 50  | Dishwasher in next room                     |
|                                   |     |   |
| Quiet urban nighttime             | 40  | Theater, large conference room (background) |
| Quiet suburban nighttime          |     |   |
|                                   | 30  | Library                                     |
| Quiet rural nighttime             |     | Bedroom at night, concert hall (background) |
|                                   | 20  |   |
|                                   |     | Broadcast/recording studio                  |
|                                   | 10  |   |
|                                   | 0   |   |

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SOURCE: Caltrans, 2013

Key Energy Storage Project

**Figure 3.14-1**  
**Typical A-Weighted Sound Levels**



### Effects of Noise on People

There is no universally accepted way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way the new noise compares to the existing noise levels to which one has adapted: the so-called *ambient noise* level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise would be judged by those hearing it. Regarding increases in A-weighted noise level, the following relationships occur (Caltrans 2013):

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived.
- Outside of the laboratory, a 3-dBA change is considered a barely perceivable difference when the change in noise is perceived but does not cause a human response (such as annoyance or nuisance).
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected.
- A 10-dBA change is subjectively heard as approximately a doubling in loudness and can cause an adverse response (such as hearing damage or psychological effects).

These relationships occur in part because of the logarithmic nature of sound and the decibel system. For example, a ruler is a linear scale: it has marks on it corresponding to equal quantities of distance. One way of expressing this is to say that the ratio of successive intervals is equal to 1. A logarithmic scale is different in that the ratio of successive intervals is not equal to 1. Each interval on a logarithmic scale is some common factor larger than the previous interval. A typical ratio is 10, so that the marks on the scale read: 1, 10, 100, 1,000, 10,000, etc., doubling the variable plotted on the x-axis. The human ear perceives sound in a nonlinear fashion; hence, the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather they combine logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

### Noise Attenuation

Sound level naturally decreases with more distance from the source. This basic attenuation rate is referred to as the *geometric spreading loss*. The basic rate of geometric spreading loss depends on whether a given noise source can be characterized as a point source or a line source. Point sources of noise, including stationary mobile sources such as idling vehicles or on-site construction equipment, attenuate (lessen) at a rate of 6.0 dBA per doubling of distance from the source. In many cases, noise attenuation from a point source increases by 1.5 dBA from 6.0 dBA for a total attenuation rate of 7.5 dBA for each doubling of distance due to ground absorption and reflective wave canceling. These factors are collectively referred to as *excess ground attenuation*. The basic geometric spreading loss rate is used where the ground surface between a noise source and a receiver is reflective, such as parking lots or a smooth body of water. The excess ground

attenuation rate (7.5 dBA per doubling of distance) is used where the ground surface is absorptive, such as soft dirt, grass, or scattered bushes and trees.

Widely distributed noises such as a street with moving vehicles (a *line* source) typically would attenuate at a lower rate of approximately 3.0 dBA for each doubling of distance between the source and the receiver. If the ground surface between source and receiver is absorptive rather than reflective, the nominal rate increases by 1.5 to 4.5 dBA for each doubling of distance. Atmospheric effects, such as wind and temperature gradients, can also influence noise attenuation rates from both line and point sources of noise. However, unlike ground attenuation, atmospheric effects are constantly changing and difficult to predict. In general, the greater the distance the receiver is from the source, the greater the potential for variation in sound levels due to atmospheric effects.

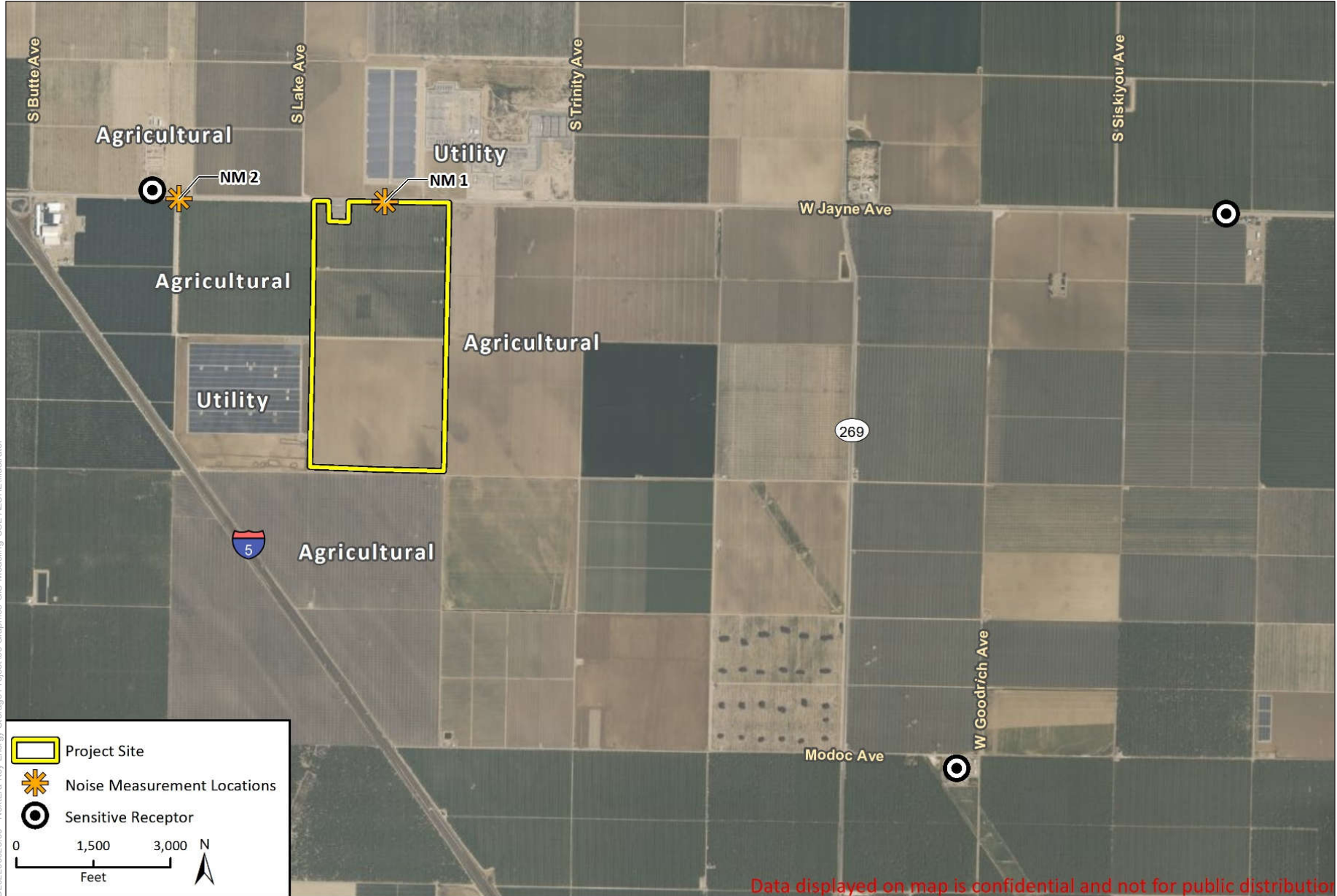
### **Vibration**

*Vibration* is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Several different methods are used to quantify vibration. The *peak particle velocity* (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. Although PPV is appropriate for evaluating building damage, it is less suitable for evaluating human response. Human response is better related to the average vibration amplitude. The *root mean square* (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to express RMS. The decibel notation acts to compress the range of numbers required to describe vibration, as numbers can differ over several orders of magnitude. Typically, groundborne vibration generated by human activities attenuates rapidly with distance from the source of the vibration (FTA 2018).

### **Sensitive Receptors**

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause physiological and psychological stress and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate also are sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive.

As shown in **Figure 3.14-2**, the closest residence is located on West Jayne Avenue, approximately 3,300 feet west of the Project site. Other sensitive receptors are located 1.5 miles west of the Project site on South Glenn Avenue (Almond Tree Oasis RV Park), 2.8 miles east of the Project site along West Jayne Avenue, and 0.95 mile from the transmission lines. The nearest residences to the Midway Substation are located approximately 0.25 mile away.



SOURCE: Rincon, 2022

Key Energy Storage Project

**Figure 3.14-2**  
Noise Measurement Locations



### Noise Sources and Ambient Noise Levels

The Project site is located in an area of relatively flat agricultural land with scattered rural residences. The main contributor to the existing noise environment in the vicinity of the Project site is traffic along Interstate 5. Additional noise sources include local roadways, natural noise such as wind and birds, and human activity–related noise sources including rural agricultural noise from irrigation pumps and farming equipment, existing solar facilities, and existing substations. There are no public airports within 2 miles of the Project site.

To provide the basis of the general noise environment on and around the Project site, short-term noise measurements were conducted on Thursday, March 31, 2022, to document existing ambient noise levels during typical daytime and nighttime hours (Appendix J). The noise monitoring locations are illustrated in Figure 3.14-2. As shown in **Table 3.14-1**, the results of the 15-minute noise measurements indicate that current daytime ambient noise levels on and immediately adjacent to the Project site range from approximately 73 dBA  $L_{eq}$  to 75 dBA  $L_{eq}$ .

**TABLE 3.14-1  
EXISTING NOISE LEVELS**

| Measurement Location <sup>a</sup> | Measurement Location  | Sample Times     | Approximate Distance to Primary Noise Source | $L_{eq}$ (dBA) | $L_{min}$ (dBA) | $L_{max}$ (dBA) |
|-----------------------------------|---|------------------|--|----------------|-----------------|-----------------|
| NM1                               | North of Project site, along West Jayne Avenue, between the Project site and the PG&E Gates Substation  | 11:11–11:26 a.m. | 0.5 mile from substation                     | 73             | 41              | 89              |
| NM2                               | Northwest of the Project site, at the intersection of West Jayne Avenue and an agricultural access road | 12:10–12:25 p.m. | 10–15 feet from agricultural areas           | 75             | 56              | 88              |

NOTES:

NOTES: dBA = A-weighted decibels;  $L_{eq}$  = equivalent sound level;  $L_{min}$  = instantaneous minimum noise level;  $L_{max}$  = instantaneous maximum noise level; PG&E = Pacific Gas and Electric Company

a Monitoring locations correspond to those illustrated in Figure 3.14-2.

SOURCE: Data compiled by Environmental Science Associates in 2023 (see Appendix J)

Additional minor modifications to substation equipment at PG&E’s Midway Substation in Buttonwillow, Kern County, would be needed to support the Project. The main contributor to the existing noise environment in the vicinity of the substation site is traffic along State Route 58 and the San Joaquin Valley Railroad. Additional noise sources include local roadways, natural noise such as wind and birds, and human activity–related noise sources including rural agricultural noise from irrigation pumps and farming equipment, and existing substations. There are no public airports within 2 miles of the substation site.

#### 3.14.1.3 Regulatory Setting

Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. Local regulation of noise

involves implementation of general plan policies and noise ordinance standards. Local general plans tend to identify general principles intended to guide and influence development plans; local noise ordinances and codes establish standards and procedures for addressing specific noise sources and activities.

**Federal**

**Federal Transit Administration and Federal Railroad Administration Standards**

Although the Federal Transit Administration (FTA) standards are intended for federally funded mass transit projects, the impact assessment procedures and criteria included in the FTA (2018) *Transit Noise and Vibration Impact Assessment Manual* are routinely used for projects under review by local jurisdictions that have not adopted their own vibration impact standards. The FTA and Federal Railroad Administration have published guidelines for assessing the impacts of groundborne vibration associated with rail projects, which have been applied by other jurisdictions to other types of projects. The FTA’s threshold of architectural damage for conventional sensitive structures from groundborne vibration is measured as 0.2 inch/second PPV or 94 VdB (decibel units of 1 micromicroinch per second). The FTA measure of human annoyance at residential uses is 80 VdB for “Frequent Events,” or fewer than 70 vibration events of the same kind per day.

**Occupational Safety and Health Act**

Under the Occupational Safety and Health Act of 1970 (U.S. Code Title 29, Section 651 et seq.), the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) adopted regulations (Code of Federal Regulations Title 29, Section 1910.95) designed to protect workers against the effects of occupational noise exposure. These regulations list limits on noise exposure levels as a function of the amount of time during which the worker is exposed, as shown in **Table 3.14-2**. The regulations further specify requirements for a hearing conservation program (Section 1910.95[c]), a monitoring program (Section 1910.95[d]), an audiometric testing program (Section 1910.95[g]), and hearing protection (Section 1910.95[i]). There are no federal laws governing community noise.

**TABLE 3.14-2  
 U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION—PERMISSIBLE  
 NOISE EXPOSURE STANDARDS**

| Duration of Noise (hours/day) | A-Weighted Noise Level (dBA) |
|-------------------------------|------------------------------|
| 8                             | 90                           |
| 6                             | 92                           |
| 4                             | 95                           |
| 3                             | 97                           |
| 2                             | 100                          |
| 1.5                           | 102                          |
| 1                             | 105                          |
| 0.5                           | 110                          |
| 0.25 or less                  | 115                          |

SOURCES: USEPA 1974; Code of Federal Regulations Title 29, Section 1910.95, Table G-16.



Although no federal noise regulations exist, the U.S. Environmental Protection Agency (USEPA) has published noise guidelines (USEPA 1974). The USEPA guidelines recommend a DNL of 55 dBA to protect the public from the effect of broadband environmental noise outdoors in residential areas and farms, and other outdoor areas where people spend widely varying amounts of time, and other places in which quiet is a basis for use (USEPA 1974).

## **State**

### **California Planning and Zoning Law**

Government Code Section 65302 encourages counties and cities to implement a noise element as part of the general plan. In addition, the California Governor's Office of Planning and Research has developed guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure.

### **Occupational Safety and Health Standards**

The California Occupational Safety and Health Administration has published Occupational Noise Exposure Regulations (California Code of Regulations Title 9, Sections 5095–5099) that set employee noise exposure limits. These standards are equivalent to the federal OSHA standards described above.

### **California Public Utilities Commission General Order No. 131-D**

The California Public Utilities Commission (CPUC) would have sole and exclusive jurisdiction over PG&E's construction, operation, and maintenance of the PG&E infrastructure and improvements needed to connect the Project to the grid because it regulates activities undertaken by PG&E and the other investor-owned public utilities within the state. PG&E's work (as regulated by the CPUC) would not be subject to the County's or Kern County's noise-related requirements. However, CPUC General Order No. 131-D, Section XIV.B, would require PG&E to "consult with local agencies regarding land use matters," potentially including the impact of noise on sensitive receptors.

## **Local**

### **Fresno County General Plan Health and Safety Element**

The Fresno County General Plan Health and Safety Element establishes countywide land use compatibility guidelines that are applicable to the Project. For example, the maximum allowable noise exposure level for residential land use is 60 dBA CNEL (Fresno County 2000). The following Fresno County General Plan policies also are relevant to the Project:

***Policy HS-G.1:*** The County shall require that all proposed development incorporate design elements necessary to minimize adverse noise impacts on surrounding land uses.

***Policy HS-G.4:*** So that noise mitigation may be considered in the design of new projects, the County shall require an acoustical analysis as part of the environmental review process where:

- a. Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels that are “generally unacceptable” or higher according to the Chart HS-1: “Land Use Compatibility for Community Noise Environments.”
- b. Proposed projects are likely to produce noise levels exceeding the levels shown in the County’s Noise Control Ordinance at existing or planned noise-sensitive uses.

**Policy HS-G.5:** Where noise mitigation measures are required to achieve acceptable levels according to land use compatibility or the Noise Control Ordinance, the County shall place emphasis of such measures upon site planning and project design. These measures may include, but are not limited to, building orientation, setbacks, earthen berms, and building construction practices. The County shall consider the use of noise barriers, such as soundwalls, as a means of achieving the noise standards after other design-related noise mitigation measures have been evaluated or integrated into the project.

**Policy HS-G.6:** The County shall regulate construction-related noise to reduce impacts on adjacent uses in accordance with the County’s Noise Control Ordinance.

**Policy HS-G.8:** The County shall evaluate the compatibility of proposed projects with existing and future noise levels through a comparison to Chart HS-1, “Land Use Compatibility for Community Noise Environments.” [Chart HS-1 is presented as **Figure 3.14-3.**]

**Fresno County Noise Ordinance**

The Fresno County Noise Ordinance (Chapter 8.40 of the Fresno County Development Code) applies to noise sources that can be regulated by Fresno County, such as equipment related to commercial and industrial land uses. **Table 3.14-3** summarizes the County’s exterior noise standards that would be applicable to the Project. As indicated in the table, it would be unlawful for Project-related on-site operation and/or maintenance noise levels to exceed an L<sub>50</sub> of 50 dBA during daytime hours at the nearby residences.

**TABLE 3.14-3  
 FRESNO COUNTY EXTERIOR NOISE LEVEL STANDARDS**

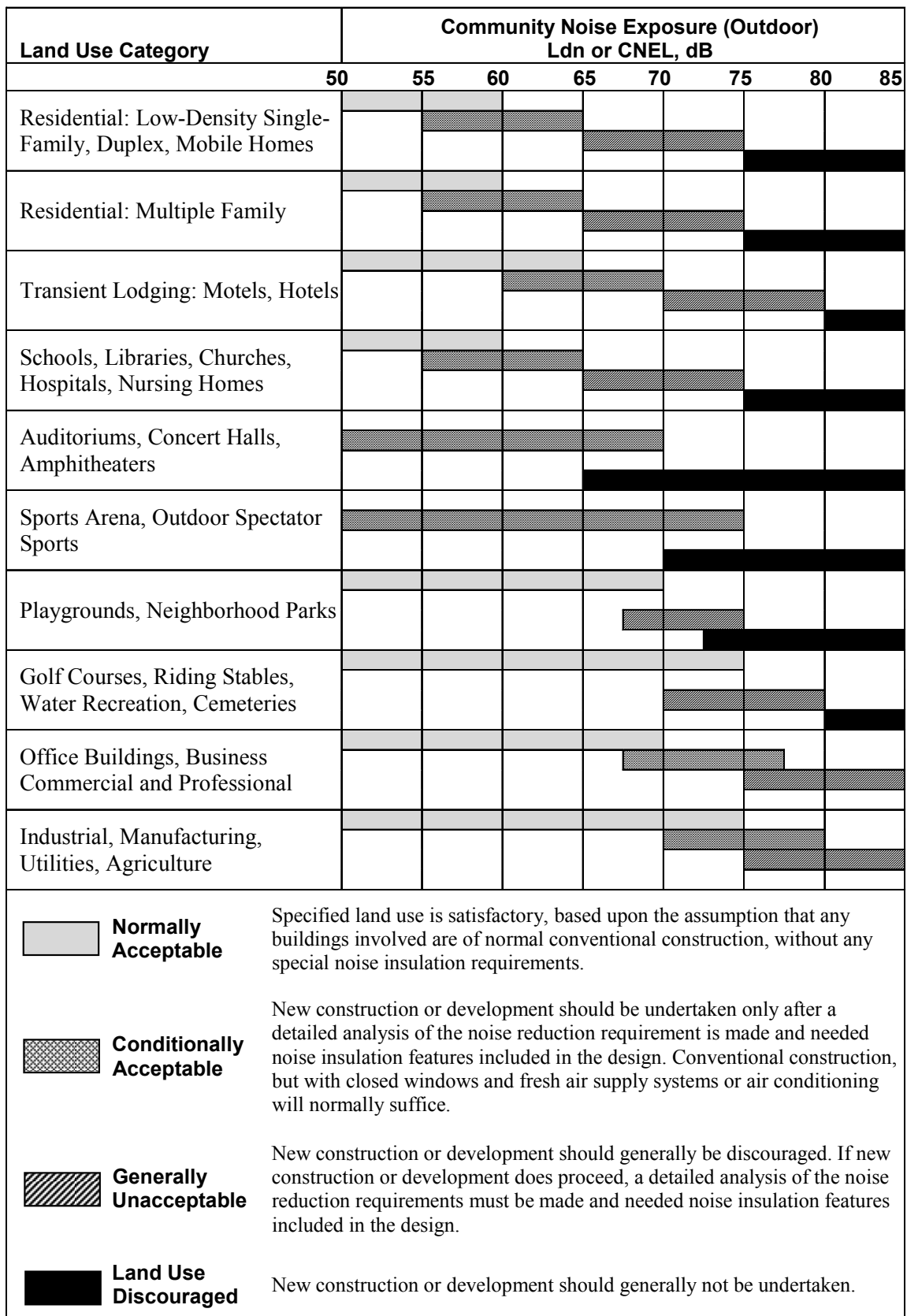
| Cumulative minutes/hour (L <sub>x</sub> ) | Daytime<br>7 a.m. to 10 p.m. | Nighttime<br>10 p.m. to 7 a.m. |
|---|------------------------------|--------------------------------|
| 30 (L <sub>50</sub> )                     | 50                           | 45                             |
| 15 (L <sub>25</sub> )                     | 55                           | 50                             |
| 5 (L <sub>8.3</sub> )                     | 60                           | 55                             |
| 1 (L <sub>1.7</sub> )                     | 65                           | 60                             |
| 0 (L <sub>max</sub> )                     | 70                           | 65                             |

NOTE:

L<sub>x</sub> = sound level that is equaled or exceeded x percent of a specified time period; L<sub>max</sub> = instantaneous maximum noise level

In the event the measured ambient noise level exceeds the applicable noise level standard in any category above, the applicable standard shall be adjusted so as to equal the ambient noise level.

SOURCE: Fresno County 1978.



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SOURCE: Fresno County 2000 General Plan

Key Energy Storage Project

**Figure 3.14-3**  
Community Noise Environment

As indicated in Section 8.40.060 of the Fresno County Noise Ordinance, noise sources associated with construction activities are exempt from the standards provided they take place after 6:00 a.m. and before 9:00 p.m. on Monday through Friday, or after 7:00 a.m. and before 5:00 p.m. on weekends. Chapter 8.40.060(g) of the Fresno County Noise Ordinance further provides that noise sources associated with work performed by private or public utilities in the maintenance or modification of its facilities are also exempt. Section 8.040.110 provides a mechanism for the granting of variances from noise ordinance restrictions that must be approved by the County Board of Supervisors.

With respect to operational noise from electrical substations, Section 8.40.90—Electrical Substations provides that noise sources associated with the operation of electrical substations shall not exceed 50 dBA when measured as provided in Section 8.40.030 (Noise Measurement Criteria). These criteria require that measurements shall be made with a calibrated sound level meter using the “A” weighting using a slow meter response. The exterior noise levels shall be measured within 50 feet of the affected noise-sensitive receptor with the microphone positioned 3–5 feet above the ground (Fresno County 1978).

### 3.14.2 Significance Criteria

The Project would result in a significant impact to noise if it would:

- a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- b) Generate excessive groundborne vibration or groundborne noise levels; or
- c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

### 3.14.3 Direct and Indirect Effects

#### 3.14.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. None of them focus on potential impacts related to noise or vibration.

#### 3.14.3.2 Methodology

This analysis evaluates potential noise and vibration impacts of the Project and alternatives based on review of sensitive receptors, ambient noise levels, and projected noise levels that would be associated with construction, operation, maintenance, and decommissioning of the Project and alternatives. Impact discussions are based in part on the modeled noise and vibration levels of the

Project as presented in the Noise and Vibration Study (Appendix J) and comparison relative to established standards.

### ***Short-Term Construction and Decommissioning Impacts***

Short-term noise level increases from construction and decommissioning activities would cause significant impacts if the activities would conflict with local policies or standards. Project-related construction activities taking place between 6:00 a.m. and 9:00 p.m. Monday through Friday and between 7:00 a.m. and 5:00 p.m. on weekends would be exempt from standards in the Fresno County Noise Ordinance. During nighttime hours, construction would be required to adhere to the Fresno County exterior noise standards: 45 dBA  $L_{eq}$  during the nighttime. Decommissioning is conservatively assumed to be similar in extent of noise-producing activities as construction activities, and consequently, all construction-related impacts would also apply to decommissioning.

### ***Long-Term Operation and Maintenance Impacts***

Long-term operation and maintenance noise impacts would be considered significant if Project-related noise would exceed the Fresno County exterior noise standards of 45 dBA  $L_{50}$  during nighttime hours (i.e., 10:00 p.m. to 7:00 a.m.) or 50 dBA  $L_{50}$  during daytime hours (i.e., 7:00 a.m. to 10:00 p.m.). For most common noise sources,  $L_{50}$  can be interpreted as close to the  $L_{eq}$  metric. Therefore, if a project would generate noise levels in excess of 50 dBA  $L_{eq}$  during the daytime or 45 dBA  $L_{eq}$  during the nighttime, such noise generation would constitute a significant noise impact.

The Fresno County General Plan CNEL-based community noise exposure level considers the contributions of daytime and nighttime noise levels. The maximum allowable noise exposure level for residential land uses is 60 dBA CNEL.

As described in Section 3.14.1, *Setting*, a change in noise of at least 5 dBA is required before a readily perceptible human response would be expected. In addition, in the context of an energy project, the California Energy Commission (CEC) determined that less-than-significant noise impacts would result if daytime noise levels would increase by no more than 10 dBA and nighttime noise levels would increase by no more than 5 dBA over ambient conditions (CEC 2010). These increases represent a perceived doubling of loudness and a readily perceptible increase in noise, respectively (Caltrans 2013). Therefore, absent an adopted countywide threshold of significance that addresses the increase over existing ambient conditions, the County has determined that increases in ambient noise levels associated with long-term operation and maintenance activities for the Project would result in a significant impact if ambient noise levels at sensitive receptor locations would be increased by more than 10 dBA during daytime hours or by more than 5 dBA at night.

### ***Vibration Impacts***

A numerical threshold to identify the point at which a vibration impact occurs has not been identified by County standards or codes. However, the FTA impact assessment procedures and criteria are routinely used for projects under review by local jurisdictions that have not adopted

their own vibration impact standards. Consistent with professional practice, this analysis assumes that the Project would result in a significant construction vibration impact if buildings or sensitive individuals would be exposed to vibration levels equivalent to or higher than the FTA PPV vibration threshold level of 0.2 inch per second (in/sec). The FTA measure of the threshold of architectural damage for conventional sensitive structures from groundborne vibration is 0.2 in/sec PPV. The FTA measure of human annoyance at residential uses is 72 VdB for “Frequent Events,” or more than 70 vibration events of the same source per day (FTA 2018).

### 3.14.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

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**Impact 3.14-1: The Project could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (*Less than Significant with Mitigation Incorporated*)**

#### **Demolition and Construction, Decommissioning, and Site Restoration**

The Fresno County Noise Ordinance states that 50 dBA is the standard for daytime (7 a.m. to 10 p.m.) and 45 dBA is the standard for nighttime (10 p.m. to 7 a.m.). Therefore, if a proposed project would generate noise levels from non-construction noise sources in excess of 50 dBA  $L_{eq}$  during the daytime or 45  $L_{eq}$  during the nighttime, such noise generation would constitute a significant noise impact. As discussed above, noise from construction or decommissioning activities would be exempt from the Fresno County General Plan noise policies and the Fresno County Noise Ordinance standards if the activities would occur between 6:00 a.m. and 9:00 p.m. on weekdays, or between 7:00 a.m. and 9:00 p.m. on Saturdays and Sundays.

For construction noise, peak unmitigated levels have the potential to exceed the Fresno County exterior noise level standards. However, the construction activities most likely to cause these peak noise levels would occur during typical, daytime hours when construction noise sources are exempt under Fresno County’s Noise Ordinance. Project-related construction activities that may occur outside these exempt hours include activity for material and equipment delivery and/or where the schedule has been delayed due to weather or other events.

#### **Construction, Decommissioning, and Site Restoration Noise**

Decommissioning and site restoration are conservatively assumed to be similar in extent of noise-producing activities as construction activities; consequently, all construction-related impacts would also apply to decommissioning and site restoration at the end of the assumed Project life.

Project construction would consist of four phases, with later phases scheduled for implementation based on the region’s increasing demand for energy storage. Phase 1 construction would begin in 2024 and Phase 2 would begin in 2025. Phases 3 and 4 would be constructed between 1 and 3

years after the previous phase, based on the region's increasing demand for energy storage. Each construction phase would last between 14 and 24 months per phase depending on the battery option chosen with total construction duration of approximately 6 years for either battery option. Specifically, construction of the Lithium Ion Battery option is anticipated to take a total of approximately 76 months and construction of the Lithium Ion Battery with Iron Flow Battery option is anticipated to take a total of 68 months. The first phase would consist of site preparation and grading, energy storage enclosure and substation installation, and gen-tie line construction and stringing. The latter phases would consist only of site preparation and grading, and energy storage enclosure installation. Construction would occur primarily during the County's exempt hours of construction activities. (The potential impacts of the occasional construction activities that may occur outside of these hours are analyzed below.) Most deliveries also are expected to occur during the exempt hours of construction.

Construction equipment would include standard equipment such as scrapers, graders, water trucks, dozers, and compaction equipment. There would also be potential operation of pile drivers for installation of medium-voltage stations. The enclosure modules would be off-loaded and installed using cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment, as needed. At locations where gen-tie poles would be installed, minor cuts may be required where the foundation would be installed.

Two construction scenarios were modeled to assess construction-related noise impacts (Appendix J). The first scenario includes simultaneous operation of an excavator, a grader, and a dozer working during grading or site preparation to excavate and move soil in close proximity to one another. In addition, medium-voltage stations may sit on concrete foundations or driven piles, pending final design. Therefore, a second scenario of an excavator, dozer, grader, and impact pile driver was analyzed. It was assumed that diesel engines would power all construction equipment.

The nearest noise-sensitive uses near the Project site are agricultural residences 3,300 feet west of the Project site along West Jayne Avenue. Based on the modeling, at a distance of 3,300 feet, an excavator, a grader, and a dozer would generate an unshielded noise level of 47 dBA  $L_{eq}$  (8-hour) at the nearest sensitive receptor to the Project site. With the addition of impact pile driving (if medium-voltage stations would sit on driven piles), construction noise would generate a noise level of 58 dBA  $L_{eq}$  (8-hour) at 3,300 feet. These noise levels from peak construction activity would be less than the existing monitored daytime noise levels of 73–75 dBA  $L_{eq}$  along West Jayne Avenue where the nearest receptors are located and, hence, would not result in a noticeable increase during daytime hours.

The Fresno County Noise Ordinance exempts construction activity noise from standard exterior noise exposure limits, if conducted between 6:00 a.m. and 9:00 p.m. on weekdays, or between 7:00 a.m. and 9:00 p.m. on Saturdays and Sundays. Most Project-related construction activity is expected to occur within the window of time covered by the noise ordinance exemption. Construction workers would work 8- to 10-hour days, Monday through Friday. A less-than-significant impact would result from construction, decommissioning, and site restoration activities undertaken during the County's exempt times.

Although weekend and overtime construction is not anticipated, it may occasionally be needed to meet Project milestones. If nighttime work hours or work on weekends is necessary, such work could be scheduled consistent with Fresno County General Plan and County code provisions. Construction requirements would require some nighttime activity for material and equipment delivery and/or where the schedule has been delayed due to weather or other events. The nighttime  $L_{eq}$  limit is 45 dBA based on the Fresno County exterior noise level standard and may be exceeded at the nearest receptors on some occasions if nighttime work is required and near the northwestern Project boundary. If construction of the Project were to occur during nighttime hours, it could generate noise levels that exceed the County's 45 dBA nighttime standard. While Section 8.040.110 of the County Code provides a mechanism for the granting of variances from noise ordinance restrictions that must be approved by the County Board of Supervisors, provision of such a variance does not necessarily mean that there would be no nighttime noise impact. Therefore, mitigation measures are identified to address this potential significant noise impact.

Because of the infrequent nature of loud construction activities at the site and the limited hours of construction, with implementation of identified noise mitigation measures, the impact related to the temporary increase in noise due to construction would be less than significant with mitigation.

**Mitigation Measure 3.14-1: Nighttime Noise Reduction for Construction Activities.**

Prior to issuance of construction permits for the project, the Project Applicant shall submit to the County for approval a construction noise reduction plan to be implemented by all contractors as a condition of contract. Contents of the plan should include at a minimum:

- Maintain all construction tools and equipment in good operating order according to manufacturers' specifications.
- Limit use of pile drivers and major excavating and earth-moving machinery to daytime hours.
- Equip any internal combustion engine used for any purpose on the job or related to the job with a properly operating muffler that is free from rust, holes, and leaks.
- For construction devices that utilize internal combustion engines, ensure the engine's housing doors are kept closed, and install noise-insulating material mounted on the engine housing consistent with manufacturers' guidelines, if possible.
- Limit possible evening and nighttime shift work to low-noise activities such as welding, wire pulling, and other similar activities, together with appropriate material handling equipment such that noise levels at 50 feet are less than 80 dBA.

**Significance after Mitigation:** Less than Significant. Implementation of Mitigation Measure 3.14-1 would reduce nighttime construction noise impacts below established thresholds by limiting the types of activities that might occur during nighttime hours to those least likely to generate substantial noise.

**Construction Traffic Noise**

West Jayne Avenue is the major road in the Project vicinity. Traffic noise modeling estimates that an increase of 0.8 dBA would occur with peak Project construction traffic, adding a maximum average of 380 trips per day. This increase of less than 3 dBA would not exceed the significance



threshold and is below an increase considered to represent a readily perceptible increase in noise (Caltrans 2013). In addition, construction traffic is anticipated to occur only during the day, which would cause the least disruption to sleep or relaxation patterns. Because of the temporary nature of the traffic noise increase and the construction exemption in the County Noise Ordinance, impacts related to construction traffic noise would be less than significant.

### **Operation and Maintenance**

Long-term operational point sources of noise would include battery or electrolyzer tank storage containers, transformers, inverters, and the substation. Operational noise levels were calculated using SoundPLAN noise modeling software, Version 8.2 (see Appendix J for details).

Noise sources, receivers, structures, and barriers were input using three-dimensional coordinates. In all cases, receivers were modeled at the average height of the human ear: 5 feet above ground elevation. The assessment methodology assumed that all receivers would be downwind of stationary sources. This is a worst-case assumption for total noise impacts because only some receivers would be downwind at any one time.

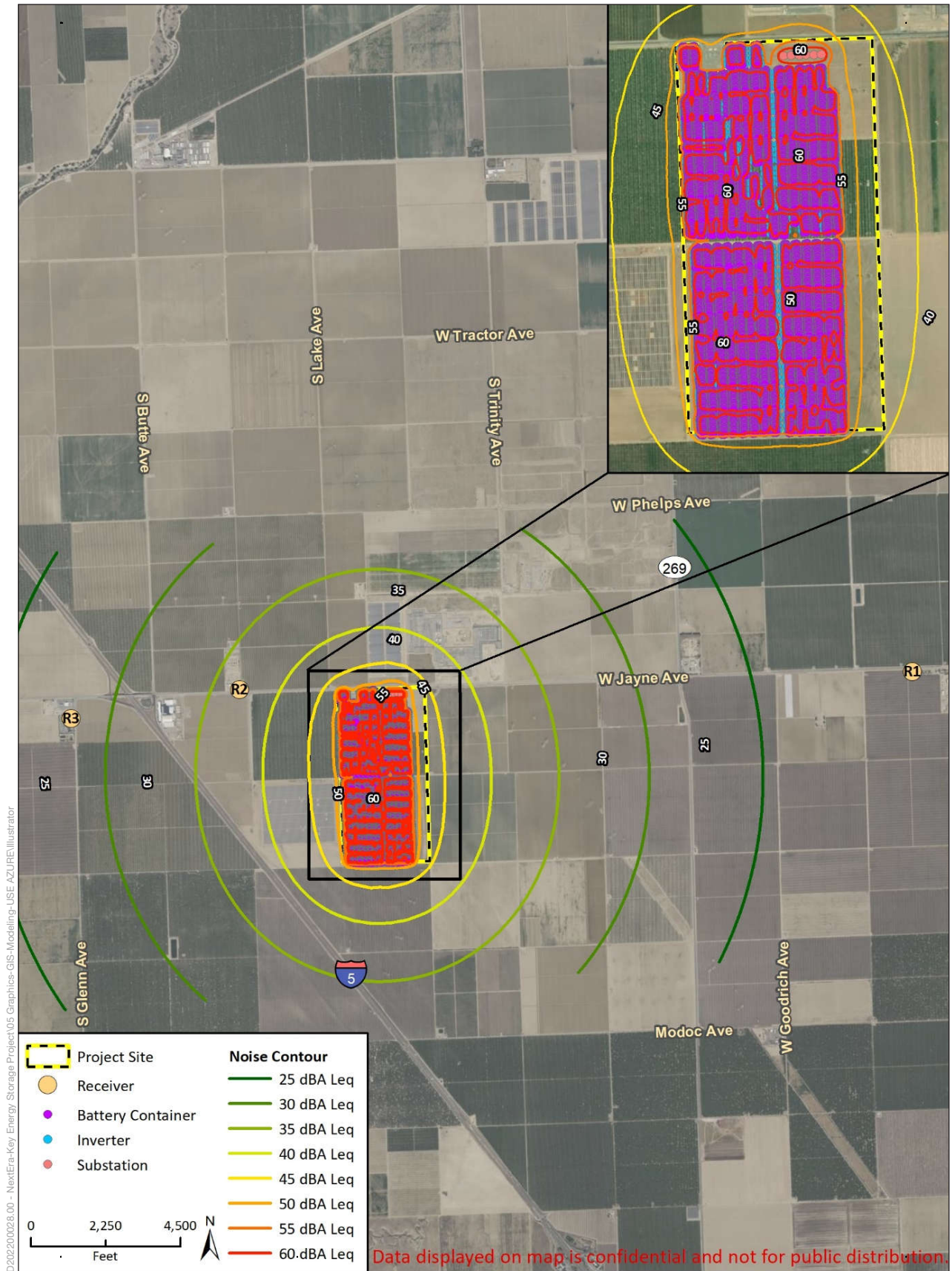
The Project's storage containers and inverters were assumed to cover the entire site except the easement on the eastern edge of the Project site, to provide a conservative analysis given the multiple potential site layouts.

Each battery or electrolyzer tank container would generate noise from two "silenced" heating, ventilation, and air conditioning units. The storage containers were modeled as point sources based on manufacturer data, without the proposed noise silencing on the return air and supply air ducts of 62 dBA  $L_{eq}$  at 5 feet. To be conservative, the unsilenced noise level was modeled.

Each set of four storage containers would be served by a single inverter, which, based on the measured noise levels of similar equipment, generate the highest measured noise levels as 80.5 dBA at the front and at the back. The inverter point sources were conservatively modeled to emanate 80.5 dBA in all directions.

Each of the six Project substation transformers is assumed to yield a sound power level of 95.0 dBA. The container equipment, inverters, and substation were conservatively assumed to be in continuous operation.

**Table 3.14-4** shows the projected exterior sound levels resulting from full operation of the Project at each of the closest receptors. **Figure 3.14-4** shows ground-floor noise contours. The table shows that the highest total sound levels, inclusive of ambient and Project operational levels at receptors at R1, R2, and R3, would comply with the Fresno County Noise Control Ordinance's daytime and nighttime threshold limits of 50 dBA and 45 dBA, respectively. As a result, operational noise impacts would be less than significant.



SOURCE: Rincon, 2022

Key Energy Storage Project

**Figure 3.14-4**  
Operational Noise Contours

**TABLE 3.14-4  
SUMMARY OF UNMITIGATED DAYTIME OPERATIONAL NOISE**

| Receiver | Description                                     | Modeled Noise Level (dBA L <sub>eq</sub> ) | Exceed Daytime Standard? <sup>a</sup> | Exceed Nighttime Standard? <sup>1</sup> |
|----------|---|--|---------------------------------------|---|
| R1       | Residences on West Jayne Avenue                 | 17   | No                                    | No                                      |
| R2       | Agricultural housing at 19536 West Jayne Avenue | 37   | No                                    | No                                      |
| R3       | Almond Tree Oasis RV Park                       | 28   | No                                    | No                                      |

NOTES:

dBA = A-weighted decibels; L<sub>eq</sub> = equivalent sound level

a. The applicable daytime threshold (7:00 a.m. to 10:00 p.m.) is 50 dBA L<sub>eq</sub> at residential properties and the applicable nighttime threshold (10:00 p.m. to 7:00 a.m.) is 45 dBA L<sub>eq</sub> at residential properties. The Fresno County Code does not define noise limits at commercial or industrial uses.

SOURCE: Data compiled by Environmental Science Associates in 2023 (see Appendix J)

**On-site Vehicles**

During operation and maintenance of the Project substation, staff would visit the substation periodically to conduct switching and other operational activities. Maintenance trucks would be used to perform routine maintenance, such as equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventive maintenance. Routine operations would require weekly visits to the facility by one or two workers in a light utility truck. Typically, one major maintenance inspection would take place annually. This number of additional vehicle trips on nearby roadways would result in a negligible increase in roadway traffic noise. A less-than-significant impact would result.

**Corona Noise**

With respect to operational noise, when a transmission line is in operation, an electric field is generated in the air surrounding the conductors, forming a corona. Audible noise generated by corona discharge is characterized as a hissing or crackling sound that may be accompanied by a hum. Slight irregularities or water droplets on the conductor and/or insulator surface accentuate the electric field's strength near the conductor surface. Therefore, audible noise from transmission lines is generally a foul-weather phenomenon that results from wetting of the conductor.

The audible noise associated with transmission lines decreases as the line voltage decreases; the audible noise associated with a 230-kilovolt (kV) line is lower than 40 dBA. Noise levels from the Project's transmission lines at the nearest sensitive residential receptor located 0.95 mile away would be less than 30 dBA. This noise level would comply with the County's nighttime threshold of 45 dBA and would increase the existing ambient noise level by less than 1 dB during moments of corona noise, which is generally associated with inclement weather when windows would likely be closed. Therefore, operational corona noise associated with PG&E infrastructure would not represent a substantial increase in ambient noise levels. The impact would be less than significant with no mitigation required.

**Criterion b)** Whether the Project would generate excessive groundborne vibration or groundborne noise levels.

**Impact 3.14-2: The Project would not expose people and/or structures to excessive vibration levels. (Less-than-Significant Impact)**

**Demolition and Construction, Decommissioning, and Site Restoration**

Temporary sources of groundborne vibration and noise during land grading, trenching, and other initial demolition and construction activities for the Project would be produced by the operation of heavy construction equipment. The construction equipment most likely to create vibration includes large and small bulldozers, pile drivers, loaded trucks, and jackhammers.

The use of heavy equipment (e.g., a large bulldozer) generates vibration levels of 0.089 in/sec PPV at a distance of 25 feet and the typical level for pile driving is 0.644 in/sec PPV at 25 feet. Based on calculations of vibration propagation, construction vibration levels at the nearest receptor are predicted to be reduced to below 0.0005 in/sec PPV (40 VdB). **Table 3.14-5** summarizes the predicted vibration levels at each receptor based on the highest vibration-generating equipment.

As shown in Table 3.14-5, Project construction would generate vibration levels below the human perception threshold of approximately 65 VdB. As such, construction-related vibration associated with the Project would result in a less-than-significant impact.

Project construction would not have the potential to generate significant short-term groundborne vibration or noise at sensitive receptors because of attenuation with distance. Decommissioning activities would use equipment similar to that used for construction and would similarly not affect nearby sensitive receptors. Therefore, groundborne vibration impacts of Project decommissioning and site restoration would be less than significant.

**TABLE 3.14-5  
 PROJECTED CONSTRUCTION VIBRATION LEVELS**

| Construction Operation | Vibration Metric | Reference Vibration Level | R-1     | R-2     | R-3     |
|------------------------|------------------|---------------------------|---------|---------|---------|
| Pile Driving           | in/sec (PPV)     | 0.644                     | 0.00012 | 0.00043 | 0.00005 |
| Pile Driving           | VdB              | 104                       | 29      | 40      | 21      |

NOTES: in/sec = inches per second; PPV = peak particle velocity; VdB = vibration decibels

SOURCE: Data compiled by Environmental Science Associates in 2023

**Operation and Maintenance**

The Project does not propose the use of large, rotating equipment or other types of equipment or activities during the Project’s operation and maintenance phase that would introduce any new sources of perceivable groundborne vibration. In addition, operation and maintenance would not require the use of heavy equipment. Therefore, a less-than-significant impact would result.

**Mitigation:** None required.

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**Criterion c)** For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, whether the Project would expose people residing or working in the project area to excessive noise levels.

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The Project would not include development of land uses near an airport influence area. There are no public airports within 2 miles of the Project site (Fresno COG 2018). A review of aerial photography indicates that there are no private airstrips within 2 miles of the Project site. Therefore, no impact would occur with respect to exposure of people residing or working within the vicinity of a private airstrip or a public airport or public use airport in the Project area.  
(No Impact)

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., less-than-significant impacts related to temporary or permanent increases in ambient noise levels in the vicinity of the Project site and the exposure of people and/or structures to vibration levels. It is assumed that construction activities for new direct tie lines would occur during daytime hours. Because such construction activities would occur farther away from receptors than other Project construction activities, they also would generate noise at levels less than the existing monitored daytime noise levels at the locations of the nearest receptors. Also like the Project as a whole, the PG&E work at the Gates Substation would cause a less-than-significant impact with respect to exposure of people to excessive noise levels. Conservatively assuming that PG&E work could require impact pile driving, resultant vibration levels from the nearest structure at a distance of 3,300 feet would be reduced to 0.0001 in/sec PPV and 29 VdB. Therefore, the PG&E work would not cause a significant impact due to substantial structural effects from vibration and an annoyance impact, respectively.

With respect to the proposed improvements to the Midway Substation, the nearest residences are located approximately 0.25 mile to the west along Meadow Street. There are several single-family residences, many of which are as close as 180 feet from State Route 58. At this distance, highway traffic would contribute noise that would mask the noise level increase at these receptors from construction work required to replace an existing switch and three supporting structures and upgrade the existing bus structure. Because the impact of minor modifications to substation equipment would be minor and the modifications would occur inside the fence line,

implementation of the Project would result in a less-than-significant impact related to incremental noise.

**Mitigation:** None required.

### 3.14.3.4 Direct and Indirect Effects of Alternatives

## 3.14.4 Cumulative Effects Analysis

As discussed above, no impact would occur with respect to exposure of people residing or working within the vicinity of a private airstrip or a public airport or public use airport in the Project area. Therefore, the Project would cause no impacts that could cause or contribute to any potential significant cumulative impact regarding this consideration. The potential for the Project or an alternative to cause or contribute to a potential significant cumulative impact with respect to the remaining noise and vibration considerations is evaluated below.

### **Impact 3.14-3: The Project would not cause a cumulatively considerable contribution to any significant noise or vibration impact. (*Less-than-Significant Impact*)**

The geographic scope considered for this evaluation of potential cumulative impacts related to noise and vibration is the area within 0.5 mile of the Project site because sounds and vibration naturally attenuate with distance and topography. The temporal scope for potential cumulative impacts begins with the initiation of on-site construction activities and ends with the conclusion of on-site work for decommissioning and reclamation. Among the projects identified in *Section 3.1, Introduction to Environmental Analysis*, and as shown in **Figure 3.1-1**, there are no projects that are within this geographic scope. At the closest, the PG&E projects north of the Gates Substation would be 0.6 mile from the Project site. Because of the distance between these projects and the Project site, there is no possibility that noise from construction, operation, or decommissioning of the Project could combine with noise from any other projects to cause or contribute to a significant cumulative effect.

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## 3.14.5 References

Caltrans (California Department of Transportation), 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September 2013.

CEC (California Energy Commission), 2010. *Calico Solar Power Project Commission Decision 2010-012-CMF*. Sacramento, CA.

Fresno COG (Fresno Council of Governments), 2018. *Fresno County Airport Land Use Compatibility Plan Update*. December 2018. Available: <https://www.fresnocog.org/wp-content/uploads/2019/01/fresno-draft-ALUCP-12-04-17c.pdf>. Accessed January 29, 2021.

Fresno County, 1978. Fresno County Code of Ordinances, Chapter 8.40, Noise Control.  
Available: <http://library.municode.com/index.aspx?clientId=14972>. Accessed January 29, 2021.

Fresno County, 2000. *Fresno County General Plan Health and Safety Element*. October 2000.

FTA (Federal Transit Administration), 2018. *Transit Noise and Vibration Impact Assessment*, September 2018.

USEPA (U.S. Environmental Protection Agency), 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. March 1974.

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## 3.15 Population and Housing

This section identifies and evaluates issues related to population and housing. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment. The County received no scoping input pertaining to population and housing (**Appendix A, Scoping Report**).

### 3.15.1 Setting

#### 3.15.1.1 Study Area

The study area for the analysis of potential impacts related to population and housing is conservatively defined to include the Project site and all communities within 75 miles of the Project site (within and beyond Fresno County). Since the mean commute time in Fresno County is 23.3 minutes (U.S. Census Bureau 2022), 75 miles represents the maximum approximate distance that Project workers would reasonably be expected to travel to work at the Project site.

#### 3.15.1.2 Environmental Setting

**Table 3.15-1** identifies population characteristics for Fresno County and the cities in the study area. Population estimates and projections are not available for unincorporated communities separate from the Countywide population estimates and projections. As demonstrated in Table 3.15-1, most of the cities in the study area experienced moderate amounts of growth between 2000 and 2022. In 2022, Fresno County had an estimated population of 1,011,273, an increase of approximately 9 percent from the 2010 population of 930,450. The city of Fresno had an estimated population of 543,660 in 2022, an increase of approximately 10 percent from 2010. In Kern County, where PG&E's modifications to the Midway Substation would occur, the estimated population in 2022 was 909,813 - an increase of approximately 9 percent from the 2010 population of 837,074.

From 2010 to 2050, the San Joaquin Valley is expected to have an annual growth rate of 1.33 percent. Fresno County is expected to grow at a slightly slower rate (1.2 percent annually), while Kern County (1.5 percent), Kings County (1.4 percent), Madera County (1.6 percent), and Merced County (1.5 percent) are anticipated to grow at slightly faster rates than the region as a whole (Fresno COG 2012).

### **Housing**

**Table 3.15-2** outlines housing data for Fresno County and the cities in the study area in 2022. Vacancy rates for these jurisdictions ranged from 2.0 percent (city of Mendota) to 5.6 percent (city of Merced). As of January 1, 2022, Fresno County had an estimated 343,513 housing units with a vacancy rate of 5.6 percent; the city of Fresno had an estimated 186,993 housing units with a vacancy rate of 4.5 percent; and the city of Mendota had an estimated 2,889 housing units with a vacancy rate of 2.0 percent.

**TABLE 3.15-1  
 POPULATION IN THE STUDY AREA**

| <b>Area</b>         | <b>2000<sup>a</sup></b> | <b>2005<sup>a</sup></b> | <b>2010<sup>a</sup></b> | <b>2015<sup>b</sup></b> | <b>2022<sup>c</sup></b> |
|---------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Fresno County       | 799,407                 | 866,058                 | 930,450                 | 975,108                 | 1,011,273               |
| City of Fresno      | 427,719                 | 457,786                 | 494,665                 | 522,016                 | 543,660                 |
| City of Mendota     | 7,890                   | 9,179                   | 11,014                  | 11,235                  | 12,440                  |
| City of Clovis      | 68,516                  | 84,552                  | 95,631                  | 105,038                 | 123,665                 |
| City of Reedley     | 20,756                  | 21,447                  | 24,194                  | 25,542                  | 24,982                  |
| City of Sanger      | 18,931                  | 21,297                  | 24,270                  | 25,246                  | 26,304                  |
| City of Selma       | 19,444                  | 22,160                  | 23,219                  | 23,898                  | 24,522                  |
| City of Kerman      | 8,548                   | 10,985                  | 13,544                  | 14,584                  | 16,639                  |
| City of San Joaquin | 3,270                   | 3,569                   | 4,001                   | 4,063                   | 3,639                   |
| City of Firebaugh   | 5,743                   | 6,953                   | 7,549                   | 7,827                   | 8,439                   |
| City of Madera      | 43,205                  | 51,735                  | 61,416                  | 63,147                  | 65,843                  |
| City of Chowchilla  | 14,416                  | 16,052                  | 18,720                  | 18,626                  | 18,851                  |
| City of Merced      | 63,893                  | 72,402                  | 78,958                  | 82,379                  | 89,058                  |
| City of Dinuba      | 16,844                  | 18,989                  | 21,453                  | 24,135                  | 25,127                  |
| City of Visalia     | 91,891                  | 106,054                 | 124,442                 | 130,627                 | 142,091                 |
| City of Tulare      | 43,994                  | 48,974                  | 59,278                  | 62,407                  | 69,462                  |
| City of Hanford     | 41,687                  | 48,016                  | 53,967                  | 55,844                  | 58,299                  |
| City of Coalinga    | 15,798                  | 16,566                  | 18,087                  | 16,467                  | 17,277                  |
| City of Avenal      | 14,674                  | 15,898                  | 15,505                  | 12,950                  | 13,186                  |
| City of Huron       | 6,310                   | 6,343                   | 6,754                   | 6,887                   | 6,170                   |
| Kern County         | 661,653                 | 750,969                 | 837,074                 | 878,038                 | 909,813                 |

SOURCES:  
 a DOF 2012.  
 b DOF 2022a.  
 c DOF 2022b.

**TABLE 3.15-2  
 2022 HOUSING DATA ESTIMATES**

|                 | <b>Total Housing Units</b> | <b>Occupied Housing Units</b> | <b>Vacant Housing Units</b> | <b>Vacancy Rate (percent)</b> |
|-----------------|----------------------------|-------------------------------|-----------------------------|-------------------------------|
| Fresno County   | 343,513                    | 324,107                       | 19,407                      | 5.6%                          |
| City of Fresno  | 186,993                    | 178,587                       | 8,406                       | 4.5%                          |
| City of Mendota | 2,889                      | 2,831                         | 58                          | 2.0%                          |
| City of Clovis  | 45,835                     | 43,924                        | 1,911                       | 4.2                           |
| City of Reedley | 7,363                      | 7,124                         | 239                         | 3.2%                          |
| City of Sanger  | 7,827                      | 7,583                         | 244                         | 3.1%                          |
| City of Selma   | 7,246                      | 7,027                         | 219                         | 3.0%                          |
| City of Kerman  | 4,745                      | 4,645                         | 100                         | 2.1%                          |

**TABLE 3.15-2 (CONTINUED)  
2022 HOUSING DATA ESTIMATES**

|                     | <b>Total Housing Units</b> | <b>Occupied Housing Units</b> | <b>Vacant Housing Units</b> | <b>Vacancy Rate (percent)</b> |
|---------------------|----------------------------|-------------------------------|-----------------------------|-------------------------------|
| City of San Joaquin | 937                        | 899                           | 38                          | 4.1%                          |
| City of Firebaugh   | 2,343                      | 2,238                         | 105                         | 4.5%                          |
| City of Newman      | 3,775                      | 3,649                         | 126                         | 2.8%                          |
| City of Madera      | 18,355                     | 17,547                        | 808                         | 4.4%                          |
| City of Chowchilla  | 4,451                      | 4,254                         | 197                         | 4.4%                          |
| City of Merced      | 30,565                     | 28,861                        | 1,704                       | 5.6%                          |
| City of Dinuba      | 7,170                      | 6,914                         | 256                         | 3.6%                          |
| City of Visalia     | 49,513                     | 47,591                        | 1,922                       | 3.9%                          |
| City of Tulare      | 21,900                     | 21,127                        | 773                         | 3.5%                          |
| City of Hanford     | 20,171                     | 19,398                        | 773                         | 3.8%                          |
| City of Coalinga    | 4,658                      | 4,281                         | 377                         | 8.1%                          |
| City of Avenal      | 2,591                      | 2,482                         | 109                         | 4.2%                          |
| City of Huron       | 1,641                      | 1,587                         | 54                          | 3.3%                          |
| Kern County         | 305,853                    | 285,715                       | 20,138                      | 6.6%                          |

SOURCE: DOF 2022c.

### 3.15.1.3 Regulatory Setting

#### ***Federal***

No federal statutes, regulations, plans, or policies govern population- and housing-related considerations that apply to the Project.

#### ***State***

##### **California Public Utilities Commission General Order No. 131-D**

The California Public Utilities Commission (CPUC) would have sole and exclusive jurisdiction over land use considerations related to PG&E’s construction, operation, and maintenance of the PG&E infrastructure and improvements needed to connect the Project to the grid because it regulates activities undertaken by PG&E and the other investor-owned public utilities within the state. PG&E’s work (as regulated by the CPUC) would not be subject to the County’s or Kern County’s land use–related requirements, including their governance of population and housing issues. However, CPUC General Order No. 131-D, Section XIV.B would require PG&E to “consult with local agencies regarding land use matters,” potentially including any impacts related to population and housing.

## **Regional**

### **Fresno Council of Governments**

The Fresno Council of Governments (Fresno COG) is a regional planning organization with representatives from Fresno County and its 15 incorporated cities. Fresno COG's primary responsibilities include transportation and housing planning. Fresno COG is the state-designated regional transportation planning agency and federally designated metropolitan planning organization for Fresno County (Fresno COG 2022).

Fresno COG is responsible for preparing the regional housing needs allocation (RHNA) plan, a state-mandated document that determines the number of housing units each city and county are responsible for accommodating in the housing element sections of their general plans. The Fresno County RHNA Plan was last updated in 2013 and approved in July 2014 (Fresno COG 2014). The planning period for the 2013 RHNA extends for 11 years from January 2013 to December 2023. The plan, which relies on census data from 2010, data from the California Department of Finance and California Department of Housing and Community Development, and Fresno COG calculations, determined how best to allocate regional housing needs to Fresno County jurisdictions (Fresno COG 2014).

## **Local**

### **Fresno County General Plan**

The 2000 Fresno County General Plan is undergoing an update (Fresno County 2021); however, as of August 2023, the update has not been finalized (Fresno County 2023). Accordingly, this analysis relies on the goals, policies, and implementation measures related to population and housing that are set forth in the 2000 Fresno County General Plan (Fresno County 2000).

In February 2013, Fresno COG assembled an RHNA Technical Committee with representatives from all Fresno County local governments. This committee prepared the Fresno Multi-Jurisdictional Housing Element for Fresno County governments with the goal of creating regional coordination to address countywide housing issues and needs (Fresno County 2016). This regional housing element update covers the planning period of December 2015 through December 2023, representing the 2015–2023 Housing Element for 13 jurisdictions in Fresno County, including Fresno County and the City of Mendota. The Housing Element Update was adopted in April 2016 (Fresno County 2016).

The following Multi-Jurisdictional Housing Element policies are relevant to the Project:

**Policy 1.9:** Encourage development around employment centers that provides the opportunity for local residents to live and work in the same community by balancing job opportunities with housing types.

**Policy 3.1:** Preserve the character, scale, and quality of established residential neighborhoods by protecting them from the encroachment of incompatible or potentially disruptive land uses and/or activities.

### **Fresno County Solar Facility Guidelines**

Toward balancing the need to accommodate new renewable energy technology with the need to protect important farmlands and minimize impacts to existing agricultural operations, the County's land use process for evaluating solar facilities relies on flexible general guidelines and policies rather than specific standards. The Solar Facility Guidelines, adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017, identify consideration to be evaluated as part of the County's process for evaluating solar facilities within the county (Fresno County 2017). Although the Project does not propose to develop a solar facility, the County's identified need to maintain flexibility to accommodate new renewable energy technologies, such as battery energy storage, which facilitates the use of solar-generated energy by addressing some of the limitations of the electric grid, applies equally to battery energy storage as to solar energy development. Multiple provisions of the Solar Facility Guidelines are relevant to this analysis of potential impacts related to population and housing, including the following:

- **Guideline 12:** If the project is approved, the applicant shall make all reasonable efforts to conduct local recruitment efforts and/or coordinate with employment agencies in an attempt to hire from the local workforce.
- **Guideline 14:** If the project is approved, the applicant shall make all reasonable efforts to purchase products and equipment from local (Fresno County) manufacturing facilities and/or vendors.

See Appendix I, *Land Use and Planning*, for details about Project consistency with other provisions of the Solar Facility Guidelines.

### **3.15.2 Significance Criteria**

The Project would result in a significant impact related to population and housing if it would:

- a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); or
- b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

### **3.15.3 Direct and Indirect Effects**

#### **3.15.3.1 Applicant-Proposed Measures and Design Features**

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Section 2.5.9, *Applicant-Proposed Measures and Design Features*, in Chapter 2, *Project Description*. None of them focus on potential impacts related to population or housing.

### 3.15.3.2 Methodology

The evaluation of potential population and housing impacts was based on the likelihood that the Project would induce substantial unplanned population growth within approximately 75 miles of the Project site or displace people or housing within that area such that replacement housing could be required. The nature of the Project, in consideration with the population and housing characteristics of this region, was used to determine whether the Project would result in a significant population and housing impact.

### 3.15.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).

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The Project would not induce substantial unplanned population growth in an area, either directly or indirectly. The Project would not include any new homes or businesses, and thus would not directly induce population growth. The Project would not indirectly induce population growth with the construction of the perimeter, access, and internal roads, or from the addition of other Project infrastructure interior to the Project site because these improvements would not be accessible to the public.

The Project could have an indirect impact related to population growth in the study area if the workforce associated with the Project were to result in an increase in the local population, the removal of barriers to development, or provide resources that lead to secondary growth. Considerations for worker numbers and the construction timeline are described in Section 2.5.6.2, *Construction Workforce and Schedule*, in Chapter 2, *Project Description*. Project construction is anticipated to employ a maximum of 150 on-site personnel. However, the average number of workers on-site could be less, depending on which battery energy storage technology is selected. See Section 2.5.6.2, *Construction Workforce and Schedules*, for a comparison of the average workforce between lithium ion technology and a lithium ion and iron flow technology project. For the energy storage components, decommissioning and site restoration activities are expected to require a workforce similar to or smaller than that for construction. Construction of the PG&E infrastructure would require up to four crews of six working approximately 10-hour days, 6 days per week, for a total crew of up to 24 workers employed during construction.

Once operational, the Project would require limited personnel to visit the Project site. The Project site would be remotely operated and monitored 7 days a week through the proposed supervisory control and data acquisition system. Routine maintenance and one annual maintenance inspection are expected to occur as described in Section 2.5.7, *Energy Storage System Operation and Maintenance*, of Chapter 2, *Project Description*. Operation and maintenance of the expanded portion of the Gates Substation would be similar to operation and maintenance of the existing substation, with minimal new vehicle trips, equipment repairs, and replacements as necessary. No new employees would be needed to operate or maintain the Midway Substation.

The existing construction labor pool in Fresno County is sufficient for meeting Project needs. The California Employment Development Department estimated that as of October 2022, the unemployment rate in Fresno County was approximately 5.8 percent, compared to the statewide unemployment rate of 3.8 percent (EDD 2022). As of October 2022, 25,000 individuals in Fresno County were unemployed. In October 2021, the construction industry employed an average of 20,300 individuals in Fresno County. One year later, the number of individuals employed in the construction industry increased slightly, reaching 20,800 individuals in October 2022 (EDD 2022). Consistent with Fresno County Solar Facility Guideline 12, the Project is committed to recruiting and hiring from the local workforce. Industry and unemployment data suggest that the number of jobs created by the Project's construction, operation, and decommissioning could be served by the existing labor pool in Fresno County. Any increase in local economic activity resulting from the Applicant's commitment to purchase local products and equipment in compliance with Guideline 14 is not anticipated to be significant and would not result in in-migration of workers to the study area. Given the limited number of workers required for PG&E to implement the minor upgrades proposed for the Midway Substation, and in light of the short duration of that work, no in-migration of workers is expected to be needed for the PG&E infrastructure improvements in that area.

Further, the Project would not generate energy, but it would contribute to the energy supply by storing electricity during times of excess generation and dispatching it to the grid when needed. The development of power infrastructure is a response to increased market demand, and the availability of electrical capacity by itself does not ensure or encourage growth within a particular area. Other factors such as economic conditions, land availability, population trends, availability of water supply or sewer services, and local planning policies have a more direct effect on growth.

As a result, workers would be expected to commute to the Project site and PG&E's Project-related work sites from local and regional towns and cities, rather than relocating. Therefore, construction, operation, and decommissioning of the Project is not expected to require substantial numbers of new housing units, the construction of which could cause environmental impacts. Additionally, even if all of the Project's construction, operation and maintenance, and decommissioning workforce moved into Fresno County, the county's housing market would have the capacity to absorb the increase in residents without requiring the construction of new housing units. California Department of Finance housing estimates from January 2022 indicated that the county had approximately 19,407 vacant housing units (DOF 2022c). Therefore, the Project would not directly or indirectly induce substantial unplanned population growth in an area. (*No Impact*)

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**Criterion b)** Whether the Project would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

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The Project would not displace any existing residents or housing, as the Project's energy storage system and associated facilities would be located on vacant and agricultural lands, absent of people and existing housing developments or residences. The nearest residences are located 3,300 feet west of the Project site on West Jayne Avenue; 11,500 feet to the southeast at the intersection of Modoc Avenue and West Goodrich Avenue; and 17,000 feet to the east on West Jayne

Avenue. The Project would not displace any existing residents or housing. Because no people or housing would be displaced by construction or operation of the Project, it would not be necessary to construct replacement housing elsewhere and no impact would occur under this criterion. (*No Impact*)

### **PG&E Infrastructure**

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., no impact related to either inducement of substantial unplanned population growth or the displacement of existing people or housing. No population growth or displacement of housing or residences would result from construction or operation of the infrastructure and transmission line upgrades required for the Project.

**Mitigation:** None required.

## 3.15.4 Cumulative Effects Analysis

Because the Project would cause no impact with respect to substantial unplanned population growth or a need for new housing, the Project would not cause or contribute to any cumulative impacts related to population and housing.

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## 3.16 Public Services

This section identifies and evaluates issues related to public services, including fire and police protection, schools, parks, libraries, and medical providers. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used in evaluating these impacts, and reports the results of the impact assessment. The County received no scoping input pertaining to public services (**Appendix A, Scoping Report**).

### 3.16.1 Setting

#### 3.16.1.1 Study Area

The study area for the analysis of potential impacts on public services includes the service areas of fire protection, law enforcement services, schools, parks, library, and medical providers that would serve the Project.

#### 3.16.1.2 Environmental Setting

##### ***Fire Protection***

Fire protection services in the vicinity of the Project site are provided by the Fresno County Fire Protection District (FCFPD). The FCFPD serves a population of more than 220,000 in a service area encompassing approximately 2,655 square miles in the communities of Tarpey Village, Calwa, Easton, Malaga, Del Rey, Caruthers, San Joaquin, Tranquillity, Prather, Friant, Tollhouse, Wonder Valley, Cantua Creek, Three Rocks, Five Points, Centerville, Tivy Valley, and Sand Creek and the cities of San Joaquin, Parlier, Mendota, and Huron (FCFPD 2022a). The FCFPD provides a full range of emergency response services, which include structural and wildland fire suppression, response to hazardous materials incidents, search and rescue, technical rescue, vehicle extrication, and basic life support medical services. The department employs a staff of 48. FCFPD emergency response personnel respond to more than 14,000 incidents annually, of which approximately 68 percent are medical incidents, for which the FCFPD provides Basic Life Support (FCFPD 2022b).

The nearest fire station to the Project site is Station 93, located approximately 5 miles (8 minutes by car) northeast of the Project site at 36421 S. Lassen Avenue in the community of Huron (FCFPD 2022c). Fire protection services in and to the community of Buttonwillow, where PG&E's existing Midway Substation is located, are provided by Kern County Fire Station 25 located at 100 Mirasol Avenue in Buttonwillow (Kern County Fire Department 2023).

##### ***Police Services***

Fresno County Sheriff's Office (FCSO) patrol services are divided into four patrol areas, each commanded by a lieutenant who supervises field services from the patrol area's substation.

The Project site is located within Patrol Area 1. The Area 1 substation is located at 21925 West Manning Avenue in the city of San Joaquin, approximately 40 miles north of the Project site via Lassen Avenue. Area 1 encompasses more than 2,400 square miles in western Fresno County and serves the incorporated cities of San Joaquin, Coalinga, Huron, Kerman, Mendota, and Firebaugh. It also serves the unincorporated communities of Tranquillity, Biola, Five Points, Helm, Three Rocks, Cantua Creek, and Dos Palos, as well as the city of San Joaquin (contracted). Because of staffing shortages, the Area 1 substation is currently closed to the public (FCSO 2022a, 2022b). Police services in and to the community of Buttonwillow are provided by Kern County's North Area Substation (Kern County Sheriff's Office 2023).

### **Schools**

The Project site is located within the Coalinga-Huron Unified School District (CHUSD), which includes one kindergarten, four elementary schools, two middle schools, and one high school. CHUSD also includes continuation schools and independent study options (Fresno County Superintendent of Schools 2022; CHUSD 2022). The district serves more than 5,000 students throughout the cities of Coalinga and Huron in Fresno County. Huron Middle School is closest to the Project site, located approximately 5 miles to the northeast. The Buttonwillow Union School District serves the community of Buttonwillow (Kern County 2023).

### **Libraries**

The libraries nearest to the Project site are the Huron Public Library and the Avenal Branch Library, which are a part of the Coalinga-Huron Library District. The Huron Public Library is located approximately 6 miles northeast of the Project site and the Avenal Branch Library is located approximately 9 miles south of the Project site (Coalinga-Huron Library District 2022). The Kettleman City Branch Library, Stratford Branch Library, and Lemoore Branch Library are all located within 25 miles of the Project site. In Kern County, library services nearest PG&E's existing Midway Substation are provided by the Buttonwillow Branch Library (Google Maps 2023).

### **Parks**

Fresno County offers a variety of recreational opportunities such as regional parks, city parks, state and national parks, national forests, wilderness areas, and scientific research areas. The Project site is not located within the immediate vicinity of any parks or recreational facilities, and no parks or existing recreational facilities are located on the Project site, as discussed further in Section 3.17, *Recreation*. The nearest recreational facility is Keenan Park, located approximately 4 miles northeast of the Project site.

### **Emergency Medical Services**

The nearest hospital to the Project site is the Coalinga Regional Medical Center, located in the city of Coalinga, approximately 12 miles northwest of the Project site. The Coalinga Regional Medical Center provides acute care, a clinical lab, and 24-hour-per-day emergency services (City of Coalinga 2022). The next nearest hospital is the Naval Health Clinic, located in the city of Lemoore approximately 16 miles northeast of the Project site. Medical services include primary

and preventative care, hospital care and surgery services, urgent and emergency care, and specialty and other care (Naval Health Clinic 2022). The next nearest medical service centers are Adventist Health Hanford and Adventist Health Tulare. The medical service provider nearest to PG&E's existing Midway Substation is Omni Family Health, a community clinic (Omni Family Health 2023).

### **3.16.1.3 Regulatory Setting**

#### ***Federal***

No federal statutes, regulations, or policies apply to the analysis of public services for the Project.

#### ***State***

##### **California Public Resources Code Sections 4294 and 4293**

Details on the relevant fire regulations are provided in Section 3.20, *Wildfire*.

##### **Red Flag Fire Warning and Weather Watches**

Red-flag warnings and fire-weather watches aim to prevent fire events and reduce the potential for substantial damage. When extreme fire weather or behavior is present or predicted in an area, a red-flag warning or fire-weather watch may be issued to advise local fire agencies that these conditions are present. The National Weather Service issues red-flag warnings and fire-weather watches, and the California Department of Forestry and Fire Protection provides safety recommendations for preventing fires. These include clearing and removing vegetation and ensuring the proper use of equipment.

##### **California Public Utilities Commission General Order No. 131-D**

The California Public Utilities Commission (CPUC) would have sole and exclusive jurisdiction over PG&E's construction, operation, and maintenance of the PG&E infrastructure and improvements needed to connect the Project to the grid because it regulates activities undertaken by PG&E and the other investor-owned public utilities within the state. PG&E's work (as regulated under state law by the CPUC) would not be subject to the County's or Kern County's local land use requirements. However, CPUC General Order No. 131-D, Section XIV.B, would require PG&E to "consult with local agencies regarding land use matters," potentially including potential impacts on public services.

#### ***Local***

##### **Fresno County General Plan**

The Public Facilities and Services Element of the Fresno County General Plan contains goals, policies, and implementation program measures to ensure that public facilities and services are adequately available and accessible in a timely fashion to serve new development (Fresno County 2000).

The following goals and policies in Section G, *Law Enforcement*, of the Public Facilities and Services Element may be relevant to the Project:

**Goal PF-G.** To protect life and property by deterring crime and ensuring the prompt and efficient provision of law enforcement service and facility needs to meet the growing demand for police services associated with an increasing population.

**Policy PF-G.2:** The County shall strive to maintain a staffing ratio of two (2) sworn officers serving unincorporated residents per 1,000 residents served. (This count of officers includes all ranks of deputy sheriff personnel and excludes all support positions and all sworn officers serving county wide population interests such as bailiffs, and sworn officers serving contract cities and grant specific populations.)

The following goals, policies, and implementation programs in Section H, *Fire Protection and Medical Services*, of the Public Facilities and Services Element are relevant to the Project:

**Goal PF-H.** To ensure the prompt and efficient provision of fire and emergency medical facility and service needs, to protect residents of and visitors to Fresno County from injury and loss of life, and to protect property from fire.

**Policy PF-H.1:** The County shall work cooperatively with local fire protection districts to ensure the provision of effective fire and emergency medical services to unincorporated areas within the county.

**Policy PF-H.2:** Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in unincorporated areas of the County shall not be approved unless adequate fire protection facilities are provided.

**Policy PF-H.8:** The County shall encourage local fire protection agencies in the county to maintain the following as minimum standards for average first alarm response times to emergency calls:

- a. 5 minutes in urban areas;
- b. 15 minutes in suburban areas; and
- c. 20 minutes in rural areas.

**Policy PF-H.10:** The County shall ensure that all proposed developments are reviewed for compliance with fire safety standards by responsible local fire agencies per the Uniform Fire Code and other State and local ordinances.

**Policy PF-H.11:** The County shall encourage local fire protection agencies to provide and maintain advanced levels of emergency medical services (EMS) to the public, consistent with current practice.

The following goals, policies, and implementation programs in Section I, *Schools and Library Facilities*, of the Public Facilities and Services Element are relevant to the Project:

**Goal PF-I.** To provide for the educational needs of Fresno County and provide libraries for the educational, recreational, and literary needs of Fresno County residents.

**Policy PF-I.1:** The County shall encourage school districts to provide quality educational facilities to accommodate projected student growth in locations consistent with land use policies of the General Plan.

**Policy PF-I.4:** The County shall work cooperatively with school districts in monitoring housing, population, and school enrollment trends and in planning for future school facility needs and shall assist school districts in locating appropriate sites for new schools.

The following goals, policies, and implementation programs in Section H of the Open Space and Conservation Element are relevant to the Project:

**Policy OS-H.2:** The County shall strive to maintain a standard of five (5) to eight (8) acres of County-owned improved parkland per one thousand (1,000) residents in the unincorporated areas.

### 3.16.2 Significance Criteria

The Project would result in a significant impact related to public services if it would:

- a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:
  - i. Fire protection.
  - ii. Police protection.
  - iii. Schools.
  - iv. Parks.
  - v. Other public facilities.

### 3.16.3 Direct and Indirect Effects

#### 3.16.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of these, the actions described in Section 2.5.9.2, *Fire Protection*, could reduce the Project's demand on public services.

#### 3.16.3.2 Methodology

The evaluation of potential public services impacts was based on the likelihood that the Project would increase demand for, alter, or interfere with existing public services in a manner that would generate a need for the construction of new or the alteration of existing public services facilities, the construction of which could cause an adverse change in the physical environment.

### 3.16.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities.

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#### ***Fire Protection***

No new or physically altered fire facilities are proposed as part of the Project, nor would the Project result in an increase in population that would require the provision of new or physically altered fire facilities, because no housing is proposed as part of the Project and no permanent staffing would be associated with operation and maintenance at the Project site.

During construction, the peak daily workforce could reach a peak of 150 workers; however, on average, fewer workers would be present on-site. Construction workers would not create a substantial population increase typically associated with impacts under this criterion. Increased traffic in the Project vicinity could temporarily affect the demand for fire protection if motor vehicle accidents were to occur or if construction activities were to ignite a fire requiring an emergency response. However, vehicle use of area roadways resulting from Project construction activities would be temporary and the increase in demand is not expected to be significant; therefore, it would not affect the FCFPD's ability to respond to incidents within the recommended time periods described in General Plan Policy PF-H.8. For rural areas like the Project site, Policy PF-H.8 identifies a minimum expected response time of 20 minutes. The nearest fire station to the Project site is Station 93, approximately 5 miles (8 minutes by car) northeast of the Project site in the community of Huron; therefore, the FCFPD would be able to respond to incidents within the recommended time for rural areas (FCFPD 2022c).

Increases in long-term demand for fire protection services are typically associated with substantial population increases. Although the Project site would be remotely monitored, routine on-site maintenance would also occur. During these visits, maintenance would include vegetation control to reduce the risk of a Project-related fire. Furthermore, the Applicant would design and implement fire protection systems for each phase of the Project in accordance with the 2016 California Fire Code (24 Cal. Code Regs Part 9) and would consider the recommendations of the National Fire Protection Association 855 standards for the installation of stationary energy storage systems. The battery energy storage system would include several methods of failure detection, including temperature, humidity controls, and smoke detection. For more information regarding fire protection, prevention, and detection measures and design features, see Section 2.5.9.2, *Fire Protection*, in Chapter 2, *Project Description*. Compliance with requirements and the implementation of additional fire-safety measures would avoid or reduce potential adverse impacts related to fire risk.



Construction, operation, and decommissioning of the Project would not result in physical or operational changes that would interfere with FCFPD response times or performance objectives such that provision of new or physically altered FCFPD facilities would be required. Therefore, the Project would result in no substantial adverse physical impacts due to the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services. *(No impact)*

### **Police Services**

Similar to impacts on fire protection services, the Project's construction, operation and maintenance, and decommissioning activities could temporarily affect demand for police protection services, but the effect would not be significant enough to require the construction of new or physically altered police protection facilities or require or result in the hiring of additional police officers.

Police services may be required in the instance of theft or vandalism at the Project site. To limit theft or vandalism, the site would be surrounded by security fencing with ingress/egress access gates that would restrict on-site access to authorized personnel. Additional preventive security would include a motion-activated security lighting system. Although it is undetermined whether the substation would require on-site staffing, the Project would be monitored remotely 7 days a week through the Applicant's supervisory control and data acquisition (SCADA) system. Perimeter fencing, security lighting, and the Applicant's SCADA system would help to mitigate theft or vandalism at the Project site. Operation and maintenance of the expanded portion of the Gates Substation would be similar to operation and maintenance of the existing substation, with minimal if any new vehicle trips and equipment repairs and replacements as necessary. No new employees would be needed to operate or maintain the Midway Substation.

Construction, operation, and decommissioning of the Project could result in increases in the demand for police protection services. Fresno County General Plan Policy PF-G.2 indicates that the ideal population to police ratio is 2 sworn officers per 1,000 unincorporated residents. As discussed in Section 3.15, *Population and Housing*, the Project would have no impact on population growth, and therefore would not affect the ability of the FCSO to maintain its population-to-police ratio. Accordingly, the Project would not require new or physically altered FCSO facilities or the hiring of additional law enforcement personnel. Therefore, the Project would result in no substantial adverse physical impacts due to the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire police protection services. *(No Impact)*

### **Schools**

Impacts that would require the provision of new or altered school facilities as a result of a project are typically associated with a substantial increase in population. No housing is proposed as part of this Project, nor would any be required by its development. As stated above and discussed further in Section 3.15, *Population and Housing*, the workforce required for construction, operation and maintenance, and decommissioning would not contribute to a substantial increase in population because construction activities would be temporary. The Project site would be

monitored remotely, and routine on-site maintenance would occur. Therefore, the Project would result in no substantial adverse physical impacts due to the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios or other performance objectives for schools. *(No Impact)*

### ***Libraries***

Similar to impacts on schools, impacts on libraries are typically associated with a substantial increase in population. As discussed above, the peak daily workforce for the Project would reach approximately 150 workers; however, on average, fewer workers would be present on-site. It is anticipated that the majority of workers would be sourced locally and would not relocate to the area. Construction, operation, maintenance, and decommissioning of the Project would neither increase the demand on existing library facilities nor require the construction of new or expansion of any existing library facilities. Therefore, the Project would result in no substantial adverse physical impacts due to the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios or other performance objectives for libraries. *(No Impact)*

### ***Parks***

As discussed in Section 3.17, *Recreation*, the Project would not result in the construction or alteration of park facilities and, as analyzed in Section 3.15, *Population and Housing*, would not result in population increases that would affect Fresno County's ability to meet or maintain its parkland provision goals. The Project would not require or result in the provision of new park facilities or alterations to existing park facilities, the construction of which could cause a significant impact. Therefore, the Project would result in no substantial adverse physical impacts due to the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios or other performance objectives for parks. *(No Impact)*

### ***Emergency Medical Services***

Similar to impacts on schools and libraries, impacts related to emergency medical services are typically associated with an increase in population. The nearest hospital to the Project site is the Coalinga Regional Medical Center, located in the city of Coalinga, approximately 12 miles northwest of the Project site. If an incident requiring medical attention were to occur during the construction, operation, or decommissioning of the Project site, Project workers would be near the Coalinga Regional Medical Center. However, because most workers would likely be sourced locally, the Project is not expected to affect the ability of local medical facilities to serve the community. The Project would not substantially increase the population that could result in an increased demand for emergency medical services or necessitate the construction or expansion of additional medical facilities. Therefore, the Project would result in no substantial adverse physical impacts due to the provision of new or physically altered governmental facilities in order to maintain acceptable service ratios or other performance objectives for emergency medical services. *(No Impact)*

### **PG&E Infrastructure**

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., no impact on public services, because the number of workers required for the Project interconnection infrastructure work would be small—most likely from the local area—and because the necessary work would be of too short a duration to cause in-migration of workers to support it.

**Mitigation:** None required.

### **3.16.4 Cumulative Effects Analysis**

Because the Project would cause no impact with respect to the provision of new or physically altered facilities for fire or police protection, schools, libraries, parks, or emergency medical services, the Project would not cause or contribute to any cumulative impact related to such services.

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### **3.16.5 References**

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## 3.17 Recreation

This section identifies and evaluates issues related to recreation. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used in evaluating these impacts, and reports the results of the impact assessment. The County received no scoping input pertaining to recreation (**Appendix A, Scoping Report**).

### 3.17.1 Setting

#### 3.17.1.1 Study Area

The study area for the analysis of potential recreation impacts includes the Project site and the parks, open spaces, and other lands used for recreational purposes within 15 miles of the site.

#### 3.17.1.2 Environmental Setting

Recreational opportunities in Fresno County include regional parks, city parks, state and national parks, national forests, wilderness areas, scientific research areas, and other facilities. There are no recreational resources within the Project site (Fresno County 2000). Keenan Park is the closest recreation facility to the Project site, located approximately 4 miles to the northeast. **Table 3.17-1** lists the recreational facilities within 15 miles of the Project site. In Buttonwillow, Kern County, the closest recreational facilities to PG&E’s existing Midway Substation are located approximately 0.2 miles west at the Buttonwillow Recreation and Park District. Recreational facilities at the Buttonwillow Recreation and Park District include a playground, pool, tennis courts, and three ballparks (Google Maps 2023). See Chapter 2, Figure 2-5, *Midway Substation Location*.

**TABLE 3.17-1  
RECREATION FACILITIES WITHIN 15 MILES OF THE KEY ENERGY STORAGE PROJECT SITE**

| Recreational Facility         | Managing Agency                             | Approximate Distance from Project Site |
|-------------------------------|---|--|
| Keenan Park                   | Coalinga-Huron Recreation and Park District | 4 miles northeast                      |
| Chestnut Park                 | Coalinga-Huron Recreation and Park District | 5 miles northeast                      |
| George E. Olsen Memorial Park | Coalinga-Huron Recreation and Park District | 12 miles west                          |
| Keck Park                     | Coalinga-Huron Recreation and Park District | 14 miles west                          |
| Coalinga-Huron Sports Complex | Coalinga-Huron Recreation and Park District | 13 miles west                          |
| Huron Fishing Access          | Fresno County                               | 8 miles northeast                      |

SOURCES: Coalinga-Huron Recreation and Park District 2022; Fresno County 2022.

## Federal Recreation Resources

No federally administered public lands are located within or near the Project site. The closest federal recreational site is the Curry Mountain Recreation Area, located approximately 26 miles southwest of the Project site (BLM 2022).

## State Recreation Resources

There are no state recreation areas on or near the Project site. The nearest state park to the Project site is Colonel Allensworth State Historic Park, located in unincorporated Tulare County approximately 46 miles southeast of the Project site (California Department of Parks and Recreation 2022).

## Local Recreation Resources

There are a variety of recreational resources in Fresno County: regional parks, state parks, national parks, national forests, and wilderness areas. The County's General Services Department has primary responsibility for the development and maintenance of the Fresno County park system. Table 3.17-1 identifies the local parks nearest to the Project site. In Kern County, the Kern County Parks and Recreation Department has primary responsibility for the development and maintenance of parks and recreation facilities (Kern County 2023).

### 3.17.1.3 Regulatory Setting

#### ***Federal***

No federal regulations, plans, or policies govern recreation-related considerations applicable to the Project.

#### ***State***

No state regulations, plans, or policies govern recreation-related considerations applicable to the Project.

#### ***Local***

The Fresno County General Plan's Open Space and Conservation Element discusses policies to enhance recreational opportunities in the county by encouraging further development of public and private recreational opportunities. The following goal and policies in Section H, *Parks and Recreation*, are relevant to the Project, including one policy that provides a quantitative goal for the provision of parkland (Fresno County 2000):

**Goal OS-H:** To designate land for and promote the development and expansion of public and private recreational facilities to serve the needs of residents and visitors.

**Policy OS-H.2:** The County shall strive to maintain a standard of five (5) to eight (8) acres of County-owned improved parkland per one thousand (1,000) residents in the unincorporated areas.

**Policy OS-H.6:** The County shall encourage the development of parks near public facilities such as schools, community halls, libraries, museums, prehistoric sites, and open space areas and shall encourage joint-use agreements whenever possible.

**Policy OS-H.14:** The County shall encourage the development of recreation facilities in western Fresno County.

The Kern County *Parks and Recreation Master Plan* discusses goals, policies, and actions to enhance recreational opportunities in the county by encouraging further development of public and private recreational opportunities. Master Plan Chapter 5, *Policies, Goals and Actions*, provides one quantitative goal for the provision of parkland (Kern County 2010):

**Goal 2:** Provide a minimum standard of 5 acres of park land per 1,000 residents. This standard would apply to regional parks serving the entire County, as well as local parks in unincorporated areas of the County not served by a local park district.

### 3.17.2 Significance Criteria

The Project would result in a significant recreation impact if it would:

- a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

### 3.17.3 Direct and Indirect Effects

#### 3.17.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. None of them focus on potential impacts on recreation resources.

#### 3.17.3.2 Methodology

The Project's proposed location and components were reviewed relative to the location and capacity of parks and recreational facilities within an approximately 15-mile radius of the Project site to determine whether Project-caused changes to the physical environment would be significant.

### 3.17.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

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The Project site is not located close to existing parks or recreational facilities. Increases in the use of recreational facilities that are associated with substantial physical deterioration are typically caused by substantial population increases or by a substantial reduction in the availability of existing parks or other recreational facilities. As highlighted in Section 3.15, *Population and Housing*, the Project would not result in any substantial population growth in the area. The number of construction workers is expected to be limited (no more than approximately 150 people on-site at any one time during peak construction or decommissioning) and only one or two workers would visit the site weekly during operation and maintenance, with one annual maintenance inspection expected to occur. PG&E's operation and maintenance of the expanded portion of the Gates Substation would be similar to existing operation and maintenance, with minimal new vehicle trips, equipment repairs, and replacements as necessary. No change relative to existing conditions would be associated with PG&E's modifications to the existing Midway Substation. Therefore, the Project would not result in a substantial increase in existing demand for parks and recreation-related facilities and no deterioration of any recreational facilities would occur. No impact would occur under this criterion. (*No Impact*)

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**Criterion b)** Whether the Project would include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

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The Project does not propose to construct new or expand existing recreational facilities that might have an adverse physical effect on the environment. Similarly, the Project would not require the construction or expansion of recreational facilities. As described in Section 3.15, *Population and Housing*, the Project would not result in population growth, and therefore would not affect the County's ability to provide park facilities at the ratio described in General Plan Policy OS-H.2. Because the Project would not result in the construction or expansion of any recreational facilities, there would be no adverse physical effects on the environment associated with such facilities. No impact would occur. (*No Impact*)

#### **PG&E Infrastructure**

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. The impacts of PG&E's



construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above.

Incremental impacts specific to the PG&E work would be the same as for the rest of the Project, i.e., no impact on recreation resources, because no new or expanded recreation resources are proposed, nor would any be expanded as a result of PG&E's work; because the number of workers required to implement the work would be small and from the local area; and because the necessary work would be of too short a duration to cause in-migration of workers to support it.

**Mitigation:** None required.

### 3.17.4 Cumulative Effects Analysis

As described in Section 3.17.3.2, *Direct and Indirect Effects of the Project*, the Project would result in no impact related to recreation. Therefore, the Project could not cause or contribute to a significant cumulative recreation impact.

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### 3.17.5 References

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## 3.18 Transportation

This section identifies and evaluates issues related to transportation, including the circulation system, vehicle miles traveled (VMT) as contemplated in CEQA Guidelines Section 15064.3(b), roadway hazards, and emergency access. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment.

The County received scoping input from the California Department of Transportation (Caltrans) and the San Joaquin Valley Air Pollution Control District (SJVAPCD) pertaining to transportation. Caltrans recommended that a traffic impact study be conducted, advised that Caltrans may require preparation of a transportation management plan to account for construction traffic, and provided information about encroachment permit requirements. SJVAPCD encouraged consideration of measures that would reduce VMT. Copies of these letters are provided in Exhibit E of **Appendix A**, *Scoping Report*.

The analysis in this section is based in part on the *Key Energy Storage Project Transportation Impact Analysis* and the *Trip Generation – Distribution Memorandum*, each prepared by VRPA Technologies, Inc., on the Applicant’s behalf (**Appendix K**, *Transportation*). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed these and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.18.1 Setting

#### 3.18.1.1 Study Area

The Project site is located in western Fresno County approximately 1,700 feet northeast of Interstate 5 (I-5) at the closest point, immediately south of West Jayne Avenue, and between I-5 and South Lassen Avenue (State Route [SR] 269). Access to the Project site would be provided by the existing roadway network described below; primary driveway access from the public roadway network would be provided along West Jayne Avenue. The transportation study area includes all nearby roadways where Project construction, operation and maintenance, and decommissioning activities would add vehicle trips. In addition, the transportation study area includes pedestrian, bicycle, and transit facilities located on public roadways adjacent to the Project site (i.e., SR 269 and West Jayne Avenue).

#### 3.18.1.2 Environmental Setting

The environmental setting includes transportation facilities that would be used to access the Project site, which includes major highways and local roadways, public transportation, and nonmotorized transportation.

### **Major Highways**

SR 269 (South Lassen Avenue), about 1.25 miles east of the Project site, extends north from Avenal to Five Points and provides access to the Project site via West Jayne Avenue. The average daily traffic (ADT) volume on SR 269 in the vicinity of the Project site is approximately 2,000 vehicles, with up to approximately 200 vehicles during the peak traffic hour (Caltrans 2020a).

I-5 is a north-south interstate highway that extends from the U.S. border with Mexico to the Canadian border and provides access for goods movement, shipping, and travel. Access to the Project site from I-5 is provided via interchanges at West Jayne Avenue and SR 269. The ADT volume on I-5 between West Jayne Avenue and SR 269 is approximately 35,000 vehicles, with up to approximately 4,950 vehicles during the peak traffic hour (Caltrans 2020a).

### **Local Roads**

West Jayne Avenue is a two-lane undivided major roadway that provides a connection from Coalinga, about 11.5 miles west of the Project site, to Avenal Cutoff Road (Fresno County/Kings County line), approximately 6 miles east of the Project site. West Jayne Avenue intersects I-5 via a full interchange west of the Project site and meets SR 269 at a four-way stop intersection east of the Project site. All vehicle trips generated by the Project would access the Project site from West Jayne Avenue via one of the two regional facilities listed above. The ADT volume on West Jayne Avenue adjacent to the Project site is approximately 3,450 vehicles (Fresno COG 2013). Traffic counts collected for the Project during the peak period (i.e., 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) in January 2023 indicated that peak-hour volumes on West Jayne Avenue adjacent to the Project site are approximately 375 vehicles during the morning and afternoon peak hours.

### **Public Transportation**

Public transportation in the vicinity of the Project site is provided by the Fresno County Rural Transit Agency/Coalinga Inter-City Transit, which provides scheduled round-trip service from Coalinga to the Fresno-Clovis Metropolitan Area with stops in Huron, Five Points, Lanare, Riverdale, Caruthers, Raisin City, and Easton along the route. Service is available Monday through Saturday from 8:00 a.m. to 5:45 p.m. (FCRTA 2021). A portion of this service operates on West Jayne Avenue adjacent to the Project site but does not provide access via a bus stop. The closest bus stop is located approximately 6 miles north of the Project site on SR 269 in Huron.

### **Nonmotorized Transportation**

There are no dedicated pedestrian or bicycle facilities in the immediate vicinity of the Project site or along the surrounding roadways or highways, including SR 269 and West Jayne Avenue. The Fresno County Regional Bicycle and Recreational Trails Master Plan identifies a planned 14.5-mile Class II Bikeway on West Jayne Avenue between SR 33 and the Fresno County/Kings County line, which would run directly adjacent to the Project site.<sup>1</sup> Bicycle facilities on paved

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<sup>1</sup> This planned bicycle facility is not identified as a priority due to environmental, right-of-way, or jurisdictional issues (*Table VI—Other Unranked Candidate Projects*).

shoulders are commonly found on rural roads without curbs and sidewalks. Shoulder bikeways provide a paved shoulder for bicyclists to travel outside of the travel lane (Fresno County 2013).

### 3.18.1.3 Regulatory Setting

#### **State**

Caltrans has jurisdiction over state highways and sets maximum load limits for trucks and safety requirements for oversized vehicles that operate on highways. Fresno County is under the jurisdiction of Caltrans District 6. The following Caltrans regulations apply to potential transportation and traffic impacts of the Project:

**California Vehicle Code, Division 15, Chapters 1–5 (Size, Weight, and Load).** Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways.

**California Streets and Highways Code, Sections 660–711, 670–695.** Requires permits from Caltrans for any roadway encroachment during truck transportation and delivery; includes regulations for the care and protection of state and county highways and provisions for the issuance of written permits; and requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.

#### **Local**

##### **Fresno County General Plan**

The Transportation and Circulation Element of the County General Plan provides the framework for Fresno County decisions concerning the countywide transportation system, which includes various transportation modes and related facilities. It also provides for coordination with the cities and unincorporated communities within the county, with the Regional Transportation Plan (RTP) adopted by the Fresno Council of Governments (COG), and with state and federal agencies that fund and manage transportation facilities within the county. This element of the General Plan sets out goals, policies, and programs related to transportation and circulation. The following transportation-related policies are applicable to the Project:

**Policy TR-A.2:** The County shall plan and design its roadway system in a manner that strives to meet Level of Service (LOS) D on urban roadways within the spheres of influence of the cities of Fresno and Clovis and LOS C on all other roadways in the county.

**Policy TR-A.3:** The County shall require that new or modified access to property abutting a roadway and to intersecting roads conform to access specifications in the Circulation Diagram and Standards section. Exceptions to the access standards may be permitted in the manner and form prescribed in the Fresno County Zoning and Subdivision Ordinances, provided that the designed safety and operational characteristics of the existing and planned roadway facility will not be substantially diminished.

**Policy TR-A.5:** The County shall require dedication of right-of-way or dedication and construction of planned road facilities as a condition of land development, and require an analysis of impacts of traffic from all land development projects including impacts from

truck traffic. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project. The County may allow a project to fund a fair share of improvements that provide significant benefit to others through traffic impact fees.

**Policy TR-A.7:** The County shall assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system.

**Policy TR-A.8:** The County shall ensure that land development that affects roadway use or operation or requires roadway access to plan, dedicate, and construct required improvements consistent with the criteria in the Circulation Diagram and Standards section of this element.

### **Fresno County Regional Bicycle and Recreational Trails Master Plan**

The Fresno County Department of Public Works and Planning adopted the Regional Bicycle and Recreational Trails Master Plan to establish a framework for future development of Fresno County's bicycle and recreational trail network and makes the County eligible for local, state, and federal funding (Fresno County 2013). The Bicycle and Regional Trails Master Plan provides a comprehensive, long-term planning horizon for development of an extensive regional bikeway and recreational trails network that connects cities and unincorporated areas countywide. The plan implements various policies contained in the Transportation and Circulation and Open Space and Conservation elements of the County's General Plan (Fresno County 2000).

The plan was amended in 2013 to meet the requirements of the 2006 Measure "C" Transportation Sales Tax Extension, Local Transportation Program by adding recreational trails to the plan. The plan coordinates the regional bikeway system with existing local bikeway plans that tie into a comprehensive bikeway system; coordinates the Fresno County regional nonmotorized transportation system with adjoining counties; and identifies barriers that inhibit safe and convenient nonmotorized travel and includes a list of corrective measures to remove the barriers. The plan contains Policy BP-A.5, which requires that development projects adjacent to designated bikeways provide adequate rights-of-way or easements.

### **Fresno County Regional Active Transportation Plan**

The Fresno COG adopted the Fresno County Regional Active Transportation Plan on February 22, 2018. The Active Transportation Plan is a comprehensive guide outlining the vision for biking, walking, and other human-powered transportation in Fresno County and a road map for achieving that vision. The Active Transportation Plan proposes a comprehensive network of countywide bikeways, trails, and sidewalks; crossing improvements at key intersections; and locations for recommended bicycle parking. At build-out, the recommended network would add 248 miles of Class I Bikeways (bike paths), 1,591 miles of Class II Bikeways (bike lanes), 59 miles of Class III Bikeways (bike routes), 11 miles of Class IV Separated Bikeways, and 89 miles of sidewalks. Build-out of the plan would also improve 80 intersections and street crossings for pedestrians and add 175 bicycle parking locations (Fresno COG 2018).

This plan meets all requirements for active transportation plans as specified by the California Transportation Commission's 2017 Active Transportation Plan Guidelines.

### **Fresno Council of Governments Regional Transportation Plan**

The 2022 RTP was prepared by the Fresno COG and adopted in July 2022. The RTP is a blueprint that establishes a set of regional transportation goals, policies, and actions intended to guide development of the planned multimodal transportation systems in Fresno County. The plan was developed through a continuing, comprehensive, and cooperative planning process, and provides for effective coordination between local, regional, state, and federal agencies. Additionally, the RTP establishes a basis on which funding applications are evaluated. Use of any state or federal transportation funds by local governments must conform to the RTP, the State Implementation Plan for air quality improvements, and the Federal Transportation Improvement Programs. The Fresno COG prepared the 2022 RTP to include a sustainable communities strategy, which is intended to show how integrated land use and transportation planning can lead to lower greenhouse gas (GHG) emissions from autos and light trucks. The sustainable communities strategy is required by Senate Bill 375, which went into effect in 2009 (Fresno COG 2022). See Section 3.9, *Greenhouse Gas Emissions*, for details.

### **Council of Fresno County Governments Congestion Management Process**

All urbanized areas with a population larger than 200,000 people are required to have a congestion management system, program, or process. The Fresno COG refers to its congestion management activities as the Congestion Management Process (CMP). The 2009 Fresno County CMP was designed to meet the federal requirement under Code of Federal Regulations Title 23, Sections 500.109 and 450.320. The 2017 CMP is an update to the 2009 CMP based on emerging transportation planning practices, such as the transportation performance measurement required under the Moving Ahead for Progress in the 21st Century Act and the Fixing America's Surface Transportation (Fresno COG 2017).

The CMP is a systematic process for managing congestion that provides information on (1) transportation system performance and (2) alternative strategies for alleviating congestion and enhancing the mobility of persons and goods to levels that meet state and local needs. The purpose of the CMP is to help ensure that a balanced transportation system is developed that relates population growth, traffic growth, and land use decisions to transportation system LOS performance standards and air quality improvement. The CMP is an effort to more directly link land use, air quality, transportation, and the use of new advanced transportation technologies as an integral and complementary part of the region's plans and programs. The purpose of defining the CMP network is to establish a system of roadways that will be monitored in relation to established LOS standards. The identified CMP network consists of roadway facilities with slow peak-period travel speeds and are concentrated in the Fresno-Clovis Metropolitan Area. None of the roadways in the Project study area are identified in the CMP.

## 3.18.2 Significance Criteria

The Project would result in significant impacts on transportation if it would:

- a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b);
- c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- d) Result in inadequate emergency access.

## 3.18.3 Direct and Indirect Effects

### 3.18.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. None of them focus on potential impacts related to transportation.

### 3.18.3.2 Methodology

#### ***Trip Generation***

**Table 3.18-1** shows trip generation during Project construction. Trip generation during decommissioning would be similar to that during Project construction. Detailed estimates of trip generation for the Project were developed based on planning and scheduling of the construction activities, as well as the Applicant's experience with construction and operation of facilities similar to the Project. For the purposes of CEQA, the values shown in the table provide a conservative scenario, in that they represent the maximum level of construction activity that would occur during installation of the energy storage enclosure over a 76-week period for the Lithium-Ion Battery Option and over a 92-week period for the Lithium-Ion and Iron-Flow Storage Option.<sup>2</sup> Given the distance between nearby population centers and the Project site, it is anticipated that some workers would carpool. However, to provide a conservative estimate of trip generation, it was assumed that all workers would travel to and from the Project site alone in single-occupancy vehicles. The trip generation assumes a passenger car equivalent (PCE) of 3.0 for the large trucks associated with construction activities. PCEs account for differences between trucks and passenger vehicles (i.e., trucks utilize more roadway capacity than passenger vehicles because of their larger size, slower start-up times, and reduced maneuverability).

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<sup>2</sup> The two battery options would generate an equal number of maximum daily and peak-hour construction trips; therefore, the trip generation would be the same.



**TABLE 3.18-1  
TRIP GENERATION FOR PROJECT CONSTRUCTION**

|                           | Daily   |        |           | Trip Generation |     |                |     | PCE Trip Generation |     |                |     |
|---------------------------|---------|--------|-----------|-----------------|-----|----------------|-----|---------------------|-----|----------------|-----|
|                           |         |        |           | A.M. Peak Hour  |     | P.M. Peak Hour |     | A.M. Peak Hour      |     | P.M. Peak Hour |     |
|                           | Workers | Trucks | ADT (PCE) | in              | out | in             | out | in                  | out | in             | out |
| Peak Construction Traffic | 150     | 40     | 540       | 47              | 18  | 24             | 41  | 53                  | 22  | 27             | 46  |

NOTES: ADT = average daily traffic; PCE = passenger car equivalents.

SOURCE: VRPA Technologies, Inc. 2022 (Appendix K).

The determination of a.m. and p.m. peak-hour trips for trucks and autos was based on the Manufacturing category (Land Use Code 140) from the Institute of Transportation Engineers’ *Trip Generation Manual* (11th Edition).

Once constructed, the Project would operate 7 days per week and 365 days per year. The expected facility maintenance would generate little traffic during operation. Only occasional on-site maintenance is expected to be needed after commissioning. Routine operations would require weekly visits to the facility site by one or two workers in a light utility truck. It is anticipated that one annual major maintenance inspection would also occur, which may require up to five workers. Based on the minimal number of vehicle trips described above, there would be no impact on peak-hour traffic associated with ongoing Project operations.

### ***Trip Distribution***

The Project’s traffic distribution was estimated based on an analysis of potential origins and destinations of construction traffic and prevailing traffic patterns. The following construction trip distribution percentages were assumed:

- 45 percent of construction traffic would travel to and from the north via I-5 (35 percent) or via SR 269 and West Jayne Avenue (10 percent).
- 38 percent of construction traffic would travel to and from the south via I-5 (35 percent) or via SR 269 and West Jayne Avenue (3 percent).
- 15 percent of construction traffic would travel to and from the west via West Jayne Avenue.
- 2 percent of construction traffic would travel to and from the east via West Jayne Avenue.

### ***Vehicle Miles Traveled***

CEQA Guidelines Section 15064.3(b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the CEQA Guidelines criteria for determining the significance of transportation impacts focus primarily on projects within transit priority areas, and shift the focus from driver delay to reduction of GHG emissions, creation of multimodal networks, and promotion of a mix of land uses. The revisions required lead agencies to evaluate

transportation impacts based on VMT beginning July 1, 2020. VMT is a measure of the total number of miles driven to or from a development and is sometimes expressed as an average per trip or per person. Fresno County has begun, but has not yet completed, consideration of transportation significance thresholds based on VMT. The County has not yet adopted or put into practice its own VMT-based transportation significance thresholds. Where no VMT threshold has yet been adopted, the California Governor’s Office of Planning and Research’s (OPR’s) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Advisory) (OPR 2018) provides guidance:

*The VMT metric can support the three statutory goals: “the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” (Public Resources Code §21099(b)(1), emphasis added.) However, in order for it to promote and support all three, lead agencies should select a significance threshold that aligns with state law on all three. State law concerning the development of multimodal transportation networks and diversity of land uses requires planning for and prioritizing increases in complete streets and infill development but does not mandate a particular depth of implementation that could translate into a particular threshold of significance. Meanwhile, the State has clear quantitative targets for GHG emissions reduction set forth in law and based on scientific consensus, and the depth of VMT reduction needed to achieve those targets has been quantified. Tying VMT thresholds to GHG reduction also supports the two other statutory goals. Therefore, to ensure adequate analysis of transportation impacts, OPR recommends using quantitative VMT thresholds linked to GHG reduction targets when methods exist to do so.*

In addition to this statewide guidance provided by OPR, the Fresno COG has provided recommendations regarding the analysis of VMT to serve its 16 member jurisdictions (Fresno COG 2020). The local governments can take the recommendations in the Fresno COG Regional Guidelines as appropriate based on their individual circumstances, such as growth policies and economic development goals. The Fresno COG guidance addresses the following elements:

- Context for VMT analysis.
- Project screening.
- VMT significance thresholds and VMT analysis for land use development projects, transportation projects, and land use plans.
- Feasible mitigation strategies applicable for the Fresno region.

### **Traffic Index**

Roadway pavement is designed to carry the truck traffic loads expected during the pavement design life. Truck traffic is the primary factor affecting pavement design life and its serviceability. The calculation of Traffic Index (TI) is a measure of the deteriorating effects of truck traffic on asphalt concrete pavement and provides the information necessary to design a structural section for a roadway. The TI calculation was conducted using the Caltrans *Highway Design Manual* procedures as described in Chapter 610, “Pavement Engineering Considerations,”

Topic 613: Traffic Considerations (Caltrans 2020b). The TI calculation is used by the County to determine the Pavement Condition Index for the roadway segment of West Jayne Avenue between Lake Avenue and the I-5 northbound ramp junction to assess the potential change in pavement conditions with Project-added truck trips.

According to Fresno County, a project would result in a significant TI impact if the project-added traffic causes an increase in the baseline traffic index of 0.5 or more, except on roadways that have been resurfaced within the last 5 years and for which the design TI at the time of the resurfacing exceeded the calculated TI with the project. If the design TI is not available, then the exception shall not apply. A pavement impact, as determined based on the TI analysis, may be mitigated by either constructing an overlay, reconstructing the pavement section, or participating financially in the costs of the mitigation to the extent of the project's fair share.

### 3.18.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

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For the reasons discussed below, the Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. (*No Impact*)

Fresno County's General Plan includes policies regarding access and safety standards of roadway facilities, bike facilities, and public transit. The General Plan seeks to coordinate multiple forms of transportation, including cars, commercial vehicles, buses, transit, bicycles, and pedestrian traffic, but does not contain specific policies governing pedestrian traffic. In addition, the following two plans have been adopted to address nonmotorized transportation systems and identify barriers to trails and bikeways: the Regional Bicycle and Recreational Trails Master Plan (Fresno County 2013), and the Fresno County Regional Active Transportation Plan (Fresno COG 2018).

The Project is consistent with the General Plan policies, the Regional Bicycle and Trails Master Plan, and the Fresno County Regional Active Transportation Plan because no public transportation service or dedicated pedestrian or bicycle facilities exist on roadways that would be used to access the Project site. As noted in Section 3.18.1.2, *Environmental Setting*, the Fresno County Regional Bicycle and Recreational Trails Master Plan identifies a planned 14.5-mile Class II Bikeway on West Jayne Avenue between SR 33 and the Fresno County/Kings County line, which would run directly adjacent to the Project site. However, it is unlikely that this facility would be constructed during the same time frame as the Project.<sup>3</sup> Further, the Project does not propose any changes to the West Jayne Avenue public right-of-way that would preclude implementation of the planned bicycle facility. Therefore, the Project would not conflict with

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<sup>3</sup> This planned bicycle facility is not identified as a priority due to environmental, right-of-way, or jurisdictional issues (*Table VI—Other Unranked Candidate Projects*).

adopted policies, plans, or programs supporting alternative transportation. The Project also would not decrease the performance or safety of public transit or pedestrian facilities because there are no facilities in the affected area. Therefore, the Project would cause no impact related to this criterion.

**Impact 3.18-1: Construction of the Project would generate a temporary increase in traffic volumes on area roadways, which could conflict with a program, plan, ordinance, or policy addressing the circulation system. (*Less than Significant with Mitigation Incorporated*)**

**Site Preparation and Construction**

Consistent with County General Plan Policy TR-A.5, an analysis was conducted to determine whether any impacts would result from passenger vehicle or truck trips generated during Project construction. As described in Chapter 2, *Project Description*, site preparation and construction of each of the four project phases would be short-term and would not overlap one another. The duration of each Project phase would range from an estimated 56 weeks (Phase 1) to 88 weeks (Phases 3 and 4) for the Lithium-Ion Battery Option. For the Lithium-Ion and Iron-Flow Storage Option, the duration of each of the three Project phases would range from an estimated 80 weeks (Phase 2) to 104 weeks (Phases 1 and 3). Construction traffic would result in short-term increases in traffic volumes on study area roadways. With the addition of Project-related construction vehicle traffic to existing roadway volumes without a corresponding increase in roadway capacity, there could be increased congestion and delay for vehicles. Construction truck traffic could temporarily reduce roadway capacities because of the slower travel speeds and larger turning radii of trucks.

The assessment of the potential short-term effect of Project construction traffic on local and regional roads is based on the following: (1) review of existing traffic volume information and (2) consideration of both the percentage increase the Project construction traffic would contribute over existing conditions and the capacity of the road to handle the additional traffic. Because the number of vehicles on roads varies from day to day and routinely fluctuates  $\pm 10$  percent, a change in traffic volume of 10 percent or less is generally not perceptible to the average motorist. Traffic volumes on Project area roads are typically highest during the morning and evening peak commute hours (generally 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.); traffic increases that occur during these peak periods may exacerbate short-term congestion.

As shown in **Table 3.18-2**, ADT on study area roadways would increase by as little as 1.1 percent (I-5) and as much as 15.7 percent (West Jayne Avenue) during the 76-week peak of Project construction activities for the Lithium-Ion Battery Option and the 92-week peak for the Lithium-Ion and Iron-Flow Storage Option. Increases in ADT would be smaller for the remaining construction duration of each Project phase. The magnitude of increases on I-5 and SR 269 are within the range of typical daily variation in traffic levels (usually on the order of  $\pm 10$  percent) that might be expected on the major roadways serving the Project site, and transportation conditions on these roadways would remain substantially similar to current conditions. On West Jayne Avenue, however, the magnitude of increases in traffic volume (greater than the above-cited  $\pm 10$  percent typical daily variation in traffic levels) would be noticeable to the average

motorist. However, based on the capacity of undivided two-lane roadways (approximately 1,700 vehicles per hour per lane) and the volumes shown in Table 3.18-2, the daily traffic capacity of West Jayne Avenue is adequate to accommodate the projected increase in traffic (TRB 2010).

**TABLE 3.18-2  
AVERAGE DAILY TRAFFIC DURING THE PEAK OF PROJECT CONSTRUCTION**

| Roadway           | Existing ADT | Project Traffic ADT | Percent Increase ADT |
|-------------------|--------------|---------------------|----------------------|
| SR 269            | 2,000        | 70                  | 3.5%                 |
| I-5               | 35,000       | 378                 | 1.1%                 |
| West Jayne Avenue | 3,450        | 540                 | 15.7%                |

NOTES: ADT = average daily traffic; I-5 = Interstate 5; SR = State Route

SOURCES: VRPA Technologies, Inc., 2022 (Appendix K); Caltrans 2020a; ESA 2022.

Although the increase in traffic volume on West Jayne Avenue would be noticeable to motorists who regularly travel along these roadways, there would be sufficient capacity to accommodate the added traffic during the construction period, and the operational standards identified in County General Plan Policy TR-A.2 would not be exceeded. However, it is expected that most construction-related traffic would occur during commute hours when construction workers are traveling to and from the Project site, resulting in a potentially significant congestion impact on the affected roadways. Furthermore, if temporary lane closures on West Jayne Avenue are required to accommodate construction of the gen-tie line across the roadway, vehicles traveling on West Jayne Avenue could experience additional delay and/or congestion. Implementation of the Construction Traffic Management Plan identified in **Mitigation Measure 3.10-2**, in Section 3.10, *Hazards and Hazardous Materials*, would reduce the impact of Project construction traffic on study area roadways during peak commute hours to a less-than-significant level.

Consistent with County General Plan Policy TR-A.7, the County would assess fees on the Project sufficient to cover the Project’s fair-share portion of its impacts on the local and regional transportation system, including impacts on the pavement on West Jayne Avenue. The Transportation Impact Study prepared for the Project (see Appendix K) included an analysis of potential pavement impacts, as required by the County. Pavement impacts are analyzed based on a comparison of the TI with and without the Project. Based on the County’s thresholds, the TI analysis concluded that construction of the Project would result in a less-than-significant impact on the pavement on West Jayne Avenue adjacent to the Project site.

Consistent with General Plan provisions addressing acceptable service levels, the Transportation Impact Study also evaluated delay and LOS at the four intersections along West Jayne Avenue that would be most affected by Project traffic. This analysis was conducted to determine whether Project traffic would cause nearby intersections to operate at unacceptable conditions, based on the County’s standard of LOS C. As discussed above in Section 3.18.3.1, *Methodology*, the State’s adoption of CEQA Guidelines Section 15064.3(b) in December 2018 no longer allows analyses to use the performance measures of delay/LOS in the determination of a transportation impact. For informational purposes, however, the results of the analysis show that all four study

intersections along West Jayne Avenue would operate acceptably (i.e., LOS C or better) with the addition of vehicle trips generated by the Project. Thus, to inform considerations of consistency with programs, plans, ordinances, and policies addressing the circulation system, the Project would have a less-than-significant impact with respect to the General Plan.

### **Operation and Maintenance**

Operation and maintenance activities would occur over an approximately 35-year period within the 40-year term of the requested conditional use permit. As stated previously, Project operation and maintenance would generate little traffic, with routine operations requiring weekly visits to the facility site by one or two workers in a light utility truck. During a major maintenance event, which would occur infrequently, up to 20 workers could travel to and from the Project site. The addition of such a small number of vehicles to the roadway network would not have a discernable effect on roadway operations. Therefore, Project operation would have a less-than-significant impact on study area roadways.

### **Decommissioning**

Decommissioning impacts would be short-term and temporary (approximately 1 year per phase), and would be subject to the requirements of a County-approved reclamation plan that is expected to include at least the commitments identified in the draft Reclamation Plan provided in Appendix B1. Thus, decommissioning of the Project would not result in a potential significant impact with respect to the study area's roadway conditions during peak commute hours.

**Mitigation:** Implement Mitigation Measure 3.10-2: Construction Traffic Management Plan, set forth in Section 3.10, *Hazards and Hazardous Materials*.

**Significance after Mitigation:** Less than Significant. Implementation of Mitigation Measure 3.10-2 would reduce the impact to a less-than-significant level because vehicle access on roadways adjacent to the Project site would be safely maintained and delays caused by additional Project-related traffic would be minimized, with an emphasis on peak-hour conditions when roadway volumes are highest.

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**Criterion b)** Whether the Project would conflict or be inconsistent with CEQA Guidelines section 15064.3(b).

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### **Impact 3.18-2: The Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). (*Less-than-Significant Impact*)**

Fresno County has not yet adopted thresholds of significance for VMT. Because no quantitative, qualitative, or performance level is identified, guidance criteria from both OPR's Technical Advisory and the Fresno COG's Regional Guidelines were considered for this evaluation.

### **OPR Technical Advisory on Evaluating Transportation Impacts in CEQA**

OPR's Technical Advisory provides guidance for the evaluation of a project's VMT impact using the following criteria: "The reduction of greenhouse gas emissions, the development of

multimodal transportation networks, and a diversity of land uses.” The “development of multimodal transportation networks” criterion does not apply to the Project, as the Project is a land use and not a transportation project. As discussed below, the Project would result in a less-than-significant impact with respect to VMT based on the guidance provided by the OPR Technical Advisory.

#### *Reduction of Greenhouse Gas Emissions*

The Project is an energy storage facility, and the chief aim of constructing energy storage facilities is to reduce dependence on GHG-emitting fossil fuel energy sources. The Project would provide clean renewable energy throughout the Project’s useful life. Additionally, Section 3.9, *Greenhouse Gas Emissions*, identifies “less-than-significant” impacts for construction-related and operational emissions (decommissioning emissions would be similar in scale to construction emissions). SJVAPCD’s *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA* does not provide a quantitative GHG threshold, but it does support the use of the California Air Pollution Control Officers Association’s recommended interim threshold. The GHG analysis for the Project identified a quantitative threshold of significance for GHG emissions consistent with the California Air Pollution Control Officers Association’s interim threshold guidance. The analysis accounted for construction traffic emissions to determine the total emissions for the Project. Using this definitive quantitative metric yielded a less-than-significant impact. Based on this conclusion, a threshold value for VMT would likely be much higher than the Project-generated VMT. This assertion is in line with the fact that the guidance for conducting VMT analysis originated with GHG emissions reduction regulations and goals and the guidance states, “OPR recommends using quantitative VMT thresholds linked to GHG reduction targets when methods exist to do so” (OPR 2018).

#### *Diversity of Land Use*

Diversity of land use is a much more difficult criterion to quantify for a comparative analysis; however, the Project would expand land use diversity in the study area. During the period of the use permit, this Project would change the land use at the Project site from undeveloped agricultural land to energy storage. State law and policy reflect a current and future need to increase the California Independent System Operator–controlled electric grid’s reliance on renewable energy and to improve the reliability of energy grid overall. See Assembly Bill 2514 (Skinner, 2010), Senate Bill 350 (De León, 2015), and the California Public Utilities Commission’s February 22, 2021, ruling related to integrated resource planning (R.20-05-003) (CEC 2023; CPUC 2022). Energy storage systems, by definition,<sup>4</sup> support compliance with these laws and policies. Because the Project would contribute to compliance with these laws and policies, and because there are very few means of reducing the VMT while constructing the Project, the additional VMT would be considered less than significant.

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<sup>4</sup> The Public Utilities Code defines an *energy storage system* as “commercially available technology that is capable of absorbing energy, storing it for a specified period, and then dispatching the energy. An energy storage system may be centralized or distributed and will accomplish one or more of the following: Reduce emissions of greenhouse gases. Reduce demand for peak electrical generation. Defer or substitute for an investment in generation, transmission, or distribution assets. Improve the reliable operation of the electrical transmission or distribution grid” (CEC 2023).

### **Fresno Council of Governments Regional Guidelines**

According to the Fresno COG Regional Guidelines, a detailed transportation VMT analysis is required for all land development projects, except those that meet one of four designated screening criteria. A project that meets at least one of the screening criteria would be presumed to result in a less-than-significant VMT impact due to the project characteristics and/or location. As discussed below, the Project would meet the trip generation screening criterion, which states that a project that generates fewer than 500 ADT would result in a less-than-significant VMT impact.

As noted in CEQA Guidelines Section 15064.3(a), “For the purposes of this section, ‘vehicle miles traveled’ refers to the amount and distance of automobile travel attributable to a project,” where, in accordance with guidance provided by OPR, *automobiles* refer to on-road passenger vehicles, specifically cars and light trucks (OPR 2018). For this reason, only passenger vehicles associated with workers generated by the Project are included in the following evaluation.

Project construction would require a maximum of 150 daily workers, which equates to 300 daily vehicle trips (150 inbound vehicle trips, 150 outbound vehicle trips). Trip generation for decommissioning would be similar to trip generation for Project construction. During Project operation and maintenance, up to five workers may be required during annual maintenance activities, which would generate a maximum of 10 daily vehicle trips, albeit infrequently and for a short time. Therefore, the Project would generate fewer than 500 ADT and would not result in a substantial increase in VMT that would conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). The Project would result in a less-than-significant impact with respect to VMT based on the guidance provided by the Fresno COG Regional Guidelines.

**Mitigation:** None required.

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**Criterion c)** Whether the Project would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

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### **Impact 3.18-3: The Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). (*Less-than-Significant Impact*)**

Construction of the Project would require the delivery of heavy construction equipment and facility materials, some of which may require transport by oversize vehicles. The use of oversize vehicles during construction can create a hazard to the public by limiting motorists’ views on roadways and by obstructing spaces.

Construction-related oversize vehicle loads must comply with permit-related and other requirements of the California Vehicle Code and California Streets and Highway Code. California Highway Patrol escorts may be required at the discretion of Caltrans and Fresno County, as detailed in oversize load permits. Because of the rural nature of the study area roads and relatively low traffic volumes, construction vehicles are not anticipated to cause hazards to other roadway users traveling to and from the Project site. Furthermore, the Project would not



include a design feature or utilize vehicles with incompatible uses that would create a hazard on the roadways surrounding the Project site.

The Project site would be accessible, including to emergency vehicles, from West Jayne Avenue and the preexisting agricultural access roads that border and bisect the Project site. Drive-through swing gates would be constructed within the Project site at several locations to provide access. Design and construction of Project access road intersections would be required to conform with Fresno County standards (per General Plan Policies TR-A.3, TR-A.5, and TR-A.8), ensuring that corner sight distance requirements are followed (although the flat terrain is assumed to not make sight distance an issue of concern). These design and construction requirements would ensure that Project elements would not increase transportation-related hazards. The Project also would be subject to the requirements of the current Fire Code and Building Code, and Project plans would be reviewed by the Fresno County Fire Protection District (FCFPD) for appropriate access design before the issuance of building permits. Impacts associated with transportation-related hazards resulting from a Project geometric design feature or incompatible uses would be less than significant.

**Mitigation:** None required.

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**Criterion d)** Whether the Project would result in inadequate emergency access.

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**Impact 3.18-4: The Project would not result in inadequate emergency access. (*Less-than-Significant Impact*)**

The Project site is located in a rural area with multiple access roads allowing adequate egress/ingress to and from the proposed energy storage facilities, the substation, the gen-tie line, and the operation and maintenance building in the event of an emergency. Additionally, as part of the Project, internal access roadway improvements would occur. Therefore, the Project would allow for adequate emergency access. The Project also would be subject to the requirements of the current Fire Code and Building Code, and Project plans would be reviewed by FCFPD for appropriate access design before the issuance of building permits.

As described under Impact 3.18-1, increased Project-related operational traffic would not result in any noticeable change to operating conditions on study area roadways. Furthermore, the Project would not require closures of public roads, which could inhibit access by emergency vehicles. During site preparation and construction of the Project, heavy construction-related vehicles could interfere with emergency response to the site or emergency evacuation procedures in the event of an emergency (e.g., slowing vehicles traveling behind the truck). However, because there are no businesses, residences, or emergency response stations in the immediate vicinity of the Project site, it is not considered likely that heavy construction-related traffic, which would be attenuated by being dispersed throughout the day, would result in inadequate emergency access.

**Mitigation:** None required.

### ***PG&E Infrastructure***

As described in Chapter 2, *Project Description*, energy from the proposed energy storage system would be collected at the Project substation and transmitted to the existing PG&E-owned Gates Substation via a 0.5-mile-long gen-tie line. The new transmission poles would be constructed at the end of Phase 1, which is outside the time frame considered as part of the peak Project construction analysis presented above. Furthermore, no additional vehicle trips (workers or trucks) would be needed to operate and maintain, or to decommission PG&E infrastructure that have not already been accounted for in the preceding discussion of Project operation and maintenance and decommissioning. Therefore, the impacts on traffic described above for the energy storage facility under Impacts 3.18-2 through 3.18-5 would apply to the PG&E infrastructure component of the Project.

Regarding Impact 3.18-1, the Trip Generation-Distribution Memorandum prepared for the Project (Appendix K) does not specifically calculate the number of truck and passenger vehicle trips that would be generated by construction of PG&E Infrastructure. However, it is reasonable to assume that the number would represent a small fraction of the trips estimated for construction of the Project as a whole. For this reason, the construction of PG&E infrastructure would not result in a potentially significant impact related to Impact 3.18-1 and thus would not require the implementation of Mitigation Measure 3.10-2.

### **3.18.4 Cumulative Effects Analysis**

With respect to CEQA Guidelines Section 15064.3, the measure of VMT is by nature a cumulative measure, in that the travel demand modeling tool used by the County to calculate VMT includes all reasonably foreseeable cumulative development. Furthermore, as discussed above (Impact 3.18-3), the Project would not exceed the project-level threshold requiring a VMT analysis. Therefore, the Project would not result in a cumulative impact related to CEQA Guidelines Section 15064.3.a

As discussed above, the Project would result in a less-than-significant impact with respect to conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. With respect to emergency access, similar to the Project, all cumulative projects would be subject to the requirements of the current Fire Code and Building Code, and project plans would be reviewed by FCFPD for appropriate access design before the issuance of building permits. Therefore, cumulative projects could neither cause nor contribute to any potential significant cumulative effect regarding these considerations. The potential for the Project or an alternative to cause or contribute to a potential significant cumulative impact with respect to the remaining transportation considerations is evaluated below.

**Impact 3.18-5: The Project could cause a cumulatively considerable contribution to a significant cumulative impact to transportation. (*Less than Significant with Mitigation Incorporated*)**

The potential for cumulative transportation impacts exists where multiple projects proposed in an area have overlapping construction schedules and/or project operations could result in a substantial contribution to increased traffic levels throughout the surrounding roadway network, causing travel delays or otherwise impeding access by passenger vehicles, trucks, and emergency responders. The cumulative analysis of transportation impacts includes only other projects that contribute, or could contribute, traffic to the same roadway segments (e.g., within the West Jayne Avenue corridor) as the Project. Because the volume of traffic generated would not be particularly high during site preparation and construction and decommissioning and would be substantially less during operation and maintenance activities, only the segment of West Jayne Avenue between I-5 and SR 269 would experience any appreciable increase in traffic. Therefore, the geographic scope for cumulative impacts consists of this roadway segment.

Similar to the Project analysis above, which focused on the Project's construction phase, the temporal scope for cumulative transportation impacts is limited to the construction and decommissioning phases, because activities during these times would contribute the most traffic to roadways within the geographic scope.

Past, present, and reasonably foreseeable future actions making up the cumulative scenario are identified in Figure 3.1-1 and Table 3.1-1 in Section 3.1, *Introduction to Environmental Analysis*. Past projects have been constructed and thus would contribute only ongoing operational traffic to area roadways during the Project's construction phase. The ongoing impacts associated with past projects are accounted for as part of baseline conditions for the Project, and are described in Section 3.18.1, *Environmental Setting*. That evaluation indicates that traffic on study area roadways would continue to operate acceptably under Project conditions with the implementation of Mitigation Measure 3.10-2.

Only two cumulative projects identified in Table 3.1-1 as present or reasonably foreseeable future projects could potentially interact with the Project and contribute traffic to the roadway segments defined above in the geographic scope of the cumulative transportation analysis: the Fifth Standard Solar Complex, approximately 2 miles northeast of the Project site; and the series of modifications planned at the PG&E Gates Substation, approximately 1 mile northeast of the Project site. However, based on the anticipated schedule for completion of the Fifth Standard Solar Complex (2022), it is not expected that construction activities associated with that project would overlap with construction activities for the Project. For this reason, the Fifth Standard Solar Complex is not considered further in the cumulative transportation evaluation.

The transportation analysis conducted for the Gates Dynamic Reactive Support Project estimated that a maximum of 90 daily one-way vehicle trips could be generated during that project's peak construction activity phase, which could last for up to 5 months. Because that project is located directly across the street from the Project site, all 90 daily one-way vehicle trips would use the

roadway segment identified in the geographic scope of the cumulative transportation analysis for the Project: West Jayne Avenue between I-5 and SR 269.

Direct and indirect effects of the Project on transportation are described in Section 3.18.3.2, *Direct and Indirect Effects of the Project*. As stated above, based on temporary (construction and decommissioning) and long-term (operation and maintenance) impacts of the Project on traffic conditions, West Jayne Avenue near the Project site may experience congested conditions during peak commute hours. West Jayne Avenue would still be able to accommodate a substantial amount of additional traffic given projected hourly traffic volumes and the roadway capacities. Therefore, it is possible (though not likely) that construction-generated traffic, when combined with traffic generated by construction activities associated with the Gates Dynamic Reactive Support Project anticipated to use West Jayne Avenue, could combine to cause a significant adverse cumulative impact related to travel delays or inaccessibility for passenger vehicles, trucks, and emergency responders on West Jayne Avenue. Without implementation of Mitigation Measure 3.10-2, the Project's incremental contribution to cumulative conditions could cause or contribute to a significant cumulative effect during the Project's construction period, during which the Project's incremental contribution would be cumulatively considerable.

Mitigation Measure 3.10-2 would require the Project owner to prepare a construction traffic management plan. The plan would be required to ensure that the necessary permitting of any oversize vehicles used on public roadways during these Project phases would occur, and that the County has sufficient information in advance about anticipated delivery times and vehicle travel routes to work with the owners of other projects to minimize construction traffic during peak a.m. and p.m. hours, and to coordinate as necessary with emergency services providers to assure adequate access on shared roads. With implementation of Mitigation Measure 3.10-2, the Project's incremental contribution to cumulative transportation impact would not be cumulatively considerable.

Operational traffic and decommissioning-related traffic associated with the Project would not substantially increase daily trips on study area roadways. The Project would not cause or contribute to a significant adverse cumulative impact related to traffic once construction is complete.

**Mitigation:** Implement Mitigation Measure 3.10-2: Construction Traffic Management Plan.

**Significance after Mitigation:** Less than Significant. Implementation of Mitigation Measure 3.10-2 would reduce the impact to a less-than-significant level because vehicle access on roadways adjacent to the Project site would be safely maintained and delays caused by additional Project-related traffic in combination with traffic generated by cumulative projects would be minimized, with an emphasis on peak-hour conditions when roadway volumes are highest.

### 3.18.5 References

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## 3.19 Utilities and Service Systems

This section identifies and evaluates issues related to utilities and service systems, including water, wastewater treatment or stormwater drainage, electric power, natural gas, telecommunications facilities, and solid waste. It describes the physical and regulatory settings, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment. The County received no scoping input related to utilities and service systems (**Appendix A**, *Scoping Report*).

The analysis in this section is based in part on the Project-specific water supply assessment prepared on the Applicant’s behalf (**Appendix L**, *Water Supply Assessment*). The preparers of this Draft EIR identified in Chapter 6, *Report Preparation*, independently reviewed this assessment and other materials prepared by or on behalf of the Applicant and determined them to be suitable for reliance, in combination with other materials included in the record, in the preparation of this Draft EIR.

### 3.19.1 Setting

#### 3.19.1.1 Study Area

The study area for this analysis includes the service areas of the utility or service systems that would provide service to the Project site.

#### 3.19.1.2 Environmental Setting

##### ***Water Supply Services***

The Project site is located within the area served by Westlands Water District (WWD). WWD is the largest agricultural water district in the United States, providing water for agricultural, municipal, and industrial uses in western Fresno and Kings counties, including the area surrounding the Project site. In the center of the southern half of the Project site are underground water, oil, and gas pipelines (Key Energy Storage, LLC 2021a). WWD does not deliver potable water for human consumption and is not considered a public water system (WWD 2021a). WWD manages a combination of local and imported surface water supplies and local groundwater to serve its customers.

##### **Surface Water**

Surface water supplies are imported from the Central Valley Project (CVP). However, WWD is “low in the federal project’s pecking order and is among the first cut in times of shortage. Since 1990, it has received its full allotment in only four years” (Boxall 2019). According to WWD, it expects to receive only approximately 50 percent of its contractual water supply in an average water year (WWD 2023). WWD’s water supply ranged between 800,000 and 1.4 million acres of water between 1988 and 2021, with 800,000 acres of water supply during the 2020–2021 year (WWD 2021b).

### **Groundwater**

WWD does not supply groundwater to farmers or control groundwater pumping (individuals pump their own groundwater). WWD does, however, survey the static water levels in the wells and the water quality and quantity of the pumped groundwater, as part of the Groundwater Management Plan completed under provisions of Assembly Bill 3030 in 1996 (see Section 3.11, *Hydrology and Water Quality*, for details). An existing groundwater well is located in the northwest portion of the Project site.

### **Wastewater Services**

Wastewater service is not currently provided to the Project site. In Fresno County, rural areas such as the Project site generally use on-site septic systems for wastewater treatment and disposal. Wastewater from the Project's operation and maintenance (O&M) building would be discharged into a septic tank, if one is installed, where most of the solids would be removed. The septic tank would be a maximum of 1,500 gallons and would be designed and constructed according to County requirements. If no septic system is installed, the Project would be served by portable toilets to be serviced and maintained by an outside vendor.

### **Stormwater**

The Project site is located within the area governed by the Central Valley Regional Water Quality Control Board (Region 5), which oversees implementation of the *Water Quality Control Plan for the Tulare Lake Basin* (Basin Plan). Details about the Basin Plan are provided in Section 3.11, *Hydrology and Water Quality*. Water conveyance infrastructure on the Project site consists of agricultural ditches in some locations; other than these ditches, no drainage facilities that have connectivity to any natural water features are located on-site. As explained in the Basin Plan, direct precipitation typically percolates into valley groundwater if not lost through consumptive use, evapotranspiration, or evaporation (Central Valley RWQCB 2018). When adequate rainfall occurs on the Project site to produce runoff, it likely drains from the Project site and/or percolates directly into the ground after a relatively short travel distance. No stormwater drainage infrastructure is located on-site. However, as described in Chapter 2, *Project Description*, the Project would include on-site detention basins to retain stormwater and prevent runoff. The basins would be expected to remain dry most of the year, except during or after rain events. The Project site has generally flat topography and is drainage impaired.

### **Electricity and Natural Gas**

PG&E is an investor-owned utility company that provides electricity and natural gas supplies and services throughout a 70,000-square-mile service area that includes western Fresno County and the Project site (PG&E 2022). The PG&E Gates Substation is located northeast of the Project site, a small substation is located immediately adjacent to the northwest Project site boundary, an electrical gen-tie line runs north to south along the northwest side of the Project site, and two high-voltage transmission lines run north to south along the entire east side of the Project site. See Section 3.7.1.2, *Environmental Setting*, in Section 3.7, *Energy*, for additional details.



### **Telecommunications Facilities**

Communications in the study area include cellular telephone service provided by AT&T and multiple cable television and internet service providers.

### **Solid Waste Management**

The Fresno County Resources Division is responsible for solid waste coordination and disposal activities within the county. The division has a number of facilities that accept solid waste in the vicinity of the Project site. The nearest landfill to the Project is the Avenal Regional Landfill (Avenal Landfill), approximately 10 miles south of the Project site. The Avenal Landfill accepts solid wastes and construction/demolition wastes, as well as special wastes upon approval (Avenal Landfill 2022). The Avenal Landfill has a remaining capacity of 28,900,000 cubic yards and is expected to reach its permitted capacity in 2056 (CalRecycle 2022b). The next nearest landfill is the American Avenue Landfill, owned and operated by Fresno County and located in the city of Kerman, approximately 36 miles northeast of the Project site (Fresno County 2021). The American Avenue Landfill is permitted to receive 2,200 tons of waste per day; it has a remaining capacity of approximately 29,358,535 cubic yards and is expected to reach its permitted capacity in 2031 (CalRecycle 2022a).

The Project site is located within the Mid Valley Disposal Company's service area, which has multiple transfer stations: the Kerman Material Recovery Facility Transfer Station, Fresno Material Recovery Facility Transfer Station, Kingsburg Transfer Station, and Coalinga Transfer Station (Mid Valley Disposal 2021). The Shaver Lake Transfer Station is operated in partnership with Fresno County, Granite Solid Waste, and the U.S. Forest Service (Fresno County 2021).

### **3.19.1.3 Regulatory Setting**

#### **Federal**

No federal regulations pertaining to utilities and service systems apply to the Project.

#### **State**

##### **Water**

##### **Sustainable Groundwater Management Act**

The Sustainable Groundwater Management Act of 2014 (SGMA) (Water Code Section 10723) authorizes local sustainable management of groundwater resources under state oversight. The SGMA empowers qualified local agencies, municipalities, and special districts to establish a governance framework by forming groundwater sustainability agencies (GSAs) to manage groundwater basins sustainably to bring groundwater basins to balanced levels of pumping and recharge. GSAs must develop, adopt, and implement groundwater sustainability plans (GSPs) for medium- and high-priority groundwater basins in California. The Project site is in the Westside Subbasin, which is a high-priority groundwater subbasin designated by the California Department of Water Resources (DWR) as critically overdrafted. The GSA for the Westside Subbasin is WWD (WWD 2022). See Section 3.11.1.3, *Regulatory Setting*, in Section 3.11, *Hydrology and Water Quality*, for additional details.

### Executive Order N-7-22

In response to extreme and expanding drought conditions in California, Governor Gavin Newsom issued Executive Order N-7-22 in March 2022. Among other water resource considerations, Executive Order 7-N-22 prohibits counties, cities, and other public agencies from approving permits for either the construction of new groundwater wells or the alteration of existing wells that are within a SGMA-regulated medium or high-priority groundwater basin unless all of the following occurs:

- The GSA managing the basin verifies in writing that the proposed groundwater extractions:
  - Would be consistent with any applicable GSP.
  - Would not decrease the likelihood of achieving a sustainability goal for the basin.
- The well-permitting agency determines that extraction of groundwater from the proposed or modified well is not likely to do either of the following:
  - Interfere with the production and functioning of existing nearby wells.
  - Cause subsidence that would adversely affect or damage nearby infrastructure.

If a new well is constructed or an existing well is altered to serve Project water demand, then Executive Order N-7-22 would apply. Because the Westside Subbasin is defined as a high-priority groundwater basin, WWD (as the GSA for the groundwater basin) would need to verify that stated conditions are met with respect to groundwater and that the new well would be consistent with the GSP before Fresno County could permit this construction.

### California Well Standards Ordinance

DWR Bulletin 74 (including the combined water well standards in Bulletins 74-81 and 74-90) establishes the minimum standards governing California water wells to protect California's groundwater quality (DWR 2023a, 1991, 1981). Local jurisdictions like Fresno County have the authority to adopt, administer, and enforce standards that meet or exceed the Bulletin 74 standards (DWR 2023a). As of the issuance of this Draft EIR, DWR is in the process of updating Bulletin 74; publication of updated final standards is anticipated in fall 2023 (DWR 2023b).

### Wastewater

#### Septic System Requirements of the California Plumbing Code

Title 24, Part 5 of the California Code of Regulations regulates plumbing systems. Based on the American National Standard 2015 Uniform Plumbing Code, the California Plumbing Code attempts to minimize public risk by specifying technical standards of design, materials, workmanship, and maintenance for plumbing systems, including septic systems.

## **Stormwater**

### **National Pollutant Discharge Elimination System Construction General Permit**

Construction projects disturbing 1 acre or more of land (as proposed for the Project site) are subject to the permitting requirements of the National Pollutant Discharge Elimination System's General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) and must apply for coverage under the Construction General Permit. For all new projects, applicants must electronically file permit registration documents using the Stormwater Multiple Applications and Report Tracking Systems (SMARTS) and must include a notice of intent (NOI), risk assessment, site map, and storm water pollution prevention plan (SWPPP) to be covered by the General Construction Permit before beginning construction (State Water Board 2022). The risk assessment and SWPPP must be prepared by a State-Qualified SWPPP Developer. See Section 3.11, *Hydrology and Water Quality*, for a more detailed discussion of water quality and SWPPP requirements. The Project would apply for coverage under the Construction General Permit and include implementation of a SWPPP.

## **Electricity and Natural Gas**

### **Government Code Requirements for Utility Notification**

Government Code Section 4216 et seq. requires owners and operators of underground utilities to become members of, participate in, and share the costs of a regional notification center. Underground Service Alert North (USA North) is the notification center for the Project area. USA notifies utility providers with buried lines within 1,000 feet of the excavation, and those providers are required to mark the specific location of their facilities before excavation. The code also requires excavators to probe and expose existing utilities, in accordance with state law, before using power equipment. USA North receives planned excavation reports and transmits the information to all participating members that may have underground facilities at the location of excavation (USA North 2018).

### **California Public Utilities Commission General Order 131-D**

The California Public Utilities Commission (CPUC) regulates services and utilities and assures California's access to safe and reliable utility infrastructure and services. The essential services regulated include electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. The CPUC implements CEQA for utility construction by PG&E and the other public utilities under its jurisdiction, and regulates the location and relocation of power lines by investor-owned utilities, such as PG&E. Section XIV B. of General Order 131D clarifies that local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to CPUC jurisdiction (CPUC 2021).

## **Solid Waste Management**

### **California Integrated Waste Management Act**

When enacted in 1989, the Integrated Waste Management Act (Public Resources Code Section 40050 et seq.) set into place a comprehensive statewide system of permitting, inspections, and maintenance for solid waste facilities, and authorized local jurisdictions to impose fees based

on the types and amounts of waste generated. The act also required all California cities, unincorporated portions of counties, counties, and approved regional solid waste management agencies to divert a minimum of 25 percent of solid waste from landfills by 1995 and 50 percent by 2000. Cities and counties were required to maintain the 50 percent diversion past 2000. *Diversion* includes waste prevention, reuse, and recycling. The act resulted in the creation of the California Integrated Waste Management Board, now known as the California Department of Resources Recycling and Recovery (CalRecycle). CalRecycle is under the umbrella of the California Environmental Protection Agency and is responsible for implementation of the Integrated Waste Management Act. Under the act, jurisdictions must submit solid waste planning documentation to CalRecycle.

#### California Code of Regulations Title 22, Division 4.5

In Title 22 of the California Code of Regulations, Division 4.5 includes environmental health standards for the identification, collection, transport, disposal, and recycling of hazardous waste. The *term hazardous waste* is defined in Sections 66260.10 and 66261.3 of the regulations and includes acutely hazardous waste, extremely hazardous waste, non-Resource Conservation and Recovery Act (RCRA)<sup>1</sup> hazardous waste, RCRA hazardous waste, special waste, and universal waste.

*Universal wastes* are wastes commonly produced by households and businesses including televisions, computers and other electronic devices, batteries, mercury-containing equipment, lamps, cathode ray tubes, and aerosol cans (22 Cal. Code Regs. Section 66273.9 et seq.). The requirements for universal waste are referred collectively to *California's Universal Waste Rule*. California's Universal Waste Rule allows businesses and individuals to transport, handle, and recycle universal wastes differently than for most hazardous wastes: "The more relaxed requirements for managing universal wastes were adopted to ensure that they are managed safely and are not disposed of in the trash" (DTSC 2010). Requirements for universal wastes include recycling, recovery, the return of spent items to the manufacturer, or disposal at an appropriately permitted facility.

Division 4.5 of Title 22 also provides restrictions and standards relevant to generators of hazardous waste; transporters of hazardous waste; owners and operators of hazardous waste transfer, treatment, storage, and disposal facilities; recyclable hazardous wastes; and military munitions among other things.

#### Title 24 California Code of Regulations

The California Green Building Standards Code (also known as the CALGreen Code) (24 Cal. Code Regs. Part 11) applies to new construction and demolition associated with a construction permit. It requires covered projects to recycle and/or salvage for reuse at least 65 percent of their nonhazardous construction and demolition waste or to meet a local construction and demolition waste management ordinance, whichever is more stringent (CalRecycle 2023).

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<sup>1</sup> RCRA, enacted in 1976, is the United State's principal federal law governing the disposal of solid waste and hazardous waste (Title 42 United States Code Section 6901 et seq.).

## Title 27 California Code of Regulations

Title 27 defines regulations for the treatment, storage, processing, and disposal of solid waste. The State Water Resources Control Board (State Water Board) maintains and regulates compliance with Title 27. The Project's compliance would be enforced by the Central Valley Regional Water Quality Control Board (Region 5).

### **Local**

#### **Fresno County General Plan**

The Fresno County General Plan's Public Facilities and Services Element contains the following goals and policies related to utilities and service systems that are relevant to the Project (Fresno County 2000):

##### General Public Facilities and Services

**Goal PF-A:** To ensure the timely development of public facilities and to maintain an adequate level of service to meet the needs of existing and future development.

**Policy PF-A.4:** The County shall encourage the placement of irrigation canals and utility lines underground as urban residential, commercial, and industrial development takes place.

##### Water Supply and Delivery

**Goal PF-C:** To ensure the availability of an adequate and safe water supply for domestic and agricultural consumption.

**Policy PF-C.3:** To reduce demand on the County's groundwater resources, the County shall encourage the use of surface water to the maximum extent feasible.

**Policy PF-C.19:** The County shall discourage the proliferation of small community water systems.

**Policy PF-C.20:** The County shall not permit new private water wells within areas served by a public water system.

**Policy PF-C.25:** The County shall require that all new development within the County use water conservation technologies, methods, and practices as established by the County.

##### Wastewater Collection, Treatment, and Disposal

**Goal PF-D:** To ensure adequate wastewater collection and treatment and the safe disposal of wastewater.

**Policy PF-D.6:** The County shall permit individual on-site sewage disposal systems on parcels that have the area, soils, and other characteristics that permit installation of such disposal facilities without threatening surface or groundwater quality or posing any other health hazards and where community sewer service is not available and cannot be provided.

### Storm Drainage and Flood Control

**Goal PF-E:** To provide efficient, cost-effective, and environmentally-sound storm drainage and flood control facilities that protect both life and property and to divert and retain stormwater runoff for groundwater replenishment.

**Policy PF-E.11:** The County shall encourage project designs that minimize drainage concentrations and maintain, to the extent feasible, natural site drainage patterns.

**Policy PF-E.13:** The County shall encourage the use of natural storm water drainage systems to preserve and enhance natural drainage features.

**Policy PF-E.14:** The County shall encourage the use of retention-recharge basins for the conservation of water and the recharging of the groundwater supply.

**Policy PF-E.21:** The County shall require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities, and shall encourage the urban storm drainage systems and agricultural activities to use BMPs.

### Landfills, Transfer Stations, and Solid Waste Processing Facilities

**Goal PF-F:** To ensure the safe and efficient disposal or recycling of solid waste generated in the county in an effort to protect the public health and safety.

**Policy PF-F.1:** The County shall continue to promote maximum use of solid waste source reduction, reuse, recycling, composting, and environmentally-safe transformation of wastes.

**Policy PF-F.4:** The County shall ensure that all new development complies with applicable provisions of the County Integrated Waste Management Plan.

### Utilities

**Goal PF-J:** To provide efficient and cost-effective utilities that serve the existing and future needs of people in the unincorporated areas of the county.

**Policy PF-J.1:** The County shall encourage the provision of adequate gas and electric, communications, and telecommunications service and facilities to serve existing and future needs.

### Fresno County Well Permitting Program

Within their respective jurisdictions, WWD (as the relevant GSA) regulates the *use* of water wells while the County permits the *installation* of wells. In this capacity, the County issues permits to construct new wells; reconstruct, repair or deepen existing wells; and destroy abandoned wells. The County enforces the provisions of the California Well Standards Ordinance and the construction standards set forth in the California Well Standards (Bulletins 74-81 and 74-90), Fresno County General Plan Policy PF-C (specifically PF-C.19 and PF-C.20), and provisions of Title 14 of the Fresno County Ordinance Code, including Chapter 14.04 (Well Regulations– General Provisions) and Chapter 14.08 (Well Construction, Pump Installation and Well Destruction Standards). Well drilling contractors must possess an active C-57 Well Contractors License (Fresno County 2023).

### **Fresno County Construction and Demolition Debris Recycling Program**

The Fresno County Construction and Demolition (C&D) Debris Recycling Program is intended to assist the County to comply with diversion of solid waste from California landfills pursuant to the California Integrated Waste Management Act (discussed above), and to provide builders with a way to document waste reduction and diversion requirements included in the California Green Building Standards Code. The County C&D Debris Recycling Program contains the following requirements related to utilities that would apply to the Project during the construction and decommissioning phase:

- Complete and submit a waste management plan for recycling a minimum of 65 percent of all nonhazardous waste, scrap, and debris generated for the scope of work covered by the building permit.
- During construction/demolition, collect data for the project's Waste Log, and ensure that all subcontractors are familiar with the waste management plan and have signed the Acknowledgement Form. Keep all weight/gate tags, receipts, and invoices for services to support the data on the Waste Log.
- After the project is complete and 14 days before the project's final inspection, submit the completed Acknowledgement Form(s), Waste Log, and all supporting documents.

### **3.19.2 Significance Criteria**

The Project would result in a significant impact related to utilities and service systems if it would:

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;
- c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

### **3.19.3 Direct and Indirect Effects**

#### **3.19.3.1 Applicant-Proposed Measures and Design Features**

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of these, the actions described in Section 2.5.9.3, *Erosion and Sediment Control and Pollution Prevention*, and

Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, are relevant to the analysis below.

### 3.19.3.2 Methodology

The evaluation of impacts related to utilities and service systems is based on a review of existing laws, regulations, plans, policies, and other documents that address such systems in the study area. In this context, the analysis considers potential Project-caused changes in service levels or capacity of the utilities and service systems that could result in adverse impacts on the physical environment. In determining the level of significance of Project-caused changes, the analysis assumes that the Project would comply with all applicable laws.

### 3.19.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

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The Project would use no natural gas for construction, operation and maintenance, or decommissioning and would not result in the relocation or construction of any new or expanded natural gas facilities that would cause an adverse environmental effect. Therefore, the Project would have no impact on natural gas services. (*No Impact*)

**Impact 3.19-1: The Project would not result in the construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, or telecommunications facilities that would cause significant environmental effects. (*Less-than-Significant Impact*)**

#### Water

It is anticipated that the Project's water supply would be provided by WWD, delivered to the Project site by truck. However, water also could be provided via groundwater through a new or existing well. If on-site groundwater is accessed, then water would be pumped into 2,000- to 4,000-gallon water trucks and stored in 12,000-gallon water storage tanks or towers up to 16 feet tall. These tanks would be on the Project site during construction and would be removed after the completion of construction. If the existing well (located on the northernmost Project site parcel) is not used to supply water for the Project, the well would be capped in accordance with Fresno County's requirements.

During construction, water would be used for dust suppression and earthwork. Annual water use during construction is anticipated to be 153 acre-feet per year for the lithium-ion storage option and a maximum of 171 acre-feet per year for the lithium-ion and iron-flow option. Total water use during construction is estimated to be 560 acre-feet for the lithium-ion storage option and 632.1 acre-feet for the lithium-ion and iron flow option.



Water demand associated with operation and maintenance is estimated to be 1,036 gallons per year, assuming 148 total staff days per year as identified in the Project's water supply assessment (Appendix L). Potable water for the O&M building kitchen and restrooms would be delivered by a local commercial provider and stored on-site. Non-potable water may also be used for fire suppression, as necessary.

Similar to the construction water demands, during decommissioning, water would be used for dust suppression and earthwork. Decommissioning water demands would likely be less than those estimated for construction, and would likely not need to be phased, as stated in the water supply assessment. As with construction, water would either be delivered to the Project site by truck from an off-site source or via groundwater through a new or existing well, pending approvals.

If a new well is to be constructed, then drilling would disturb vegetation and on-site soils that could, unless properly managed, affect stormwater runoff or be affected by spills or leaks incidental to the normal operation of drilling equipment. Without proper controls on the rate, timing, and location of withdrawals, Project-related groundwater extraction could affect water levels in neighboring wells. However, compliance with applicable laws, including those overseen and enforced by the County related to well installation and by WWD related to well use, would ensure that impacts on water service from a new groundwater well source would be less than significant.

Given the Project's water demand from construction, operation and maintenance, and decommissioning and the Project's potential water sources, the Project would not require the construction of new water facilities, the construction or relocation of which could cause significant environmental effects. The resulting impacts would be less than significant.

### **Wastewater**

Because the site is in a rural location and outside of a municipal sphere of influence, no wastewater service is currently provided to the Project site. As needed, such as during construction and decommissioning, portable restroom facilities would be provided and serviced by licensed providers. During Project operation and maintenance, restrooms and a kitchen would be located within the O&M building. Wastewater could be discharged into a 1,500-gallon septic tank, if one is installed. The septic tank, if installed, would be designed and constructed consistent with applicable state and County requirements. If no septic system is installed, the Project would utilize portable toilets serviced and maintained by an outside vendor. Because the Project would not require the construction of new wastewater facilities, the construction of which could cause significant environmental effects, the resulting impact would be less than significant.

### **Stormwater**

The Project would require installation of stormwater facilities consisting of a drainage swale and two detention basins to retain stormwater, prevent runoff, and reduce erosion and sedimentation. Other than these proposed stormwater facilities, no additional stormwater facilities are proposed or would be required. These stormwater facilities would be designed to meet State Water Board and Fresno County requirements (Key Energy Storage, LLC 2021b). Compliance with applicable requirements would ensure that associated impacts would not be significant. Because the Project

would not require the construction of new stormwater facilities beyond those analyzed as part of the Project, the construction of which could cause significant environmental effects, the resulting impact would be less than significant.

### **Electricity**

The Project would use electrical service from PG&E that would be provided through new overhead pole connections to PG&E's existing infrastructure. Overhead easements would be required where the gen-tie line crosses West Jayne Avenue and the adjacent PG&E property. The connections and associated ground disturbance proposed as part of the Project could result in potential environmental impacts, as discussed in the various resource sections of this EIR. However, the Project would not result or require the construction or relocation of new or expanded electric facilities beyond those analyzed as part of the Project. For this reason, impacts associated with new or expanded electrical facilities would be less than significant.

### **Telecommunications Facilities**

As described in Chapter 2, *Project Description*, the Project would be operated and monitored through a supervisory control and data acquisition (SCADA) system with the support of up to seven on-site personnel. SCADA is a system of software and hardware elements that allow companies such as the Applicant to control on-site processes locally or at remote locations; to monitor, gather, and process real-time data; interact directly with devices such as energy storage system sensors through human-machine interface software; and record events into a log file. It provides an information technology function that requires cable internet or Wi-Fi service. Because the telecommunications facility service demand of the proposed SCADA would be no more than the demand of other, similar commercial uses, its installation and use would generate a less-than-significant impact.

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**Criterion b)** Whether the Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.

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### **Impact 3.19-2: The Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. (*Less than Significant with Mitigation Incorporated*)**

A Project-specific water supply assessment (Appendix L) was prepared to demonstrate the availability of water supply during normal, single dry, and multiple dry years (20-year projection), in addition to the area's existing and planned future uses. The Project would introduce a temporary water demand during construction, O&M, as well as decommissioning. During construction, water requirements for dust suppression and other construction purposes would total approximately 560 acre-feet over 6.3 years for the lithium-ion storage option, or 632.1 acre-feet over 5.7 years for the lithium-ion and iron flow option.

Once operational, the Project's proposed O&M building would include a staff restroom, kitchen, and associated appurtenances. At this stage, the Project would demand 1,036 gallons of water

annually (Appendix L), which equates to 0.003 acre-feet per year. Overall, the Project would reduce current and future local water demand, as the agricultural irrigation on the site's northern parcel would cease with Project implementation. Historically, this parcel has been cultivated in irrigated orchard crops (citrus and almonds). Based on the WWD GSP, the water demand for a given farm is first met by uptake from the groundwater as crops' roots intersect the water table, and then demand is met by groundwater pumping (WWD 2022). In total, 632,130 acre-feet of groundwater were pumped from the Westside Subbasin in the years 2017–2021, nearly all of which supported similar agricultural uses (Appendix L).

Because the northern parcel is in irrigated agriculture under existing conditions, and because this irrigation would cease with the Project, the Project would reduce total water demand across the site. Thus, implementation of the Project would result in an incremental decrease in total water demand. The water supply assessment concluded that the construction and operational water demands of the Project can be met under average water year, single-dry water year, and multiple-dry water year scenarios over the next 20 years through various sources. Therefore, a less-than-significant impact on water supply would result over the next 20 years.

However, the requested conditional use permit would have a term of 40 years (see Section 2.5.1, *Project Phasing*). For the purposes of this analysis, operation and maintenance phase water demand during the second 20-year period would be the same during the first, i.e., 0.003 acre-feet per year, and decommissioning water requirements are assumed to be similar to those required during construction (approximately 300 acre-feet). The WSA prepared for the Project (Appendix L) does not address the availability of the water supply for the latter portion of the operation and maintenance phase or at the time the Project would be decommissioned. Therefore, Mitigation Measure 3.19-2: Determine Future Water Supply Availability would be required.

#### **Mitigation Measure 3.19-1: Determine Future Water Supply Availability**

Eighteen (18) years after the issuance of the conditional use permit, the Project owner shall identify and provide an analysis to the County that the water supply source(s) proposed for use during the remaining operation, maintenance, and decommissioning activities are sufficient and will not impede sustainable groundwater management of the basin. If sufficient water supplies are not available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years, then Project decommissioning would be initiated.

**Significance after Mitigation:** Less than Significant. Implementation of this mitigation measure would ensure that future water supply needed for operation, maintenance and decommissioning would be available by requiring identification of water supply prior to decommissioning activities.

**Criterion c)** Whether the Project would result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.

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**Impact 3.19-3: The Project would result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. (*Less-than-Significant Impact*)**

The Project site is in a rural area outside of a municipal wastewater sphere of influence. Therefore, it is anticipated that portable restroom facilities would be provided for construction workers during construction and perhaps also during the operation and maintenance and decommissioning phases. The contractor(s) selected to construct and decommission the Project would provide and manage the maintenance of these portable facilities.

In lieu of or in addition to portable restroom facilities, the Project may include installation, operation, and maintenance of an on-site wastewater system or septic tank near the proposed O&M building. Septic facilities would be maintained by a local service provider. While the Project would include the addition of these on-site facilities, such facilities would be managed and maintained consistent with state and County requirements to ensure that the amount of sanitary waste generated would not exceed the capacity and availability of private licensed providers within the region. Therefore, the resulting impact would be less than significant.

**Mitigation:** None required.

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**Criterion d)** Whether the Project would generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

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**Impact 3.19-4: The Project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. (*Less-than-Significant Impact*)**

Most parts of the Project's proposed systems are recyclable, and components of the energy storage system and on-site substation would be recycled when the Project's operating life is over, as described in **Appendix B1, Reclamation Plan**.

During construction, debris such as paper, cardboard, wood, plastics, and construction equipment packaging would be the main source of solid waste. Based on similar projects, it is reasonable to assume that approximately 22 cubic yards of solid waste per week could be generated during the Project's construction phase. A minimum of 50 percent of Project construction waste would be recycled. Because the Project would be subject to the CALGreen Code and the Fresno County C&D Debris Recycling Program, which is intended to assist the County in complying with California's solid waste reduction goals, materials such as metal and wood would be separated

from the waste stream and recycled to the extent feasible within the established standards. Non-recyclable, non-hazardous construction waste would be placed into commercial trash dumpsters located on-site. Dumpsters would be collected periodically and transferred to a landfill, such as the American Avenue Landfill or Avenal Landfill.

During operation, the Project would generate a very small amount of solid waste from ordinary staff O&M uses. The solid waste generated would be removed from the site by a commercial garbage service for proper disposal. The small amount of waste generated during ordinary O&M of the Project would have no impact on haulers' capacity to properly dispose of the waste generated because it would remain within volumes anticipated in the facilities' planning assumptions for commercial customers.

During decommissioning, aboveground structures and belowground electrical conduit, foundations, and infrastructure would be removed. The steel and aluminum battery enclosures, as well as concrete foundations, would be dismantled and recycled. Any fuel, hydraulic fluids, and oils would be transferred to a tanker truck and properly disposed of or recycled. Hazardous waste such as lubricants, paints, and solvents would be kept in a locked utility structure for containment. The Project site would be restored to its original agricultural condition, as described in Appendix B1, *Reclamation Plan*.

As described in Section 3.19.1.2, *Environmental Setting*, the Avenal Landfill has a remaining capacity of 28,900,000 cubic yards and is expected to reach its permitted capacity in 2056. The next closest landfill to the Project site, the American Avenue Landfill, is permitted to accept 2,200 tons of waste per day and has a remaining capacity of approximately 29,358,535 cubic yards.

The construction waste generated by the Project is estimated to be 22 cubic yards per week, or a total of 2,112 cubic yards over the phased construction period. This amount of solid waste constitutes a small proportion (approximately 0.007 percent) of the Avenal Landfill's remaining capacity. If the Project were decommissioned after the closure of the Avenal Landfill, such waste would be hauled to another approved facility, such as the American Avenue Landfill. Even if the total amount of construction waste were to be delivered to the American Avenue Landfill in a single day, there would be no capacity exceedance. For these reasons, the Project would not generate waste such that solid waste reduction goals would be impaired, or that state or local standards would be exceeded. Therefore, the impact would be less than significant.

**Mitigation:** None required.

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**Criterion e)** Whether the Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

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The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste. Accordingly, no impact would result. (*No Impact*)

As identified in Section 3.19.3.1, *Applicant-Proposed Measures and Design Features*, the Applicant has committed to implementing specific measures to ensure compliance with applicable regulatory standards regarding the use, transport, storage, and disposal of hazardous materials. Compliance with these requirements would avoid or reduce potential adverse environmental impacts, including those related to human health, fire risk, and solid waste. The Project would be required to comply with the CALGreen Code and the Fresno County C&D Debris Recycling Program, which is intended to assist the County in maintaining compliance with the State's solid waste reduction goals.

As detailed in the Project's reclamation plan (Appendix B1), most of the waste generated during construction and demolition would be non-hazardous. Waste would be recycled when feasible and non-recyclables would be placed into dumpsters located on-site. A minimal amount of waste would be generated during O&M activities and during decommissioning and site reclamation. Most of the waste in these decommissioning phases would be non-hazardous, and materials would be dismantled, recycled, or sold. Project construction and decommissioning would comply with the Fresno County C&D Debris Recycling Program, diverting, repurposing, or recycling non-hazardous waste to comply with local requirements. At the end of the Project's life span, the steel, aluminum, and concrete components of the energy storage system and substation would be recycled (Appendix B1). Batteries from the energy storage system may include lithium ion, which degrades but can also be recycled or repurposed. Electrical conduit and other structures and materials more than 4 feet underground would be decommissioned and abandoned in place. Metal and scrap equipment and parts that do not have free-flowing oil would be removed and salvaged through local recyclers. It is anticipated that oils, including transformer oil, would be disposed of at the proper facilities and batteries would be recyclable. Therefore, the Project would comply with regulatory standards and no impact would occur.

**Mitigation:** None required.

### ***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500 kV single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project. As noted previously, the minor modifications (replacement and upgrades) to equipment within the existing PG&E Midway Substation would not require any ground disturbance. The impacts of PG&E's construction, operation, and maintenance of this infrastructure are analyzed as part of the Project above. Incremental contributions of the PG&E infrastructure work to the overall impact conclusions related to utilities and service systems would be less than significant.

**Mitigation:** None required.

### 3.19.4 Cumulative Effects Analysis

**Impact 3.19-5: The Project would not cause or contribute to any significant adverse cumulative impact to utilities and service systems. (*Less-than-Significant Impact*)**

The geographic area within which the Project would cause impacts that could combine with the incremental impacts of other projects to cause or contribute to significant cumulative effects includes the service areas of the utilities and other service providers that serve the Project site. The Project could contribute impacts related to utilities and services systems from the point when on-site activities begin and would conclude when on-site activities are finished at the end of the decommissioning and reclamation phase.

As analyzed in Section 3.19.3, *Direct and Indirect Effects*, the Project would cause a less-than-significant impact related to utilities and service systems, including water, wastewater, stormwater, electricity, telecommunication facilities, and solid waste systems. The incremental, Project-specific impacts related to these utilities and service systems could combine with the incremental impacts of the past, present, and reasonably foreseeable future projects identified in Section 3.1.3, *Cumulative Effects Approach*. For example, the Fifth Standard Solar Project, the PG&E Gates Substation, and a second, smaller substation are in operation near the Project site, and multiple other projects that are in operation in the relevant service areas (e.g., the RE Tranquillity, RE Adams East, Luna Valley, and Little Bear solar projects) could be causing ongoing impacts that would combine with the incremental impacts of the Project. Proposed and reasonably foreseeable future projects that also could contribute to the cumulative demand for utilities and other service systems include the remaining projects summarized in Section 3.1.3, such as the PG&E Gates 500 kV Dynamic Reactive Support Project that would be implemented at the Gates Substation.

#### **Water and Water Supplies**

The additional water infrastructure needed to support this Project could include installation, operation, maintenance, and closure of a well. The laws, regulations, and ordinances governing well construction and use that would apply equally to all cumulative projects establish standards with cumulative conditions in mind. The Project's less-than-significant incremental impacts due to its water demand and its proposed construction of new water facilities would combine with the incremental contributions of other cumulative projects but would not result in a significant adverse cumulative environmental effect. In any event, the Project's less-than-significant incremental impact would not be cumulatively considerable.

The Project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Given regulatory oversight at the state and local levels, and based on the analysis presented above and in the Project's water supply assessment (Appendix L), the subbasin has the capacity to fulfill the needs of the Project and other projects in the region during normal, dry, and high-drought years. Accordingly, even though the Project may encounter lower groundwater tables and reduced rainfall in some years, WWD ensures that water demand can be met for the region by obtaining water supplies through short- and long-term purchases and transfers, in addition to the water

table. Thus, the Project's incremental contribution to any significant impact related to water supply would be less than significant. Further, because the northernmost Project site parcel may yield a decrease in water demand as it shifts from irrigated agricultural use to energy use consistent with the Project, the Project could have a beneficial effect on cumulative water supply.

**Mitigation:** None required.

### **Wastewater and Wastewater Treatment**

The additional wastewater infrastructure needed to support this Project could include the installation, operation, maintenance, and removal of a septic system. The laws, regulations, and ordinances governing septic system construction that would apply equally to all cumulative projects that also include a septic system (and the long-term or master plans that govern wastewater treatment facilities in the county) have been established with cumulative conditions in mind. The Project's less-than-significant incremental impacts due to its wastewater demand and its potential use of a septic system would combine with other cumulative projects' incremental impact contributions, but would not exceed the capacity and availability of private licensed providers within the region and thereby result in a significant adverse cumulative environmental effect. In any event, the Project's less-than-significant incremental impact would not be cumulatively considerable.

**Mitigation:** None required.

### **Stormwater**

New stormwater infrastructure proposed to support the Project includes a drainage swale and two detention basins to retain stormwater, prevent runoff, and reduce erosion and sedimentation. Similar stormwater infrastructure is required for all new development in the unincorporated Fresno County area to minimize adverse environmental impacts of development on neighboring properties. The Project's less-than-significant incremental impacts due to the construction of new on-site stormwater management infrastructure would combine with other cumulative projects' incremental impacts, but generally would be positive and thus would not result in a significant adverse cumulative environmental effect. In any event, the Project's less-than-significant incremental impact would not be cumulatively considerable.

**Mitigation:** None required.

### **Electricity**

The Project would require construction, operation, maintenance, and decommissioning of the energy storage infrastructure described in Chapter 2, *Project Description*, and installation, operation, and maintenance of the PG&E infrastructure. The environmental impacts of the Project's electricity-related infrastructure have been analyzed on a resource-by-resource basis in this EIR. The Project's less-than-significant incremental impacts related to electricity service would combine with other cumulative projects' incremental impacts, but they would not result in a significant adverse cumulative environmental effect given the limited nature of the work and the overall benefit to the electricity system. In any event, the Project's less-than-significant incremental impact would not be cumulatively considerable.



**Mitigation:** None required.

### **Telecommunications**

The Project would use a SCADA system to support on-site or remote management of the energy storage system. SCADA systems are such common commercial and industrial installations that they have been described as “the backbone of many modern industries, including: Energy, food and beverage, manufacturing, oil and gas, power, recycling, transportation, water and waste water, and many more” (Inductive Automation 2023). The Project’s incremental impact on telecommunications facilities, combined with the incremental impacts of other cumulative projects, would not result in a significant adverse cumulative effect, and in any event, the Project’s less-than-significant incremental impact would not be cumulatively considerable.

**Mitigation:** None required.

### **Solid Waste and Solid Waste Standards**

Potential cumulative impacts on landfill capacity would affect the area served by the American Avenue and Avenal landfills. As noted in the regulatory section discussion of the Integrated Waste Management Act, Fresno County is required to identify an area for the location of new solid waste transformation or disposal facilities if it determines that the existing landfill capacity will be exhausted within 15 years. It is anticipated that in compliance with the Integrated Waste Management Act, Fresno County would have at least 15 years of remaining solid waste (landfill) capacity at the time of Project decommissioning and site reclamation, and thus that Project-caused solid waste could be disposed of within the limits of available permitted capacity. The same Fresno County C&D Debris Recycling Program waste diversion and recycling requirements that apply to the Project would also apply to other cumulative projects. With the assumed compliance with the Fresno County C&D Debris Recycling Program’s requirements, the solid waste capacity of existing landfills is not expected to be exceeded, and the Project’s incremental contribution to capacity concerns would not be a cumulatively considerable contribution to any significant cumulative effect.

**Mitigation:** None required.

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## 3.20 Wildfire

This section identifies and evaluates issues related to wildfire, including the potential to impair an adopted emergency response plan or emergency evacuation plan, exacerbate wildfire risks, or expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. It describes the physical and regulatory setting, identifies the criteria used to evaluate the significance of potential impacts, describes the methods used to evaluate these impacts, and reports the results of the impact assessment. The County received no scoping input pertaining to wildfire (**Appendix A, Scoping Report**).

### 3.20.1 Setting

*Wildfire*, defined as an unplanned, unwanted wildland fire (Government Code Section 51177), exists in Fresno County, as in all parts of California. Wildland fires affect grass, forest, and brushlands, as well as any structures on these lands, and create potential for injury, loss of life, and property damage. Such fires can result from human-made or natural causes. The type and amount of fuel, topography, and climate are the primary factors influencing the degree of wildfire risk.

The State of California (through the California Department of Forestry and Fire Protection [CAL FIRE]) has the primary legal and financial responsibility for the prevention and suppression of wildland fires in State Responsibility Areas (SRAs), while Local Responsibility Areas (LRAs) include incorporated cities and more densely populated areas with fire protection typically provided by city fire departments, fire protection districts, counties, and/or joint agreements with CAL FIRE. The Project site is entirely within an LRA under the firefighting responsibility of Fresno County (Fire and Resource Assessment Program 2022).

#### 3.20.1.1 Study Area

For this analysis of wildfire risk, emergency response and evacuation, and post-fire pollution and runoff-related impacts, the study area includes each of the parcels that make up the Project site, as well as the surrounding parcels and related access roads, structures, and vegetation.

#### 3.20.1.2 Environmental Setting

##### ***Fire Environment***

Fire behavior is primarily dependent upon fuels (e.g., vegetation), weather (e.g., wind, temperature, and humidity), and topography (e.g., slope, elevation, and aspect). The combination of these three factors, which are described in more detail below, can help or hinder the spread of a wildfire if one occurs.

## Topography

*Topography* describes the shape of the land and can include descriptions of elevation (height above sea level), slope (the steepness of the land), aspect (the direction a slope faces), and features such as canyons and valleys. Topography can strongly influence fire behavior, including the speed at which a fire moves through an area: Fire typically moves more quickly when it travels uphill than when it travels either downhill or across flat terrain. As heat rises in front of the fire, it preheats and dries upslope fuels, resulting in their rapid combustion (Bennett 2017).

Fresno County can be categorized into three geographical regions as distinguished by their topography: (1) broad, flat valley floors that generally slope from the southeast to the northwest; (2) foothills and moderately high mountains (Coast Ranges) in the west; and (3) foothills and high mountains (Sierra Nevada) in the east. Approximately 55 percent of the county is mountainous, and 45 percent is valley land. Elevations range from 100 to 400 feet on the valley floor to 4,000 feet in the Coast Ranges and more than 14,000 feet in the Sierra Nevada (Fresno County 2018). The Project site is located within the farthest southwest corner of the first geographical region, which contains predominantly flat valley floors with a gentle or gradual slope along the southwestern portion of Fresno County. This flat topography in the vicinity of the Project site is one contributor to the lack of fire hazard severity zoning and California Public Utilities Commission (CPUC) high-fire-threat designation in this region, as described below.

## Vegetation/Fuels

*Fuel* is the material that feeds a fire and is a key factor in wildfire behavior. Fuel sources are diverse and include dead tree leaves, twigs, branches, and standing trees; live trees and brush; and dry grasses. Additional fuel sources can include human-made structures such as homes, buildings, and other associated combustible materials. Fuel types in the vicinity of the Project site consist primarily of annual grasses, with deciduous oaks and heavy brush also occurring in western Fresno County (Fresno County 2018). The Project site and immediate surrounding area contain predominantly agricultural land, including fallow land. Few to no trees, brush, or branches exist on-site. This relative lack of fuels is another contributor to the lack of identified fire hazard on the site. For additional description of vegetation types surrounding the Project site, see Section 3.5, *Biological Resources*.

## Weather/Climate

Weather conditions such as wind, temperature, and humidity also contribute to fire behavior. Fuels located in hotter and drier temperatures are more susceptible to ignition and catch fire more readily than fuels located in moister and/or cooler temperature conditions.

Summers are long, hot, and dry in the valley in which the Project site is located. Winters are short and mild with light rain. Most of the seasonal precipitation occurs between October and April (Fresno County 2018). Over the course of the year, temperatures typically range from 39 degrees Fahrenheit (°F) to 99°F and rarely drop below 31°F or exceed 106°F. Wind in Fresno County is highly dependent on local topography and other factors; however, the windiest parts of the year are from April to July, with wind speeds averaging around 5.6 miles per hour (Weather Spark 2022).

## Fire History

Wildfire is an ongoing concern in Fresno County. Historically, the fire season extends through the hot, dry months from June through October of each year. According to the Fresno County Fire History Map within the Multi-Jurisdictional Hazard Mitigation Plan (Fresno County 2018), most fires occur in either the eastern or western portions of Fresno County. Few to no wildfires are known to have occurred in the San Joaquin Valley or on the Project site. Therefore, the Project site, located in the southwest region of the county, is not within either of the areas of increased risk (Fresno County 2018).

Since 2010, the length of the fire season in Fresno County and throughout California has been increasing, typically starting in May and extending into November, but wildfires can occur at any time of the year. According to the Fresno-Kings Unit Fire Plan, in 2020 the Fresno-Kings Unit's wildfire activity consisted of 100 fires totaling 32,189 acres in SRAs and 473 fires totaling 2,752 acres in LRAs. The top ignition sources of wildland fire causes in LRAs were arson (98 fires), undetermined (64), debris burning (54), vehicles (45), miscellaneous (33), equipment (26), electrical power (21), playing with fire (19), smoking (6), under investigation (6), campfires (4), railroad (1), and lightning (1) (CAL FIRE 2020).

## Impacts of Wildfire on Air Quality

As wildfires burn fuel, large amounts of carbon dioxide, particulate matter, and ozone precursors are released into the atmosphere. Wildfires also emit a substantial amount of volatile and semi-volatile organic materials and nitrogen oxides that form ozone and organic particulate matter. These emissions can lead to harmful exposures for first responders, nearby residents, and even populations in regions farther from the wildfires (NOAA 2021). Exposure to these pollutants can cause asthma attacks, coughing, and shortness of breath. Chronic exposure to these pollutants can increase the risk of developing chronic health conditions such as heart disease, diabetes, and cancer (Hamers 2018; Milman 2018). These pollutants are described in more detail in Section 3.4, *Air Quality*.

## CAL FIRE Fire Hazard Severity Zone Designations

CAL FIRE has published Fire Hazard Severity Zone (FHSZ) maps for lands in SRAs, with ratings from Moderate to Very High. However, in LRAs, where the Project site is located, CAL FIRE makes recommendations only for Very High FHSZs, which cities and counties are encouraged to adopt into local plans. No Very High FHSZs have been recommended in Fresno County (CAL FIRE 2023). The nearest mapped FHSZ in an SRA is about 2 miles south of the Project site, where there is a mix of Moderate and High FHSZs (CAL FIRE 2022a). This indicates a low level of concern by CAL FIRE regarding wildfire hazard in the immediate vicinity of the Project site; however, the hills located to the south and west of the Project site, on the other side of Interstate 5, are of greater concern for wildfire threats.

## California Public Utilities Commission–Designated Wildfire Hazard Zones

Pursuant to its Fire Safety Rulemaking, CPUC mapped high-fire-threat areas where more stringent inspection, maintenance, vegetation clearance, and wire clearance requirements (as required by CPUC General Orders 95, 165, and 166, described in Section 3.20.1.3, *Regulatory*

*Setting*) would be implemented because of the elevated risk for power line fires. The CPUC High Fire Threat District Map identifies elevated risk for fires associated with utilities based on criteria such as fire hazards associated with historical power line–caused wildfires and current fuel conditions and scores geographic areas based on where fires start, as opposed to where potential fires may cause impacts. The Project site is not located in a CPUC-designated High Fire Threat District (CPUC 2021).

### **Fire Protection Services**

Because the Project site is in a designated LRA, primary fire protection services in the vicinity of the Project site are provided by the Fresno County Fire Protection District (FCFPD). Section 3.16, *Public Services*, outlines additional details regarding fire protection services. The closest fire station to the Project site is Station 93, which is part of Fresno County Fire Battalion 14 and is located approximately 5 miles to the northeast at 36421 S. Lassen Avenue in the community of Huron (FCFPD 2022).

### **3.20.1.3 Regulatory Setting**

#### **Federal**

#### **North American Electric Reliability Corporation Standards**

The North American Electric Reliability Corporation (NERC) is a not-for-profit international regulatory authority comprising 10 regional reliability councils. The overarching goal of NERC is to ensure the reliability of the bulk power system in North America. To achieve its goal, NERC develops and enforces reliability standards, monitors the bulk power systems, and educates, trains, and certifies industry personnel. In part to improve the reliability of regional electric transmission systems, NERC developed a transmission vegetation management program that is applicable to all transmission lines operated at 200 kilovolts and higher, as well as lower voltage lines designated by the Regional Reliability Organization as critical to the reliability of the region’s electric system (NERC 2020).

The program, which became effective on April 7, 2006, applies to PG&E’s transmission line–related vegetation management activities in the Project area such as NERC Standard FAC-003, Transmission Vegetation Management. It establishes the requirements of the formal transmission vegetation management program. These requirements include identifying and documenting clearances between vegetation and any overhead, ungrounded supply conductors, while considering transmission line voltage, the effects of ambient temperature on conductor sag under maximum design loading, fire risk, line terrain and elevation, and the effects of wind velocities on conductor sway. The clearances identified must be no less than those set forth in Institute of Electrical and Electronics Engineers Standard 516-2021 (*Guide for Maintenance Methods on Energized Power Lines*) (IEEE 2021), which establishes minimum vegetation-to-conductor clearances to maintain the electrical integrity of the electrical system.



## **State**

### **2019 Strategic Fire Plan for California and Fresno-Kings Unit Strategic Fire Plan**

Developed by the State Board of Forestry and Fire Protection, the Strategic Fire Plan outlines goals and objectives to implement CAL FIRE's overall policy direction and vision. The 2019 Plan demonstrates CAL FIRE's goals of (1) improving its core capabilities, (2) enhancing its internal operations, (3) ensuring health and safety, and (4) building an engaged, motivated, and innovative workforce.

CAL FIRE's jurisdiction extends the length and breadth of the state with an emergency response and resource protection capability of 6,100 full-time fire professionals, foresters, and administrative employees; 2,600 seasonal firefighters; 105 California Conservation Corps firefighters; 600 Volunteers in Prevention; and 3,500 inmates and wards. CAL FIRE provides direction for fire prevention and enforcement within SRAs using fire resource assessments, a variety of available data, mapping, and other tools. Pre-fire management activities, including prescribed burning, fuel breaks, forest health treatments, and removal of hazardous vegetation, are conducted at the unit level under the guidance of CAL FIRE program managers. Through the 2019 Strategic Plan, CAL FIRE also delivers Land Use Planning and Defensible Space Inspection programs to the local level across the state (CAL FIRE 2019).

The California Strategic Fire Plan outlines 27 operational units. The Project site is located within the Fresno-Kings Operational Unit and would follow goals and objectives outlined in the Fresno-Kings Unit Strategic Fire Plan, which was completed by a collaborative effort with various stakeholders in the unit, program managers, bureau managers, and battalion chiefs. The unit's Fire Plan is updated each year based on the accomplishments, goals, and objectives outlined by the unit and the California Strategic Fire Plan. The Fire Plan is executed by a continued working relationship with CAL FIRE and FCFPD and is divided into battalions. The Project site is located within the jurisdictional area of Battalion 15, which predominantly covers the central and western areas of FCFPD in the Fresno-Kings Unit (CAL FIRE 2022b). Battalion 15 consists of 730,970 acres of LRAs, including that of the Project site.

### **California Emergency Response Plan**

Pursuant to the Emergency Services Act (Government Code Section 8550 et seq.), California has developed an emergency plan to coordinate emergency services provided by federal, state, and local governmental agencies and private persons. Response to hazardous materials incidents is one part of this plan. The plan is administered by the California Governor's Office of Emergency Services (OES). The OES coordinates the responses of other agencies, including the U.S. Environmental Protection Agency, California Highway Patrol, California Department of Fish and Wildlife, the nine regional water quality control boards (including, as relevant to this Project, the Central Valley Regional Water Quality Control Board), the local air districts (including the San Joaquin Valley Air Pollution Control District), and local agencies. The State Emergency Plan defines the "policies, concepts, and general protocols" for the proper implementation of the California Standardized Emergency Management System (SEMS). The SEMS is an emergency

management protocol that agencies within the State of California must follow during multi-agency response efforts whenever state agencies are involved.

### **2022 California Fire Code**

The 2022 California Fire Code is contained within Title 24, Part 9 of the California Code of Regulations. Based on the International Fire Code, the California Fire Code is created by the California Buildings Standards Commission and regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. Similar to the International Fire Code, the California Fire Code and the California Building Code use a hazards classification system to determine the appropriate measures to incorporate to protect life and property. It is an enforceable set of regulations consistent with nationally recognized and accepted practices for safeguarding life and property from the hazards of fire and explosion; dangerous conditions arising from the storage, handling, and use of hazardous materials and devices; and hazardous conditions in the use or occupancy of buildings or premises. It also contains provisions to assist emergency response personnel.

Section 1207 of the 2022 California Fire Code addresses design, construction, operation and maintenance, decommissioning, and hazard response (including for both fire and spill hazards) for electrical energy storage systems. Fresno County has recently adopted the 2022 version of the California Fire Code. Therefore, Fresno County has enforcement authority for the California Fire Code for projects under its jurisdiction.

Section 1207 requires energy storage systems to meet Underwriters Laboratories (UL) standard UL 9540, which is a safety standard specific to energy storage systems. For energy storage systems connected to a utility grid, including this Project, the UL 9540 standard also extends to the equipment used to make that connection. This standard pertains to fire and explosion safety concerns associated with energy storage systems, including the safety of the storage (battery) component during operation, fire detection, and fire mitigation effectiveness in enclosed areas. Fresno County would require full compliance with the California Fire Code and all applicable standards contained therein for final design and implementation of the Project.

### **California Public Resources Code**

The California Public Resources Code includes fire safety provisions that are deemed necessary by the director or agency with primary responsibility for fire protection in the area. During the fire hazard season, these regulations restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on equipment that has an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire-suppression equipment that must be provided on-site for various types of work in fire-prone areas. Additional provisions in Public Resources Code Sections 4294–4296 require that any owners or operators of electrical transmission or distribution lines on grass-covered land, such as found at and near the Project site, maintain a firebreak clearing around and adjacent to poles, towers, and conductors. Section 4292 requires that PG&E maintain a 10-foot firebreak clearance around the base of a utility pole, with tree limbs within the 10-foot radius of the pole being removed up to 8 feet above ground.

The state’s Fire Prevention Standards for Electric Utilities (14 Cal. Code Regs. Sections 1250–1258) provide specific exemptions from electric pole and tower firebreak and electric conductor clearance standards and specify when and where standards apply.

### **California Public Utilities Commission General Orders**

#### **General Order 95**

CPUC General Order 95 applies to work conducted by PG&E, including the construction and reconstruction of overhead electric lines. The replacement of poles, towers, or other structures is considered reconstruction and requires adherence to all strength and clearance requirements of this order.

The CPUC has promulgated various rules to implement the fire safety requirements of General Order 95, including:

- Rule 18A, which requires utility companies to take appropriate corrective action to remedy safety hazards and General Order 95 nonconformances. Additionally, this rule requires that each utility company establish an auditable maintenance program.
- Rule 31.2, which requires that lines be inspected frequently and thoroughly. It also requires that lines temporarily out of service be inspected and maintained.
- Rule 35, which requires that vegetation management activities be performed to establish necessary and reasonable clearances. These requirements apply to all overhead electrical supply and communication facilities that are covered by this General Order. Specifically, this applies to communication and electric supply circuits, energized at 750 volts or less, which must be kept clear of vegetation in new construction and when circuits are reconstructed or repaired.
- Rule 38, which establishes minimum vertical, horizontal, and radial clearances of wires from other wires (CPUC 2020).

#### **General Order 165**

General Order 165 establishes requirements for the inspection of electric distribution and transmission facilities that are not contained within a substation. Utilities must perform “patrol” inspections, which are defined as a simple visual inspection of utility equipment and structures (designed to identify obvious structural problems and hazards) at least once per year for each piece of equipment and structure. Detailed inspections, where individual pieces of equipment and structures are carefully examined, are required every 5 years for all overhead conductor and cables, transformers, switching/protective devices, and regulators/capacitors. By July 1 of each year, each utility subject to General Order 165 must submit an annual report of its inspections for the previous year under penalty of perjury (CPUC 2017b).

#### **General Order 166**

General Order 166 Standard 1.E requires each investor-owned utility, such as PG&E, to develop a fire prevention plan describing measures that the utility will implement to mitigate the threat of power line fires generally. Additionally, this standard requires that investor-owned utilities

outline a plan to mitigate power line fires when wind conditions exceed the structural design standards of the line during a Red Flag Warning event in a high-fire-threat area. Fire prevention plans formulated by investor-owned utilities are required to identify specific parts of the utility's service territory where the conditions described above (i.e., Red Flag Warnings and high-wind events) may occur simultaneously. Standard 11 requires that utilities report annually to the CPUC regarding compliance with General Order 166 (CPUC 2017c). In compliance with Standard 1.E of this General Order, PG&E adopted a fire prevention plan on September 30, 2017.

### ***Senate Bill 1028 and Senate Bill 901***

Senate Bill (SB) 1028 (2016) requires each electrical corporation to construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by those electrical lines and equipment, and makes a violation of these provisions by an electrical corporation a crime under state law. The bill also requires each electrical corporation to annually prepare a wildfire mitigation plan and submit it to CPUC for review. The plan must include a statement of objectives, a description of preventive strategies and programs focused on minimizing risk associated with electric facilities, and a description of the metrics that the electric corporation uses to evaluate the overall wildfire mitigation plan performance and assumptions that underlie the use of the metrics.

SB 901 (Dodd, 2018) expanded upon the wildfire mitigation plan requirements of SB 1028 and included several provisions related to wildfire risk and management in California, including increasing the maximum penalties that can be issued by the CPUC to a public utility that fails to comply with CPUC requirements. The legislation added to the requirements for utilities' wildfire mitigation plans, which must now include the following information:

- Consideration of dynamic climate change risks.
- Protocols for disabling reclosers<sup>1</sup> and de-energizing portions of the electrical distribution system that consider the associated impacts on public safety.
- Protocols related to mitigating the public safety impacts of those disabling and de-energizing protocols, including impacts on critical first responders and on health and communication infrastructure.
- Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the electrical corporation's service territory.

These wildfire mitigation plans must be reviewed by an independent evaluator.

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<sup>1</sup> As explained in the committee analysis for SB 901, "Automated reclosers work much like enhanced circuit breakers. When an abnormal electrical current is detected on a power line, the line automatically shuts down. The recloser waits several seconds, then sends a burst of electricity through the line to see if conditions have returned to normal. If so, the recloser automatically restarts the flow of power. Reclosers are considered a key tool to prevent or minimize blackouts, particularly in rural areas. By restarting service on a line automatically, the recloser eliminates the need to send utility crews to fix many minor service disruptions. However, if a power line is damaged, touching vegetation, or dangling toward the ground, an automatic recloser can pose a fire risk. The burst of current sent by the recloser to test a line can ignite dry plants." (California Assembly Committee on Utilities and Energy 2018.)

### **PG&E Company Emergency Response Plan**

PG&E's Emergency Response Plan, prepared in compliance with Standard 1 (which requires utilities to prepare an emergency response plan), describes and formalizes PG&E's in-place plans and protocols for responding to emergencies. The plan identifies potential hazards, available resources to respond to emergencies, internal communication protocols, and operational structure. Additionally, PG&E's Wildfire Safety Operations Center operates 24 hours a day during wildfire season (PG&E 2019).

### **PG&E Wildfire Mitigation Plan**

On February 25, 2022, PG&E submitted its 2021 Wildfire Mitigation Plan (WMP) in compliance with SB 901, AB 1054, and direction from the CPUC Wildfire Safety Division. The 2022 WMP provides updated details on PG&E's comprehensive Community Wildfire Safety Program, incorporates lessons learned from the 2021 wildfire season, and outlines the additional programs planned to continue reducing catastrophic wildfire risk. PG&E's updated WMP has three overarching goals: (1) Reduce wildfire potential, (2) reduce the impact of Public Safety Power Shutoff and Enhanced Powerline Safety Settings events, and (3) improve situational awareness. The updated 2022 WMP benefits from both historical data (e.g., weather patterns, detailed information on previous ignitions, outages, and other risk events) and state-of-the-art tools such as fire-spread technology that show the locations where specific infrastructure failures can lead to ignitions with the highest consequences for specific communities. Wildfire mitigation workstreams, system hardening, and enhanced vegetation management will be a main focus for the updated 2022 WMP in higher risk circuit segments and in fire rebuild areas (PG&E 2022).

## **Local**

### **Fresno County 2000 General Plan**

The Health and Safety Element of the Fresno County General Plan outlines Fresno County's planning strategies regarding emergency management and response, fire hazards, flood hazards, seismic and geological hazards, airport hazards, hazardous materials, and noise. The following policies of the Health and Safety Element related to fire hazards are applicable to the Project:

***Policy HS-B.1:*** The County shall review project proposals to identify potential fire hazards and to evaluate the effectiveness of preventive measures to reduce the risk to life and property.

***Policy HS-B.5:*** The County shall require development to have adequate access for fire and emergency vehicles and equipment.

***Policy HS-B.8:*** The County shall refer development proposals in the unincorporated County to the appropriate local fire agencies for review of compliance with fire safety standards. If dual responsibility exists, both agencies shall review and comment relative to their area of responsibility. If standards are different or conflicting, the more stringent standards shall apply.

***Policy HS-B.11:*** The County shall require new development to have water systems that meet County fire flow requirements. Where minimum fire flow is not available to meet County standards, alternate fire protection measures, including sprinkler systems, shall be

identified and may be incorporated into development if approved by the appropriate fire protection agency.

### **Fresno County Multi-Hazard Mitigation Plan**

The purpose of the Fresno County Multi-Hazard Mitigation Plan is to reduce or eliminate any long-term risk to people and property from hazards such as floods, wildfires, severe weather, drought, and agricultural hazards that could have a significant impact on the County. Fresno County and the other participating jurisdictions developed this multi-hazard mitigation plan to make the county and its residents less vulnerable to future hazard events, such as wildfire (Fresno County 2018). The Multi-Hazard Mitigation Plan recommends multiple mitigation actions to reduce vulnerability to hazardous events, such as emergency plans or evacuation routes.

### **Fresno County Operational Area Master Emergency Services Plan**

In 1995, the Fresno County Board of Supervisors adopted California's Standardized Emergency Management System, established the geographic area of Fresno County as the Fresno County Operational Area, and designated Fresno County as the Operational Area Lead Agency (Fresno County 2017a). The Office of Emergency Services coordinates the development and maintenance of the Fresno County Operational Area Master Emergency Services Plan. The Office of Emergency Services prepared the Fresno County Operational Area Master Emergency Services Plan to serve as a guide for response to an emergency/disaster in the unincorporated areas of the Fresno County Operational Area, and to coordinate and assist with the disaster response in jurisdictions both within and outside of the Fresno County Operational Area.

### **Fresno County Solar Facility Guidelines**

Toward balancing the need to accommodate new renewable energy technology with the need to protect important farmlands and minimize impacts to existing agricultural operations, the County's land use process for evaluating solar facilities relies on flexible general guidelines and policies rather than specific standards. The Solar Facility Guidelines, adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017, identify consideration to be evaluated as part of the County's process for evaluating solar facilities within the county (Fresno County 2017b). Although the Project does not propose to develop a solar facility, the County's identified need to maintain flexibility to accommodate new renewable energy technologies, such as battery energy storage, which facilitates the use of solar-generated energy by addressing some of the limitations of the electric grid, applies equally to battery energy storage as to solar energy development. The Solar Facility Guidelines provision encouraging the creation of a buffer between a proposed energy facility and adjacent agricultural operations is relevant to this analysis of potential impacts related to wildfire.

## **3.20.2 Significance Criteria**

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, the Project would result in a significant impact related to wildfire if it would:

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan;

- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment;
- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes; or
- e) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildfire.

### 3.20.3 Direct and Indirect Effects

#### 3.20.3.1 Applicant-Proposed Measures and Design Features

The Project includes certain actions to reduce the potential significance of initially anticipated environmental impacts related to a variety of resource areas. The full list of actions is provided in Chapter 2, Section 2.5.9, *Applicant-Proposed Measures and Design Features*. Of them, the actions described in Section 2.5.9.2, *Fire Protection*, and in Section 2.5.9.7, *Emergency Action Plan*, would reduce potential impacts related to wildfire. Implementation of the actions described in Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, relating to worker training and safe practices could further reduce potential impacts related to wildfire.

#### 3.20.3.2 Methodology

The following analysis uses the criteria from Appendix G of the CEQA Guidelines to guide the identification of wildfire impacts. This analysis takes into consideration the Project itself, as well as the necessary PG&E infrastructure required for the Project, including the substation and the electric connection line.

#### 3.20.3.3 Direct and Indirect Effects of the Project

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**Criterion a)** Whether the Project would substantially impair an adopted emergency response plan or emergency evacuation plan.

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**Impact 3.20-1: The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan. (*Less-than-Significant Impact*)**

No evacuation routes are outlined in the Fresno County Multi-Hazard Mitigation Plan (Fresno County 2018), the Master Emergency Services Plan (Fresno County 2017a), or the Fresno County General Plan (Fresno County 2000). Therefore, evacuation routes for the Project location and surrounding area would be identified and coordinated as needed by local law enforcement and emergency service responders during an emergency.

As stated in Chapter 2, *Project Description*, energy storage facilities, unless properly constructed, maintained, and operated, can create hazards for firefighters and emergency responders, with the possibility of explosions, flammable gases, toxic fumes, water-reactive materials, electrical shock, corrosives, chemical burns. Therefore, the Applicant proposes to construct and operate the facility in accordance with all applicable statutes, regulations, and other requirements, including by developing an emergency action plan in advance of construction to train local emergency response personnel during development and operation of the facility. The plan would be completed in accordance with existing state regulations (Health and Safety Code Section 2550[b]); 19 Cal. Code Regs. 2731; 22 Cal. Code Regs. 66262.34[a][4]). The contents of the emergency action plan would comply with existing state regulations, would be developed in consultation with the fire department and energy storage system supplier, and would include defined roles and responsibilities and training for local first responders.

For these reasons, the Project would have a less-than-significant impact on emergency response and evacuation plans during construction, operation and maintenance, and decommissioning phases.

**Mitigation:** None required.

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**Criterion b)** Whether the Project would, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

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**Impact 3.20-2: The Project would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. (*Less-than-Significant Impact*)**

As described above, the Project site is not populated and is sparsely vegetated in a largely flat agricultural region with no forested areas in the vicinity. According to CAL FIRE, CPUC, and Fresno County, the Project site is not identified as an area of high fire risk (CAL FIRE 2023; CPUC 2017a; Fresno County 2018).

The predominant fire hazard from Project construction would involve the use of vehicles and equipment, which could ignite dry vegetation and result in a fire, particularly during the drier, warmer conditions of summer and fall. Construction activities that could result in sparks, such as welding or grading, have a greater potential to result in an ignition. Therefore, depending on the time of year and the location of construction activities, construction activities could increase the sources of potential ignition associated with Project construction and could temporarily exacerbate the risk of wildfire. If construction were to result in an ignition, wildfire could result in smoke and air pollutants that could result in poor air quality for the surrounding communities. As discussed above, existing conditions on the Project site include flat topography and sparse vegetation, and the area is not historically prone to fires. Therefore, although the use of vehicle and equipment on the Project site could result in an ignition that could lead to the spread of



wildfire, the risk of such an impact would be low given the short-term duration of construction, existing flat topography, lack of vegetation on-site, and distance to population centers.

The risk of ignition from vehicle and equipment use would be similar during the decommissioning phase. As such, routine maintenance and vegetation clearance during operation and maintenance would ensure that at the time of decommissioning, all required fire breaks comply with all applicable regulatory requirements; thus, the quantity of available fuels would be low. As a result, the risk of a decommissioning-related ignition resulting in an exacerbated risk of wildfire would be less than significant.

In addition, given the inherent potential for ignition risk associated with power lines, PG&E's Fire Prevention Plan would be applied to the PG&E Interconnection Facilities, as required by CPUC General Order 166. The implementation of operational risk management programs identified in PG&E's Fire Prevention Plan and Wildfire Safety Plan would reduce the risk of an ignition during operation. Relevant programs include enhanced weather monitoring, the Wood Pole Test and Treat Program, ProActive Responses to Fire Incidents, enhancements to PG&E's Storm Outage Prediction Model, the Wildfire Reclosing Disable Program, and the implementation of the Public Safety Power Shutoff program (PG&E 2019). Additionally, vegetation along PG&E line would be managed in compliance with NERC Standard FAC-003, Transmission Vegetation Management. The Project also would abide by the CPUC vegetation management and clearance requirements, General Order 95, and General Order 165, which would effectively manage the risk of exposing surrounding communities to exacerbated risk of the uncontrolled spread of a wildfire during construction and operation. Impacts related to wildland fire from the added PG&E infrastructure would be less than significant.

**Mitigation:** None required.

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**Criterion c)** Whether the Project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or result in temporary or ongoing impacts to the environment.

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**Impact 3.20-3: The Project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or result in temporary or ongoing impacts to the environment. (*Less-than-Significant Impact*)**

The Project would include the installation and/or maintenance of fuel breaks, power lines, and other electrical utilities that could exacerbate the fire risk. The proposed fire and/or fuel breaks, power lines, and electrical utility infrastructure all are considered part of the Project, and the environmental impacts that may result from implementation of these components are analyzed throughout this document on a resource-by-resource basis. The implementation of fuel breaks and vegetation clearances, discussed above in the context of Impact 3.20-2, would assist with fire prevention and suppression and therefore would not exacerbate fire risk. To reduce fire risk associated with the PG&E Interconnection Facilities, PG&E would comply with CPUC vegetation clearance and other regulatory requirements described in the context of Impact 3.20-2.

As stated in Chapter 2, *Project Description*, the energy storage system enclosures would also house the heating, ventilation, and air conditioning and fire protection systems. These enclosures would also house bi-directional inverters, of which the controllers would be located outside the structures along with the transformers. These controllers would ensure that the energy storage system effectively responds to grid emergency conditions and would provide a secondary safety system designed to safely shut down the facility. In addition, enclosures would be unoccupied. Flow batteries are generally not flammable and do not require fire suppression systems. Flow battery tanks would be designed to have containment in the event of a failure. Energy storage equipment would comply with UL-9540 (Standard for Safety of Energy Storage Systems and Equipment) and account for the results of UL-9540A (large-scale fire test). Thus, given the emergency mechanisms and safeguards implemented, the risk and spread of wildfire would be low.

In addition, the Project would comply with the Fresno County Solar Facility Guidelines and would retain a 50-foot buffer between Project facilities (excluding fencing) and surrounding properties. Preliminary site plans indicate that structural improvement and equipment would be kept within 50 feet of the site boundary. This would provide a more than adequate buffer to stop the spread to surrounding areas, should a fire break out.

**Mitigation:** None required.

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**Criterion d)** Whether the Project would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

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For the reasons discussed below, the Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. (*No Impact*)

The Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The Project does not include any housing; therefore, it would not expose people to increased risk associated with flooding, landslides, or post-fire slope instability as a result of locating housing near such existing risks.

As analyzed in Section 3.11, *Hydrology and Water Quality*, the Project would not substantially alter existing drainage patterns, cause erosion, create surface runoff that would contribute to flooding on- or off-site, affect stormwater drainage capacity, or impede flood flows. As a precaution, the Project would also implement stormwater detention systems to retain stormwater during rare extreme-flooding events.

As discussed in the context of Impact 3.20-2, Project construction would have a less-than-significant impact on wildfire risk, given the short duration of construction, the flat site topography, the minimal vegetation, and the Project's implementation of required fuel breaks, vegetation clearances, and compliance with applicable CPUC General Orders. Because the

Project would have a low potential to exacerbate wildfire risk, it also would not pose a substantial risk of causing post-fire slope instability. Additionally, because the Project site is located on flat land, the Project would not be located on slopes that could contribute to the occurrence of landslides or flooding. Therefore, while the Project would have no impact regarding its potential to exacerbate the risk of flooding and mudslides as a result of post-fire slope instability, it would have a less-than-significant impact overall relating to the potential to expose people or structures to significant risks as a result of runoff or drainage changes.

**Mitigation:** None required.

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**Criterion e)** Whether the Project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildfire.

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**Impact 3.20-4: The Project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildfire. (*Less-than-Significant Impact*)**

The Project site is not located in an SRA and is not classified as a Very High FHSZ. No Very High FHSZs have been recommended in Fresno County (CAL FIRE 2023). The nearest mapped FHSZ in an SRA is approximately 2 miles south of the Project site, where there is a mix of Moderate and High FHSZs (CAL FIRE 2022a). This indicates a low level of concern by CAL FIRE regarding wildfire hazard in the immediate vicinity of the Project site.

Project construction and decommissioning would involve the use of scrapers, graders, dozers, compaction equipment, and other vehicles and equipment that have the potential to ignite fires. Operation of the energy storage system and transmission lines also have the potential to ignite fires. Any loss, injury, or death involving wildfire can be devastating. However, the combination of the low level of wildfire concern in the area and implementation of the activities proposed in Chapter 2, Section 2.5.9.2, *Fire Protection*, Section 2.5.9.7, *Emergency Action Plan*, and Section 2.5.9.8, *Compliance with Applicable Laws and Standards*, would ensure that the Project would not cause a potential significant impact related to the exposure of people or structures to a significant risk of loss, injury, or death involving wildfire. The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan (see Impact 3.20-1), would not significantly exacerbate wildfire risks (Impact 3.20-2), and would maintain adequate access to and through the Project site. The Project also would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the energy storage system (Impact 3.10-2). Therefore, a less-than-significant impact would result related to criterion e).

**Mitigation:** None required.

***PG&E Infrastructure***

As described in Section 2.5.10, *PG&E Interconnection Infrastructure*, in Chapter 2, *Project Description*, PG&E would install up to 2,500 feet of new 500-kilovolt single-circuit transmission line (creating a new, direct tie from the Gates Substation to the Project site) on lattice towers each

up to 200 feet tall on lattice towers each up to 200 feet tall and would modify existing infrastructure within the Gates Substation property and the Midway Substation property to accommodate the Project.

Like the Project, incremental impacts on wildfire specific to the PG&E work would be less than significant relating to the impairment of an adopted emergency response plan or emergency evacuation plan; the exacerbation of wildfire risks and related exposure of Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; the installation of power lines that could exacerbate fire risk; the expose people or structures to post-fire risks or to a significant risk of loss, injury, or death involving wildfire. The work needed at the Gates Substation and at the Midway Substation would involve equipment and vehicles that could result in ignition of a fire; however, wildfire risk from the proposed minor modifications (primarily including replacement and upgrades) to existing equipment would not be appreciably different than existing conditions.

### 3.20.4 Cumulative Effects Analysis

The geographic scope for potential cumulative impacts related to wildfire consists of agricultural land uses, solar projects, and other battery storage facilities. The main projects to consider include the PG&E Gates storage facility modifications, the Fifth Standard Solar Complex, and the PG&E Replacement Bank. Ongoing impacts related to the wildfire considerations of past projects are reflected in the environmental setting described in Section 3.20.1.2 and specifically include the potential for the nearby solar projects and agricultural land uses to result in an ignition as a result of a mechanical failure or maintenance activities. Environmental conditions in the geographic scope for cumulative effects are not conducive to the rapid spread of uncontrolled wildfire, and although existing land uses could result in a source of ignition, operating solar projects and agricultural uses do not present a significant risk with respect to ignition sources.

Additionally, there have been no historic fires in the Project vicinity. In combination with other projects in the vicinity, the Project could increase the potential for ignition sources in the area. However, given the flat topography and lack of vegetation within the geographic scope of cumulative impacts, the impact of an increase in ignition sources of the Project in combination with the incremental impacts of other projects (e.g., the PG&E Gates Facility) would be less than significant. Therefore, no significant cumulative effect exists related to wildfire to which the Project could contribute.

**Impact 3.20-5: The Project would not make a cumulatively considerable contribution to any potentially significant cumulative wildfire impact. (*Less-than-Significant Impact*)**

The cumulative impacts of this Project, when considered with others in the region, do not obstruct any emergency response or evacuation plan. Because no evacuation routes are outlined in the Fresno County Multi-Hazard Mitigation Plan (Fresno County 2018), the Master Emergency Services Plan (Fresno County 2017a), or the Fresno County General Plan (Fresno County 2000), evacuation routes for this area would be identified and coordinated as needed by local law enforcement and emergency service responders during an emergency. It is reasonable to assume that these routes would not change based on the number of projects in this region, as local

agencies would still need to outline routes in case of an emergency. Thus, the agencies would not be overburdened by the addition of this Project to the region, as there is already a requirement to act in an emergency that necessitates personnel evacuation. Cumulatively, this Project's less-than-significant contribution to cumulative conditions would not cause or contribute to a significant cumulative impact due to impairment of an emergency response plan.

The Project's less-than-significant contribution to cumulative conditions also would not cause or contribute to a significant cumulative impact related to the exacerbation of wildfire risks due to slope, prevailing winds, or other factors, thereby exposing Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. This is because the Project site and the surrounding area are not populated and are sparsely vegetated in a largely flat agricultural region with no forested areas. In addition, the other developed land uses include other energy storage and generation related projects, all of which abide by local fire codes and regulations. According to CAL FIRE, CPUC, and Fresno County, the Project site is not identified as an area of high fire risk (CAL FIRE 2023; CPUC 2017a; Fresno County 2018). Thus, when considered with other land uses in the region, the addition of this Project would not contribute to a greater risk of wildfire. Given the topography of the region, the predominant fire hazard can be reasonably assumed to be construction-related occurrences. This would involve the use of vehicles and equipment, which could ignite dry vegetation and result in a fire. However, even though these construction-related activities could increase the sources of potential ignition with each project, the incremental cumulative impacts of wildfire risk to the region as a whole would still be less than significant.

It is reasonable to assume, given the Project's proximity to the PG&E Gates Substation, that advancement in technology and infrastructure will occur in the future. This region is prime for battery storage and other energy-related infrastructure. Although the Project itself does not exacerbate fire risk, the need for additional roads, water sources, power sources, etc., related to these energy infrastructure improvements may present an increased risk. This is beyond the scope of the Project's foreseeable future, but cumulatively this may present an increased fire risk to this region and should be noted. Nonetheless, the commitment and obligation to maintain buffer zones compliant with state and local regulations would ensure that the Project's incremental contribution to potential significant wildfire impacts would not be cumulatively considerable and thus would be less than significant.

The Project's less-than-significant contribution to cumulative conditions also would not cause or contribute to a significant cumulative impact related to the exposure of people or structures to significant risk of loss, injury, or death involving wildfire. This is because the region is relatively flat, sparsely populated, not in an SRA and not in a Very High FHSZ so there would be no cumulatively added risk to structures or people by the addition of the Project. Cumulatively, the impacts would be less than significant.

**Mitigation:** None required.

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# CHAPTER 4

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## Alternatives

CEQA requires that a lead agency analyze a reasonable range of alternatives to a proposed project that could feasibly attain most of the basic objectives of the project while substantially reducing or eliminating significant environmental effects. CEQA also requires that an EIR evaluate a “no project” alternative to allow decision-makers to compare impacts of approving a project with the impacts of not approving it. This chapter describes the key considerations used to identify and screen potential alternatives, explains why some potential alternatives were eliminated from further consideration, and describes those alternatives that were carried forward for analysis. This section also compares the environmental advantages and disadvantages of the Project and alternatives evaluated in detail in this Draft EIR.

### 4.1 Alternatives Screening and Development Process

The County screened and thereafter selected alternatives to be analyzed in greater detail based on the considerations listed in CEQA Guidelines Section 15126.6, chiefly including this direction:

*An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible.... There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.*

Alternatives typically involve changes to the location, scope, design, extent, intensity, or methods of construction or operation of a proposed project. The range of alternatives for this Project has been selected based on the four screening factors enumerated below to foster meaningful public participation and informed decision making. The results of the screening process are presented in the sections that follow.

- (1) Whether the potential alternative would meet most of the basic project objectives. A project’s statement of objectives describes the purpose of the project and the reasons for undertaking it. Alternatives that fail to meet the fundamental project purpose need not be addressed in detail in the EIR (*In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* [2008] 43 Cal.4th 1143). The project purpose and objectives for this Project are identified in Section 2.4, *Project Purpose and Objectives*.

- (2) Whether the potential alternative would be “potentially feasible.” In this context, *feasible* means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (Public Resources Code Section 21061.1; CEQA Guidelines Sections 15126.6 and 15364). According to CEQA Guidelines Section 15126.6(f)(1), “Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.” Although EIRs must contain a discussion of potentially feasible alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by lead agency decision-makers who may consider evidence beyond that found in the EIR (Public Resources Code Section 21081[a][3]).
- (3) Whether the potential alternative would be able to avoid or substantially lessen any of the potentially significant impacts of the project. See Chapter 3, *Environmental Analysis*.
- (4) Whether implementation of the potential alternative is remote or speculative. Eliminating unrealistic or conjectural alternatives from detailed analysis in the EIR allows decision makers and members of the public to focus on alternatives capable of being approved and carried out in lieu of the Project as proposed.

## 4.2 Alternatives Rejected from Detailed Consideration

Any potential alternative determined not to meet most of the basic Project objectives; to be infeasible, or not to be able to avoid or substantially lessen one or more potential significant impacts of the Project; or to be either remote or speculative was not carried forward for detailed consideration. A brief description and rationale for not carrying forward potential alternatives that failed the screening process is provided below.

### 4.2.1.1 Alternative Sites

#### *Siting Criteria*

The Applicant’s approach to initial site evaluation and selection was to find a business-reasonable balance of the results of an environmental constraints analysis and permitting challenges. Primary selection criteria included the following (Key Energy Storage LLC 2021):

- Minimizing the complexity of interconnection (including both logistical and safety issues) by finding sites close to the Gates Substation and existing transmission lines that would avoid a need for the Project’s gen-tie line to traverse an interstate or the California Aqueduct.
- Identifying landowners willing to make their property available for energy storage.
- Identifying sites that were otherwise suitable for the proposed use based on the adequacy of roadways, separation from residences, and because they were both relatively flat and outside of a 100-year floodplain.

Accordingly, any potential alternative site that would not meet these primary selection criteria would not be a reasonable alternative to the Project and the implementation of an alternative project on such a site would be both remote and speculative.

Changing the point of interconnection from the Gates Substation would not be feasible because the California Independent System Operator (CAISO) and the Applicant have an interconnection agreement in place to provide battery storage at this location. Additionally, the Project has been located adjacent to the Gates Substation to minimize energy losses between the substation and the generating facility, thereby facilitating energy efficiency. Therefore, alternative sites that would require a new interconnection position were not considered feasible alternatives to the Project for the purposes of CEQA. However, it is possible that the Project could be developed on an alternative site that could utilize the Project's Gates interconnection.

### ***Westlands Solar Park Alternative***

Under a Westlands Solar Park Alternative, an energy storage project would be developed on 260 acres of grazing land within the eastern portion of Westlands Solar Park (WSP), which is located approximately 10 miles directly east of the Project site on the path of the WSP-South Gen-Tie line described and analyzed in Westlands Water District's December 2017 Final Program EIR for the *Westlands Solar Park Master Plan and WSP Gen-Tie Corridors Plan* (State Clearinghouse No. 2013031043) (Westlands Water District 2017) and shown in WSP Draft Program EIR Figure ES-2 and Figure AG-1.

The approximately 21,000-acre Master Plan area is located in west-central Kings County. It is generally bounded by State Route 198 on the north, State Route 41 on the southeast, and the Fresno County line on the west. The eastern portion of the Master Plan area includes approximately 6,841 acres mapped pursuant to the FMMP as grazing land, with an additional 2,978 acres within the Master Plan boundary that were anticipated to be remapped to grazing land once an FMMP map update occurred (for a total of 9,819 acres of mapped grazing land). Once constructed, the WSP-South Gen-Tie line shown in WSP Draft Program EIR Figure ES-3 would connect grazing land within the WSP to the Gates Substation via a 350-foot-wide 230-kilovolt (kV) gen-tie corridor that would run parallel and adjacent to roadway right-of-way on the north side of Nevada Avenue (in Kings County) and Jayne Avenue (in Fresno County), commencing at a switching station on Nevada Avenue and continuing westward along the north side of the roadway for 11.5 miles to the Gates Substation (Westlands Water District 2017).

The WSP Master Plan anticipated that subareas within the WSP would incorporate energy storage systems into proposed facilities, assuming that typical systems would consist of battery, fuel cell, or compressed air systems in enclosures placed on concrete foundations that could be concentrated in specified locations (Westlands Water District 2017). However, the Master Plan is primarily a generation-focused plan, and also anticipated that "storage facilities would occupy well under 1 percent of the typical [subarea] site area." One percent of the Master Plan area mapped or expected to be mapped as grazing land would be approximately 98 acres, or approximately 38 percent of the size of the Project site.

**Table 4-1** presents an assessment of the potential Westlands Solar Park Alternative relative to the key considerations used to screen potential alternatives and explains why this potential alternative fails to meet the screening criteria.

**TABLE 4-1  
SCREENING SUMMARY: POTENTIAL WESTLANDS SOLAR PARK ALTERNATIVE**

| <b>Screening Considerations</b>  | <b>Pass/Fail</b> | <b>Rationale</b>   |
|--|------------------|--|
| Would the potential alternative meet most of the basic Project objectives?   | Pass             | This potential alternative would meet the Project purpose of reliably and economically receiving, storing, and discharging electric energy from the California Independent System Operator–controlled electric grid via an interconnection at the Gates Substation. It also would meet three of the five Project objectives identified in Section 2.2, <i>Project Purpose and Objectives</i> . Although the acreage would be insufficient to support development of up to 3 gigawatts of energy storage adjacent to the Gates Substation and would not be in Fresno County, it would support state policies, increase energy storage capacity at the Gates Substation, and minimize environmental impacts.   |
| Would the potential alternative be potentially feasible?   | Fail             | The length of the gen-tie that would be needed to physically connect an energy storage facility on the Westlands Solar Park site would entail substantial construction costs and require the Applicant to secure a right-of-way from one or more landowners along the path and to acquire or otherwise obtain site control to the alternative site. These factors would add development costs and complexity. Reliability concerns also increase as the length of an overhead line increases. For length of gen-tie–related reasons, Fresno County has previously determined that it would not be feasible to pursue a project on a site that would require more than 5 miles of new gen-tie line (Fresno County 2020). The same conclusion is appropriate here. |
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Fail             | A Westlands Solar Park Alternative would not avoid or substantially reduce the Project’s potential significant impact on biological resources or relating to inadvertent discovery of cultural resources, paleontological resources, hazards and hazardous materials, water quality, construction noise, transportation, or water supplies.  |
| Would implementation of the proposed alternative be remote or speculative?   | Fail             | The Westlands Solar Park Master Plan is focused on renewable energy generation, with energy storage as a secondary priority. Dedication of the necessary acreage to a stand-alone energy storage project would detract from achievement of the underlying vision for the Master Plan. Further, it would be remote or speculative to assume that the Applicant would incur the additional complication, expense, and delay involved in pursuing this alternative for a project only 38% the size of the Project as proposed.  |

**CONCLUSION:** *This alternative fails to meet the screening criteria because it would be infeasible and remote or speculative and because it would not avoid or substantially reduce one or more potential significant impacts of the Project.*

### 4.2.1.2 Alternative Technologies

As proposed, the Project would consist of either a lithium-ion battery option or a lithium-ion and iron-flow storage option. Because energy can be stored in a variety of ways, the County considered whether energy storage technologies different than the ones proposed could meet the screening criteria.

#### **Compressed-Air Energy Storage**

In a compressed-air energy storage system, electricity is used during low-demand periods to compress air at up to 1,000 pounds per square inch and inject it for storage underground (USEPA 2022; PG&E 2023). When energy demand is highest, the stored compressed air would be used to

power a generator. Salt caverns are used to store compressed air in Alabama; however, such formations are not common in PG&E's territory (PG&E 2023) and are not found in Fresno County (California Division of Mines 1958). PG&E is conducting a pilot project to determine whether the underground porous rock formations more commonly found in its territory could be a suitable storage alternative for a compressed air energy storage system. The U.S. Department of Energy (DOE) issued a final environmental assessment in 2014 (DOE 2014) and commissioning of the 300-megawatt (MW) capacity project was announced in 2021 (Power Technology 2021). The preparers of this Draft EIR are unaware of the existence of any compressed-air energy storage system larger than PG&E's 300 MW project in San Joaquin County, or the location of a suitable site elsewhere in California other than the King Island site, located near Stockton, that PG&E also explored in siting its pilot project (PG&E 2018).

**Table 4-2** presents an assessment of the potential Compressed-Air Energy Storage Alternative relative to the key considerations used to screen potential alternatives and explains why this potential alternative fails to meet the screening criteria.

**TABLE 4-2**  
**SCREENING SUMMARY: POTENTIAL COMPRESSED-AIR ENERGY STORAGE ALTERNATIVE**

| Screening Considerations   | Pass/Fail | Rationale  |
|--|-----------|--|
| Would the potential alternative meet most of the basic Project objectives?   | Fail      | This potential alternative would not meet most of the Project objectives because it would not approach the up-to-3 gigawatts of energy storage capacity available adjacent to the Gates Substation, would not increase local energy storage capacity at the Gates Substation, and would not develop an energy storage facility in Fresno County.   |
| Would the potential alternative be potentially feasible?   | Fail      | Although the technical feasibility of a 300-megawatt project in San Joaquin County has been established, it is not clear that a compressed air storage system could be developed as an alternative to the Project successfully within a reasonable period of time because PG&E's pilot project took nearly a decade and has not been repeated elsewhere at the demonstrated scale, and because the economic viability of such an undertaking at Project scale is untested and unproven.  |
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Unclear   | PG&E's 300-megawatt pilot project initially assumed a minimum of 40 acres of surface area for both the permanent power plant and the well field over the reservoir. As the project was refined, it became clear that the preferred approach would be to separate the wells and power plant site by up to 5 miles, with the well field remaining over the reservoir and connected by an air pipeline to an approximately 20-acre power plant site. Scaling to approximate the surface area needed to accommodate comparable capacity, as the Project would require more than 460 acres. As a result of this increased area of disturbance, a potential Compressed-Air Energy Storage Alternative would not avoid or substantially lessen any of the potential significant impacts of the Project. |
| Would implementation of the proposed alternative be remote or speculative?   | Fail      | No Compressed-Air Energy Storage Alternative of comparable capacity to the Project has been developed anywhere in the state. Further, the Applicant's renewable energy portfolio does not include compressed air. It would be both unreasonable and speculative to assume that the Applicant would develop this expertise within a reasonable time frame if a Compressed-Air Energy Storage Alternative were carried forward and ultimately approved.  |

**CONCLUSION:** *This alternative fails to meet the screening criteria because it would not meet most of the objectives of the Project, it would not be potentially feasible, and its implementation would be remote or speculative.*

### **Flywheel Energy Storage**

A *flywheel* is a type of rotor. In a flywheel energy storage system, electricity is used to accelerate a rotor, through which the energy is conserved as kinetic rotational energy; when the energy is needed, the spinning force of the flywheel is used to turn a generator (USEPA 2022). The Energy Research and Development Division of the California Energy Commission (CEC) produced its *Final Project Report on Flywheel Systems for Utility Scale Energy Storage in 2019* (CEC 2019). The final report evaluated a kinetic energy storage system based on advanced flywheel technology from Amber Kinetics to determine its commercial viability for utility-scale energy storage. After the company’s commercial release of the M32 flywheel product in October 2018, the CEC’s final report found the technology promising. A data sheet about the product published by its manufacturer states, “Amber Kinetics is the industry-leader in manufacturing grid-scale kinetic energy storage systems (KESS)... [and] the only provider of long-duration flywheel energy storage” (Amber Kinetics 2023). It further states, “The M32 can be scaled up to tens or hundreds of megawatts for grid connected or grid forming applications” (Amber Kinetics 2023).

The installation and maintenance manual for the product cautions that “the site must not have any buried gas or water lines” and advises that multi-flywheel installations require appropriate depth below ground surface (at approximately 70 inches, nearly 6 feet deep), height above ground surface (12 inches), and clearance between units (36 inches) (Amber Kinetics 2018). The ground surface must be level (with a grade of no more than 1 percent), smooth enough to provide even support across the entire base of each unit, and “compressed to ensure that the soil can support a uniform load of approximately 3.5 pounds per square inch... without setting” (Amber Kinetics 2018).

A flywheel alternative would be developed on the Project site and connect to the Gates Substation via the proposed gen-tie line. Site requirements and other aspects and assumptions about a flywheel alternative are assumed to be the same as for the Project except for the energy storage technology-specific needs noted above.

**Table 4-3** presents an assessment of the potential Flywheel Energy Storage Alternative relative to the key considerations used to screen potential alternatives and explains why this potential alternative fails to meet the screening criteria.

**TABLE 4-3**  
**SCREENING SUMMARY: POTENTIAL FLYWHEEL ENERGY STORAGE ALTERNATIVE**

| <b>Screening Considerations</b>  | <b>Pass/Fail</b> | <b>Rationale</b>   |
|--|------------------|--|
| Would the potential alternative meet most of the basic Project objectives? | Pass             | This potential alternative would meet most of the Project objectives.  |
| Would the potential alternative be potentially feasible?                   | Pass             | Utility-scale flywheel technology is an emerging technology, the success of which has not been demonstrated at a scale sufficient to conclude that it would be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. However, there also is insufficient evidence to support a conclusion that it would not be feasible. Accordingly, for purposes of this Draft EIR, the County has determined that it would be potentially feasible. |

**TABLE 4-3 (CONTINUED)**  
**SCREENING SUMMARY: POTENTIAL FLYWHEEL ENERGY STORAGE ALTERNATIVE**

| Screening Considerations   | Pass/Fail | Rationale   |
|--|-----------|---|
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Fail      | A flywheel alternative would not have the potential to avoid or substantially lessen any of the Project's significant impacts because it would require site disturbance, including both above- and belowground surface, on the same land that would be affected by the Project, and because similar types of hazardous materials would be required for its construction, operation, and maintenance for which a reasonably foreseeable upset and accident condition could involve the release of hazardous materials into soil or groundwater, thereby affecting people or the environment. |
| Would implementation of the proposed alternative be remote or speculative?   | Fail      | Utility-scale flywheel technology is an emerging technology that has not been developed at the scale of the Project anywhere in the state and the Applicant's renewable energy portfolio does not demonstrate an expertise with it. It would be both unreasonable and speculative to assume that the Applicant would develop the necessary expertise within a reasonable time frame if a flywheel energy storage alternative were carried forward and ultimately approved.  |

**CONCLUSION:** *This alternative fails to meet the screening criteria because it would not avoid or substantially reduce significant impacts of the Project and because its implementation would be remote or speculative.*

## **Hydrogen Energy Storage**

*Hydrogen energy storage* is a form of chemical energy storage that involves electrical power conversion into hydrogen, followed by later re-electrification. It is conceptually similar to battery energy storage in that both can offset peak electricity demand charges by storing surplus energy generated during low-demand periods and supplying unused energy as needed. Once produced, hydrogen can be “tanked like propane or turned into a powder. It can physically be stored as either a gas or liquid. As a gas, hydrogen storage requires high-pressure tanks. Liquid hydrogen requires storage at cryogenic temperatures. As a solid, hydrogen can be stored by absorption either within a solid or on the surface of solids” (Energy Link LLC 2023; Fuel Cell & Hydrogen Energy Association 2023). Some authors report that hydrogen can be re-electrified in fuel cells with efficiencies up to 50 percent (Energy Link LLC 2023; Energy Storage Association 2023); other authors report that “hydrogen storage based on electrolysis and fuel cell systems is generally around 40%, meaning that approximately 40% of the energy used to produce hydrogen with electricity can be turned back into electricity. This is somewhat low as compared to 70–90% for Li-ion battery storage” (Sandia National Laboratories 2022).

Hydrogen energy storage can support short-term load balancing. For example, when darkness falls and solar energy's contribution ramps down, grid operators can turn on hydrogen generators to provide power to the grid until the solar energy supply recovers in the morning. However, the real benefit of hydrogen storage seems to be for longer term, seasonal energy storage (e.g., to provide power back to the grid during cold or cloudy winter months when heating needs and other demands create a strain) (NREL 2020; Sandia National Laboratories 2022; Fuel Cell & Hydrogen Energy Association 2023). As an energy storage technology, “it's more cost-effective to store renewable power for short durations, such as two or four hours, with a battery energy storage system” (Power 2021). This may be in part because “the power components associated with hydrogen systems are generally much more expensive than other storage options” (Sandia National Laboratories 2022). For longer term storage, though, such as weeks, months, or seasons,

hydrogen storage is much more cost-effective than battery energy storage (Power 2021). Researchers at Sandia National Laboratories agree: “Hydrogen is generally not practical for small quantities of energy storage but is cheaper than batteries for storage durations above about 12 hours, despite the lower roundtrip efficiency and cost of electrolyzers/fuel cells” (Sandia National Laboratories 2022).

Commercial use of hydrogen storage is being tested. For example, Mitsubishi Power is pursuing a project in Utah called the Advanced Clean Energy Storage Project, which will use 220 MW of electrolysis to convert renewable power into green hydrogen for storage in two underground salt caverns (each the size of the Empire State Building) located beneath the power plant. The company estimates that the caverns will each be capable of storing enough green hydrogen to provide 150 gigawatt-hours (GWh) of clean energy and claims that more than 40,000 shipping containers of lithium-ion batteries would be needed to produce an equivalent number of GWh (Power 2021). Nonetheless, industry “challenges related to upfront costs for electrolyzers and fuel cells, hydrogen distribution, roundtrip efficiency, and safety remain” (Sandia National Laboratories 2022).

**Table 4-4** presents an assessment of the potential Hydrogen Energy Storage Alternative relative to the key considerations used to screen potential alternatives and explains why this potential alternative fails to meet the screening criteria.

**TABLE 4-4**  
**SCREENING SUMMARY: POTENTIAL HYDROGEN ENERGY STORAGE ALTERNATIVE**

| Screening Considerations   | Pass/Fail | Rationale  |
|--|-----------|--|
| Would the potential alternative meet most of the basic Project objectives?   | Pass      | This potential alternative would meet most of the Project objectives.  |
| Would the potential alternative be potentially feasible?   | Fail      | Hydrogen energy storage has lower efficiency and higher up-front cost than other energy storage technologies (Sandia National Laboratories 2022). Accordingly, the preparers of this EIR have determined that this potential alternative would not be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.  |
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Pass      | A hydrogen energy storage alternative could have a smaller footprint than the Project, thereby having the potential to avoid or substantially lessen significant impacts of the Project that are disturbance-based.  |
| Would implementation of the proposed alternative be remote or speculative?   | Fail      | Utility-scale hydrogen energy storage is an emerging technology with re-electrification efficiencies between 50 and 60 percent. Further, the technology is not within the Applicant’s current renewable energy portfolio, and it would be both unreasonable and speculative to assume that the Applicant would prioritize the development of the necessary expertise within a reasonable time frame if a hydrogen energy storage alternative were carried forward and ultimately approved. |

**CONCLUSION:** *This alternative fails to meet the screening criteria because it would not avoid or substantially reduce significant impacts of the Project and because its implementation would be remote or speculative.*



## 4.3 Alternatives Evaluated in Detail

### 4.3.1 No Project Alternative

CEQA Guidelines Section 15126.6(e) requires consideration of a no project alternative. This analysis discusses the existing conditions at the time the notice of preparation was published, as well as what reasonably would be expected to occur in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services.

If the No Project Alternative is implemented, then energy storage would not be developed at the Gates Substation, irrigated agricultural production (orchard crops such as citrus and almonds) would continue with reliance on an on-site well on the northernmost Project site parcel (Assessor's Parcel Number [APN] 085-040-58), and the remaining Project site parcels (APNs 085-040-36 and 085-040-37) would continue to be used for non-irrigated agriculture such as winter wheat or left fallow unless and until a different use is proposed. The Project site is designated "Agriculture" as shown on Fresno County General Plan Countywide Land Use Diagram Figure LU-1a and is zoned AE-40 (Exclusive Agricultural, 40-acre minimum parcel size). If the Project were not approved, then other uses consistent with the AE-40 zoning designation could be made on one or more of the parcels that compose the Project site. Pursuant to Fresno County Ordinance Code Section 816, uses (among others) that are allowed by right without a permit relate to livestock, poultry, and crops; home occupations; agricultural products; apiaries; kennels; and welding and blacksmith shops. No such competing proposals for site use are before the County. Accordingly, rather than speculating as to possible other uses, the analysis of the No Project Alternative in this Draft EIR assumes a no-development/no-Project scenario where the existing agricultural use is continued as it exists under pre-Project conditions.

Under a no-development scenario, the property would continue in agricultural use and the existing environmental setting would be maintained. Changes to that setting, including adverse impacts on the landscape (such as agricultural land use, wildlife habitat conditions, and the existing presence or absence of unknown cultural resources) and the environment (such as Project-related construction noise, traffic, and air pollutant emissions) and potential benefits associated with enhanced grid resiliency would not be realized from the proposed site development.

**Table 4-5** presents an assessment of the No Project Alternative relative to the key considerations used to screen potential alternatives.

**TABLE 4-5  
SCREENING SUMMARY: NO PROJECT ALTERNATIVE**

| Screening Considerations   | Pass/Fail | Rationale   |
|--|-----------|---|
| Would the potential alternative meet most of the basic Project objectives? | Fail      | The No Project Alternative would not meet any of the Project objectives.  |
| Would the potential alternative be potentially feasible?                   | Pass      | The No Project Alternative could be accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors because it is expected to be what would occur if the Project were not approved. |

**TABLE 4-5 (CONTINUED)**  
**SCREENING SUMMARY: NO PROJECT ALTERNATIVE**

| Screening Considerations   | Pass/Fail | Rationale   |
|--|-----------|---|
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Pass      | The No Project Alternative would avoid all of the Project's potential significant impacts. It also would cause no new impacts on the physical environment; i.e., existing land uses would continue to affect environmental conditions as they currently do. |
| Would implementation of the proposed alternative be remote or speculative?   | Pass      | The No Project Alternative is neither remote nor speculative; to the contrary, it is what is expected to occur if the Project is not approved.  |

**CONCLUSION:** *Although the No Project Alternative fails to satisfy all of the screening criteria, it nonetheless has been carried forward for more detailed review in accordance with the requirements of CEQA.*

### 4.3.2 Alternative 1, Noncontracted Lands Alternative

The Project would occupy up 260 acres of a 318-acre site comprising three parcels (APNs 085-040-36, 085-040-37, and 085-040-58). Of the 260 acres, the Applicant expects to use approximately 208 acres for the permanent Project footprint, with the remaining 52 acres available for construction and “additional flexibility” (Key Energy Storage LLC 2022). The northernmost of these parcels (APN 085-040-58) is subject to Williamson Act Contract 2068. The southernmost parcels (APNs 085-040-36 and 085-040-37S, each approximately 80 acres) were formerly subject to the same Williamson Act contract as the northern parcel but were unenrolled from the program in 2019. Accordingly, the southern half of the Project site is not currently subject to a Williamson Act contract.

Alternative 1 would occupy up to 160 acres comprising the southernmost (noncontracted) Project site parcels. A 50-foot buffer would be maintained along the northernmost boundary of the alternative site to separate energy storage–related activities from the adjacent property. The northernmost (Williamson Act contracted) Project site parcel would remain outside the Alternative 1 site and in irrigated agricultural production with continued reliance on the on-site well. The Alternative 1 energy storage system facility and associated on-site support facilities would be substantially similar to the Project as proposed (including optionality between lithium ion and a combination of lithium ion and iron flow technology) except as noted below. Site access would (like the Project) be provided from West Jayne Avenue via agricultural roads along the eastern and western boundaries of the northernmost parcel. Alternative 1 would differ from the Project in the following ways:

- The Alternative 1 site would be approximately 62 percent of the size of the site as proposed and 77 percent of the Project’s anticipated permanent footprint.
- The Alternative 1 site would accommodate between 62 and 77 percent of the storage capacity of the Project as proposed although, consistent with footnote 1 in Chapter 2, *Project Description*, continued evolution of the energy storage industry could result in improved storage efficiencies such that the total storage capacity of Alternative 1 could be greater than 77 percent of the Project as proposed.

- The on-site substation would be shifted south relative to the proposed location, onto the Alternative 1 site, and fewer than the 5.14 acres needed to support the Project could be needed to support Alternative 1, thereby maximizing the energy storage potential of the Alternative 1 site.
- The proposed, approximately 0.5-mile, 500 kV overhead gen-tie line connecting the site to the Gates Substation would be approximately 0.5 mile longer than the proposed line (for a total length of up to 1 mile) to reach the Alternative 1 site across the northernmost Project parcel. As with the Project, the number and height of the gen-tie line poles, as well as the type of conductor, would be finalized during detailed design.
- A drainage swale would be constructed along the eastern boundary of the Alternative 1 site and a retention basin would be constructed at the southeast corner of APN 085-040-37. No retention basin would be constructed at the southeast corner of APN 085-040-58 because this parcel would be outside the Alternative 1 site boundary.
- Two phases of construction would be needed instead of up to four, with a resulting overall construction period that would last up to 61 months (i.e., approximately 80 percent of the Project’s potential maximum construction period of 76 months). The duration of the decommissioning period and anticipated water demand associated with both construction and decommissioning also would be reduced.
- Although the same number of construction workers would be needed for Alternative 1, construction vehicle trips would be scaled in proportion to the reduced site size.
- No water from the existing well on the northernmost Project parcel would be used for Alternative 1’s energy storage project purposes.

**Table 4-6** presents an assessment of Alternative 1 relative to the key considerations used to screen potential alternatives and explains how this alternative met the screening criteria.

**TABLE 4-6  
SCREENING SUMMARY: ALTERNATIVE 1**

| Screening Considerations   | Pass/Fail | Rationale   |
|--|-----------|---|
| Would the potential alternative meet most of the basic Project objectives?   | Pass      | Alternative 1 would meet all of the Project objectives.   |
| Would the potential alternative be potentially feasible?   | Pass      | Alternative 1 would be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. Under Alternative 1, storage capacity could be reduced to 77 percent of the Project’s capacity based on currently available technology. However, because the energy storage industry is continuing to evolve, technological advancements may make it possible for the same up to 3-gigawatt capacity to be achieved in the smaller area. |
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Pass      | Alternative 1 would avoid or substantially reduce potential significant impacts of the Project through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; cultural resources due to inadvertently discovered historical or archaeological resources, human remains, and/or archaeological resources that are also tribal cultural resources; and biological resources, including San Joaquin kit fox and other special-status wildlife species, as well as nesting birds.  |

**TABLE 4-6 (CONTINUED)**  
**SCREENING SUMMARY: ALTERNATIVE 1**

| Screening Considerations   | Pass/Fail | Rationale  |
|--|-----------|--|
| Would implementation of the proposed alternative be remote or speculative? | Pass      | No, the implementation of Alternative 1 would be neither remote nor speculative. |

**CONCLUSION: Alternative 1 passes all screening criteria and has been carried forward for more detailed review.**

### 4.3.3 Alternative 2, Reduced Project Alternative

The Project would occupy up to 260 acres of a 318-acre site with energy storage enclosure units and controllers, a Project substation, operation and maintenance building, and related infrastructure. Of the 260 acres, the Applicant expects to use approximately 208 acres for the permanent Project footprint, with the remaining 52 acres available for construction and “additional flexibility” (Key Energy Storage LLC 2022). Operation of the Project as proposed could result in a significant impact on the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Alternative 2 would occupy up to 130 acres of a 318-acre site with an anticipated operating footprint of 104 acres. The remaining 26 acres would be available for construction and flexibility. Alternative 2 would reduce by half the area that the Project proposes to develop with energy storage enclosure units and controllers, a Project substation, operation and maintenance building, and other Project infrastructure.

**Table 4-7** presents an assessment of Alternative 2 relative to the key considerations used to screen potential alternatives and explains how this alternative met the screening criteria.

**TABLE 4-7**  
**SCREENING SUMMARY: ALTERNATIVE 2**

| Screening Considerations   | Pass/Fail | Rationale  |
|--|-----------|--|
| Would the potential alternative meet most of the basic Project objectives? | Pass      | Alternative 2 would meet all of the Project objectives.  |
| Would the potential alternative be potentially feasible?                   | Pass      | Alternative 2 would be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. Under Alternative 2, storage capacity could be reduced to 50 percent of the Project’s capacity based on currently available technology. However, because the energy storage industry is continuing to evolve, technological advancements may make it possible for Alternative 2 to result in energy storage capacity greater than 50% of the Project as proposed. |

**TABLE 4-7 (CONTINUED)**  
**SCREENING SUMMARY: ALTERNATIVE 2**

| Screening Considerations   | Pass/Fail | Rationale  |
|--|-----------|--|
| Would the potential alternative avoid or substantially lessen any of the potential significant impacts of the Project? | Pass      | Alternative 2 would substantially reduce the Project's significant impact to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; cultural resources due to inadvertently discovered historical or archaeological resources, human remains, and/or archaeological resources that are also tribal cultural resources; and biological resources, including San Joaquin kit fox and other special-status wildlife species, as well as nesting birds. |
| Would implementation of the proposed alternative be remote or speculative?   | Pass      | No, the implementation of Alternative 2 would be neither remote nor speculative.   |

**CONCLUSION:** *Alternative 2 passes all screening criteria and has been carried forward for more detailed review.*

## 4.4 Comparison Methodology

The following methodology was used to compare alternatives in this Draft EIR:

- **Step 1: Identify Alternatives.** The alternatives screening and development process described in Section 4.1 was used to identify potential alternatives to the Project. Among the many potential alternatives initially considered, Alternative 1, Alternative 2, and the No Project Alternative were carried forward for detailed environmental review.
- **Step 2: Determine Environmental Impacts.** Potential environmental impacts of the Project are identified and analyzed in detail in Chapter 3, including potential direct, indirect, and cumulative impacts related to construction, operation and maintenance, and decommissioning. Potential environmental impacts of the alternatives are identified and analyzed below.
- **Step 3: Compare the Project with the Alternatives.** Environmental impacts of the Project were compared to those of Alternative 1, Alternative 2, and the No Project Alternative to make a preliminary determination of the Environmentally Superior Alternative.

## 4.5 Comparison of Alternatives

The comparison of alternatives provided in **Table 4-8, Summary of Impacts of the Project and Alternatives**, is designed to satisfy the requirements of CEQA Guidelines Section 15126.6(d), which states:

*The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.*

## 4.6 Environmentally Superior Alternative

Under CEQA, the *environmentally superior alternative* is the alternative with the least adverse impacts on the project area and its surrounding environment. The No Project Alternative is considered the environmentally superior alternative for CEQA purposes because it would avoid all impacts of the Project. However, the No Project Alternative would fail to meet the basic objectives of the Project. In addition, the No Project Alternative would not offset greenhouse gas emissions associated with nonrenewable energy use the way the Project would make possible. Because the environmentally superior alternative is the No Project Alternative, the EIR also must identify an environmentally superior alternative from among the other alternatives.

Determining an environmentally superior alternative can be difficult because of the many factors that must be balanced. Nonetheless, at this draft stage, Alternative 1 has been determined to be preferred because, relative to the Project, it would avoid potential significant impacts of the Project on water quality and hazardous materials related to the disturbance of known contaminated soil. Alternative 1 would reduce impacts relative to the Project in five resource areas: Agriculture and Forestry Resources, Air Quality, Energy, Hazards and Hazardous Materials, and Hydrology and Water Quality. However, Alternative 1 would have a greater environmental impact than the Project in one area: Paleontological Resources.

**TABLE 4-8  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*  | Impacts of the No Project Alternative Compared to the Project  | Impacts of Alternative 1 Compared to the Project*   | Impacts of Alternative 2 Compared to the Project*   |
|--|--|---|---|
| <b>Aesthetics</b>  |  |   |   |
| <p><b>Impact 3.2-1:</b> LTS. The Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.</p> <p><b>Impact 3.2-2:</b> LTS. The Project would not create a new source of light and glare that would adversely affect day or nighttime views in the area.</p> <p><b>Impact 3.2-3:</b> LTS. The Project would not cause a cumulatively considerable contribution to any significant adverse impact on aesthetic resources.</p>  | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.2-1:</b> No Impact (less than the Project) because no energy storage project-related development would occur on-site that could degrade the existing visual character or quality of public views of the site and its surroundings.</li> <li><b>Impact 3.2-2:</b> No Impact (less than the Project) because no energy storage project-related development would occur on-site that could degrade the existing visual character or quality of public views of the site and its surroundings.</li> <li><b>Impact 3.2-3:</b> No Impact (less than the Project) because the No Project Alternative would not cause any incremental impact that could combine with the incremental impacts of past, present, or reasonably foreseeable future projects to cause or contribute to an adverse cumulative effect.</li> </ul>  | <p><b>Overall: = (same as than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.2-1:</b> LTS (same as the Project) because, although elements of the energy systems would be visible, limited public views of the energy storage project would be available from publicly accessible vantage points. The visual character of the southern two Project site parcels would be altered compared to existing conditions. For reasons similar to those described for the Project, Alternative 1 would result in a substantially similar impact related to alteration of the visual character of the site.</li> <li><b>Impact 3.2-2:</b> LTS (same as the Project) because Alternative 1 would create new sources of light or glare but would not cause a significant impact on day or nighttime views in the area.</li> <li><b>Impact 3.2-3:</b> LTS (same as the Project) because Alternative 1 would cause the incremental contributions noted above, but none would be cumulatively considerable for reasons similar to those described for the Project as proposed.</li> </ul>  | <p><b>Overall: = (same as than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.2-1:</b> LTS (same as the Project) because, although elements of the energy systems would be visible, limited public views of the energy storage project would be available from publicly accessible vantage points. The visual character of the site would be altered compared to existing conditions, but a significant adverse impact related to alteration of the visual character of the site would not result.</li> <li><b>Impact 3.2-2:</b> LTS (same as the Project) because Alternative 2 would create new sources of light or glare but would not cause a significant impact on day or nighttime views in the area.</li> <li><b>Impact 3.2-3:</b> LTS (same as the Project) because Alternative 2 would cause the incremental contributions noted above, but none would be cumulatively considerable for reasons similar to those described for the Project as proposed.</li> </ul>  |
| <b>Agriculture and Forestry Resources</b>  |  |   |   |
| <p><b>Impact 3.3-1:</b> LTS. The Project would convert Prime Farmland to non-agricultural use.</p> <p><b>Impact 3.3-2:</b> LTS. The Project would be compatible with an existing Williamson Act contract.</p> <p><b>Impact 3.3-3:</b> LTS. The Project would involve changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.</p> <p><b>Impact 3.3-4:</b> LTS. The Project would not cause a cumulatively considerable contribution to a significant cumulative effect due to conversion of Farmland to non-agricultural use.</p> <p><b>Impact 3.3-5:</b> LTS. The Project would not cause a cumulatively considerable contribution to a significant cumulative effect related to an existing Williamson Act contract.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.3-1:</b> No Impact (less than the Project) because no energy storage project-related development would occur on-site that could convert Prime Farmland to non-agricultural use.</li> <li><b>Impact 3.3-2:</b> No Impact (less than the Project) because the northernmost Project site parcel would remain subject to a Williamson Act contract - no contract cancellation would occur as a result of energy storage project-related development on the site.</li> <li><b>Impact 3.3-3:</b> No Impact (less than the Project) because no changes to the existing environment would occur that could result in farmland conversion.</li> <li><b>Impact 3.3-4:</b> No Impact (less than the Project) because the No Project Alternative would cause no incremental impacts that could contribute to cumulative impacts.</li> <li><b>Impact 3.3-5:</b> No Impact (less than the Project) because the No Project Alternative would cause no incremental impacts that could contribute to cumulative impacts.</li> </ul> | <p><b>Overall: less than the Project</b></p> <p><b>Impact 3.3-1:</b> LTS (similar to but less than the Project) because Alternative 1 would constitute approximately 62 percent of the site and approximately 77 percent of the anticipated permanent footprint relative to that of the Project. Therefore, although Alternative 1 also would have an LTS impact, it would convert less Prime Farmland to non-agricultural use.</p> <p><b>Impact 3.3-2:</b> No Impact (less than the Project) because Alternative 1 would avoid the Project's less-than-significant impact related to Williamson Act contracting.</p> <p><b>Impact 3.3-3:</b> LTS (similar to but less than the Project). Alternative 1's smaller site would reduce overall impacts that could result in conversion of Farmland to non-agricultural use.</p> <p><b>Impact 3.3-4:</b> LTS (similar to but less than the Project) because Alternative 1's less-than-significant contribution to cumulative impacts related to conversion of Farmland to non-agricultural use would be reduced relative to the Project.</p> <p><b>Impact 3.3-5:</b> No Impact (less than the Project) because Alternative 1 would avoid the Project's less-than-significant impact related to an existing Williamson Act contract and thus would not contribute to cumulative effects regarding conflicts with Williamson Act contracts.</p> | <p><b>Overall: less than the Project</b></p> <p><b>Impact 3.3-1:</b> LTS (similar to but less than the Project) because, compared to the Project, Alternative 2 would result in fewer impacts on protected farmlands given the reduced footprint.</p> <p><b>Impact 3.3-2:</b> LTS (same as the Project) because the development of Alternative 2 would not be limited to the southern Project site parcels; therefore, Alternative 2 could result in the same less-than-significant impact relating to Williamson Act contract compatibility.</p> <p><b>Impact 3.3-3:</b> LTS (similar to but less than the Project). Alternative 2's smaller site would reduce overall impacts that could result in conversion of Farmland to non-agricultural use.</p> <p><b>Impact 3.3-4:</b> LTS (similar to but less than the Project) because Alternative 2's less-than-significant contribution to cumulative impacts related to conversion of Farmland to non-agricultural use would be reduced relative to the Project.</p> <p><b>Impact 3.3-5:</b> LTS (same as the Project) because Alternative 2's incremental contribution to cumulative impacts related to Williamson Act contract status would not be cumulatively considerable for the same reasons that the Project's contribution would not be cumulatively considerable.</p> |
| <b>Air Quality</b>   |  |   |   |
| <p><b>Impact 3.4-1:</b> LTS. Criteria pollutant emissions generated by Project construction, operation, and decommissioning would not conflict with SJVAPCD's air quality plans.</p> <p><b>Impact 3.4-2:</b> LTS. Project activities would generate emissions that would not contribute to violations of ambient air quality standards.</p> <p><b>Impact 3.4-3:</b> LTS. The Project could expose sensitive receptors to substantial pollutant concentrations.</p>   | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.4-1:</b> No Impact (less than the Project) because no criteria pollutant emissions would be generated that could conflict with SJVAPCD's air quality plans.</li> <li><b>Impact 3.4-2:</b> No Impact (less than the Project) because no emissions would be generated that could contribute to violations of ambient air quality standards.</li> </ul>   | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.4-1:</b> LTS (similar to but less than the Project) because Alternative 1-related development would occupy fewer acres than the Project, resulting in less surface disturbance, less construction dust, and reduced overall construction, operation and maintenance, and decommissioning emissions compared to the Project. Criteria pollutant emissions generated by Alternative 1 would be similar to but less than the project, and would not conflict with SJVAPCD's air quality plans.</li> </ul>  | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.4-1:</b> LTS (similar to but less than the Project) because Alternative 2 would reduce energy storage-related disturbance by half relative to the Project, resulting in incrementally less emissions compared to the Project, including criteria pollutant emissions.</li> <li><b>Impact 3.4-2:</b> LTS (similar to but less than the Project) because the reduced footprint would generate incrementally fewer emissions than the Project and, like the Project, would not contribute to violations of ambient air quality standards.</li> </ul>   |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*   | Impacts of the No Project Alternative Compared to the Project  | Impacts of Alternative 1 Compared to the Project*  | Impacts of Alternative 2 Compared to the Project*  |
|---|--|--|--|
| <p><b>Impact 3.4-4:</b> LTS. Project construction and decommissioning activities could expose sensitive receptors to the risk of contracting Valley Fever.</p> <p><b>Impact 3.4-5:</b> LTS. The Project would generate odor or dust emissions.</p> <p><b>Impact 3.4-6:</b> LTS. The Project's criteria pollutant emissions would not be a cumulatively considerable contribution to a significant cumulative effect due to a conflict with SJVAPCD's air quality plans.</p> <p><b>Impact 3.4-7:</b> LTS. The Project's generation of emissions would not contribute to a significant adverse cumulative impact due to violations of ambient air quality standards.</p> <p><b>Impact 3.4-8:</b> LTS. The Project would not cause or contribute to a significant cumulative impact due to exposure of sensitive receptors to substantial pollutant concentrations.</p> <p><b>Impact 3.4-9:</b> LTS. The Project would not cause or contribute to a significant adverse cumulative impact due to the generation of odor or dust emissions.</p>   | <ul style="list-style-type: none"> <li><b>Impact 3.4-3:</b> No Impact (less than the Project) because no pollutants would be emitted that could expose sensitive receptors to substantial concentrations.</li> <li><b>Impact 3.4-4:</b> No Impact (less than the Project) because no energy storage-related activities would occur on-site that could expose sensitive receptors to the risk of contracting Valley Fever.</li> <li><b>Impact 3.4-5:</b> No Impact (less than the Project) because no energy storage-related activities would occur on-site that could generate odor or dust emissions.</li> <li><b>Impact 3.4-6:</b> No Impact (less than the Project) because no energy storage-related activities would occur on-site that could emit criteria pollutants that could cause or contribute to any cumulative effect due to a conflict with SJVAPCD's air quality plans.</li> <li><b>Impact 3.4-7:</b> No Impact (less than the Project) because no energy storage-related activities would occur on-site that would cause emissions that could cause or contribute to a cumulative impact due to violations of ambient air quality standards.</li> <li><b>Impact 3.4-8:</b> No Impact (less than the Project) because no energy storage-related activities would occur on-site that would expose sensitive receptors to substantial pollutant concentrations and thereby cause or contribute to a significant cumulative effect.</li> <li><b>Impact 3.4-9:</b> No Impact (less than the Project) because no energy storage-related activities would occur on-site that would cause odors or dust that could cause or contribute to a significant cumulative impact due to such emissions.</li> </ul> | <ul style="list-style-type: none"> <li><b>Impact 3.4-2:</b> LTS (similar to but less than the Project) because the reduced footprint would generate incrementally fewer emissions than the Project and, like the Project, would not contribute to violations of ambient air quality standards.</li> <li><b>Impact 3.4-3:</b> LTS (less than the Project) because Alternative 1 would be developed exclusively on the southernmost of the Project site parcels, farther from sensitive receptors, and so would have a reduced (and still less-than-significant) risk of exposing sensitive receptors to substantial pollutant concentrations.</li> <li><b>Impact 3.4-4:</b> LTS (less than the Project) because Alternative 1 would be developed exclusively on the southernmost of the Project site parcels, farther from sensitive receptors, and so would have a reduced (and still less-than-significant) impact related to exposure of sensitive receptors to the risk of contracting Valley Fever.</li> <li><b>Impact 3.4-5:</b> LTS (similar to but less than the Project) because Alternative 1-related activities would occur within a smaller area than the Project, resulting in less surface disturbance, construction, or other activities that would generate odor or dust emissions.</li> <li><b>Impact 3.4-6:</b> LTS (similar to but less than the Project) because Alternative 1 would generate fewer criteria pollutant emissions that would contribute to a significant cumulative effect related to a conflict with SJVAPCD's air quality plans.</li> <li><b>Impact 3.4-7:</b> LTS (similar to but less than the Project) because Alternative 1 would generate fewer emissions than the Project and would not contribute to a significant adverse cumulative impact related to violations of ambient air quality standards.</li> <li><b>Impact 3.4-8:</b> LTS (similar to but less than the Project) because Alternative 1 would result in reduced exposure of sensitive receptors to substantial pollutant concentrations, and thus, a reduced contribution to related cumulative impacts.</li> <li><b>Impact 3.4-9:</b> LTS (similar to but less than the Project) because Alternative 1 would result in fewer odors and less dust, and therefore would result in a reduced contribution to related cumulative impacts.</li> </ul> | <ul style="list-style-type: none"> <li><b>Impact 3.4-3:</b> LTS (similar to but less than the Project) because Alternative 2 could be developed within a subset of the Project site and thus would have the same potential impact as the Project exclusively on the southernmost of the Project site parcels, farther from sensitive receptors, and would have a reduced (and still less-than-significant) risk of exposing sensitive receptors to substantial pollutant concentrations.</li> <li><b>Impact 3.4-4:</b> LTS (less than the Project) because Alternative 2 would be developed exclusively on the southernmost of the Project site parcels, farther from sensitive receptors, and so would have a reduced (and still less-than-significant) impact related to exposure of sensitive receptors to the risk of contracting Valley Fever.</li> <li><b>Impact 3.4-5:</b> LTS (similar to but less than the Project) because Alternative 2-related activities would occur within a smaller area than the Project, resulting in less surface disturbance, construction, or other activities that would generate odor or dust emissions.</li> <li><b>Impact 3.4-6:</b> LTS (similar to but less than the Project) because Alternative 2 would generate fewer criteria pollutant emissions that would contribute to a significant cumulative effect related to a conflict with SJVAPCD's air quality plans.</li> <li><b>Impact 3.4-7:</b> LTS (similar to but less than the Project) because Alternative 2 would generate fewer emissions than the Project and would not contribute to a significant adverse cumulative impact related to violations of ambient air quality standards.</li> <li><b>Impact 3.4-8:</b> LTS (similar to but less than the Project) because Alternative 2 would result in reduced exposure of sensitive receptors to substantial pollutant concentrations, and thus, a reduced contribution to related cumulative impacts.</li> <li><b>Impact 3.4-9:</b> LTS (similar to but less than the Project) because Alternative 2 would result in fewer odors and less dust, and therefore would result in a reduced contribution to related cumulative impacts.</li> </ul> |
| <b>Biological Resources</b>   |  |  |  |
| <p><b>Impact 3.5-1:</b> LTSM. The Project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. The implementation of Mitigation Measure 3.5-1 (Protection of San Joaquin Kit Fox), Mitigation Measure 3.5-2 (Worker Environmental Awareness Training and Best Management Practices for Biological Resources), and Mitigation Measure 3.5-3 (Protection of Nesting Birds) would be required.</p> <p><b>Impact 3.5-2:</b> LTS. The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.</p> <p><b>Impact 3.5-3:</b> LTSM. The Project would conflict with General Plan Goal OS-E, which protects wildlife resources. The implementation of Mitigation Measure 3.5-1 (Protection of San Joaquin Kit Fox), Mitigation Measure 3.5-2 (Worker Environmental Awareness Training and Best Management Practices for Biological Resources), and Mitigation Measure 3.5-3 (Protection of Nesting Birds) would be required.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.5-1:</b> No Impact (less than the Project) because no energy storage project-related direct or indirect impacts on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, would occur.</li> <li><b>Impact 3.5-2:</b> No Impact (less than the Project) because no energy storage project-related interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, and no impediment of the use of native wildlife nursery sites, would occur.</li> <li><b>Impact 3.5-3:</b> No Impact (less than the Project) because no energy storage project-related conflict with General Plan Goal OS-E would occur.</li> <li><b>Impact 3.5-4:</b> No Impact (less than the Project) because no energy storage project-related conflict with the provisions of the PG&amp;E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan (an adopted Habitat Conservation Plan) would occur.</li> <li><b>Impact 3.5-5:</b> No Impact (less than the Project) because the No Project Alternative would cause no impact that could cause or contribute to any cumulative impact on any species identified as a</li> </ul>   | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.5-1:</b> LTSM (less than the Project) because Alternative 1-related development would occupy fewer acres than the Project, resulting in reduced risk to kit fox of mortality or injury caused by construction vehicles or ground disturbance, from disturbance by night lighting and illness from Valley Fever, and from on-site activities that may draw predators. However, Mitigation Measures 3.5-1 and 3.5-2 would still be required. Although Alternative 1 would reduce the Project's impact on Swainson's hawk foraging habitat and the risk of potential loss of an active migratory bird nest by reducing the number of acres affected by (and level of on-site activity required for) energy storage-related development, Mitigation Measure 3.5-2 would still be required for Swainson's hawk and Mitigation Measure 3.5-3 would be required for nesting birds.</li> <li><b>Impact 3.5-2:</b> LTS (similar to but less than the Project) because Alternative 1 would restrict wildlife movement through a smaller area during construction. During operation and maintenance, the perimeter of the Alternative 1 site (like the Project) would be surrounded by chain-link fence with space underneath to allow passage by kit fox and other small mammals. Also like the Project, Alternative 1 would include low-profile battery structures and would</li> </ul>   | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.5-1:</b> LTSM (less than the Project) because Alternative 2-related development would occupy approximately half the acres of the Project, resulting in reduced risk to kit fox of mortality or injury caused by construction vehicles or ground disturbance, from disturbance by night lighting and illness from Valley Fever, and from on-site activities that may draw predators. However, Mitigation Measures 3.5-1 and 3.5-2 would still be required. Although Alternative 2 would reduce the Project's impact on Swainson's hawk foraging habitat and the risk of potential loss of an active migratory bird nest by reducing the number of acres affected by (and level of on-site activity required for) energy storage-related development, Mitigation Measure 3.5-2 would still be required for Swainson's hawk and Mitigation Measure 3.5-3 would be required for nesting birds.</li> <li><b>Impact 3.5-2:</b> LTS (similar to but less than the Project) because Alternative 2 would restrict wildlife movement through a smaller area during construction. During operation and maintenance, the perimeter of the Alternative 2 site (like the Project) would be surrounded by chain-link fence with space underneath to allow passage by kit fox and other small mammals. Also like the Project, Alternative 2 would include low-profile battery structures and would</li> </ul>  |



**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*  | Impacts of the No Project Alternative Compared to the Project  | Impacts of Alternative 1 Compared to the Project*  | Impacts of Alternative 2 Compared to the Project*  |
|--|--|--|--|
| <p><b>Impact 3.5-4:</b> LTS. The Project would not conflict with the provisions of the PG&amp;E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan.</p> <p><b>Impact 3.5-5:</b> LTS. The Project would not cause or contribute to a potential significant cumulative impact by having a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW and USFWS.</p> <p><b>Impact 3.5-6:</b> LTS. The Project would not cause or contribute to any significant cumulative effect due to substantial interference with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.</p> <p><b>Impact 3.5-7:</b> LTS. The Project would not cause or contribute to any significant impact due to conflict with General Plan Goal OS-E, which protects wildlife resources.</p> <p><b>Impact 3.5-8:</b> LTS. The Project would not cause or contribute to any significant impact due to conflict with the provisions of the PG&amp;E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan.</p> | <p>candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW and USFWS.</p> <ul style="list-style-type: none"> <li><b>Impact 3.5-6:</b> No Impact (<b>less</b> than the Project) because the No Project Alternative would cause no impact that could cause or contribute to any cumulative impact related to interference with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impedence of the use of native wildlife nursery sites.</li> <li><b>Impact 3.5-7:</b> No Impact (<b>less</b> than the Project) because the No Project Alternative would cause no impact that could cause or contribute to any cumulative impact related to a conflict with General Plan Goal OS-E.</li> <li><b>Impact 3.5-8:</b> No Impact (<b>less</b> than the Project) because the No Project Alternative would cause no impact that could cause or contribute to any cumulative impact related to a conflict with the provisions of the PG&amp;E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan, an adopted Habitat Conservation Plan.</li> </ul> | <p>not include reflective surfaces, and as a result, would minimally affect birds from collisions with Project structures.</p> <ul style="list-style-type: none"> <li><b>Impact 3.5-3:</b> LTSM (<b>same</b> as the Project) because Alternative 1 would result in the same conflict with General Plan Goal OS-E, which protects wildlife resources. The implementation of Mitigation Measure 3.5-1, Mitigation Measure 3.5-2, and Mitigation Measure 3.5-3 would be required.</li> <li><b>Impact 3.5-4:</b> LTS (<b>same</b> as the Project) because Alternative 1 would require the same PG&amp;E infrastructure as the Project, resulting in the same level of consistency with the provisions of the PG&amp;E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan.</li> <li><b>Impact 3.5-5:</b> LTS (<b>similar to but less</b> than the Project) because (as discussed in the context of Impact 3.5-1) Alternative 1 would contribute a reduced incremental impact to cumulative conditions.</li> <li><b>Impact 3.5-6:</b> LTS (<b>similar to but less</b> than the Project) because (as discussed in the context of Impact 3.5-2) Alternative 1 would contribute a reduced incremental impact to cumulative conditions.</li> <li><b>Impact 3.5-7:</b> LTS (<b>same</b> as the Project) because (as discussed in the context of Impact 3.5-3) Alternative 1 would contribute the same incremental impact to cumulative conditions.</li> <li><b>Impact 3.5-8:</b> LTS (<b>same</b> as the Project) because (as discussed in the context of Impact 3.5-4) Alternative 1 would contribute the same incremental impact to cumulative conditions.</li> </ul>   | <p>not include reflective surfaces, and as a result, would minimally affect birds from collisions with Project structures.</p> <ul style="list-style-type: none"> <li><b>Impact 3.5-3:</b> LTSM (<b>same</b> as the Project) because Alternative 2 would result in the same conflict with General Plan Goal OS-E, which protects wildlife resources. The implementation of Mitigation Measure 3.5-1, Mitigation Measure 3.5-2, and Mitigation Measure 3.5-3 would be required.</li> <li><b>Impact 3.5-4:</b> LTS (<b>same</b> as the Project) because Alternative 2 would require the same PG&amp;E infrastructure as the Project, resulting in the same level of consistency with the provisions of the PG&amp;E San Joaquin Valley Operation and Maintenance Habitat Conservation Plan.</li> <li><b>Impact 3.5-5:</b> LTS (<b>similar to but less</b> than the Project) because (as discussed in the context of Impact 3.5-1) Alternative 2 would contribute a reduced incremental impact to cumulative conditions.</li> <li><b>Impact 3.5-6:</b> LTS (<b>similar to but less</b> than the Project) because (as discussed in the context of Impact 3.5-2) Alternative 1 would contribute a reduced incremental impact to cumulative conditions.</li> <li><b>Impact 3.5-7:</b> LTS (<b>same</b> as the Project) because (as discussed in the context of Impact 3.5-3) Alternative 1 would contribute the same incremental impact to cumulative conditions.</li> <li><b>Impact 3.5-8:</b> LTS (<b>same</b> as the Project) because (as discussed in the context of Impact 3.5-4) Alternative 1 would contribute the same incremental impact to cumulative conditions.</li> </ul>   |
| <b>Cultural and Tribal Cultural Resources</b>  |  |  |  |
| <p><b>Impact 3.6-1:</b> LTSM. Ground-disturbing activities associated with the Project could cause a substantial adverse change in the significance of a newly discovered historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5. The implementation of Mitigation Measure 3.6-1 (Cultural Resources Awareness Training) and Mitigation Measure 3.6-2 (Inadvertent Discovery of Cultural Resources) would reduce this impact to a less-than-significant level.</p> <p><b>Impact 3.6-2:</b> LTSM. Ground-disturbing activities associated with the Project could cause a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources, as defined in Public Resources Code Section 21074(a). The implementation of Mitigation Measures 3.6-1 and 3.6-2 would reduce this impact to a less-than-significant level.</p> <p><b>Impact 3.6-3:</b> LTSM. The Project would contribute to a less-than-significant cumulative impact on cultural resources and tribal cultural resources.</p> <p><b>Impact 3.6-4:</b> LTS. The Project would not cause a cumulatively considerable contribution to any significant impact due to damage to previously unidentified human remains.</p>   | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.6-1:</b> No Impact (<b>less</b> than the Project) because no energy storage project-related ground-disturbance would occur that could result in a new discovery of historical or archaeological resources.</li> <li><b>Impact 3.6-2:</b> No Impact (<b>less</b> than the Project) because no energy storage project-related ground-disturbance would occur that could result in the discovery of human remains.</li> <li><b>Impact 3.6-3:</b> No Impact (<b>less</b> than the Project) because this alternative would not cause or contribute to any significant impact related to historical or archaeological resources, or to archaeological resources that are also tribal cultural resources.</li> <li><b>Impact 3.6-4:</b> No Impact (<b>less</b> than the Project) because this alternative would not cause or contribute to any significant impact related to damage to previously unidentified human remains.</li> </ul>  | <p><b>Overall: similar to but less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.6-1:</b> LTSM (<b>similar to but less</b> than the Project) because Alternative 1 would entail less construction and associated ground-disturbing activities. The reduced disturbance footprint would result in lessened potential for disturbance of previously unknown historical or archaeological resources. However, because disturbance would occur that could cause a potential significant impact related to a substantial adverse change in the significance of a newly discovered historical or archaeological resource, the implementation of the same mitigation measures (i.e., Mitigation Measures 3.6-1 and 3.6-2) would be required to reduce the potential significant impact to a less-than-significant level.</li> <li><b>Impact 3.6-2:</b> LTSM (<b>similar to but less</b> than the Project) because Alternative 1 would result in a reduced disturbance footprint and thus a lessened potential to cause a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources. However, because disturbance would occur that could cause a significant impact, the implementation of the same mitigation measure (i.e., Mitigation Measures 3.6-1 and 3.6-2) would be required to reduce the potential significant impact to a less-than-significant level.</li> <li><b>Impact 3.6-3:</b> LTSM (<b>similar to but less</b> than the Project) because this alternative would not cause or contribute to any significant impact related to historical or archaeological resources, or to archaeological resources that are also tribal cultural resources.</li> <li><b>Impact 3.6-4:</b> LTS (<b>similar to but less</b> than the Project) because this alternative would not cause or contribute to any significant impact related to damage to previously unidentified human remains.</li> </ul> | <p><b>Overall: similar to but less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.6-1:</b> LTSM (<b>similar to but less</b> than the Project) because Alternative 2 would entail less construction and associated ground-disturbing activities. The reduced disturbance footprint would result in lessened potential for disturbance of previously unknown historical or archaeological resources. However, because disturbance would occur that could cause a potential significant impact related to a substantial adverse change in the significance of a newly discovered historical or archaeological resource, the implementation of the same mitigation measures (i.e., Mitigation Measures 3.6-1 and 3.6-2) would be required to reduce the potential significant impact to a less-than-significant level.</li> <li><b>Impact 3.6-2:</b> LTSM (<b>similar to but less</b> than the Project) because Alternative 2 would result in a reduced disturbance footprint and thus a lessened potential to cause a substantial adverse change to previously unknown archaeological resources that are also tribal cultural resources. However, because disturbance would occur that could cause a significant impact, the implementation of the same mitigation measure (i.e., Mitigation Measures 3.6-1 and 3.6-2) would be required to reduce the potential significant impact to a less-than-significant level.</li> <li><b>Impact 3.6-3:</b> LTSM (<b>similar to but less</b> than the Project) because this alternative would not cause or contribute to any significant impact related to historical or archaeological resources, or to archaeological resources that are also tribal cultural resources.</li> <li><b>Impact 3.6-4:</b> LTS (<b>similar to but less</b> than the Project) because this alternative would not cause or contribute to any significant impact related to damage to previously unidentified human remains.</li> </ul> |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*   | Impacts of the No Project Alternative Compared to the Project  | Impacts of Alternative 1 Compared to the Project*  | Impacts of Alternative 2 Compared to the Project*  |
|---|--|--|--|
| <b>Energy</b>   |  |  |  |
| <p><b>Impact 3.7-1:</b> LTS. Project construction, operation and maintenance, and/or decommissioning and site reclamation would not result in the wasteful, inefficient, or unnecessary consumption or use of energy.</p> <p><b>Impact 3.7-2:</b> LTS. The Project would not cause or contribute to a significant cumulative effect due to the wasteful, inefficient, or unnecessary consumption or use of energy.</p>  | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.7-1:</b> No Impact (less than the Project) because no energy use would be required over baseline demands. However, the No Project Alternative would not assist in meeting California’s RPS goal of increasing the percentage of electricity procured from renewable sources to 100 percent by 2045.</li> <li><b>Impact 3.7-2:</b> No Impact (less than the Project). Because no energy use and no energy storage would occur, no cumulative impacts would result.</li> </ul>   | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.7-1:</b> LTS (less than the Project) because the reduced total area of the site would shorten the travel distance necessary for equipment inspections and maintenance. The number of workers commuting to the site would also likely decrease with the smaller acreage, lowering the emissions generated by worker commute vehicles.</li> <li><b>Impact 3.7-2:</b> LTS (less than the Project) because Alternative 1’s incrementally reduced energy demand would not cause or contribute to a significant adverse cumulative effect.</li> </ul>  | <p><b>Overall: similar to but less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.7-1:</b> LTS (similar to but less than the Project) because Alternative 2 would result in an approximately 50 percent reduction in the development footprint and a corresponding reduction of the battery storage capacity. The reduced level of development could shorten the travel distance necessary for equipment inspections and maintenance and the number of workers commuting to the site also could decrease with the smaller development footprint; however, related reductions in fuel use would not be expected to be appreciably less than under the Project, because the development of Alternative 2 would occur within the same overall footprint as the Project and because of the offsetting reduction in energy storage capacity of Alternative 2.</li> <li><b>Impact 3.7-2:</b> LTS (similar to but less than the Project) because Alternative 2’s incrementally reduced energy demand would not cause or contribute to a significant adverse cumulative effect.</li> </ul>  |
| <b>Geology, Soils, and Paleontological Resources</b>  |  |  |  |
| <p><b>Impact 3.8-1:</b> LTS. The Project could directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault.</p> <p><b>Impact 3.8-2:</b> LTS. The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.</p> <p><b>Impact 3.8-3:</b> LTS. The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.</p> <p><b>Impact 3.8-4:</b> The Project would not result in substantial soil erosion or loss of topsoil.</p> <p><b>Impact 3.8-5:</b> LTS. The Project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site lateral spreading, subsidence, liquefaction, or collapse.</p> <p><b>Impact 3.8-6:</b> LTS. The Project could be located on expansive soil, creating substantial direct or indirect risks to life or property.</p> <p><b>Impact 3.8-7:</b> LTS. The Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal system where sewers are not available for the disposal of wastewater.</p> <p><b>Impact 3.8-8:</b> LTSM. The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The implementation of Mitigation Measure 3.8-1 (Paleontological Monitoring) would reduce this potential significant impact to a less-than-significant level.</p> <p><b>Impact 3.8-9:</b> LTS. The Project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.</p> <p><b>Impact 3.8-10:</b> LTS. The Project would not cause or contribute to a significant cumulative effect related to erosion or the loss of topsoil.</p> <p><b>Impact 3.8-11:</b> LTSM. The Project would not cause or contribute to a significant cumulative effect to paleontological resources. The implementation of Mitigation Measure 3.8-1 would be required.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.8-1:</b> No Impact (less than the Project) because no energy storage project–related ground-disturbance or development would occur that could result in a substantial adverse impact involving rupture of a known earthquake fault.</li> <li><b>Impact 3.8-2:</b> No Impact (less than the Project) because no energy storage project–related ground-disturbance or development would occur that could result in a substantial adverse impact involving strong seismic ground shaking.</li> <li><b>Impact 3.8-3:</b> No Impact (less than the Project) because no energy storage project–related ground-disturbance or development would occur that could result in a substantial adverse impact involving seismic-related ground failure.</li> <li><b>Impact 3.8-4:</b> No Impact (less than the Project) because no energy storage project–related ground-disturbance or development would occur that could result in substantial soil erosion or loss of topsoil.</li> <li><b>Impact 3.8-5:</b> No Impact (less than the Project) because no energy storage project–related ground-disturbance or development would be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the development.</li> <li><b>Impact 3.8-6:</b> No Impact (less than the Project) because no energy storage project–related ground-disturbance or development would be located on expansive soil.</li> <li><b>Impact 3.8-7:</b> No Impact (less than the Project) because no septic tanks or alternative wastewater disposal system would be developed.</li> <li><b>Impact 3.8-8:</b> No Impact (less than the Project) because no energy storage project–related ground-disturbance or development would occur that could destroy a unique paleontological resource or site.</li> <li><b>Impact 3.8-9:</b> No Impact (less than the Project) because the No Project Alternative would not contribute any incremental impact that could cause or contribute to a significant cumulative effect related to seismicity.</li> <li><b>Impact 3.8-10:</b> No Impact (less than the Project) because the No Project Alternative would not contribute any incremental impact that could cause or contribute to a significant cumulative effect related to erosion or the loss of topsoil.</li> </ul> | <p><b>Overall: greater than the Project for paleontological resources; same as the Project for other impacts to geology and soils</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.8-1:</b> LTS (same as the Project) because development of Alternative 1 would occur on a subset of the same land that composes the Project site, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-2:</b> LTS (same as the Project) because development of Alternative 1 would occur on a subset of the same land that composes the Project site, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-3:</b> LTS (same as the Project) because development of Alternative 1 would occur on a subset of the same land that composes the Project site, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-4:</b> LTS (similar to but less than the Project) because only a subset of the same land that composes the Project site would be disturbed by Alternative 1.</li> <li><b>Impact 3.8-5:</b> LTS (same as the Project) because development of Alternative 1 would occur on a subset of the same land that composes the Project site, and thus would be subject to the same geology and soils conditions.</li> <li><b>Impact 3.8-6:</b> LTS (similar to but less than the Project) because Alternative 1 would be developed on a subset of the Project site.</li> <li><b>Impact 3.8-7:</b> LTS (same as the Project) because development of Alternative 1 would occur on a subset of the Project site and (like the Project) would include septic tanks or an alternative wastewater disposal system.</li> <li><b>Impact 3.8-8:</b> LTSM (greater than the Project) because Alternative 1 would require installation of approximately twice the amount of infrastructure at depths that could cause a potential significant impact on a unique paleontological resource. The implementation of Mitigation Measure 3.8-1 would be required.</li> <li><b>Impact 3.8-9:</b> LTS (same as the Project) because Alternative 1 would contribute the same incremental impact as the Project related to seismicity.</li> <li><b>Impact 3.8-10:</b> LTS (similar to but less than the Project) because development of Alternative 1 would contribute a slightly reduced incremental impact related to erosion or the loss of topsoil.</li> </ul> | <p><b>Overall: same as the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.8-1:</b> LTS (same as the Project) because development of Alternative 2 would occur within the same site as the Project, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-2:</b> LTS (same as the Project) because development of Alternative 2 would occur within the same site as the Project, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-3:</b> LTS (same as the Project) because development of Alternative 2 would occur within the same site as the Project, and thus would be subject to the same geological and seismic conditions.</li> <li><b>Impact 3.8-4:</b> LTS (similar to but less than the Project) because only a subset of the same land that composes the Project site would be disturbed by Alternative 2.</li> <li><b>Impact 3.8-5:</b> LTS (same as the Project) because development of Alternative 2 would occur on a subset of the same land that composes the Project site, and thus would be subject to the same geology and soils conditions.</li> <li><b>Impact 3.8-6:</b> LTS (similar to but less than the Project) because Alternative 2 would be developed within the same site as the Project.</li> <li><b>Impact 3.8-7:</b> LTS (same as the Project) because development of Alternative 2 would occur within the same site as the Project and (like the Project) would include septic tanks or an alternative wastewater disposal system.</li> <li><b>Impact 3.8-8:</b> LTSM (same as the Project) because Alternative 2 would installation of the same amount of infrastructure as the Project at depths that could cause a potential significant impact on a unique paleontological resource. The implementation of Mitigation Measure 3.8-1 would be required.</li> <li><b>Impact 3.8-9:</b> LTS (same as the Project) because Alternative 2 would contribute the same incremental impact as the Project related to seismicity.</li> <li><b>Impact 3.8-10:</b> LTS (similar to but less than the Project) because development of Alternative 2 would contribute a slightly reduced incremental impact related to erosion or the loss of topsoil.</li> </ul> |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*  | Impacts of the No Project Alternative Compared to the Project   | Impacts of Alternative 1 Compared to the Project*  | Impacts of Alternative 2 Compared to the Project*   |
|--|---|--|---|
|  | <ul style="list-style-type: none"> <li>• <b>Impact 3.8-11:</b> No Impact (<i>less</i> than the Project) because the No Project Alternative would not contribute any incremental impact that could cause or contribute to a significant cumulative effect to paleontological resources. The implementation of Mitigation Measure 3.8-1 would be <b>required</b>.</li> </ul>  | <ul style="list-style-type: none"> <li>• <b>Impact 3.8-11:</b> LTSM (<i>greater</i> than the Project) because Alternative 1 would require installation of approximately twice the amount of infrastructure at depth as the Project and so would cause twice the incremental contribution to a significant cumulative effect to paleontological resources as the Project. The implementation of Mitigation Measure 3.8-1 would be required.</li> </ul>  | <ul style="list-style-type: none"> <li>• <b>Impact 3.8-11:</b> LTSM (<i>same</i> as the Project) because Alternative 2 would contribute the same incremental impact as the Project to cumulative conditions. The implementation of Mitigation Measure 3.8-1 would be required.</li> </ul>   |
| <b>Greenhouse Gas Emissions</b>  |   |  |   |
| <p><b>Impact 3.9-1:</b> LTS. The Project would generate GHG emissions, directly and indirectly, that could have a significant impact on the environment.</p> <p><b>Impact 3.9-2:</b> LTS. The Project could conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.</p>  | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li>• <b>Impact 3.9-1:</b> No Impact (<i>less</i> than the Project) because no GHGs would be emitted over baseline conditions in this scenario. However, the No Project Alternative would not contribute to a reduction of GHG emissions by offsetting current GHG-producing fossil-fueled energy, and thus, GHG emissions under baseline conditions may be higher under the No Project Alternative than with implementation of the Project.</li> <li>• <b>Impact 3.9-2:</b> No Impact (<i>less</i> than the Project). Because no GHGs would be emitted over baseline conditions in the No Project scenario, the No Project Alternative could not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.</li> </ul>  | <p><b>Overall: similar to but less than the Project</b></p> <ul style="list-style-type: none"> <li>• <b>Impact 3.9-1:</b> LTS (<i>similar to but less</i> than the Project). The Alternative 1 site would be approximately 62 percent of the size of the proposed Project site and 77 percent of the Project’s anticipated permanent footprint. The reduced project would require fewer equipment-use hours and vehicle trips overall, resulting in reduced GHG emissions relative to the Project.</li> <li>• <b>Impact 3.9-2:</b> LTS (<i>greater</i> than the Project). Alternative 1 would not cause a significant impact related to a conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions; however, Alternative 1’s reduced storage capacity would contribute less of a benefit in terms of progress toward meeting GHG emissions reduction goals set forth in applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.</li> </ul>   | <p><b>Overall: similar to but less than the Project</b></p> <ul style="list-style-type: none"> <li>• <b>Impact 3.9-1:</b> LTS (<i>similar to but less</i> than the Project). The Alternative 2 site would be approximately 50 percent of the size of the proposed site. The reduced project would require fewer equipment-use hours and vehicle trips overall, resulting in reduced GHG emissions relative to the Project.</li> <li>• <b>Impact 3.9-2:</b> LTS (<i>greater</i> than the Project). Alternative 2 would not cause a significant impact related to a conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions; however, Alternative 2’s reduced storage capacity would contribute less of a benefit in terms of progress toward meeting the GHG emissions reduction goals of applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.</li> </ul>  |
| <b>Hazards and Hazardous Materials</b>   |   |  |   |
| <p><b>Impact 3.10-1:</b> LTS. The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.</p> <p><b>Impact 3.10-2:</b> LTSM. The Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the energy storage system and release of hazardous materials into the environment. The implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would reduce this to a less-than-significant level.</p> <p><b>Impact 3.10-3:</b> LTSM. The Project could impair implementation of or physically interfere with emergency response or emergency evacuation. The implementation of Mitigation Measure 3.10-2 (Traffic Management Plan) would reduce this to a less-than-significant level.</p> <p><b>Impact 3.10-4:</b> LTSM. With the implementation of Mitigation Measure 3.10-1 (Soil Management Plan), the Project would not cause or contribute to a significant cumulative hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or through reasonably foreseeable upset and accident conditions involving a release of hazardous materials into the environment.</p> <p><b>Impact 3.10-5:</b> LTSM. With the implementation of Mitigation Measure 3.10-2 (Traffic Management Plan), the Project would not cause or contribute to a significant cumulative hazard due to physical interference with emergency response or emergency evacuation.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li>• <b>Impact 3.10-1:</b> No Impact (<i>less</i> than the Project) because no routine transport, use, or disposal of hazardous materials above baseline conditions would occur.</li> <li>• <b>Impact 3.10-2:</b> No Impact (<i>less</i> than the Project) because no energy storage–related accidental spills or releases of hazardous materials into the environment could occur.</li> <li>• <b>Impact 3.10-3:</b> No Impact (<i>less</i> than the Project) because neither West Jayne Avenue nor other Project area roadways would require closure.</li> <li>• <b>Impact 3.10-4:</b> No Impact (<i>less</i> than the Project) because no cumulative energy storage–related accidental spills or releases of hazardous materials into the environment could occur.</li> <li>• <b>Impact 3.10-5:</b> No Impact (<i>less</i> than the Project) because neither West Jayne Avenue nor other Project area roadways would require closure.</li> </ul> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li>• <b>Impact 3.10-1:</b> LTS (<i>same</i> as the Project) because, although routine transport, use, or disposal of hazardous materials would occur, it would not create a significant hazard to the public or the environment.</li> <li>• <b>Impact 3.10-2:</b> LTS (<i>less</i> than the Project) because no water from the existing water supply well on the northernmost Project parcel would be used for Alternative 1’s energy storage project purposes. This means that the area of contaminated soil at the diesel AST would not be disturbed. Thus, Alternative 1 would avoid the Project-related impact of disturbing known contaminated soil. The implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would not be required for Alternative 1. Although accidental spills or releases of hazardous materials into the environment otherwise could occur, compliance with applicable laws and other requirements would ensure that related impacts would be less than significant.</li> <li>• <b>Impact 3.10-3:</b> LTSM (<i>same</i> as the Project) because temporary closure of West Jayne Avenue would be required for transmission line installation, and as a result, could preclude or substantially delay emergency response or evacuation such that a significant hazard to the public or the environment resulted. The implementation of Mitigation Measure 3.10-2 (Traffic Management Plan) would reduce this impact to a less-than-significant level.</li> <li>• <b>Impact 3.10-4:</b> LTS (<i>less</i> than the Project) because Alternative 1 would avoid the Project’s disturbance of contaminated soil at the diesel AST, thereby reducing the incremental contribution of Alternative 1 to cumulative effects such that no mitigation would be required. The resulting cumulative impacts would be less than significant.</li> <li>• <b>Impact 3.10-5:</b> LTSM (<i>same</i> as the Project) because Alternative 1’s temporary closure of West Jayne Avenue would be the same as the Project’s.</li> </ul> | <p><b>Overall: same as the Project</b></p> <ul style="list-style-type: none"> <li>• <b>Impact 3.10-1:</b> LTS (<i>same</i> as the Project) because, although routine transport, use, or disposal of hazardous materials would occur, it would not create a significant hazard to the public or the environment.</li> <li>• <b>Impact 3.10-2:</b> LTSM (<i>same</i> as the Project) because, absent an established development footprint that would avoid the area of contaminated soil at the diesel AST, the impacts of Alternative 2 would be the same in this regard as the Project. The implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would be required. Although accidental spills or releases of hazardous materials into the environment otherwise could occur, compliance with applicable laws and other requirements would ensure that related impacts would be less than significant.</li> <li>• <b>Impact 3.10-3:</b> LTSM (<i>same</i> as the Project) because temporary closure of West Jayne Avenue would be required for transmission line installation, and as a result, could preclude or substantially delay emergency response or evacuation such that a significant hazard to the public or the environment resulted. The implementation of Mitigation Measure 3.10-2 (Traffic Management Plan) would reduce this impact to a less-than-significant level.</li> <li>• <b>Impact 3.10-4:</b> LTSM (<i>same</i> as the Project) because, absent an established development footprint that would avoid the area of contaminated soil at the diesel AST, the contribution of Alternative 2 to cumulative impacts would be the same as the Project’s. Mitigation Measure 3.10-1 would be required.</li> <li>• <b>Impact 3.10-5:</b> LTSM (<i>same</i> as the Project) because Alternative 2 also would require the temporary closure of West Jayne Avenue and implementation of Mitigation Measure 3.10-2 (Traffic Management Plan). Thus, the incremental contribution of Alternative 2 to cumulative effects would be the same as the Project’s.</li> </ul> |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*  | Impacts of the No Project Alternative Compared to the Project   | Impacts of Alternative 1 Compared to the Project*   | Impacts of Alternative 2 Compared to the Project*  |
|--|---|---|--|
| <b>Hydrology and Water Quality</b>   |   |   |  |
| <p><b>Impact 3.11-1:</b> LTSM. The Project could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would ensure that contaminated soil is properly removed and disposed of in accordance with all applicable federal, state, and local regulations to prevent adverse water quality effects from the management of contaminated material.</p> <p><b>Impact 3.11-2:</b> LTS. The Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.</p> <p><b>Impact 3.11-3:</b> LTS. The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which: (i) Results in substantial erosion or siltation on- or off-site; (ii) substantially increases the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) creates or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provides substantial additional sources of polluted runoff; or (iv) impedes or redirects flood flows.</p> <p><b>Impact 3.11-4:</b> LTSM. The Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would ensure that contaminated soil is properly removed and disposed of and so would prevent a conflict with or obstruction of the implementation of the water quality control plan or sustainable groundwater management plan.</p> <p><b>Impact 3.11-5:</b> LTS. The Project would make a less than cumulatively considerable contribution to cumulative effects relating to violation of water quality standards or waste discharge requirements or other substantial degradation of surface or groundwater quality.</p> <p><b>Impact 3.11-6:</b> LTS. The Project would not cause a cumulatively considerable contribution to decreased groundwater supplies or substantial interference with groundwater recharge such that the sustainable groundwater management of the basin could be impeded.</p> <p><b>Impact 3.11-7:</b> LTS. The Project would not cause a cumulatively considerable contribution to a significant impact due to substantial alteration of the existing drainage pattern of the site or area.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.11-1:</b> No Impact (<b>less</b> than the Project) because no energy storage project-related mobilization of contamination, sediment, or other pollutants would occur that could violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.</li> <li><b>Impact 3.11-2:</b> No Impact (<b>less</b> than the Project) because there would be no change to the existing (baseline) level of demand on groundwater supplies.</li> <li><b>Impact 3.11-3:</b> No Impact (<b>less</b> than the Project) because no energy storage-related alteration of the existing drainage pattern of the site or area would occur.</li> <li><b>Impact 3.11-4:</b> No Impact (<b>less</b> than the Project) because no energy storage-related change to on-site conditions would occur that could conflict with or obstruct implementation of the water quality control plan or sustainable groundwater management plan.</li> <li><b>Impact 3.11-5:</b> No Impact (<b>less</b> than the Project) because the No Project Alternative would not contribute any incremental impact to cumulative conditions relating to water quality standards, waste discharge requirements, or otherwise to surface or groundwater quality.</li> <li><b>Impact 3.11-6:</b> No Impact (<b>less</b> than the Project) because the No Project Alternative would not contribute any incremental impact to cumulative conditions relating to groundwater supplies or groundwater recharge.</li> <li><b>Impact 3.11-7:</b> No Impact (<b>less</b> than the Project) because the No Project Alternative would not contribute any incremental impact to cumulative conditions relating to alteration of the existing drainage pattern of the site or area.</li> </ul> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.11-1:</b> LTS (<b>less</b> than the Project) because Alternative 1 would have a smaller overall footprint (or area of disturbance), given the limitation of development to the southern parcels. No water from the existing water supply well on the northernmost Project parcel would be used for Alternative 1's energy storage project purposes. This also means that the area of contaminated soil at the diesel AST would not be disturbed and Alternative 1 would avoid the Project-related impact of disturbing known contaminated soil, which if improperly handled, could affect water quality. The implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would not be required.</li> <li><b>Impact 3.11-2:</b> LTS (<b>greater</b> than the Project). Alternative 1 would have a higher net water demand than the proposed Project because groundwater would continue to be used for irrigation and the energy storage system would require water in addition to the existing volume of irrigation water use. Groundwater demand would be higher under Alternative 1 because the water use associated with Alternative 1 would be in addition to and not a replacement of existing irrigation water use volumes. As discussed in the Water Supply Assessment (Appendix L), the sustainable yield of the Westside Subbasin is about 297,000 AFY. If the volume of water used for Alternative 1 were similar to that for the Project (maximum of 171 AFY during construction and decommissioning, and 0.003 AFY for operations), those estimated volumes of annual water use would compose at most 0.0000058 percent during construction and decommissioning and a negligible amount during operation, relative to the sustainable yield of the subbasin. Therefore, these effects, though numerically greater than the Project effects, would not conflict with groundwater supply or sustainability, and the associated impact would remain less than significant.</li> <li><b>Impact 3.11-3:</b> LTS (<b>same</b> as the Project) because Alternative 1 would not substantially alter the existing drainage pattern of the site or area in a way that would result in substantial erosion or siltation on- or off-site, result in a substantial increase in the rate or amount of surface runoff, create or contribute to runoff water that would exceed the stormwater drainage system capacity or provide substantial additional sources of polluted runoff, or impede or redirect flood flows.</li> <li><b>Impact 3.11-4:</b> LTS (<b>less</b> than the Project) because Alternative 1's reduced area of disturbance would not utilize water from the existing water supply well on the northernmost Project parcel and the area of contaminated soil at the diesel AST would not be disturbed. The implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would not be required to prevent a potential conflict with or obstruction of the implementation of the water quality control plan or sustainable groundwater management plan.</li> <li><b>Impact 3.11-5:</b> LTS (<b>less</b> than the Project) because Alternative 1 would contribute a reduced incremental contribution to cumulative conditions relating to violation of water quality standards or waste discharge requirements or other substantial degradation of surface or groundwater quality.</li> <li><b>Impact 3.11-6:</b> LTS (<b>greater</b> than the Project). Alternative 1 would require an incrementally greater demand on groundwater than the Project; however, the contribution would remain less than cumulatively considerable.</li> <li><b>Impact 3.11-7:</b> LTS (<b>same</b> as the Project) because Alternative 1 would contribute a substantially similar contribution to cumulative conditions relating to the existing drainage pattern of the site or area.</li> </ul> | <p><b>Overall: similar but less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.11-1:</b> LTSM (<b>same</b> as the Project). Alternative 2 would have approximately 50 percent of the development footprint as the Project; however, at least some of the existing almond orchard would be removed. As a result, a potential significant impact would remain and the implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would be required to properly manage and dispose of contaminated soil at the diesel AST associated with the water supply well.</li> <li><b>Impact 3.11-2:</b> LTS (<b>similar but less</b> than the Project). Alternative 2 would leave a portion of the northern Project parcel in irrigated agricultural use but would reduce overall energy storage project-related water demand, given the 50 percent reduction in development footprint. Alternative 2 also would allow for a relatively smaller addition of impervious surface area, which would allow for a greater overall area for groundwater recharge across the site. As with the Project, the overall impacts associated with impervious surfaces proposed under Alternative 2 would result in a minor loss of groundwater recharge capability across the site. Overall, Alternative 2 would not cause a significant adverse impact on water supply.</li> <li><b>Impact 3.11-3:</b> LTS (<b>same</b> as the Project) because Alternative 2 would not substantially alter the existing drainage pattern of the site or area in a way that would result in substantial erosion or siltation on- or off-site, result in a substantial increase in the rate or amount of surface runoff, create or contribute to runoff water that would exceed the stormwater drainage system capacity or provide substantial additional sources of polluted runoff, or impede or redirect flood flows.</li> <li><b>Impact 3.11-4:</b> LTSM (<b>same</b> as the Project) because development needed for Alternative 2 could cause the same potential significant impact as the Project related to disturbance of contaminated soil present at the diesel AST associated with the water supply well. The implementation of Mitigation Measure 3.10-1 (Soil Management Plan) would be required to prevent a potential conflict with or obstruction of the implementation of the water quality control plan or sustainable groundwater management plan.</li> <li><b>Impact 3.11-5:</b> LTS (<b>same</b> as the Project) because Alternative 2 would contribute a substantially similar incremental contribution to cumulative conditions relating to violation of water quality standards or waste discharge requirements or other substantial degradation of surface or groundwater quality.</li> <li><b>Impact 3.11-6:</b> LTS (<b>similar but less</b> than the Project) because Alternative 2 would result in an incrementally reduced contribution to cumulative conditions relating to groundwater compared to the Project. The contribution would remain less than cumulatively considerable.</li> <li><b>Impact 3.11-7:</b> LTS (<b>same</b> as the Project) because Alternative 2 would contribute a substantially similar contribution to cumulative conditions relating to the existing drainage pattern of the site or area.</li> </ul> |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*   | Impacts of the No Project Alternative Compared to the Project  | Impacts of Alternative 1 Compared to the Project*   | Impacts of Alternative 2 Compared to the Project*   |
|---|--|---|---|
| <b>Land Use and Planning</b>  |  |   |   |
| <p>The Project would cause no impact related to physical division of an established community.</p> <p>The Project would cause no impact related to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</p>  | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because if the No Project Alternative were to be implemented, then none of the proposed energy storage–related development would be constructed, operated, maintained, or decommissioned on the Project site. Instead, the Project site would continue to be used periodically for dry-farmed agriculture and/or left fallow. Because there would be no change relative to baseline conditions, the No Project Alternative would create no impact on established communities.</li> <li>No impact (same as the Project) because no energy storage project–related development would occur that could conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</li> </ul> | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project). Because Alternative 1 would be developed on a subset of the Project site, energy storage–related use in that location would not physically divide an established community or hinder existing community access.</li> <li>No impact (same as the Project). Because Alternative 1 would be developed on a subset of the Project site, energy storage–related use in that location would not create any different conflict relative to the Project in connection with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</li> </ul>  | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project). Because Alternative 2 would be developed on a subset of the Project site, energy storage–related use in that location would not physically divide an established community or hinder existing community access.</li> <li>No impact (same as the Project). Because Alternative 2 would be developed on a subset of the Project site, energy storage–related use in that location would not create any different conflict relative to the Project in connection with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.</li> </ul>  |
| <b>Mineral Resources</b>  |  |   |   |
| <p>The Project would result in no impact related to causing the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.</p> <p>The Project would result in no impact related to causing the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.</p>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because no energy storage project–related development or ground disturbance would occur that could affect the availability of a known mineral resource.</li> <li>No impact (same as the Project) because no energy storage project–related development or ground disturbance would occur that could affect the availability of a known mineral resource recovery site.</li> </ul>  | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because there are no known mineral resources within the Alternative 1 site that would be of value to the region and the residents of the state.</li> <li>No impact (same as the Project) because there are no known locally important mineral resource recovery sites within the Alternative 1 site.</li> </ul>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because there are no known mineral resources within the Alternative 2 site that would be of value to the region and the residents of the state.</li> <li>No impact (same as the Project) because there are no known locally important mineral resource recovery sites within the Alternative 2 site.</li> </ul>   |
| <b>Noise and Acoustics</b>  |  |   |   |
| <p><b>Impact 3.14-1:</b> LTSM. The Project could generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project site in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Implementation of Mitigation Measure 3.14-1 (Noise Reduction for Construction Activities) would reduce potential nighttime construction noise impacts below established thresholds by limiting the types of activities that might occur during nighttime hours to those least likely to generate substantial noise.</p> <p><b>Impact 3.14-2:</b> LTS. The Project would not expose people and/or structures to excessive vibration levels.</p> <p><b>Impact 3.14-3:</b> LTS. The Project would not cause a cumulatively considerable contribution to any significant noise or vibration impact.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.14-1:</b> No Impact (less than the Project) because no energy storage project–related construction equipment or activities would occur on the Project site that could increase ambient noise levels.</li> <li><b>Impact 3.14-2:</b> No Impact (less than the Project) because no energy storage project–related equipment or activities would occur on the Project site that could expose people or structures to vibration.</li> <li><b>Impact 3.14-3:</b> No Impact (less than the Project) because the No Project Alternative would not contribute any incremental impact to cumulative noise or vibration conditions.</li> </ul>   | <p><b>Overall: = (similar but less than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.14-1:</b> LTSM (similar but less than the Project). Alternative 1 would be approximately 62 percent of the size of the Project site and 77 percent of the Project’s anticipated permanent footprint and would reduce the construction period from 76 months to 61 months (a 20 percent reduction). Further, only the southern parcels would be developed, which are farther from receptors. Even though the construction impacts of Alternative 1 would be reduced compared to those of the Project, the nighttime noise impact would remain potentially significant. The implementation of Mitigation Measure 3.14-1 would be required.</li> <li><b>Impact 3.14-2:</b> LTS (same as the Project) because, although Alternative 1 could cause some vibration, it would not expose people or structures to excessive vibration levels.</li> <li><b>Impact 3.14-3:</b> LTS (similar but less than the Project) because Alternative 1 would result in a reduced incremental contribution to cumulative noise or vibration conditions compared to the Project.</li> </ul> | <p><b>Overall: = (less than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.14-1:</b> LTS (less than the Project). Alternative 2 would reduce construction and resulting storage capacity at the site by approximately half. As a result, the construction and other impacts of Alternative 2 would be reduced compared to those of the Project such that no mitigation would be required.</li> <li><b>Impact 3.14-2:</b> LTS (same as the Project) because, although Alternative 2 could cause some vibration, it would not expose people or structures to excessive vibration levels.</li> <li><b>Impact 3.14-3:</b> LTS (less than the Project) because Alternative 2 would result in a reduced incremental contribution to cumulative noise or vibration conditions compared to the Project.</li> </ul> |
| <b>Population and Housing</b>   |  |   |   |
| <p>The Project would cause no impact related to inducement of substantial unplanned population growth in the study area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, by extending roads or other infrastructure).</p> <p>The Project would cause no impact related to the displacement of substantial numbers of existing people or housing, and thus would cause no impacts related to the construction of replacement housing elsewhere.</p>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project). If the No Project Alternative were implemented, none of the proposed facilities would be constructed, operated, maintained, or decommissioned on the Project site. No construction workers would be required at the site. Instead, the Project site would continue to be used periodically for dry-farmed agriculture and/or disked and left fallow. Because there would be no change relative to baseline conditions, the No Project Alternative would not induce substantial unplanned population growth in the study area.</li> <li>No impact (same as the Project) because the No Impact Alternative would not displace substantial numbers of existing people or housing.</li> </ul>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, <i>Population and Housing</i>, Alternative 1 would not induce substantial unplanned population growth in the study area.</li> <li>No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, <i>Population and Housing</i>, Alternative 1 would not displace substantial numbers of existing people or housing.</li> </ul>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, <i>Population and Housing</i>, Alternative 2 would not induce substantial unplanned population growth in the study area.</li> <li>No impact (same as the Project) because, for the same reasons as described for the Project in Section 3.15, <i>Population and Housing</i>, Alternative 2 would not displace substantial numbers of existing people or housing.</li> </ul>   |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*  | Impacts of the No Project Alternative Compared to the Project  | Impacts of Alternative 1 Compared to the Project*  | Impacts of Alternative 2 Compared to the Project*   |
|--|--|--|---|
| <b>Public Services</b>   |  |  |   |
| <p>The Project would result in no impact related to a substantial adverse physical impact from the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, libraries, parks, emergency medical facilities or other public facilities.</p>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project). If the No Project Alternative were implemented, no increase in the baseline level of demand for public services would be generated by on-site activities.</li> </ul>  | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project). If Alternative 1 were implemented, the slight potential increase in demand for public services caused by energy storage–related development would not provide or require new or physically altered governmental facilities to provide such services.</li> </ul>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project). If Alternative 2 were implemented, the slight potential increase in demand for public services caused by energy storage–related development would not provide or require new or physically altered governmental facilities to provide such services.</li> </ul>  |
| <b>Recreation</b>  |  |  |   |
| <p>The Project would cause no impact related to an increase in the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.</p> <p>The Project would cause no impact related to the inclusion of recreational facilities or requirement of the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.</p>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because the No Project Alternative would not increase the use of existing neighborhood and regional parks or other recreational facilities.</li> <li>No impact (same as the Project) because the No Impact Alternative would not result in new recreational facilities to be constructed, operated or maintained, and would not otherwise require the construction or expansion of recreational facilities.</li> </ul>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because Alternative 1 would not cause a substantial increase in population or a substantial reduction in the availability of existing parks or other recreational facilities, and thus would not increase the use of existing neighborhood and regional parks or other recreational facilities.</li> <li>No impact (same as the Project) because Alternative 1 would not result in population growth and would not affect Fresno County's or Kern County's ability to meet the existing demand for parks and recreation–related facilities, and thus would not result in construction of new or expanded recreational facilities.</li> </ul>   | <p><b>Overall: = (same as the Project)</b></p> <ul style="list-style-type: none"> <li>No impact (same as the Project) because Alternative 2 would not cause a substantial increase in population or a substantial reduction in the availability of existing parks or other recreational facilities, and thus would not increase the use of existing neighborhood and regional parks or other recreational facilities.</li> <li>No impact (same as the Project) because Alternative 2 would not result in population growth and would not affect Fresno County's or Kern County's ability to meet the existing demand for parks and recreation–related facilities, and thus would not result in construction of new or expanded recreational facilities.</li> </ul>  |
| <b>Transportation</b>  |  |  |   |
| <p><b>Impact 3.18-1:</b> LTSM. Construction of the Project would generate a temporary increase in traffic volumes on area roadways, which could conflict with a program, plan, ordinance, or policy addressing the circulation system. Implementation of Mitigation Measure 3.10-2 (Construction Traffic Management Plan) would be required.</p> <p><b>Impact 3.18-2:</b> LTS. The Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).</p> <p><b>Impact 3.18-3:</b> LTS. The Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).</p> <p><b>Impact 3.18-4:</b> LTS. The Project would not result in inadequate emergency access.</p> <p><b>Impact 3.18-5:</b> LTSM. The Project could cause a cumulatively considerable contribution to a significant cumulative impact to transportation. Implementation of Mitigation Measure 3.10-2 (Construction and Decommissioning Traffic Management Plan) would be required to reduce the Project's incremental contribution to a potential significant cumulative effect.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.18-1:</b> No Impact (less than the Project) because no energy storage–related traffic would be generated that could cause a conflict with a program, plan, ordinance, or policy addressing the roadway system.</li> <li><b>Impact 3.18-2:</b> No Impact (less than the Project) because no energy storage–related traffic would be generated that could conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).</li> <li><b>Impact 3.18-3:</b> No Impact (less than the Project) because no energy storage–related traffic would be generated that could increase hazards due to a geometric design feature or incompatible uses.</li> <li><b>Impact 3.18-4:</b> No Impact (less than the Project) because no energy storage–related traffic would be generated that could result in inadequate emergency access.</li> <li><b>Impact 3.18-5:</b> No Impact (less than the Project) because no energy storage–related traffic would be generated that could cause or contribute to any significant cumulative impact on transportation.</li> </ul> | <p><b>Overall: = (similar but less than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.18-1:</b> LTSM (similar but less than the Project). Alternative 1 would be approximately 62 percent of the size of the site as proposed and 77 percent of the Project's anticipated permanent footprint. The construction duration would also be reduced from 76 months to 61 months for Alternative 1 (i.e., a 20 percent reduction). Although the same number of construction workers would be needed as for the Project, construction vehicle trips would be scaled in proportion to the reduced project size. Impacts on roadways would be reduced but comparable, and the implementation of Mitigation Measure 3.10-2 (Construction Traffic Management Plan) would be required.</li> <li><b>Impact 3.18-2:</b> LTS (same as the Project) because Alternative 1 would generate vehicle trips but would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).</li> <li><b>Impact 3.18-3:</b> LTS (same as the Project) because Alternative 1 would not cause a significant impact related to a substantial increase in hazards due to a geometric design feature or incompatible uses.</li> <li><b>Impact 3.18-4:</b> LTS (same as the Project) because Alternative 1 could affect circulation but would not result in inadequate emergency access.</li> <li><b>Impact 3.18-5:</b> LTSM (similar but less than the Project) because even though Alternative 1 would contribute fewer vehicle trips to the cumulative condition, the implementation of Mitigation Measure 3.10-2 (Construction and Decommissioning Traffic Management Plan) would still be required to reduce the incremental contribution to a less than cumulatively considerable level.</li> </ul> | <p><b>Overall: = (similar but less than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.18-1:</b> LTSM (similar but less than the Project). Alternative 2 would reduce the scale of the Project by approximately half, resulting in a reduced project footprint and a shorter construction duration. Nonetheless, a potential significant impact could result from the short-term and intermittent construction-related congestion caused by construction vehicles/equipment on local roadways. The implementation of Mitigation Measure 3.10-2 would be required.</li> <li><b>Impact 3.18-2:</b> LTS (same as the Project) because Alternative 2 would generate vehicle trips but would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).</li> <li><b>Impact 3.18-3:</b> LTS (same as the Project) because Alternative 2 would not cause a significant impact related to a substantial increase in hazards due to a geometric design feature or incompatible uses.</li> <li><b>Impact 3.18-4:</b> LTS (same as the Project) because Alternative 2 could affect circulation but would not result in inadequate emergency access.</li> <li><b>Impact 3.18-5:</b> LTSM (similar but less than the Project) because even though Alternative 2 would contribute fewer vehicle trips to the cumulative condition, the implementation of Mitigation Measure 3.10-2 would still be required to reduce the alternative's incremental contribution to a less than cumulatively considerable level.</li> </ul> |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project*  | Impacts of the No Project Alternative Compared to the Project  | Impacts of Alternative 1 Compared to the Project*   | Impacts of Alternative 2 Compared to the Project*   |
|--|--|---|---|
| <b>Utilities and Service Systems</b>   |  |   |   |
| <p><b>Impact 3.19-1:</b> LTS. The Project would not result in the construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, or telecommunications facilities that would cause significant environmental effects.</p> <p><b>Impact 3.19-2:</b> LTSM. The Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development under average water year, single-dry water year, and multiple-dry water year scenarios over the next 20 years through various sources. However, because it cannot yet be determined whether there will be sufficient water supplies available to serve the Project and reasonably foreseeable future development under average water year, single-dry water year, and multiple-dry water year scenarios for the remainder of the permit term, including during Project decommissioning and site reclamation, Mitigation Measure 3.19-1, <i>Determine Future Water Supply Availability</i>, would be required.</p> <p><b>Impact 3.19-3:</b> LTS. The Project would result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.</p> <p><b>Impact 3.19-4:</b> LTS. The Project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.</p> <p><b>Impact 3.19-5:</b> LTS. The Project would not cause or contribute to any significant adverse cumulative impact to utilities and service systems.</p> | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.19-1:</b> No Impact (<i>less</i> than the Project) because no energy storage–related water, wastewater treatment, stormwater drainage, electric power, or telecommunications utilities or services would be needed that could require construction that would cause significant environmental effects.</li> <li><b>Impact 3.19-2:</b> No Impact (<i>less</i> than the Project) because no energy storage–related water demand would be generated on the site.</li> <li><b>Impact 3.19-3:</b> No Impact (<i>less</i> than the Project) because no energy storage–related wastewater would be generated on-site that would require treatment.</li> <li><b>Impact 3.19-4:</b> No Impact (<i>less</i> than the Project) because no energy storage–related solid waste would be generated on-site that would require disposal.</li> <li><b>Impact 3.19-5:</b> No Impact (<i>less</i> than the Project) because no energy storage–related utility or service system demand would be generated on-site that could cause or contribute to significant cumulative impacts.</li> </ul>   | <p><b>Overall: = (similar but less than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.19-1:</b> LTS (<i>similar but less</i> than the Project) because Alternative 1's limitation of energy storage–related development to the two southernmost Project site parcels would incrementally reduce the resulting overall demand for utility and service system services and (like the Project) would not result in the construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, or telecommunications facilities that would cause significant environmental effects.</li> <li><b>Impact 3.19-2:</b> LTSM (<i>similar but less</i> than the Project) because less water would be required to support Alternative 1 in light of its reduced size as compared to the Project. Nonetheless, Mitigation Measure 3.19-1 would be required to ensure that sufficient water supplies are available for the latter part of the permit term.</li> <li><b>Impact 3.19-3:</b> LTS (<i>similar but less</i> than the Project) because the reduction in wastewater generated by energy storage–related development would not result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the project.</li> <li><b>Impact 3.19-4:</b> LTS (<i>similar but less</i> than the Project) because Alternative 1 would generate less solid waste than the Project and thus (like the Project) would not generate waste in an amount that would exceed state or local standards or the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.</li> <li><b>Impact 3.19-5:</b> LTS (<i>similar but less</i> than the Project) because Alternative 1 would result in reduced incremental contributions to cumulative conditions compared to the Project, and thus also would not cause or contribute to any significant adverse cumulative impact on utilities and service systems.</li> </ul> | <p><b>Overall: = (similar but less than the Project)</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.19-1:</b> LTS (<i>similar but less</i> than the Project) because Alternative 2's development of approximately half the area compared to the Project would comparably reduce the resulting overall demand for utility and service system services and (like the Project) would not result in the construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, or telecommunications facilities that would cause significant environmental effects.</li> <li><b>Impact 3.19-2:</b> LTSM (<i>similar but less</i> than the Project) because approximately half the amount of water would be required to support Alternative 2 in light of its reduced size as compared to the Project. Nonetheless, Mitigation Measure 3.19-1 would be required to ensure that sufficient water supplies are available for the latter part of the permit term.</li> <li><b>Impact 3.19-3:</b> LTS (<i>similar but less</i> than the Project) because the reduction in wastewater generated under Alternative 2 would not result in a determination by the wastewater treatment provider that it has inadequate capacity to provide service.</li> <li><b>Impact 3.19-4:</b> LTS (<i>similar but less</i> than the Project) because Alternative 2 would generate approximately half as much solid waste as the Project, and thus (like the Project) would not generate waste in an amount that exceeds state or local standards or the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.</li> <li><b>Impact 3.19-5:</b> LTS (<i>similar but less</i> than the Project) because Alternative 2 would result in reduced incremental contributions to cumulative conditions compared to the Project, and thus also would not cause or contribute to any significant adverse cumulative impact on utilities and service systems.</li> </ul> |
| <b>Wildfire</b>  |  |   |   |
| <p><b>Impact 3.20-1:</b> LTS. The Project would not substantially impair an adopted emergency response plan or emergency evacuation plan.</p> <p><b>Impact 3.20-2:</b> LTS. The Project would not, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.</p> <p><b>Impact 3.20-3:</b> LTS. The Project would require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or result in temporary or ongoing impacts to the environment.</p> <p><b>Impact 3.20-4:</b> LTS. The Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildfire.</p> <p><b>Impact 3.20-5:</b> LTS. The Project would not make a cumulatively considerable contribution to any potentially significant cumulative wildfire impact.</p>  | <p><b>Overall: less than the Project</b></p> <ul style="list-style-type: none"> <li><b>Impact 3.20-1:</b> No Impact (<i>less</i> than the Project) because no energy storage–related development would occur on-site that (unless properly constructed, maintained, and operated) could create hazards for firefighters and emergency responders with the possibility of explosions, flammable gases, toxic fumes, water-reactive materials, electrical shock, corrosives, or chemical burns.</li> <li><b>Impact 3.20-2:</b> No Impact (<i>less</i> than the Project) because no energy storage–related use of vehicles and equipment would occur on-site that could ignite dry vegetation and result in a fire.</li> <li><b>Impact 3.20-3:</b> No Impact (<i>less</i> than the Project) because no energy storage–related installation and/or maintenance of fuel breaks, power lines, and other electrical utilities would occur on-site that could exacerbate fire risk.</li> <li><b>Impact 3.20-4:</b> No Impact (<i>less</i> than the Project) because no energy storage–related development would occur on-site that could expose people or structures to wildfire.</li> <li><b>Impact 3.20-5:</b> No Impact (<i>less</i> than the Project) because no energy storage–related development would occur on-site that could incrementally contribute to potential significant cumulative wildfire effects.</li> </ul> | <p><b>Overall: = (same as than the Project)</b></p> <p><b>Impact 3.20-1:</b> LTS (<i>same</i> as the Project) because shifting the energy storage facility to the southern two Project site parcels would not substantially impair an adopted emergency response plan or emergency evacuation plan.</p> <p><b>Impact 3.20-2:</b> LTS (<i>same</i> as the Project) because Alternative 1 would be developed on a subset of the Project site and, as a result, would be subject to the same slope, prevailing winds, and other factors as the Project. A less-than-significant impact would result regarding the exacerbation of wildfire risks and related exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.</p> <p><b>Impact 3.20-3:</b> LTS (<i>same</i> as the Project) because Alternative 1 also would require the installation or maintenance of infrastructure such as roads, fuel breaks, emergency water sources, power lines, or other utilities that could exacerbate fire risk or result in temporary or ongoing impacts on the environment.</p> <p><b>Impact 3.20-4:</b> LTS (<i>same</i> as the Project) because Alternative 1 would be developed on a subset of the Project site, and thus would be subject to the same site conditions that affect the risk of exposure of people or structures to significant site condition–related risks.</p> <p><b>Impact 3.20-5:</b> LTS (<i>same</i> as the Project) because, for the reasons summarized above and in the context of the Project, Alternative 1 would not make a cumulatively considerable contribution to any potentially significant cumulative wildfire impact.</p>   | <p><b>Overall: = (same as than the Project)</b></p> <p><b>Impact 3.20-1:</b> LTS (<i>same</i> as the Project) because although Alternative 2 would require approximately half the development footprint of the Project, its potential impact related to a potential for substantial impairment of an adopted emergency response plan or emergency evacuation plan would be the same.</p> <p><b>Impact 3.20-2:</b> LTS (<i>same</i> as the Project) because Alternative 2 would be developed on a subset of the Project site and, as a result, would be subject to the same slope, prevailing winds, and other factors as the Project. A less-than-significant impact would result regarding the exacerbation of wildfire risks and related exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.</p> <p><b>Impact 3.20-3:</b> LTS (<i>same</i> as the Project) because, like the Project, Alternative 2 would require the installation or maintenance of infrastructure such as roads, fuel breaks, emergency water sources, power lines, or other utilities that could exacerbate fire risk or result in temporary or ongoing impacts on the environment. The risk of Alternative 2 would be the same as under the Project, just within a smaller development footprint.</p> <p><b>Impact 3.20-4:</b> LTS (<i>same</i> as the Project) because Alternative 2 would be developed on a subset of the Project site, and thus would be subject to the same site conditions that affect the risk of exposure of people or structures to significant site condition–related risks.</p>   |

**TABLE 4-8 (CONTINUED)  
SUMMARY OF IMPACTS OF THE PROJECT AND ALTERNATIVES**

| Impacts of the Project* | Impacts of the No Project Alternative Compared to the Project | Impacts of Alternative 1 Compared to the Project* | Impacts of Alternative 2 Compared to the Project*   |
|-------------------------|---|---|---|
|                         |   |   | <b>Impact 3.20-5:</b> LTS (same as the Project) because, for the reasons summarized above and in the context of the Project, Alternative 2 would not make a cumulatively considerable contribution to any potentially significant cumulative wildfire impact. |

NOTES:

AFY = acre-feet per year; AST = aboveground storage tank; CDFW = California Department of Fish and Wildlife; CEQA = California Environmental Quality Act; County = Fresno County; General Plan = Fresno County General Plan; GHG = greenhouse gas; O&M = operation and maintenance; PG&E = Pacific Gas and Electric Company; Project = Key Energy Storage Project; RPS = Renewables Portfolio Standard; SJVAPCD = San Joaquin Valley Air Pollution Control District; USFWS = U.S. Fish and Wildlife Service; Williamson Act = California Land Conservation Act of 1965

\* *Significance conclusions:* LTS = Less than Significant; LTSM = Less than Significant with Mitigation; SU = Significant and Unavoidable

SOURCE: Data compiled by Environmental Science Associates in 2023



Additional information received in or developed during the agency and public review period for the Draft EIR, or during the Project approval process, could affect the balancing of the respective benefits and consequences of the alternatives. Accordingly, while a preliminary determination has been made that Alternative 1 would be the Environmentally Superior Alternative, it would be premature to formally designate it as such at this stage. This preliminary determination as to which alternative is the Environmentally Superior Alternative will be confirmed or corrected in the Final EIR.

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# CHAPTER 5

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## Other CEQA Considerations

### 5.1 Introduction

CEQA Guidelines Section 15126 requires an EIR to discuss certain topics that were not specifically discussed in previous EIR chapters. Accordingly, this chapter discusses the following topics:

- (1) Significant environmental effects that cannot be avoided if the Project is implemented.
- (2) Significant irreversible environmental changes that would result from implementation of the Project.
- (3) Growth-inducing impacts of the Project.

### 5.2 Significant Unavoidable Impacts

Section 15126.2(a) of the CEQA Guidelines requires that the EIR describe any significant impacts, including those that can be mitigated but not reduced to less-than-significant levels. As analyzed in Chapter 3, *Environmental Analysis*, the Project would result in no significant unavoidable impacts.

### 5.3 Irreversible Changes

CEQA's requirement to analyze irretrievable commitments of resources applies only in the following limited circumstances: (1) the adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency; (2) a local agency formation commission's adoption of a resolution making determinations; and (3) projects that require the preparation of an environmental impact statement under the National Environmental Policy Act of 1969 (Public Resources Code Section 21100.1; CEQA Guidelines Section 15127). Such an analysis is not required by CEQA for this Project.

### 5.4 Growth Inducement

Section 15126.2(e) of the CEQA Guidelines requires a discussion of the ways in which a project "could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas)." Project-caused population increases could tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

Growth inducement can be a result of new development that increases employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, the Project would require up to 150 on-site personnel during construction. The existing construction labor pool in Fresno County is sufficient for meeting Project needs.<sup>1</sup> After construction, the Project would require no full-time personnel and would be remotely operated and monitored. Routine operations would require weekly visits to the facility site by one or two workers in a light utility truck. It is anticipated that one annual major maintenance inspection would occur. Non-routine (emergency) maintenance could require additional workers. Decommissioning and site restoration activities are expected to require a workforce similar to or smaller than the construction workforce; decommissioning and site restoration–related activities are expected to take approximately 12 months per phase to complete according to the Project’s reclamation plan. Because construction and decommissioning would be temporary, the Project is unlikely to cause substantial numbers of people to relocate to Fresno County. Therefore, this Project would not result in a large increase in employment levels that would significantly induce growth.

It is expected that construction workers would commute to the Project site instead of relocating to Fresno County; however, even if all workers were to migrate into Fresno County, the existing available housing supply could accommodate them without requiring new construction.<sup>2</sup> Therefore, the Project is not expected to induce population growth, the housing and provision of services for which could cause significant adverse environmental impacts.

The Project would not generate energy, but it would contribute to the energy supply by storing electricity during times of excess generation and dispatching it to the grid when needed. The development of power infrastructure is a response to increased market demand, and the availability of electrical capacity by itself does not ensure or encourage growth within a particular area. Other factors such as economic conditions, land availability, population trends, availability of water supply or sewer services, and local planning policies have a more direct effect on growth.

---

<sup>1</sup> According to the California Employment Development Department’s Labor Market Information Division, the unemployment rate in Fresno County was 5.9 percent in August 2022, down from a revised 8.8 percent in August 2021. This is comparable to an unadjusted unemployment rate of 5.8 percent for California and 3.7 percent for the nation during the same period.

<sup>2</sup> Among Fresno County’s 519,037 residents in 2022, one housing market source reported a homeowner vacancy rate of 0.9 percent and a rental vacancy rate of 4.5 percent from a total of 176,617 units. The vacancy rate reported by the California Department of Finance was higher: 5.7 percent (DOF 2022a, 2022b).

# CHAPTER 6

## Report Preparation

---

### 6.1 Lead Agency

#### Fresno County Department of Public Works and Planning

2220 Tulare Street, 6th Floor  
Fresno, CA 93721

Jeremy Shaw, Planner  
David Randall, Senior Planner

### 6.2 Consultant

#### Environmental Science Associates

787 The Alameda, Suite 250  
San José, CA 95126

|                                  |  |
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| Maria Hensel                     | Deputy Project Manager; Section Author: Agriculture and Forestry Resources, Hydrology and Water Quality; Senior Reviewer: Utilities and Service Systems                |
| Savannah Battista, M.S.          | Utilities and Service Systems, Wildfire  |
| Dave Beauchamp                   | Hydrology and Water Quality  |
| Michael Burns, C.H.G, C.E.G, P.G | Geology and Soils, Hazards and Hazardous Materials, Mineral Resources  |
| Brandon Carroll                  | Geology and Soils, Hazards and Hazardous Materials, Mineral Resources  |
| Dave Davis, M.S.                 | Aesthetics   |
| Matthew Fagundes                 | Air Quality, Energy, GHG Emissions   |
| Heidi Koenig, RPA                | Cultural and Tribal Cultural Resources   |
| Michelle Le                      | Air Quality, Energy, GHG Emissions   |
| Brian Pittman, M.S., CWB         | Biological Resources   |
| Shadde Rosenblum, M.U.R.P.       | Transportation   |

|                               |   |
|-------------------------------|---|
| Liza Ryan, M.S.               | Biological Resources  |
| Chris Sanchez                 | Noise   |
| Olivia Silverstein            | Aesthetics, Land Use, Population and Housing, Public Services, Recreation                                   |
| Ashleigh Sims, M.A., RPA      | Cultural and Tribal Cultural Resources  |
| Alexandra (Al) Thompson, M.A. | Agriculture and Forestry Resources, Land Use, Population and Housing, Public Services, Recreation, Wildfire |

## **6.3 Entities Consulted and Recipients of the Draft EIR**

### **Fresno County Department of Public Works and Planning**

#### **Key Energy Storage LLC**

Patti Murphy

Kaitlyn Toebe

Andrew Heymann

#### **Federal Agencies**

NAVFACSW Intergovernmental Branch

U.S. Army Corps of Engineers, Sacramento District

U.S. Department of Agriculture, Natural Resources Conservation Service

U.S. Department of Interior, Fish and Wildlife Service–Endangered Species Division

U.S. Environmental Protection Agency, Region 9

#### **State Agencies**

California Department of Conservation, Division of Land Resource Protection

California Department of Conservation, Geologic Energy Management Division

California Department of Fish and Wildlife, Region 8

California Department of Forestry and Fire Protection, Fresno-Kings Unit

California Department of Transportation, District 6

California Energy Commission

California Environmental Protection Agency, Department of Toxic Substances Control

California Highway Patrol

California Native American Heritage Commission

California Public Utilities Commission

California Regional Water Quality Control Board, Region 5

California State Reclamation Board

San Joaquin Valley Air Pollution Control District

Southern San Joaquin Valley Archaeological Information Center

State Office of Historic Preservation, Department of Parks and Recreation  
State Water Resources Control Board, Division of Drinking Water

**Regional and Local Agencies**

Central Valley Flood Protection Board  
City of Kerman, Community Development Department  
City of Mendota, Planning and Community Development  
City of Huron  
City of San Joaquin  
Consolidated Mosquito Abatement District  
Fresno Council of Governments  
Fresno Metropolitan Flood Control District  
Golden Plains Unified School District  
James Irrigation District  
Kings Basin Water Authority  
Kings River Conservation District  
Mendota Unified School District  
Tranquillity Irrigation District  
Tranquillity Resource Conservation District  
Westlands Water District  
Westlands Water District (Westside Subbasin Groundwater Sustainability Agency)  
Westside Resources Conservation District

**Native American Tribes**

Dumna Wo Wah  
Dumna Wo Wah Government  
Picayune Rancheria of the Chukchansi Indians  
Santa Rosa Rancheria Tachi Yokut Tribe  
Table Mountain Rancheria

**Organizations, Individuals, and Other Interested Parties**

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Boyce Land Co. Inc.  
Califland Corporation  
Chevron USA Inc.  
Joe Coelho, Jr. Trustee

Downey Brand LLP

John E. Dresick, Trustee

Michelle L. Dresick, Trustee

Neil Gonella

Laborers Intl Union of N. America, Local Union 294

Lozeau Drury, LLP

Sukhbir S. and Paramjeet K. Nagra

Thomas E. Nichols, Jr.

Saje Farming Co. LP

Saje Farming Co, II LP

Christopher R. Woolf, Trustee

Christopher R. Woolf, Trustee (Land)

Michael T. Woolf, Trustee

Rebecca L. Kaser, Trustee



# KEY ENERGY STORAGE PROJECT

Final Environmental Impact Report

EIR No. 8189

CUP No. 3734

State Clearinghouse No. 2022070414

Prepared for  
Fresno County Department of  
Public Works and Planning

June 2024





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June 2024

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Cover photo: Key Energy Storage, LLC, 2021

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# CHAPTER 1

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## Introduction

### 1.1 Purpose

This Final Environmental Impact Report (EIR) (EIR No. 8189) is an informational document that examines and discloses the potential environmental impacts of the Key Energy Storage Project (Project). The Project would not generate electricity. Instead, it would receive electricity from the proposed point of interconnection (POI) with the regional electric transmission system at the existing Pacific Gas and Electric Company (PG&E) Gates Substation, store the power, and then provide it back to the grid in times of energy demand. Key Energy Storage, LLC (Applicant) proposes the Project on approximately 260 acres of private property in western Fresno County within the approximately 318-acre area that consists of Assessor's Parcel Numbers (APNs) 085-040-58, 085-040-36, and 085-040-37 (Project site).

The County of Fresno (County) will rely on this EIR, along with other information in the formal record, in deciding whether to approve, approve with modifications, or deny land use applications for the Project that require discretionary approval, including Unclassified Conditional Use Permit (CUP) No. 3734 and the cancellation of Williamson Act Contract No. 2068 as it applies to the Project's northern parcel (APN 085-040 058). The County is the lead agency for reviewing the environmental impacts of the Project pursuant to the California Environmental Quality Act (CEQA) and has directed the preparation of this Final EIR. The County will use this Final EIR, in conjunction with other information developed in the County's formal record, when considering whether to certify the Final EIR and whether to approve the Applicant's applications to the County for necessary land use approvals. Other agencies with trustee responsibilities or permitting authority over the Project also may rely on this document in deciding whether to approve permits or issue other approvals for the Project.

This Final EIR consists of the Draft Environmental Impact Report (Draft EIR) published September 20, 2023, together with the responses to comments provided in Chapter 2 and revisions to the Draft EIR that are identified in Chapter 3. The Draft EIR detailed the Project; evaluated and described the potential environmental impacts associated with Project construction, operation and maintenance, and decommissioning; identified those impacts that could be significant; and presented mitigation measures that, if adopted, would avoid or minimize these impacts. The Draft EIR also evaluated alternatives to the Project, including a Noncontracted Lands Alternative, Reduced Project Alternative, and No Project Alternative. The Draft EIR and a digital copy of this Final EIR are contained on the USB provided with printed copies of this Final EIR and are available for viewing at the County Department of Public Works and Planning.

## 1.2 Project Overview

The Applicant proposes to construct, operate, maintain, and decommission the Project on an approximately 260-acre site located 4 miles southwest of the City of Huron, approximately 1,700 feet northeast of Interstate 5 (I-5), immediately south of West Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to existing Gates Substation, which is owned and operated by PG&E.

The Project would consist of batteries using lithium-ion and/or iron-flow storage technology. On-site support facilities would include a collector substation; power conversion systems, including bi-directional inverters, transformers, and associated connection lines; heating, ventilation, and air conditioning units; fencing; access roads; a supervisory control and data acquisition (SCADA) system; and security lighting. Diesel generators may be needed temporarily during construction, for substation purposes, or to power water pumps for an existing on-site well.

To interconnect the Project, the Applicant and PG&E would construct, operate, and maintain a new 2,500-foot-long (up to 0.5-mile) 500-kilovolt transmission line between the Project site and the Gates Substation. This line would be installed on new lattice steel towers, each up to 200 feet tall, which would be spaced at approximately 500-foot intervals. PG&E's interconnection infrastructure work also would include other modifications within the existing boundaries of the Gates Substation as well as at PG&E's existing Midway Substation, which is located in Buttonwillow, an unincorporated community in Kern County, California.

## 1.3 Organization of the Final EIR

Consistent with CEQA Guidelines §15132, this Final EIR consists of the following elements:

- a) The Draft EIR;
- b) Comments received on the Draft EIR;
- c) A list of persons, organizations, and public agencies that commented on the Draft EIR;
- d) The County's responses to significant environmental points raised in the review and consultation process; and
- e) Other information added by the County.



# CHAPTER 2

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## Responses to Comments

### 2.1 Public Review of the Draft EIR

The County advised interested parties that a Draft EIR for the Project was available for review by filing a Notice of Completion of the Draft EIR with the State Clearinghouse on September 20, 2023, by publishing notice of the availability of the Draft EIR (NOA) in The Business Journal on September 21, 2023, by posting the Draft EIR on the County’s website (<http://www.co.fresno.ca.us/EIR>), and by mailing notification of the document’s availability to the Project’s distribution list. The NOA briefly described the Project, identified locations where the Draft EIR and referenced documents would be available for review, and solicited comments on the Draft EIR during the comment period. The comment period began on September 21, 2023, was extended at the request of an interested party, and concluded on November 21, 2023. Late-received comments were accepted through March 8, 2024. All interested parties were invited to submit written comments regarding the adequacy and accuracy of the analysis and determinations made in the Draft EIR. Responses to comments received are provided in this Chapter. Public notices about the Draft EIR and a copy of the list used in distributing it are included in **Appendix A**.

### 2.2 Availability of the Final EIR

A copy of the Final EIR is being provided to all who commented on the Draft EIR. Notice of the availability of the Final EIR and details about how to access it also are being provided to all others identified on the County’s distribution list for this Project. Recipients of the Final EIR are identified in **Appendix B**.

An electronic copy of the Final EIR is available on the County’s website: <http://www.co.fresno.ca.us/EIR>. Printed and electronic copies of the Final EIR, as well as electronic copies of reference materials, are available for review during normal working hours at the Fresno County Public Works and Planning Department, 2220 Tulare Street, Fresno.

A printed copy of the Final EIR that includes an electronic copy of the Final EIR and copies of all reference materials relied upon in its drafting will be provided to the libraries listed below with a request that the materials remain available for public review for at least 60 days:

- Fresno County Main Library, Reference Department, 2420 Mariposa Street, Fresno; and
- Huron Public Library, 36050 0 St, Huron.

Electronic copies of the Final EIR and all documents referenced in the Final EIR also are available upon request by contacting Jeremy Shaw at (559) 600-4207 or by email at [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov).

## 2.3 Approach to Comment Responses

The County received eleven (11) letters from eight (8) entities regarding the Draft EIR. Copies of the letters are provided in Section 2.4, *Responses to Comments on the Draft EIR*.

**TABLE 2-1  
COMMENTERS ON THE KEY ENERGY STORAGE PROJECT DRAFT EIR**

| Letter | Name  | Agency or Interested Party   | Date  |
|--------|---|--|---|
| A      | Victor Medrano  | California Department of Conservation, Geologic Energy Management Division                   | September 27, 2023                                    |
| B      | David Padilla, Branch Chief, Transportation Planning - North                      | California Department of Transportation  | November 21, 2023                                     |
| C      | Mark Montelongo, Program Manager; Patia Siong, Supervising Air Quality Specialist | San Joaquin Valley Air Pollution Control District  | October 4, 2023<br>November 6, 2023                   |
| D      | Russ Freeman, P.E., Deputy General Manager - Resources                            | Westlands Water District   | November 6, 2023                                      |
| E      | Bob Stafford for Julie A. Vance, Regional Manager                                 | California Department of Fish and Wildlife   | November 27, 2023                                     |
| F      | Alex Stukan   | Adams Broadwell Joseph & Cardozo on behalf of California Unions for Reliable Energy ("CURE") | October 30, 2023<br>November 6, 2023<br>March 8, 2024 |
| G      | Sophia Markowska, Senior California Representative                                | Defenders of Wildlife  | November 6, 2023                                      |
| H      | Danielle Wilson, Contract Senior Land Planner                                     | Pacific Gas and Electric Company (PG&E)  | November 6, 2023                                      |

SOURCE: Compiled by ESA, March 2024.

Under CEQA, the lead agency “shall evaluate comments on environmental issues” received from people who have reviewed a draft EIR and prepare written responses that “describe the disposition of each significant environmental issue that is raised by commenters” (Public Resources Code §21091(d); CEQA Guidelines §15088(c)). The responses to comments in this chapter are intended to provide clarification and refinement of information presented in the Draft EIR.

## 2.4 Responses to Comments on the Draft EIR

Following are the eleven (11) comment letters regarding the Draft EIR followed by the responses to those comments.

# Comment Letter A



**Attachments:** Jeremy Shaw\_1012539\_20220727\_055856\_CSWR Report - Signed.pdf

---

**From:** Medrano, Victor@DOC <[Victor.Medrano@conservation.ca.gov](mailto:Victor.Medrano@conservation.ca.gov)>  
**Sent:** Wednesday, September 27, 2023 11:39 AM  
**To:** Maria Hensel <[MHensel@esassoc.com](mailto:MHensel@esassoc.com)>  
**Cc:** [jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)  
**Subject:** RE: Notice of Availability Draft EIR for Key Energy Storage Project SCH 2022070414

Good morning Ms. Hensel,

Comments regarding this project were sent on July 27, 2022. At this time, we have no further comment since there has not been a change to the Assessor Parcel Numbers (APNs).

Please see attached document of our previous comments.

Best regards,  
**Victor D. Medrano**

┆ A-1  
┆  
┆ A-2  
↓



**California**  
**Department of Conservation**  
**Geologic Energy Management Division**

Gavin Newsom, Governor  
David Shabazian, Director  
715 P Street, MS 1803  
Sacramento, CA. 95814  
T: (916) 445-5986

07/27/2022

Jeremy Shaw  
2220 Tulare Street, Sixth Floor, Fresno, CA 93721, USA  
jshaw@FresnoCountyCA.gov

Construction Site Well Review (CSWR) ID: 1012539

Assessor Parcel Number(s): 08504058S, 08504036S, 08504037S

Property Owner(s): Key Energy Storage, LLC

Project Location Address: 4 miles SW City of Huron, 0.4 mile E of I-5 immediately south of W. Jayne Avenue, Huron, California 93234

Project Title: Key Energy Storage Project, Unclassified Conditional Use Permit Application No. 3734 & EIR No. 8189

Public Resources Code (PRC) § 3208.1 establishes well reabandonment responsibility when a previously plugged and abandoned well will be impacted by planned property development or construction activities. Local permitting agencies, property owners, and/or developers should be aware of, and fully understand, that significant and potentially dangerous issues may be associated with development near oil, gas, and geothermal wells.

The California Geologic Energy Management Division (CalGEM) has received and reviewed the above referenced project dated 7/27/2022. To assist local permitting agencies, property owners, and developers in making wise land use decisions regarding potential development near oil, gas, or geothermal wells, the Division provides the following well evaluation.

The project is located in Fresno County, within the boundaries of the following fields:

N/A

Our records indicate there are no known oil or gas wells located within the project boundary as identified in the application.

A-2,  
cont.

**Comment Letter A**

- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0
- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 0
- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0
- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 0

As indicated in PRC § 3106, the Division has statutory authority over the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells, and attendant facilities, to prevent, as far as possible, damage to life, health, property, and natural resources; damage to underground oil, gas, and geothermal deposits; and damage to underground and surface waters suitable for irrigation or domestic purposes. In addition to the Division's authority to order work on wells pursuant to PRC §§ 3208.1 and 3224, it has authority to issue civil and criminal penalties under PRC §§ 3236, 3236.5, and 3359 for violations within the Division's jurisdictional authority. The Division does not regulate grading, excavations, or other land use issues.

If during development activities, any wells are encountered that were not part of this review, the property owner is expected to immediately notify the Division's construction site well review engineer in the Inland district office, and file for Division review an amended site plan with well casing diagrams. The District office will send a follow-up well evaluation letter to the property owner and local permitting agency.

Should you have any questions, please contact me at (661) 326-6016 or via email at [Victor.Medrano@conservation.ca.gov](mailto:Victor.Medrano@conservation.ca.gov).

Sincerely,

Jeff Kimber for  
William Long  
*Jeff Kimber*  
Acting District Deputy

cc: Jeremy Shaw - Submitter

### 2.4.1 Letter A: California Department of Conservation, Geologic Energy Management Division

- A-1 The Geologic Energy Management Division's July 27, 2022, comments were received during the scoping period that followed the County's issuance of a Notice of Preparation of a Draft EIR for the Project. The July 27, 2022, letter was included in Draft EIR Appendix A, *Scoping Report*, and its content was considered in the preparation of the Draft EIR.
- A-2 Receipt of this duplicate copy of the Division's July 27, 2022, letter is acknowledged.

California Department of Transportation

DISTRICT 6 OFFICE
1352 WEST OLIVE AVENUE | P.O. BOX 12616 | FRESNO, CA 93778-2616
(559) 908-7064 | FAX (559) 488-4195 | TTY 711
www.dot.ca.gov



November 21, 2023

FRE-5-4.456
DEIR – Draft EIR
Key Energy Storage Project DEIR (EIR 8189)
SCH # 2022070414
https://ld-igr-gts.dot.ca.gov/district/6/report/25490

SENT VIA EMAIL

Jeremy Shaw, Planner
Development Services and Capital Projects Division
County of Fresno – Department of Public Works and Planning
2220 Tulare St., 6th Floor
Fresno, CA 93721

Dear Mx. Shaw:

Thank you for the opportunity to review the Draft Environmental Report (DEIR) for the Key Energy Storage Project, which proposes to construct an energy storage system and appurtenant transmission infrastructure on an approximately 208-acre portion of three parcels (318-acres). The project includes a 500-kilovolt overhead generation tie line, which would extend north to the adjacent Pacific Gas and Electric Gates Substation. The facility, once constructed would be operated remotely with periodic augmentation of batteries and weekly on-site maintenance requiring one or two workers in a light utility truck. The project is located on the southeast corner of Lake Avenue and Jayne Avenue, approximately 1.5 miles east of the interstate 5 (I-5) and Jayne Avenue interchange, and 1.6 miles west of State Route (SR) 269 and Jayne Avenue intersection.

B-1
B-2
B-3

The project was previously reviewed as part of the Notice of Preparation (NOP) for a DEIR and Unclassified Conditional Use Permit (CUP) No. 3734 and Environmental Impact Report (EIR) No. 8189 applications. A Trip Generation and Distribution document for the project was also reviewed. Our office has submitted comment letters dated February 17, 2022, and August 24, 2022.

B-4

"Provide a safe and reliable transportation network that serves all people and respects the environment"

Jeremy Shaw, Key Energy Storage Project DEIR (EIR 8189)  
November 21, 2023  
Page 2

Caltrans provides the following comments consistent with the State's smart mobility goals that support a vibrant economy and sustainable communities:

1. The traffic count data submitted in Figure 2-2 of the Transportation Impact Analysis (TIA) do not appear to be reasonable compared to existing conditions. Examples include:
  - The left turn traffic volume from westbound Jayne Avenue to I-5 northbound on-ramp shows "0".
  - The left turn traffic volume from westbound Jayne Avenue to I-5 southbound on-ramp shows "5".
  - The I-5 southbound off-ramp shows a total volume of "10".

These volumes are not consistent with Caltrans' existing database. The Caltrans 2019 data shows the Average Daily Traffic (ADT) for the four on and off-ramps ranges from 1,400 to 1,700. It recommended that the traffic count data be reviewed for accuracy and intersection re-analyzed.

2. The trip distribution map on Figure 3-1 shows 35% on both northbound and southbound I-5. However, Figure 3-2 and 3-3 shows "0" left turn volume from westbound Jayne Avenue to I-5 northbound on-ramp. It is recommended that the data be reviewed for accuracy and the intersections re-analyzed.
3. The DEIR notes the implementation Mitigation Measure 3.10-2: Construction Traffic Management Plan, which includes the preparation and submittal of a traffic management plan to County of Fresno and Caltrans for approval. It is requested that Caltrans be provided an opportunity to review and comment on the traffic management plan when available.
4. As mentioned in previous comment letters, a transportation permit is required for Oversized and Overweight (OSOW) vehicles that utilize the State Routes. These permits are issued through the Office of Commercial Vehicle Operations and can be contacted at **(916) 322-1297**.

If you have any other questions, please call or email Christopher Xiong at (559) 908-7064 or [Christopher.Xiong@dot.ca.gov](mailto:Christopher.Xiong@dot.ca.gov).

Sincerely,



DAVID PADILLA, Branch Chief  
Transportation Planning – North

B-5  
B-6  
B-7  
B-8



## 2.4.2 Letter B: California Department of Transportation

- B-1 This summary of Project details does not raise any "significant environmental issues" as contemplated by CEQA Guidelines Section 15088(c), such as any recommendations or objections at variance with information or conclusions documented in the Draft EIR, and is consistent with the information provided in Draft EIR Chapter 2, *Project Description*.
- B-2 This summary of Project details is correct that the Project would be operated and monitored, 7 days a week, through the proposed a supervisory control and data acquisition (SCADA) system and that routine on-site maintenance would include augmentation of batteries, among other things. However, as explained in Draft EIR Section 2.5.7, *Energy Storage System Operation and Maintenance* (page 2-21), "up to seven on-site staff members" would be onsite during operation and maintenance of the Project. Further, "Unscheduled (i.e., emergency) maintenance activities may be required from time to time. Such maintenance could require several workers in light utility trucks to visit the facility site as needed" (Id.).
- B-3 This summary of Project details is consistent with the information provided in Draft EIR Chapter 2, *Project Description*.
- B-4 Copies of the Department's February 17 and August 24, 2022, letters were included in Draft EIR Appendix A, *Scoping Report*. Their content was considered in the preparation of the Draft EIR. A Trip Generation – Distribution Memorandum dated October 28, 2022, and a Transportation Impact Analysis dated February 15, 2023, were prepared for the Project and included in Draft EIR Appendix K, *Transportation*.
- B-5 The Transportation Impact Analysis included in Draft EIR Appendix K, *Transportation*, is consistent with the analysis provided in Draft EIR Section 3.18, *Transportation*. Acknowledging that Caltrans' existing database may include other numbers, the traffic study conducted for the Project includes site-specific counts at the I-5/Jayne Avenue intersection. Traffic counts were collected on Thursday, January 19<sup>th</sup>, which would be a normal period for the collection of such data. The other intersections to the east for which traffic counts were taken reflect the same traffic numbers; this consistency suggests that the counts were correct and that the counts at the I-5/Jayne Avenue intersection do not reflect an anomaly. Based on this review of the traffic count data, the intersections (i.e., the left turn from westbound Jane Avenue to the I-5 north onramp at the intersection of Jayne Avenue, Butte Avenue, and the I-5 northbound on- and off-ramps, on the east side of I-5) have not been re-analyzed.
- B-6 See Response B-5 regarding why the I-5/Jayne Avenue intersection has not been reanalyzed. Further, there are limited sources of traffic to the east of the intersection that could contribute to traffic using the northbound onramp and two substantial interchanges to the north and south of that interchange that would likely receive traffic from areas to the east utilizing northbound I-5. This comment does not provide substantial evidence that the impacts of the Project would be more significant than described in the Draft EIR. Because site-specific traffic counts were collected, the Draft EIR contains substantial

evidence of the accuracy of the traffic data. Therefore, the County declines to reanalyze the northbound and southbound intersections.

B-7 As drafted, Mitigation Measure 3.10-2: Construction Traffic Management Plan says, “At least 30 days prior to the issuance of construction or building permits... the Project owner and/or its construction contractor shall prepare and submit a traffic management plan to the Fresno County Public Works Department and Caltrans District 6, as appropriate, for approval.” For this reason, no change to the measure is needed to respond to the request that Caltrans be provided an opportunity to review and comment on the traffic management plan.

B-8 Consistent with this comment, Section 2.6, *Permits and Approvals*, acknowledges that a transportation permit may be required to be obtained from Caltrans. It says: “In addition, some construction deliveries to the Project site could be oversized or overweight. Vehicles providing deliveries would be subject to size, weight, and load restrictions pursuant to California Vehicle Code Division 15, including permits for oversize or overweight loads as required by Vehicle Code Section 35780 and California Code of Regulations Title 21 Section 1411.1 et seq.” No change has been made in response to this comment.



November 6, 2023

Jeremy Shaw  
County of Fresno  
Department of Public Works and Planning  
2220 Tulare Street, Suite B Annex  
Fresno, CA 93721

**Project: Draft Environmental Impact Report – Key Energy Storage Project**

**District CEQA Reference No: 20230845**

Dear Mr. Shaw:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the Draft Environmental Impact Report (DEIR) from the County of Fresno (County) for the Key Energy Storage Project. Per the DEIR, the project consists of the construction, operation, maintenance and eventual decommissioning of a battery energy storage system on approximately 260 acres (Project). The Project is located approximately four miles southwest of the City of Huron, 1,700 feet northeast of Interstate-5 (I-5), immediately south of Jayne Avenue, between I-5 and South Lassen Avenue.

C-1

The District offers the following comments at this time regarding the Project:

**1) Project Related Emissions**

Based on information provided in the DEIR, Project specific annual criteria pollutant emissions from construction and operation are not expected to exceed any of the significance thresholds as identified in the District’s Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI):  
<https://www.valleyair.org/transportation/GAMAQI.pdf>.

C-2

**2) District Rules and Regulations**

The District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. A project subject to District rules and regulations would reduce its impacts on air quality through compliance with the District’s regulatory framework. In general, a regulation is a collection of individual rules, each of which deals with a specific topic. As an example, Regulation II

C-3

**Samir Sheikh**  
Executive Director/Air Pollution Control Officer

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gettysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-6000 FAX: (559) 230-6061

**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: (661) 392-5500 FAX: (661) 392-5585

[www.valleyair.org](http://www.valleyair.org)    [www.healthyairliving.com](http://www.healthyairliving.com)

Printed on recycled paper.

(Permits) includes District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 2520 (Federally Mandated Operating Permits), and several other rules pertaining to District permitting requirements and processes.

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: [www.valleyair.org/rules/1ruleslist.htm](http://www.valleyair.org/rules/1ruleslist.htm). To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District’s Small Business Assistance (SBA) Office at (559) 230-5888.

**2a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources**

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 (Permits Required) requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 (New and Modified Stationary Source Review) requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology (BACT).

This Project may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and may require District permits. Prior to construction, the Project proponent should submit to the District an application for an ATC. For further information or assistance, the project proponent may contact the District’s SBA Office at (559) 230-5888.

**2b) District Rule 9510 - Indirect Source Review (ISR)**

The Project is subject to District Rule 9510 because it will receive a project-level discretionary approval from a public agency and will equal or exceed 9,000 square feet of space.

The purpose of District Rule 9510 is to reduce the growth in both NOx and PM emissions associated with development and transportation projects from mobile and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects. The ISR Rule requires developers to mitigate their NOx and PM emissions by incorporating clean air design elements into their projects. Should the proposed development project clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that ultimately funds incentive projects to achieve off-site emissions reductions.



C-3  
cont.

Per Section 5.0 of the ISR Rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency. As of the date of this letter, the District has not received an AIA application for this Project. Please inform the project proponent to immediately submit an AIA application to the District to comply with District Rule 9510 so that proper mitigation and clean air design under ISR can be incorporated into the Project's design. One AIA application should be submitted for the entire Project.

Information about how to comply with District Rule 9510 can be found online at: <http://www.valleyair.org/ISR/ISRHome.htm>.

The AIA application form can be found online at: <http://www.valleyair.org/ISR/ISRFormsAndApplications.htm>.

District staff is available to provide assistance and can be reached by phone at (559) 230-5900 or by email at [ISR@valleyair.org](mailto:ISR@valleyair.org).

**2c) District Rule 9410 (Employer Based Trip Reduction)**

The Project may be subject to District Rule 9410 (Employer Based Trip Reduction) if the project would result in employment of 100 or more "eligible" employees. District Rule 9410 requires employers with 100 or more "eligible" employees at a worksite to establish an Employer Trip Reduction Implementation Plan (eTRIP) that encourages employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. Under an eTRIP plan, employers have the flexibility to select the options that work best for their worksites and their employees.

Information about District Rule 9410 can be found online at: [www.valleyair.org/tripreduction.htm](http://www.valleyair.org/tripreduction.htm).

For additional information, you can contact the District by phone at 559-230-6000 or by e-mail at [etrip@valleyair.org](mailto:etrip@valleyair.org)

**2d) District Rule 4002 (National Emissions Standards for Hazardous Air Pollutants)**

In the event an existing building will be renovated, partially demolished or removed, the Project may be subject to District Rule 4002. This rule requires a thorough inspection for asbestos to be conducted before any regulated facility is demolished or renovated. Information on how to comply with District Rule 4002 can be found online at: <http://www.valleyair.org/busind/comply/asbestosbultn.htm>.



C-3  
cont.

**2e) District Rule 4601 (Architectural Coatings)**

The Project may be subject to District Rule 4601 since it may utilize architectural coatings. Architectural coatings are paints, varnishes, sealers, or stains that are applied to structures, portable buildings, pavements or curbs. The purpose of this rule is to limit VOC emissions from architectural coatings. In addition, this rule specifies architectural coatings storage, cleanup and labeling requirements. Additional information on how to comply with District Rule 4601 requirements can be found online at:  
<http://www.valleyair.org/rules/currnrules/r4601.pdf>

**2f) District Regulation VIII (Fugitive PM10 Prohibitions)**

The project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities*.

Should the project result in at least 1-acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the project proponents intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). Also, should the project result in the disturbance of 5-acres or more, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials, the project proponent shall submit to the District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). For additional information regarding the written notification or Dust Control Plan requirements, please contact District Compliance staff at (559) 230-5950.

The application for both the Construction Notification and Dust Control Plan can be found online at:

<https://www.valleyair.org/busind/comply/PM10/forms/DCP-Form.docx>

Information about District Regulation VIII can be found online at:

[http://www.valleyair.org/busind/comply/pm10/compliance\\_pm10.htm](http://www.valleyair.org/busind/comply/pm10/compliance_pm10.htm)

**2g) Other District Rules and Regulations**

The Project may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).



C-3  
cont.

**3) District Comment Letter**

The District recommends that a copy of the District's comments be provided to the Project proponent.

I C-4

If you have any questions or require further information, please contact Matt Crow by e-mail at [Matt.Crow@valleyair.org](mailto:Matt.Crow@valleyair.org) or by phone at (559) 230-5931.

↓ C-5

Sincerely,

Brian Clements  
Director of Permit Services



Mark Montelongo  
Program Manager



**From:** Patia Siong <Patia.Siong@valleyair.org>  
**Sent:** Wednesday, October 4, 2023 4:37 PM  
**To:** Maria Hensel  
**Cc:** Matt Crow; Janna Scott; Jeremy Shaw (jshaw@fresnocountyca.gov)  
**Subject:** RE: Notice of Availability Draft EIR for Key Energy Storage Project SCH 2022070414

Thank you Maria!

---

**From:** Maria Hensel <MHensel@esassoc.com>  
**Sent:** Wednesday, October 4, 2023 2:16 PM  
**To:** Patia Siong <Patia.Siong@valleyair.org>  
**Cc:** Matt Crow <Matt.Crow@valleyair.org>; Janna Scott <JScott@esassoc.com>; Jeremy Shaw (jshaw@fresnocountyca.gov) <jshaw@fresnocountyca.gov>  
**Subject:** [SPAM] RE: Notice of Availability Draft EIR for Key Energy Storage Project SCH 2022070414

Hello Patia,  
The environmental documents including the DEIR and its appendices can be accessed through Fresno County's environmental project website. See link below.

[EIR 8189 Key Energy Storage Project - County of Fresno \(fresnocountyca.gov\)](https://www.fresnocountyca.gov)

Let us know if you have issues accessing the files.  
Thank you,

**Maria Hensel**  
Senior Environmental Planner

**ESA | Environmental Science Associates**

*We've Moved!* Please update your records: 775 Baywood Drive, Suite 100, Petaluma, CA 94954.

---

**From:** Patia Siong <Patia.Siong@valleyair.org>  
**Sent:** Wednesday, October 4, 2023 1:50 PM  
**To:** Maria Hensel <MHensel@esassoc.com>  
**Cc:** Matt Crow <Matt.Crow@valleyair.org>  
**Subject:** RE: Notice of Availability Draft EIR for Key Energy Storage Project SCH 2022070414

Hi Maria,

Is there any way we can retrieve an electronic version of this DEIR? Also, can the health risk related analysis be provided to us electronically to us as well?

If you have any questions, please feel free to contact either me or Matt at 559-230-5931 (cc'd here).

Thank you,  
Patia Siong  
Supervising Air Quality Specialist  
559-230-5930



C-5  
cont.



### 2.4.3 Letter C: San Joaquin Valley Air Pollution Control District

- C-1 This summary of Project details does not raise any "significant environmental issues" as contemplated by CEQA Guidelines Section 15088(c), such as any recommendations or objections at variance with information or conclusions documented in the Draft EIR, and is consistent with the information provided in Draft EIR Chapter 2, *Project Description*.
- C-2 This summary of Project-related criteria pollutant emissions is consistent with respect to Impact 3.4-1 and Impact 3.4-2 on pages 3.4-18 through 3.4-23 of the Draft EIR, which conclude that the Project would cause less-than-significant impacts because the Project's criteria pollutant emissions would not conflict with San Joaquin Valley Air Pollution Control District (SJVAPCD)'s air quality plans, would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard, and would not violate any air quality standard or contribute substantially to an existing or projected air quality violation using the SJVAPCD's significance thresholds identified in its Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI).
- C-3 Consistent with this comment, Draft EIR Section 2.6, *Permits and Approvals* (p. 2-29), discloses that SJVAPCD approval could be required in connection with Indirect Source Review for stationary and/or mobile sources and/or for a Dust Control Plan pursuant to District Regulation VIII.

Current district regulations and rules were reviewed and evaluated as part of the Draft EIR's analysis of the Project's potential impacts to air quality. See Draft EIR Section 3.4.1.3, *Regulatory Setting* (pages 3.4-11 and following), which summarizes Rule 2201 (New and Modified Stationary Source Review Rule), Rule 4101 (Visibility), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations), Regulation VIII and Rule 8021 (Fugitive PM<sub>10</sub> Prohibitions), and Rule 9510 (Indirect Source Review). Each of these rules would apply to the Project.

Draft EIR Section 3.4.1.3 does not discuss Rule 2010, *Permits Required*, which would also apply to the Project. The County has added a summary of SJVAPCD Rule 2010 to Draft EIR Section 3.4.1.3, under the *Applicable Rules* heading (p. 3.4-11). The revision, also shown in Section 3.2.4, is as follows:

**Rule 2010 (Permits Required)**

**Rule 2010 requires any person constructing, altering, replacing, or operating any source that emits emissions, such as the Project's proposed generators, to obtain an Authority to Construct and then a Permit to Operate. Before initiation of any such activities associated with the source can begin, authorization referred to as an Authority to Construct must be provided by the Air Pollution Control Officer (APCO). Before any new or modified source initiated under an Authority to**

Construct can begin operation, a written Permit to Operate is required to be obtained from the APCO.

It does not appear that SJVAPCD Rule 9410 (Employer Based Trip Reduction) governs the Project because the Project would result in fewer than 100 “eligible employees,” which is defined as employees that are not: emergency health and safety employees; employment agency personnel, farm workers; field personnel; field construction workers; home garage employees; on-call employees; part-time employees; seasonal employees; volunteers; or employees that do not report to work during the peak period. As explained in Draft EIR Section 2.5.6.2 (page 2-18), the Project’s peak daily workforce during construction would be up to approximately 150 workers. Operation and maintenance would require up to seven on-site staff members to be on-site (Draft EIR Section 2.5.7, page 2-21). The Project’s decommissioning and site restoration workforce would be similar to or less than what was needed for construction (Draft EIR Section 2.5.8, page 2-21).

It also does not appear that SJVAPCD Rule 4002 (National Emissions Standards for Hazardous Air Pollutants) governs the Project because the Project would not emit substances that, pursuant to Section 112 of the federal Clean Air Act, have been designated as hazardous air pollutants; or emit substances for which a Federal Register notice has been published that included consideration of the serious health effects, including cancer, from ambient air exposure to the substance.

- C-4 A copy of the SJVAPCD’s letter has been included in the Final EIR and in the formal record of proceedings for the Project. As a result, it is available to the Project proponent.
- C-5 As indicated in Ms. Hensel’s October 4, 2023, reply (on the County’s behalf), an electronic copy of the Draft EIR, including its appendices, were accessible on the County’s website. The SJVAPCD acknowledged receipt of the direct link to the Project materials in that location on October 4, 2023. As explained in Draft EIR Section 1.4.2 (page 1-3), an electronic copy of the Draft EIR and the reference materials that were relied upon in its drafting also were made available on USB for check-out at two area libraries: the Fresno County Main Library’s Reference Department (2420 Mariposa Street, Fresno) and the Kings County Library Kettleman City Branch (104 Becky Pease Street, Kettleman City). See Response F-42 for a discussion on why a health risk assessment is not required for the Project.



Westlands Water District

November 6, 2023

Mr. Jeremy Shaw, Planner  
Development Services & Capital Projects Division  
Fresno County Public Works and Planning  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721

SUBJECT: Comments Regarding Environmental Impact Report (EIR) 8189 for Key Energy Storage Project

Dear Mr. Shaw,

Westlands Water District (District) reviewed EIR No. 8189 the proposal to construct an energy storage system and transmission infrastructure on Assessor Parcel Numbers (APN) 085-040-36S, 085-040-37S, and 085-040-58S. The District offers the following comments.

The project lies within the District boundary and the land is eligible to receive an allocation of water from the District’s agricultural water service contract. The description indicates that the project will be temporary in nature, will be decommissioned after the useful life and the land will be returned to a condition that is suitable for agricultural use, as reflected in the Reclamation Plan that contains financial assurances that the decommissioning will be completed. Based on these factors, the project parcels may be eligible to maintain Eligible Cropland status and related water supply benefits from the District, provided the additional requirements of the District’s Article 2, and the Appendix A thereto, are met.

D-1

Additionally, the Applicant may be eligible to apply for and receive Municipal and Industrial (M&I) water services, and the land will continue to have access to the District’s distribution system. If the Applicant is eligible to become a new M&I water user, the Applicant’s operations will be bound by the Regulations, Terms and Conditions established by the District for M&I use. Copies of these are provided for your information.

D-2

Finally, based on the Site Location Map provided, the project Key 1 site is located near the District’s Lateral PV9, and the project Key 2 site is located near the District’s Lateral 27R. The District’s Lateral PV9 has a delivery turnout located in the northwest corner of APN 085-040-58S and Lateral 27R has a delivery turnout located in each of the southwest corner of APN 085-040-37S and the southeast corner of APN 085-040-36S. Prior to construction, please contact Underground Service Alert (811).

D-3

286 W. Cromwell Ave, P.O. Box 5199, Fresno, CA 93755  
Phone: 559-224-1523 | pubaffairs@wwd.ca.gov | wwd.ca.gov

Thank you for the opportunity to comment on this project. If you have any additional questions, please contact Kori Peterson at 559-241-6231.

Sincerely,

A handwritten signature in black ink that reads "Russ Freeman". The signature is written in a cursive style with a large, prominent "R" and "F".

Russ Freeman, P.E.  
Deputy General Manager - Resources

Adopted: 1/14/02  
Revised:09/19/2023

**ARTICLE 19. REGULATIONS REGARDING THE APPLICATION FOR  
AND USE OF MUNICIPAL AND INDUSTRIAL WATER WITHIN  
WESTLANDS WATER DISTRICT**

**19.1 PURPOSE**

Westlands Water District has a long-term contractual entitlement to receive from the United States an annual supply of 1,150,000 acre-feet (AF) of Central Valley Project (CVP) water. The contracts between Westlands Water District and the United States allow the District to make CVP water available for municipal, industrial and domestic uses. The District may also acquire additional water supplies for these purposes. This Article establishes the rules and procedures for making application for and the use of municipal and industrial (M&I) water.

**19.2 GLOSSARY OF TERMS AND DEFINITIONS**

Unless specified below, the terms and definitions contained in Article 2 of these Regulations shall apply.

- A. "Ag Related M&I Use" – the use of water exclusively for purposes of commerce, trade or industry associated with the production of agricultural crops or livestock, or their related by-products, including human uses, other than housing, that are incidental to the Ag Related M&I Use.
- B. "Historic Use" – the greatest annual quantity of CVP water delivered for M&I Use to an M&I Water User at a point of delivery during the five-year period immediately preceding June 30, 2001.
- C. "M&I Use" – the use of water for drinking, cooking, bathing, showering, dish washing, and maintaining oral hygiene or purposes of commerce, trade or industry.
- D. "M&I Water Application" - an agreement in a form approved by the General Manager or his designee between the District and an M&I Water User, which describes the point of delivery for such water and the estimated quantity of water that will be made available by the District for M&I Use.

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- E. "M&I Water User" - individual or entity who has executed and submitted to the District an M&I Water Application or to whom the District makes water available for M&I Use.

**19.3 M&I WATER AVAILABILITY**

- A. The General Manager shall set aside from the District's CVP water supply or other sources deemed appropriate water for M&I Use.
- B. The General Manager or designee shall assist any M&I Water User in identifying a source of water that can be made available to the District for M&I Use; provided, that this provision shall not impose on the District or its employees an obligation to incur any expense or other obligation on behalf of such M&I Water User.

**19.4 APPLICATION FOR WATER**

- A. Except for M&I Use initiated before July 1, 2001, to receive water for M&I Use, a proposed M&I Water User must file at the District's Fresno office an M&I Water Application. Upon approval by the District, the M&I Water Application shall constitute a valid agreement for M&I Use until the M&I Water User notifies the District in writing that such M&I Use will be terminated. Every M&I Water Application shall identify the point of delivery and the intended use of the M&I Water.
- B. An M&I Water Application for use in excess of 5 acre-feet, or 5 acre-feet per 160 acres when such application is for a solar development covering such acreage, per year shall identify a source of water that will, at the applicant's expense, be made available to the District for the proposed M&I Use. Solar development resulting from land participating in the "Continued Benefits to Modified Agricultural Land" are not eligible to submit a M&I Water Application.
- C. Notwithstanding Section 19.4 B. of this Article, a M&I Water User may annually transfer into the M&I Water User's account a quantity of water, from any source available to the M&I Water User, sufficient to satisfy any Ag Related M&I Use for the water year; provided, the M&I Water User shall acknowledge in writing that the



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cont.

District has no obligation to make available to the M&I Water User, in any year, a quantity of water in excess of the quantity transferred into the M&I Water User's account.

- D. A supplemental M&I Water Application shall be filed by any M&I Water User before the quantity of water for M&I Use made available to such M&I Water User is increased (i) above Historic Use, for M&I Water Users receiving M&I water before July 1, 2001, or (ii) above the quantity stated in the initial M&I Water Application, for M&I Use initiated after June 30, 2001.

**19.5 USE OF WATER**

- A. The unauthorized use or taking of water for M&I Use, or the waste or unreasonable use of water, are prohibited. Water made available for M&I Use may only be used at the point of delivery and for the purpose(s) identified in the M&I Water Application. Except as provided in Section 19.5 B. of this Article, the transfer of M&I water is prohibited.
- B. M&I water identified pursuant to Section 19.4 B. of this Article or water transferred by the M&I Water User pursuant to Section 19.4 C. of this Article may be transferred within the District's boundaries. Nothing contained in this Article shall prevent an M&I Water User from changing the place of use of its M&I water within the District's boundaries.
- C. All M&I Water Users shall implement conservation measures adopted by the Water Policy Committee of the Board of Directors or its successor.
- D. All M&I Water Users shall cooperate in the District's efforts to comply with the terms of the Compliance Agreement between the California Department of Health Services and Westlands Water District, dated June 1, 2001.
- E. Every point of delivery for M&I Water shall be equipped with a backflow prevention device of a design approved by the General Manager.
- F. The General Manager is authorized, after written notice to the M&I Water User, to discontinue water service to any M&I Water User who violates this Article or the Terms and Conditions for Municipal and Industrial Water Service.



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cont.

- G. In the event the District's water supply is insufficient to meet all demands for water, including demands for irrigation, the General Manager is authorized to reduce the quantity of water made available for M&I Use or to impose such temporary conservation actions or other measures, as he deems necessary to protect the public health and safety.

**19.6 COMPLIANCE WITH TERMS AND CONDITIONS**

Each M&I Water User shall comply with the Terms and Conditions for Municipal and Industrial Water Service, as amended by the Board from time to time. Failure to comply with the Terms and Conditions for Municipal and Industrial Water Service may be grounds for termination of M&I Water Use service, and no water shall be furnished to an M&I Water User who fails to make required payments pursuant to the Terms and Conditions for Municipal and Industrial Water Service, as amended by the Board, from time to time.

**19.7 MISCELLANEOUS**

- A. The General Manager may do all things necessary to implement and effectuate these Regulations.
- B. An appeal from any decision made pursuant to these Regulations shall be made to the Finance and Administration Committee of the Board of Directors. Such appeal shall be in writing and shall be filed with the District Secretary within 15 working days after notice of the decision. The decision of the Finance and Administration Committee may be appealed to the Board of Directors. Such appeal shall be in writing and shall be filed with the District Secretary within 15 working days after notice of the decision. The decision of the Board shall be final.
- C. The General Manager shall provide notice of any changes or revision to these Regulations to all District landowners and M&I Water Users.



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cont.



Adopted: 07/20/87  
Revised:09/19/2023

**ARTICLE 2. REGULATIONS FOR THE ALLOCATION AND USE  
OF AGRICULTURAL WATER WITHIN WESTLANDS WATER DISTRICT**

**2.1 PURPOSE**

Westlands Water District has long-term contractual and legal entitlements with the United States for a firm supply of 1,191,185 acre-feet (AF) of Central Valley Project (CVP) water during each water year. In some years, the District may acquire additional water pursuant to its entitlements, or other water. On April 2, 2002, the District and landowner representatives executed the "Agreement for Distribution of Water, Allocation of Cost, and Settlement of Claims", thereby resolving issues and controversies relating to and providing for the allocation of CVP water to lands within the District. These Regulations establish the rules and procedures for allocation and use of agricultural water.

**2.2 GLOSSARY OF TERMS AND DEFINITIONS**

- A. Acreage Based Cap – the per acre amount of water determined by dividing the Cap for the rescheduling period by the District’s irrigable acres, net of District owned lands, as of March 1 that may be rescheduled into the subsequent Water Year.
- B. Acquired Lands – lands acquired by the District, or lands for which the permanent right to its per acre entitlement has been acquired by the District, and lands acquired by the United States pursuant to an agreement with the District dated August 11, 1998.
- C. Agricultural Water - water used for irrigation and other agricultural purposes directly related to the growing of crops.
- D. Agricultural Water Allocation Application and Purchase Agreement (referred to as Allocation Application) - an agreement between the District and a water user which describes the land held by the water user, the amount of water requested by the water user, and which obligates the water user to accept and pay for all water supplied by the District.
- E. Allocated; Allocation - amount of water ratably distributed to eligible District lands.



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- F. Annexed Lands - lands which became a part of Westlands Water District after July 1, 1965 (the annexed area), as shown on Westlands Water District Dwg. No. 582, dated December 21, 1976, revised November 12, 1986, entitled "Areas of Service Priority."
- G. Cap Loss – amount of water remaining at year end in excess of the Cap imposed by the Bureau of Reclamation or the District on water that may be rescheduled at the end of the water year and which shall be lost.
- H. Contract Water - any water obtained under the contractual and legal entitlements including additional and interim supplies.
- I. Cropland - irrigable acreage as determined by U.S. Farm Service Agency (FSA or District measurements).
- J. Cushion - water set aside for system losses and other uses each water year, in the amount of 1 percent of contract water or 6,000 acre-feet, whichever is greater.
- K. Eligible Cropland – land that is eligible for allocation or delivery of water under Reclamation law and any applicable District Regulation.
- L. Entitlements - water provided pursuant to the contractual and legal obligations between Westlands Water District and the United States for water supply and distribution.
- M. Furnish - to deliver or provide. For purposes of these Regulations, water has been furnished, delivered, or provided to a water user at the time the water in question physically exits District-owned facilities, property, or infrastructure.
- N. Merged Lands - lands which formed a part of the original Westplains Water Storage District on June 28, 1965 (the original Westplains area), as shown on Westlands Water District Dwg. No. 582, dated December 21, 1976, revised November 12, 1986, entitled "Areas of Water Service Priority."
- O. M&I Use - the use of water for drinking, cooking, bathing, showering, dish washing, and maintaining oral hygiene or purposes of commerce, trade or industry. "M&I" is short for "Municipal and Industrial."
- P. Other Water - water other than contract water.
- Q. Overuse - use in excess of available supply.



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- R. Per Acre Entitlement - ratable share of contract water determined by 1,191,185 AF divided by the number of Pre-Merger Lands and Merged Lands cropland acres, excluding acquired lands, for which Allocation Applications are timely received.
- S. Pre-Merger Lands - lands which formed a part of Westlands Water District on June 28, 1965 (the original Westlands area), as shown on Westlands Water District Dwg. No. 582, dated December 21, 1976, revised November 1, 1986, entitled "Areas of Water Service Priority."
- T. Rescheduled; Rescheduled Water – water carried over for use in the next water year.
- U. Rescheduling Loss – loss of water that may occur at the end of the Rescheduling Period due to the Bureau of Reclamation’s annual rescheduling guidelines.
- V. Rescheduling Period – the period of use for Rescheduled Water.
- W. System Gain - an increase in water available for allocation due to the difference in relative accuracy between state operated and maintained headworks meters and District operated and maintained water delivery meters.
- X. System Loss - either a direct loss or a reduction in water available for allocation because of the difference in relative accuracy between state operated and maintained headworks meters and District operated and maintained delivery meters.
- Y. Transfer - assignment of water from one water user or landowner to another.
- Z. Unused Water - available supply at the end of the water year.
- AA. Water User - landowner or lessee of land who has submitted and executed an Allocation Application.
- BB. Water Year - each 12-month period that begins on March 1 and ends on the last day of February following.

**2.3 CONTRACTUAL ENTITLEMENTS**

- A. The entitlement of agricultural water for Pre-Merger Lands and Merged Lands is 1,191,185 AF less water set aside therefrom for M&I use, system losses, and other uses.
- B. No contract water shall be allocated to Annexed Lands until the allocation of contract water for eligible cropland, excluding acquired lands, in the Pre-Merger Lands and Merged Lands areas is 2.6 AF per acre.



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- C. Any contract water in addition to the quantities described above will be allocated ratably on a per acre basis, excluding acquired lands, to satisfy timely applications first to eligible cropland in Pre-Merger Lands and Merged Lands areas, then to eligible cropland in the Annexed Lands area, and finally on a first-come, first-served basis to all District cropland.
- D. Prior to, and in conjunction with, the calculation of the per acre entitlement in any water year, the General Manager shall set aside from the available water supply the amount of water for M&I use in accordance with Article 19 of the District's Rules and Regulations, system losses, and other uses approved by the Board of Directors. The General Manager may later allocate this water according to these Regulations if it is no longer necessary for such purposes.
- E. If there is a reduction in the rate at which water can be delivered to the District because of operational or other limitations, each water user's share of the delivery rate will be equitably adjusted as determined by the General Manager.

**2.4 OTHER ALLOCATION RULES AND PROCEDURES**

- A. Other water obtained by the District shall be made available to all eligible cropland in the District, excluding acquired lands, and shall be allocated on a per acre basis, unless otherwise directed by the Board of Directors.
- B. Allocations of other water obtained shall be increased or decreased as more or less water becomes available for distribution within the District.
- C.
  - 1. System loss will be deducted first from the water set aside for such purposes, and second, from water users in direct proportion to the water used by each water user.
  - 2. System gain shall be allocated to water users in direct proportion to the water used by each water user, excluding such use on acquired lands.
- D. Other water made available to the District specifically for direct transfer to a water user shall be allocated to the water user for whom it was intended. This water may be used or transferred within or outside of the District at the discretion of the water user, subject to applicable state and federal laws and District approval, or any conditions of use placed on the water when it was first transferred into the District.



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- E. No water will be allocated to any person or for any land in violation of the District's "Article 1. Regulations for the Groundwater Allocation Program and Use of Groundwater Within the Westside Subbasin" at the time the water is allocated.
- F. Notwithstanding any other provisions of the Regulations, water made available for specified purposes shall be distributed and used in accordance with such specified purposes.
- G. All per acre allocations of water will be made on the basis of cropland acres as determined prior to the time of the allocation. Any changes to cropland acres will be used for future allocations only, and will not be used to adjust prior allocations.
- H. A landowner who owns land designated as Eligible Cropland, that intends to modify or modified after January 1, 2020 that land to a non-irrigable use, may request pursuant to Appendix A of Article 2 that the land maintain its designation as Eligible Cropland upon modification. The request will be processed, and decisions will be made pursuant to Appendix A of Article 2.

**2.5 APPLICATION FOR WATER**

- A. To receive an allocation of contract water for agricultural purposes in any water year, a water user must timely apply therefore by filing an Allocation Application at a designated District office annually on or before January 15. Applications received after January 15 shall not receive an allocation unless accepted by the General Manager. Applications received after January 15 that are accepted by the General Manager shall only be entitled to receive a proportionate share of contract water made available to the District after the date of such late application's acceptance.
- B. The General Manager may require supplemental application(s) for additional contract water or other water made available to the District.
- C. If more than one Allocation Application for the same parcel of land is received and there is a dispute between the applicants regarding who should receive the water, priority will be given to the landowner, if one of the applicants owns the land in question. If no applicant owns the land, priority will be given to the water user who can provide satisfactory evidence of the right to occupy the land and receive the water. A lease or written consent from the landowner is considered satisfactory



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evidence. If the dispute arises after the application period and the water has been allocated, remedy is limited to unused water.

- D. No water will be allocated to any land for which water charges, assessments, land-based charges, or any other money owed to the District have been delinquent for 30 days or more at the time the water is allocated or to any land for which advance payment is required until such advance payment is received, or in lieu thereof security, in a form acceptable to the General Manager, for such payment has been provided.

**2.6 USE AND TRANSFER OF WATER**

- A. No water may be transferred out of the District without District approval or as authorized by the General Manager according to "Transfer of Water Out of the District" policy approved on August 20, 2019.
- B. All water may be used on any eligible cropland within the District.
- C. A water user may transfer his water to another water user in any area of the District. Such transfer shall be in writing on a form provided by the General Manager.
- D. The District will not transfer water from a water user to another resulting from a change in ownership or lease of land. However, if land is transferred by a change in ownership or lease with the result that the water user no longer owns or leases any District land, the unused water shall be transferred to the water user to whom the ownership or leasehold of such land has passed unless a transfer of water is requested pursuant to these Regulations.
- E. The General Manager may restrict or prohibit the use or transfer of water allocated to any cropland if a dispute exists among landowners regarding the allocation or use of such water.
- F. Water service shall be discontinued when a water user has exhausted his available water supply.
- G. Each water user shall take reasonable steps to reuse or control tail water. The failure to do so shall constitute a waste of water.



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- H. The General Manager is authorized, after oral or written notice to the water user, to lock the delivery facilities of, or discontinue water service to, any water user who violates these Regulations or Terms and Conditions for Agricultural Water Service.
- I. The unauthorized using, taking, or wasting of water is prohibited and may subject the water user to civil or criminal prosecution.

**2.7 WATER USER TRANSFERS FROM SOURCES OUTSIDE THE DISTRICT**

- A. Any water user may apply to the District to transfer into the District water from sources outside the District.
- B. The General Manager, or his designee, shall cooperate to a reasonable extent with any water user in connection with that water user's efforts to obtain water from sources outside of the District. In so reasonably cooperating, the General Manager, or his designee, shall not devote so much time or energy as to significantly distract from his or her duties and responsibilities to the District. Furthermore, such reasonable cooperation shall not be construed so as to affect the nature of the General Manager's, or his designee's, relationship with and duties to the District; nor shall such reasonable cooperation be construed as to create a fiduciary or other obligation owed by the General Manager, or his designee, to any person or entity other than the District.
- C. Subject to applicable state and federal laws and the requirements of these regulations, the General Manager or his designee may approve a water user's application to transfer water from sources outside of the District into the District for the benefit of that water user and shall execute any agreements or other documents required to accomplish the transfer.
- D. A water user's application to transfer water from sources outside of the District may be denied if the approval of that application would impair the District's ability to obtain sufficient other water, reduce the quantity of other water obtained by the District or delay or otherwise negatively affect the delivery to the District of other water obtained by the District.



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- E. Priority to access of excess capacity of any facility required to deliver other water obtained by the District and water acquired by a water user from sources outside the District shall first be used to deliver other water obtained by the District.
- F. Access to excess capacity of any facility required to deliver water by water users from sources outside the District shall be apportioned among water users seeking access to excess capacity on a per acre basis.
- G. The District's administrative costs for review, approval, and other activities related to a water user's application for approval of a transfer into the District water from sources outside the District shall be borne by the water user. The General Manager, or his designee, may require a deposit of the estimated costs for such activities prior to review of an application.

**2.8 PAYMENT FOR WATER OR AGREEMENTS**

No water shall be made available for delivery, transfer, or any other use by a water user who fails to make required payments to the District, regardless of the source of the water user's obligation for payment. Rules for payment are set forth in the Terms and Conditions for Agricultural Water Service and other agreements, if any, between the water user and the District.

**2.9 YEAR-END PROCEDURES**

- A. After final water use and supply accounting is completed for the water year, the District will determine the amounts of unused water or overuse for each water user.
- B. Unused water may be rescheduled if such a program is available. See 2.10 RESCHEDULED WATER regarding the procedures for rescheduling water.
- C. A water user with unused water that cannot be rescheduled shall pay all water costs that the District incurs, applicable San Luis & Delta Mendota Water Authority operations and maintenance rates and applicable District rates.
- D. A water user with overuse will have his allocation of contract water in the following year reduced by the amount of his overuse, first from the cropland farmed by the water user in which the overuse occurred and then from any cropland farmed by the water user. If this water user is not a water user in the following year, the amount of



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overuse will be attributed to the cropland that had been farmed by the water user. Further, any allocation of contract water to that cropland will be reduced by the amount of overuse attributable to such cropland.

**2.10 RESCHEDULED WATER**

A. Subject to the program’s availability, the District or a water user may reschedule water, regardless of source, from one water year to the next. The period of use for Rescheduled Water (Rescheduling Period) shall be the following, unless otherwise restricted by the Bureau of Reclamation:

- 1. If San Luis Reservoir fills, March 1 to date determined by Reclamation (usually about April 15); or
- 2. If San Luis Reservoir does not fill, to the end of the current water year.

The use of all contract water supplied by the Bureau of Reclamation, including use of the then current year’s allocation, shall be counted toward the use of Rescheduled Water.

- B. Unless the District is notified before the end of the water year, all water remaining in a water user’s account at the end of the water year will be rescheduled on its behalf by the District.
- C. So long as there is no projected impact to the future year water supply or other water supplies that are available to the District, a water user may reschedule more water than it projects it will use during the Rescheduling Period, but said water user shall bear all associated risks. To provide an equitable manner for the District to apportion water users’ use of Rescheduled Water, there is a 0.5 acre-feet per irrigable acre Acreage Based Cap for Rescheduled Water, excluding District-owned lands. Unless limited pursuant to D. herein, a water user may reschedule water in excess of the Acreage Based Cap, but remaining Rescheduled Water in excess of the Acreage Based Cap shall be the first water lost pursuant to F. herein.
- D. The Bureau of Reclamation or the District may limit the amount of water that may be rescheduled at the end of the water year. “Cap Loss” is the term for water remaining at year end in excess of the limit imposed by Reclamation or the District which shall

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be lost. In addition, loss of water may occur at the end of the Rescheduling Period, called "Rescheduling Loss", due to Reclamation's annual rescheduling guidelines.

- E. Both Cap Loss and Rescheduling Loss, in that order, will be applied to a water user's account at the end of the Rescheduling Period, so that the water user has the greatest opportunity to deliver all its water supply. However, if the Rescheduling Period is extended to the end of the current water year, Cap Loss will be applied to water user accounts at the beginning of the Rescheduling Period, after adjusting such accounts for internal transfers of Rescheduled Water received and approved by the District on or before March 10. Any loss by water users will be applied based upon acre-feet per acre, from highest to lowest.
- F. Losses will be apportioned to and in the following order and manner:
  - 1. Any remaining Rescheduled Water in excess of the Acreage Based Cap.
  - 2. Water rescheduled by the District.
  - 3. Remaining Rescheduled Water.
  - 4. Delivered Rescheduled Water in excess of the Acreage Based Cap.
  - 5. Delivered Rescheduled Water within the Acreage Based Cap.
- G. For losses, water users shall pay all water costs that the District incurs, the San Luis & Delta-Mendota Water Authority O&M rate and any applicable District rates.

**2.11 MISCELLANEOUS**

- A. The General Manager is authorized and directed to do any and all things necessary to implement and effectuate these Regulations.
- B. An appeal from any decision made pursuant to these Regulations shall be made to the Finance and Administration Committee of the Board of Directors. Such appeal shall be in writing and shall be filed with the District Secretary within 15 working days after notice of the decision. The decision of the Finance and Administration Committee may be appealed to the Board of Directors. Such appeal shall be in writing and shall be filed with the District Secretary within 15 working days after notice of the Finance and Administration Committee's decision. The decision of the Board shall be final.



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# Comment Letter D

C. The General Manager shall provide notice of any changes or revision to these Regulations to all District landowners and water users.



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cont.

APPENDIX A

CONTINUED BENEFITS TO MODIFIED AGRICULTURAL LAND

- A. Upon a request from a landowner with Eligible Cropland, that intends to modify or modified after January 1, 2020 that agricultural land to a non-irrigable use, the District shall designate the modified agricultural land as Eligible Cropland, notwithstanding its temporary, albeit long-term, modification, if the Board finds the following criteria are met:
1. A conditional use permit or other land use entitlement is obtained from the county or other local land use agency (“lead agency”) for the modification of the agricultural land as described in the conditional use permit or land use entitlement (“Project”).
  2. The lease or easement on the land defines and limits the terms of use, consistent with Project purposes as approved and conditioned by the lead agency.
  3. The lead agency for the Project has complied with the California Environmental Quality Act (“CEQA”) and the environmental analysis is adequate for the District’s use as a responsible agency for the limited purpose of verifying the Project satisfies the criteria identified herein thereby ensuring the conversion, though long-term, is temporary.
  4. The Project analyzed and approved by the lead agency includes or the lead agency has adopted measures to ensure that the Project, though long-term, is not permanent because either: the existing agricultural character of the land will be retained during the operational life of the Project; or, upon cessation of Project uses, the land will be suitable for agricultural uses. At a minimum, such measures shall include:
    - a. Plan(s) to remove Project fixtures and equipment (not including any transmission, distribution, or gen-tie electrical power lines) such that the land will be suitable for agricultural uses upon cessation of Project uses (“Decommissioning Plan(s)").
    - b. Financial Assurances provided to the satisfaction of the lead agency (i) through a performance bond or other financial securities to ensure



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timely completion of the activities in the Decommissioning Plan(s) by the Project owner, Project operator, and/or the landowner(s), and (ii) with reserved authority of the lead agency or the landowner(s) that will result in completion of said activities if necessary, upon cessation of Project uses or within a time period thereafter as may be established by the lead agency.

Upon verification by the Board that the Project satisfies the criteria identified herein, District designation of the modified agricultural land as Eligible Cropland, and the attendant District benefits to that land resulting from the designation as "Eligible Cropland", shall continue for the operational life of the Project, subject to the measures described in Paragraph A.4 of this Section A, and for so long as all the criteria established in Paragraph A of this Appendix continue to be satisfied.

- B. After the Board designates the modified agricultural land as "Eligible Cropland", ownership of the modified agricultural land may change (holder of fee title) and the modified land will retain the attendant District benefits to that land resulting from the designation as "Eligible Cropland", provided all the criteria established in Paragraph A of this Appendix continue to be satisfied.
- C. The Board of Directors may decide to de-designate as "Eligible Cropland" the modified agricultural land upon a failure to comply with the requirements of this subsection or the requirements imposed by the forms referenced in Paragraph A.2 of Section A. An appeal from any decision made pursuant to Paragraph A of this Appendix shall be made to the Board of Directors. Such appeal shall be in writing and shall be filed with the District Secretary within 15 working days after notice of the decision. Before recommending to the Board of Directors that it de-designate as "Eligible Cropland" the modified agricultural land, District staff shall provide a landowner notice and at least 30 days to cure an alleged failure to comply with the requirements referenced above.



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**FOR LANDOWNER OR THE DULY AUTHORIZED LEGAL REPRESENTATIVE OF THE LANDOWNER(S)**

I, the undersigned, own the land identified below or am the duly authorized legal representative of one who owns that land. I am authorized to complete and file this form with the District.

As the landowner or the duly authorized legal representative of the landowner, I am requesting that, pursuant to Article 2 of the District's Rules and Regulations and upon modification, the District designate as Eligible Cropland the following land:

|                   |
|-------------------|
| Owner(s) Name(s): |
| APN(s):           |
| Number of Acres:  |

|  |
|--|
|  |
|--|

*Use attachment to provide additional information, if necessary.*

As the landowner or duly authorized legal representative of the landowner(s) of the land referenced immediately above, I will notify Westlands Water District within 5 business days if fee title to that land or any portion thereof is transferred.

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct:

\_\_\_\_\_  
Signature of Landowner or the duly authorized legal representative of the Landowner

\_\_\_\_\_  
Date

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cont.

**WESTLANDS WATER DISTRICT**

OFFICE--3130 N. FRESNO STREET/MAILING--P. O. BOX 6056, FRESNO, CA 93703  
TELEPHONE: WATER DEPT. (559) 241-6250/OTHER (559) 224-1523/FAX (559) 241-6276

**TERMS AND CONDITIONS FOR MUNICIPAL AND INDUSTRIAL WATER SERVICE**

1. The furnishing of water to and its use by the water user shall be subject to all regulations of the Board of Directors of the District as the same may exist now or hereafter be amended or adopted. In the event of a conflict between the terms and conditions set forth herein and the regulations, the latter shall be controlling.

2. All water delivered shall be pursuant to a request by the water user for the delivery of a stated amount to a specific location. The request shall be made within the time and in the manner prescribed by the General Manager.

3. Water will be furnished by the District subject to the terms and conditions under which the water is made available to the District and if, in the exclusive judgment of the District, the water and facilities for its delivery are available; provided, that the District will use its best efforts, to the extent that it has water and capacity available and taking into account the requirements of other water users to receive water from its facilities, to provide such water in the manner and at the times requested. The District may temporarily discontinue water service or reduce the amount of water to be furnished for the purpose of such investigation, inspection, maintenance, repair, or replacement as may be reasonably necessary of any of the District 's facilities. Insofar as feasible, the District will give the water user notice in advance of such temporary discontinuance or reduction, except in case of emergency, in which event no notice need be given. No liability shall accrue against the District or any of its officers, directors, or employees for damage, direct or indirect, because of the failure to provide water as a result of system malfunctions, interruptions in service necessary to properly operate and maintain the water distribution system, or other causes which are beyond the District's reasonable control.

4. By taking delivery of water from the District, the water user assumes responsibility for, and agrees to hold the District harmless from, all damage or claims for damage, which may arise from his furnishing or use of the water after it leaves the District facilities.

5. The water furnished by the District is not potable (suitable for drinking, cooking, bathing, or other domestic use) and the District does not warrant the quality or potability of water so furnished. By taking delivery of water from the District, the water user assumes responsibility for, and agrees to hold the District harmless from, damage or claims for damage arising out the non-potability of water furnished by the District. Untreated water must never be used for any type of human consumptive needs. A water user defined and operating as a Public Water Supply (PWS) shall be responsible for any water treatment, including but not limited to filtration and chlorination achieved through central treatment or point-of-entry (POE) treatment devices approved by the California Department of Health Services (DHS), in order to provide water safe for human consumption as required by Federal, State or local law or regulation.

According to DHS, the use of POE treatment systems by individual customers of a constructed conveyance system may not provide a continuous safe, potable supply of water due to inadequate operation and maintenance of these systems by the owners, unless they are a regulated PWS. Individual use of POE devices ("Water Treatment Exclusion") may only be used if they are approved by DHS and are regularly maintained by a State-licensed operator or service provider.

Facilities in place prior to July 2001, may continue to use bottled water for drinking and cooking ("Alternative Water Exclusion"). After July 2001, the District cannot furnish new municipal and industrial water service if bottled water use is the basis for the potable water supply unless approved by DHS. Bottled water may only be obtained from a State-licensed provider.

DHS mandates the District conduct periodic surveys of water use as required by the Safe Drinking Water Act and to collect records for Alternative Water and Treatment Exclusions. Records for exclusions include invoices or statements of bottled water delivery from a licensed provider or maintenance and service records for a POE system from a licensed operator. Water users who fail to complete a survey or provide records showing an approved exclusion requested by the District shall have water service discontinued if no response is received after a reasonable attempt has been made to obtain the information.

6. All water will be measured by the District with meters installed by it and such measurements shall be final and conclusive.

7. Charges for water, hereinafter referred to as "water charges", shall be established by the Board of Directors. The water charges shall include District operation and maintenance costs and any other costs determined by the Board to be payable as part of the water charges. Water charges shall be adjusted retroactively to the extent required and authorized by federal or state law or regulations or District regulations. The General Manager may adjust the water charges as necessary and legally authorized to account for increases or decreases in the estimates used to establish the water charges.

8. As a condition of the District continuing to furnish water, the water user shall make payment for the amount billed after the District's billing and by the 25th of the month in which the bill is mailed; provided, that the due date will be not less than 15 calendar days after the billing date. Charges not paid by the due date shall be delinquent; provided, that payments postmarked on or before the due date shall be deemed to have been received by that date. The payment of water charges or related penalties or interest shall be made at the District's Fresno office. When any deadline established herein falls on a Saturday, Sunday, or holiday, it shall be extended to the next working day.

9. All claims for overcharges or errors must be made in writing and filed with the District at its Fresno Office within 10 working days after the date the bill is received by the water user. In the event the water user files a timely written protest, the District's Finance & Administration Committee shall consider the protest at its next regular meeting and notify the water user in writing of its decision. The Committee's decision shall be final, unless a written appeal to the Board of Directors is filed with the Secretary of the District within 15 working days after notice of the decision. In the event of an appeal, the decision of the Board shall be final. The filing of a protest or an appeal does not nullify the payment requirement or the District's right to discontinue water service as provided in these terms and conditions. However, in the event the protest or appeal is sustained, the District will refund the amount of the overcharge and penalty, if any.

10. On the first day following the due date, a penalty of 10 percent of the water charges which became delinquent on the preceding day shall be added to the water charges and penalties and interest, if any, due and owing to the District, the total of which are hereinafter referred to as "unpaid charges." Prior unpaid charges shall accrue interest at a monthly rate of 1½ percent. The interest shall not, however, accrue after the unpaid charges have been added to, and become a part of, the annual assessment levied on the land by the District. All payments and credits shall be applied to the earliest unpaid charges.

11. At the time of filing the District's assessment book with the District Tax Collector, unpaid charges may be added to and become a part of the assessment levied by the District on the land which received the water or for which other water charges were incurred. The District shall notify the landowner of the expected amount prior to its addition to the annual assessment. The amount so added shall be a lien on the land and impart notice thereof to all persons. If the assessment becomes delinquent, penalties and interest will be added as provided by law.

12. To supplement the procedure described in paragraph 11, the District may elect to file and record a Certificate of Unpaid Water Charges as provided in California Water Code Section 36729. This



D-6  
cont.



Certificate creates a lien in the amount of unpaid charges on any land owned by the delinquent water user, or acquired by the water user before the lien's expiration, within the recording County.

13. Except as provided in paragraph 15, municipal and industrial water service shall not be provided to any parcel of land for which the unpaid charges for such service are a lien on the land or for which the assessment is delinquent.

14. Except as provided in paragraph 15, municipal and industrial water service shall not be provided to any person who owes the District unpaid charges notwithstanding the fact that the unpaid charges have been added to the assessment(s) on the parcel(s) for which they were incurred.

15. Where the District furnishes residential water service to persons other than the water user to whom the service is billed, the District shall make a reasonable, good faith effort to inform the actual users of the services when the account is delinquent. This shall be done by a notice that service will be terminated in 10 days. The notice shall inform the actual users that they have the right to become customers of the District without being required to pay the amount due on the delinquent account.

The District is not required to make service available to the actual users unless each actual user agrees to the terms and conditions of service. However, if one or more actual users are willing and able to assume responsibility for the entire account to the satisfaction of the District, or if there is a physical means legally available to the District of selectively terminating service to those actual users who have not met the requirements of the District's terms and conditions, the District shall make service available to the actual users who have met those requirements. In making service available to an actual user, the District may require that a deposit be paid to the District prior to establishing an account and furnishing service. If a deposit is required, it shall be based solely upon the creditworthiness of the actual user as determined by the District.

The District will give notice of the delinquency and impending termination of residential water service, at least 10 days prior to the proposed termination, by means of a notice mailed postage prepaid or by personal delivery to the water user to whom the service is billed not earlier than 19 days from the date of mailing the District's bill for services, and the 10-day period shall not commence until 5 days after the mailing of the notice. When the day established for the discontinuance of water service falls on a Saturday, Sunday, or District holiday, such water service shall be discontinued on the next working day.

The District will make a reasonable, good faith effort to contact an adult person residing at the premises of the water user by telephone or in person at least 48 hours prior to any termination of residential water service.

The District will comply with all other applicable provisions of California Government Code Sections 60370-60375.5 regarding termination of residential water service.

16. Except as provided in paragraph 15, in the event water service hereunder is discontinued as a result of nonpayment of water charges, all unpaid charges for such service which are due the District from the person in default must be paid before water service can be restored.

17. If a water user's delinquent charges are unpaid for 30 days or more, or if a water user's delinquent charges are added to the annual assessments on any lands within the District, or the procedure in paragraph 12 is implemented, the General Manager shall require, as a condition of resumption of water service, that advance payment of all water charges be made for the 12-month period immediately following resumption of service, according to a schedule to be determined by the General Manager. A written guarantee in a form satisfactory to the General Manager from a recognized financial lending institution may be substituted in lieu of advance payment.



D-6  
cont.

18. The General Manager, after consultation with and approval by the Finance & Administration Committee, may also require advance payment and/or payment by cashier's check or such other actions as he may deem necessary when a water user's account is determined, based on the payment history or other actions of the water user, to create a financial risk or hardship for the District or its landowners. Circumstances which constitute the basis for such a determination include but are not limited to the following: (1) instances of a water user's checks being returned unpaid or (2) instances where a water user whose account is delinquent has, in violation of District regulations, taken water from a District delivery.

19. By applying for or taking delivery of municipal and industrial water from the District, the water user agrees to these terms and conditions of service.

20. The District may modify or terminate these terms and conditions; provided, that such modifications or terminations are prospective only and notice thereof is given prior to the effective date by mail to the water user.



D-6  
cont.

## 2.4.4 Letter D: Westlands Water District

- D-1 This summary of project details is consistent with information provided in the Draft EIR. In the Utilities and Service Systems analysis, Section 3.19.1.2, *Environmental Setting* (page 3.19-1), describes the site's location within the District's service area. Section 4 of the water supply assessment included in Draft EIR Appendix L (pages 14-19) describes the water supply sources that are available to the Project site that could be used to meet the Project's water demands as including the District, which is the local contractor of imported Central Valley Project (CVP) water and the primary Groundwater Sustainability Agency (GSA) for the Westside Subbasin. Regarding the decommissioning and site reclamation activities proposed as part of the Project, see Section 2.5.8 (page 2-21 and following) and the draft reclamation plan included in Appendix B-1. The potential eligibility of Project site parcels to maintain Eligible Cropland status pursuant to the District's Article 2 is acknowledged.
- D-2 The Applicant's potential eligibility to receive municipal and industrial (M&I) water services and continued access to the District's distribution system is acknowledged. Receipt of the District's Regulations, Terms and Conditions governing M&I use also is acknowledged.
- D-3 Details regarding the locations of the District's Lateral PV9 and Lateral 27R relative to the Project site parcels is appreciated. The request that the Applicant contact Underground Service Alert (811) is consistent with duties imposed by Government Code Section 4216-4216.24 governing the protection of underground infrastructure. These Government Code provisions create obligations that are enforceable independent of the County's CEQA process for the Project. Violations are subject to a civil penalty and other liability (Government Code Sections 4216.6, 4216.7). In compliance with the Government Code, the applicant is expected to contact the Underground Service Alert prior to ground disturbing activities.
- D-4 The County acknowledges receipt of this copy of Article 2 (including Appendix A thereto) of the District's regulations for the allocation and use of agricultural water within the District.
- D-5 The County acknowledges receipt of this copy of Article 19 of the District's regulations regarding the application for and use of municipal and industrial water within the District.
- D-6 The County acknowledges receipt of this copy of the District's terms and conditions for municipal and industrial water service.

# Comment Letter E

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State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Central Region  
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(559) 243-4005  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

*GAVIN NEWSOM, Governor*  
*CHARLTON H. BONHAM, Director*



November 27, 2023

Jeremy Shaw, Planner  
Fresno County, Department of Public Works  
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(559) 600-4207  
[jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)

**Subject: Draft Environmental Impact Report (EIR) No. 8189, CUP No. 3734, Key Energy Storage, LLC Project (Project)  
SCH No.: 2022070414**

Dear Jeremy Shaw:

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, the California Department of Fish and Wildlife (CDFW) appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under Fish and Game Code. While the comment period may have ended, CDFW appreciates it if you would still consider our comments.

After reviewing the provided CEQA document, CDFW concurs with the biological resources related analysis and measures proposed in the Draft EIR and recommends that all such measures in the Draft EIR be carried forward into the Final EIR. CDFW has determined that most of the biological resource mitigation measures as currently documented in the Draft EIR are sufficient for mitigation of potential project related impacts to listed species. Please note that take of any species listed under the California Endangered Species Act (CESA) would be unauthorized if an Incidental Take Permit (ITP) pursuant to Fish and Game Code section 2081 subdivision (b) was not acquired in advance of such actions. It is recommended to consult with CDFW before any ground disturbing activities commence and to obtain an ITP if take of CESA listed species cannot be avoided.

Mitigation Measure 3.5-3 (Protection of Nesting Birds) states that the nesting bird season is February 1 to August 31. CDFW recognizes the nesting bird season as February 1 to September 15. This measure also includes information stating that surveys shall be conducted no more than 14 days prior to each phase of construction

E-1  
E-2  
E-3

*Conserving California's Wildlife Since 1870*

# Comment Letter E

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Fresno County  
November 27, 2023  
Page 2

activities. CDFW recommends that pre-construction surveys for active nests are conducted no more than 10 days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected.

↑  
E-3  
cont.

This mitigation measure also states that if active nests are found, a suitable buffer would be 300-feet for common raptors, and 0.25-mile for Swainson's hawk. CDFW recommends a 500-foot no-disturbance buffer around active nests of non-listed (common) raptors and 0.5-mile around active Swainson's hawk nests (SWHA TAC 2000).

E-4  
E-5

In conclusion, CDFW recommends updating Mitigation Measure 3.5-3, Protection of nesting Birds, to include the following:

1. That nesting bird season runs to September 15 of any given year.
2. That pre-construction surveys for nesting birds occur no more than 10 days prior to each phase of construction.
3. The no-disturbance buffer for common raptors is 500 feet.
4. The no disturbance buffer around Swainson's hawk nests is 0.5 miles.

E-6

CDFW appreciates the opportunity to comment on the Project to assist the County of Fresno in identifying and mitigating the Project's impacts on biological resources.

More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (<https://www.wildlife.ca.gov/Conservation/Survey-Protocols>). If you have any questions, please contact Kelley Nelson, Environmental Scientist, at the address provided on this letterhead, or by electronic mail at [Kelley.Nelson@wildlife.ca.gov](mailto:Kelley.Nelson@wildlife.ca.gov).

E-7

Sincerely,

DocuSigned by:  
*Bob Stafford*  
5343A684FF02469...

Bob Stafford for Julie A. Vance  
Regional Manager

ec: State Clearinghouse  
Governor's Office of Planning and Research  
[State.Clearinghouse@opr.ca.gov](mailto:State.Clearinghouse@opr.ca.gov)

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Jeremy Shaw  
Fresno County  
November 27, 2023  
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**REFERENCES**

Swainson's Hawk Technical Advisory Committee. 2000. Recommended Timing and methodology for Swainson's hawk nesting surveys in California's Central Valley. Swainson's Hawk Technical Advisory Committee.

]

E-8

## 2.4.5 Letter E: California Department of Fish and Wildlife

- E-1 The County acknowledges CDFW’s concurrence with the biological resources-related analysis of impacts and mitigation measures documented in the Draft EIR.

In response to comments E-3 through E-5, the Draft EIR’s mitigation measures for potential significant impacts to biological resources have been revised as shown in Section 3.2.5 in Chapter 3, *Revisions to the Draft EIR*. A draft Mitigation Monitoring and Reporting Program containing the full suite of proposed-final mitigation measures for County decision-makers’ consideration will be included in a staff report to be made available for review in advance of a hearing on the Project.

- E-2 Consistent with this comment, Draft EIR Section 3.5.1.3 states, “Before a project may result in lawful take of a species listed under the [California Endangered Species Act] CESA, a take permit must be issued under Section 2081(b)” (page 3.5-7). The Draft EIR’s summary of the CESA proceeds to explain that “otherwise prohibited acts may be authorized through a permit or memorandum of understanding if: (a) the take is incidental to an otherwise lawful activity, (b) the individual or public agency minimizes and fully mitigates impacts of the authorized take, (c) the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and (d) the project operator ensures that adequate funding is available to implement the measures that CDFW requires” (pages 3.5-7, 3.5-8). The County acknowledges CDFW’s recommendation that the Applicant consult with CDFW to obtain an incidental take permit (ITP) if take of a species listed under the CESA cannot be avoided; however, the Project would not result in take of listed species and an ITP would not be required for the Project. The commenter’s recommendation does not affect the adequacy or accuracy of the Draft EIR. Accordingly, no change has been made in response to this comment.
- E-3 The County will modify Mitigation Measure 3.5-3 consistent with CDFW’s recommendations to consider September 15 end of bird-nesting season, and to conduct surveys no more than 10 days prior to disturbance. As shown in Section 3.2.5, text in the first paragraph of Mitigation Measure 3.5-3 has been modified as follows:

“If construction is scheduled to commence outside of nesting season (September ~~1~~ 16 to January 31), no preconstruction surveys or additional measures are required for nesting birds, including raptors. During the nesting bird breeding season (February 1 to ~~August 31~~ September 15), to avoid impacts on nesting birds in the Project site and immediate vicinity, a qualified biologist shall conduct preconstruction surveys of all potential nesting habitat within the Project site where vegetation removal or ground disturbance is planned. The survey shall be performed within the site and shall also include potential nest sites within a 0.5-mile buffer around the site in areas where access to neighboring properties is available or visible using a spotting scope. Surveys shall be conducted no more than ~~14~~ 10 days prior to each phase of construction activities. If construction is halted for ~~14~~ 10 days or more, the area shall be resurveyed prior to resuming work.”

- E-4 The County will modify Mitigation Measure 3.5-3 consistent with CDFW’s request for a 500-foot buffer around active raptor nests. As shown in Section 3.2.5, text in the second paragraph of Measure 3.5-3 has been modified as follows:

If active nests are found, a suitable buffer around active nests (e.g., ~~300~~ 500 feet for common raptors; 0.25-mile for Swainson’s hawk; 100 feet for passerines) shall be established...”

- E-5 The County will modify Mitigation Measure 3.5-3 consistent with CDFW’s request to use 0.5-mile buffer around active Swainson’s hawk nests consistent with the Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley (TAC 2000). As shown in Section 3.2.5, text in the second paragraph of Measure 3.5-3 has been modified as follows:

If active nests are found, a suitable buffer around active nests (e.g., 300 feet for common raptors; ~~0.25~~ 0.5-mile for Swainson’s hawk; 100 feet for passerines) shall be established...”

- E-6 See Response E-3, which addresses CDFW’s comment regarding nesting bird season; Response E-4, which addresses CDFW’s comment regarding the timing of pre-construction surveys; and Response E-5, which addresses CDFW’s comment regarding no-disturbance buffers. As detailed in Responses E-3 through E-5, Mitigation Measure 3.5-3 was revised consistent with the recommendations provided by the commenter.

- E-7 The County acknowledges that CDFW’s website provides information about survey and monitoring protocols for sensitive species. Chapter 2 of the Biological Resources Assessment provided in Draft EIR Appendix E describes the methodology employed in the analysis of potential site-specific, Project-specific impacts. As indicated by the citation on page 10 of the Biological Resources Assessment to CDFW’s Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities, CDFW protocols were followed in the analysis. This comment about the availability of additional protocol information does not identify any inconsistency with or objection to the information or conclusions documented in the Draft EIR.

- E-8 The County acknowledges this citation to the Swainson’s Hawk Technical Advisory Committee’s Recommended Timing and Methodology for Swainson’s Hawk Nesting Surveys in California’s Central Valley, which the commenter provided as support for Comment E-5. The County has reviewed the document and has included a copy in the record of proceedings<sup>1</sup> to ensure that it also is available for review by decision-makers.

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<sup>1</sup> Swainson’s Hawk Technical Advisory Committee, 2000. Recommended Timing and methodology for Swainson’s hawk nesting surveys in California’s Central Valley. May 31, 2000. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83990>. Accessed November 28, 2023.



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Of Counsel  
MARC D. JOSEPH  
DANIEL L. CARDOZO

October 30, 2023

**Via U.S. Mail and Email**

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Bernice E. Seidel  
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**Via Email Only**

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**Via Online Portal**

<https://fresnocountyca.nextrequest.com/>

**Re: Request to Extend the Public Review and Comment Period for the Draft Environmental Impact Report for the Key Energy Storage Project (CUP# 3734; SCH 2022070414)**

Dear Mr. White, Ms. Seidel, and Mr. Shaw:

On behalf of California Unions for Reliable Energy (“CURE”), we respectfully request that Fresno County (“the County”) extend the public review and comment period for the Draft Environmental Impact Report (“DEIR”) prepared for the Key Energy Storage Project (CUP# 3734; SCH 2022070414) (“Project”). The current public comment period ends on November 6, 2023.<sup>1</sup> Extension of the comment period is necessary under the California Environmental Quality Act (“CEQA”)<sup>2</sup> because the County failed to provide access to DEIR reference documents during the entire public comment period.

F-1  
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<sup>1</sup> Exhibit A: County of Fresno, Notice of Availability (“NOA”) re Draft Environmental Impact Report For Key Energy Storage Project, State Clearinghouse No. 2022070414. (Filed September 20, 2023).

<sup>2</sup> Public Resources Code §21000 et seq.; California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000 et seq.

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**A. Failure to Provide Access to Reference Documents**

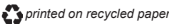
CEQA requires that “all documents referenced” – and the CEQA Guidelines require that “all documents incorporated by reference” – in a draft environmental impact report shall be “readily accessible to the public during the lead agency’s normal working hours” during the entire public comment period.<sup>3</sup> Although access to some of the DEIR’s reference documents is provided via URLs in the DEIR, access to many reference documents was not made available. Further, numerous URLs in the DEIR are nonfunctional. A small number of the many reference documents with nonfunctional URLs include the following:

- DOF (California Department of Finance), 2022a. E-5 Population and Housing Estimates for Cities, Counties and the State—January 1, 2021–2022. Available: <https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housingestimates-for-cities-counties-and-the-state-2020-2022/> Accessed March 22, 2023.
- Fresno County, 2017. County of Fresno Solar Facility Guidelines. Revised by Board of Supervisors on December 12, 2017. Available: <https://www.co.fresno.ca.us/departments/public-works-planning/divisions-of-public-worksand-planning/development-services-division/planning-and-land-use/photovoltaic-facilitiesp-1621>. Accessed March 22, 2023.
- Fresno County, 2018. Onsite Wastewater Treatment System Guidance Manual. Department of Public Works and Planning, Fresno, CA. January 2018. Available: <https://www.co.fresno.ca.us/home/showdocument?id=26349>. Accessed March 22, 2023
- Fresno County, 2019. Fresno County Local Area Management Program (LAMP). Available: <https://www.co.fresno.ca.us/home/showpublisheddocument/39300/637086255221370000>. Accessed March 22, 2023.
- CPUC (California Public Utilities Commission), 2022. LS Power Grid California, LLC Gates 500kV Dynamic Reactive Support Project Final Initial Study Mitigated Negative Declaration. July 2022. Available: [https://ia.cpuc.ca.gov/environment/info/esa/gates/pdfs/Gates\\_500kV\\_Final\\_IS\\_MND\\_July\\_2022.pdf](https://ia.cpuc.ca.gov/environment/info/esa/gates/pdfs/Gates_500kV_Final_IS_MND_July_2022.pdf). Accessed March 22, 2023.
- Fresno County, 2000. Fresno County General Plan. Open Space and Conservation Element. Approved October 2000. Available: [http://www2.co.fresno.ca.us/4510/4360/General\\_Plan/GP\\_Final\\_policy\\_doc/Open\\_Space\\_Element\\_rj.pdf](http://www2.co.fresno.ca.us/4510/4360/General_Plan/GP_Final_policy_doc/Open_Space_Element_rj.pdf).



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<sup>3</sup> Pub. Resources Code § 21092(b)(1); 14 C.C.R. § 15072(g)(4); see *Ultramar v. South Coast Air Quality Man. Dist.* (1993) 17 Cal.App.4th 689, 699.



October 30, 2023

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On October 3, 2023, CURE submitted a letter to the County (“DEIR References Request”), pursuant to CEQA section 21092(b)(1) and CEQA Guidelines section 15087(c)(5), requesting “immediate access to any and all documents referenced, incorporated by reference, and relied upon” in the DEIR.<sup>4</sup> The County failed to provide reference documents in response to CURE’s request. CURE emailed the County regarding the request on October 26, 2023, to which the County responded that the request had been mistakenly closed.<sup>5</sup> As of the date of this letter, the County has not provided CURE with the reference documents, which are necessary for adequate review of the DEIR.

Without access to these critical DEIR reference documents during the public comment period, CURE and other members of the public are precluded from having the meaningful opportunity to comment on the DEIR as required by CEQA. The courts have held that the failure to provide even a few pages of a CEQA documents for a portion of the CEQA review period invalidates the entire CEQA process, and that such a failure must be remedied by permitting additional public comment.<sup>6</sup> It is also well settled that an EIR may not rely on hidden studies or documents that are not provided to the public.<sup>7</sup> By failing to make all documents referenced in the DEIR “readily available” during the current comment period, the County is violating the clear procedural mandates of CEQA, to the detriment of CURE and other members of the public who wish to meaningfully review and comment on the DEIR.

Accordingly, we request that the County extend the public review and comment period on the DEIR for at least 45 days from the date on which the County releases all reference documents for public.

Sincerely,



Aidan P. Marshall

Attachments

APM:acp

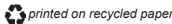
<sup>4</sup> **Exhibit B:** Letter from Adams, Broadwell, Joseph & Cardozo (“ABJC”) to County re Request for Immediate Access to Documents Referenced in DEIR for the Key Energy Storage Project (CUP# 3734; SCH 2022070414) (October 3, 2023).

<sup>5</sup> Email Correspondence between Alexandra E. Stukan (ABJC) and Ahla Yang (County) (October 26, 2023).

<sup>6</sup> *Ultramar v. South Coast Air Quality Man. Dist.* (1993) 17 Cal.App.4th 689, 699.

<sup>7</sup> *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3rd 818, 831 (“Whatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.”).

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F-1 cont.

**EXHIBIT A**



E26231000256

# County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING  
STEVEN E. WHITE, DIRECTOR

## NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL IMPACT REPORT FOR KEY ENERGY STORAGE PROJECT  
STATE CLEARINGHOUSE NO. 2022070414; FRESNO COUNTY EIR 8189

**FILED**  
SEP 20 2023  
TIME 1:21 pm  
FRESNO COUNTY CLERK  
DEPUTY

**LEAD AGENCY:** Fresno County

**PROJECT TITLE:** Draft Environmental Impact Report (EIR) for the Key Energy Storage Project

**PROJECT LOCATION:** The Project site is in western Fresno County, approximately 0.4 mile east of Interstate 5 (I-5), immediately south of West Jayne Avenue, and between I-5 and South Lassen Avenue (State Route 269) and adjacent to PG&E's existing Gates Substation. Nearby communities include Huron (4 miles to the northeast), Avenal (7.5 miles to the south), and Coalinga (11.5 miles to the west). The 260-acre site is within the approximately 318 acres consisting of Fresno County Assessor Parcel Numbers: 085-040-58, 085-040-36, and 085-040-37.

**PROJECT DESCRIPTION:** Key Energy Storage, LLC has applied to the Fresno County Department of Public Works and Planning for a Conditional Use Permit No. 3734 to construct, operate, maintain, and decommission an energy storage facility. Project build-out would be phased. At full build-out, the Project would have capacity to store up to 3 gigawatts of energy during times of excess generation and dispatch it into the existing electrical grid later when needed. The Project would receive energy (charge) from the point of interconnection (POI) with the regional electric transmission system at PG&E's existing Gates Substation, store energy, and then deliver energy (discharge) back to the POI. The Project would consist of batteries using lithium-ion or lithium-ion and iron-flow storage technology. To interconnect the Project, Key Energy Storage, LLC and PG&E would construct, operate, and maintain a new 2,500-foot-long (up to 0.5-mile) 500-kilovolt transmission line, mostly on substation property, between the Gates Substation and the Project site. This line would be installed on new lattice steel towers, each up to 200 feet tall, which would be spaced at approximately 500-foot intervals. To accommodate the Project, PG&E also would modify existing infrastructure on the Gates Substation site and at the Midway Substation located approximately 63 miles southeast of the Project site in Buttonwillow, an unincorporated community in Kern County, California.

**SIGNIFICANT ENVIRONMENTAL EFFECTS:** The County of Fresno has prepared a Draft EIR analyzing the Project's potential environmental effects. The Project would have a less-than-significant impact (with or without mitigation measures) regarding: Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural and Tribal Cultural Resources; Energy; Geology, Soils, and Paleontological Resources; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Noise and Acoustics; Transportation; Utilities and Service Systems; and Wildfire. No impact would result to Land Use and Planning, Mineral Resources, Population and Housing, Public Services, or Recreation.

DEVELOPMENT SERVICES AND CAPITAL PROJECTS DIVISION  
2220 Tulare Street, Sixth Floor / Fresno, California 93721 / Phone (559) 600-4497 / 600-4022 / 600-4540 / FAX 600-4200  
The County of Fresno is an Equal Employment Opportunity Employer

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E202310000256

**PUBLIC REVIEW:** A 45-day comment period for the Draft EIR begins Thursday, September 21, 2023 and ends at 5:00 p.m. Monday, November 6, 2023. Written comments should reference EIR 8189, Key Energy Storage Project. Include your name, address, and phone number or email address so we may contact you for clarification, if necessary. Send written comments to:

Fresno County Department of Public Works and Planning  
Development Services and Capital Projects Division  
ATTN: Jeremy Shaw, Planner  
2220 Tulare Street, Suite B Annex (below street level)  
SW Corner of Tulare and 'M' Street  
Fresno, CA 93721  
Email: [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)

**AVAILABILITY OF THE DRAFT EIR:** Copies of the Draft EIR are available for review at the following locations:

- Fresno County Public Works and Planning Department, 2220 Tulare Street, Fresno.
- Fresno County Main Library, Reference Department, 2420 Mariposa Street, Fresno.
- Huron Public Library, 36050 O St, Huron, CA 93234.



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**EXHIBIT B**

ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

601 GATEWAY BOULEVARD, SUITE 1000  
SOUTH SAN FRANCISCO, CA 94080-7037

TEL: (650) 589-1660  
FAX: (650) 589-5062

astukan@adamsbroadwell.com

SACRAMENTO OFFICE

520 CAPITOL MALL, SUITE 350  
SACRAMENTO, CA 95814-4721

TEL: (916) 444-6201  
FAX: (916) 444-6209

ARIANA ABEDIFARD  
KEVIN T. CARMICHAEL  
CHRISTINA M. CARO  
THOMAS A. ENSLOW  
KELILAH D. FEDERMAN  
RICHARD M. FRANCO  
ANDREW J. GRAF  
TANYA A. GULESSERIAN  
DARION N. JOHNSTON  
RACHAEL E. KOSS  
AIDAN P. MARSHALL  
TARA C. RENGIFO

Of Counsel  
MARC D. JOSEPH  
DANIEL L. CARDOZO

October 3, 2023

**Via U.S. Mail and Email**

Steven E. White, Director  
Dept of Public Works and Planning  
2220 Tulare Street, 6th Floor  
Fresno, CA 93721  
Email: [stwhite@fresnocountyca.gov](mailto:stwhite@fresnocountyca.gov)

Bernice E. Seidel  
Clerk of the Board of Supervisors  
2281 Tulare St, Room 301  
Fresno, CA 93721  
Email: [ClerkBOS@fresnocountyca.gov](mailto:ClerkBOS@fresnocountyca.gov)

**Via Email Only**

Jeremy Shaw, Planner  
Email: [jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)

**Via Online Portal**

<https://fresnocountyca.nextrequest.com/>

**Re: Request for Immediate Access to Documents Referenced in the Draft Environmental Impact Report – Key Energy Storage Project (CUP# 3734; SCH 2022070414)**

Dear Mr. White, Ms. Seidel, and Mr. Shaw:

We are writing on behalf of California Unions for Reliable Energy (“CURE”) to request ***immediate access*** to any and all documents referenced, incorporated by reference, and relied upon in the Draft Environmental Impact Report (“DEIR”) prepared for the Key Energy Storage Project (CUP# 3734; SCH 2022070414) proposed by Key Energy Storage, LLC. *This request excludes a copy of the DEIR and its appendices. This request also excludes any documents that are currently available on the County of Fresno’s website, as of today’s date.*<sup>1</sup>

The Project proposes the construction, operation, maintenance, and decommissioning of an energy storage facility that would store at least 3 gigawatts of energy. The Project site is located south of W. Jayne Avenue between I-5 and

<sup>1</sup> Accessed <https://www.fresnocountyca.gov/Departments/Public-Works-and-Planning/divisions-of-public-works-and-planning/development-services-division/planning-and-land-use> on October 2, 2023.



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Page 2

South Lassen Avenue (State Route 269) in Fresno County (APN#s 085-040-58, 085-040-36, 085-040-37).

Our request for *immediate access* to all documents referenced in the DEIR is made pursuant to the California Environmental Quality Act (“CEQA”), which requires that all documents referenced, incorporated by reference, and relied upon in an environmental review document be made available to the public for the entire comment period.<sup>2</sup>

We request access to the above records in their original form, as maintained by the agency.<sup>3</sup> Pursuant to Government Code Section 7922.570, if the requested documents are in electronic format, please upload them to a file hosting program such as Dropbox, NextRequest or a similar program. Alternatively, if the electronic documents are 10 MB or less (or can be easily broken into sections of 10 MB or less), they may be emailed as attachments.

We will pay for any direct costs of duplication associated with filling this request up to \$200. However, please contact me with a cost estimate before copying/scanning the materials.

Please use the following contact information for all correspondence:

**U.S. Mail**

Alex Stukan  
Adams Broadwell Joseph & Cardozo  
601 Gateway Boulevard, Suite 1000  
South San Francisco, CA 94080-7037

**Email**

[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)

<sup>2</sup> See Public Resources Code § 21092(b)(1) (stating that “all documents referenced in the draft environmental impact report” shall be made “available for review”); 14 Cal. Code Reg. § 15087(c)(5) (stating that all documents incorporated by reference in the EIR . . . shall be readily accessible to the public”); see also *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 442, as modified (Apr. 18, 2007) (EIR must transparently incorporate and describe the reference materials relied on in its analysis); *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3rd 818, 831 (“[W]hatever is required to be considered in an EIR must be in that formal report. . .”), internal citations omitted.

<sup>3</sup> Gov. Code § 7922.570; *Sierra Club v. Super. Ct.* (2013) 57 Cal. 4th 157, 161-62.



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cont.

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Page 3

If you have any questions, please call me at (650) 589-1660 or email me at the address above. Thank you for your assistance with this matter.

Sincerely,



Alex Stukan  
Paralegal

AES:lj1

6241-003j



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cont.

ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

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SOUTH SAN FRANCISCO, CA 94080-7037

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DARION N. JOHNSTON  
RACHAEL E. KOSS  
AIDAN P. MARSHALL  
TARA C. RENGIFO

Of Counsel  
MARC D. JOSEPH  
DANIEL L. CARDOZO

November 6, 2023

**VIA EMAIL AND OVERNIGHT MAIL**

Fresno County Department of Public Works and Planning  
Development Services and Capital Projects Division  
ATTN: Jeremy Shaw, Planner  
2220 Tulare Street, Suite B Annex  
SW Corner of Tulare and 'M' Street  
Fresno, CA 93721  
Email: [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)

**Re: Preliminary Comments on the Draft Environmental Impact Report for the Key Energy Storage Project (CUP# 3734; SCH 2022070414)**

Dear Mr. Shaw:

We write on behalf of California Unions for Reliable Energy (“CURE”) to provide preliminary comments on the Draft Environmental Impact Report (“DEIR”) prepared by the County of Fresno (“County”) for the Key Energy Storage Project (CUP# 3734; SCH 2022070414) (“Project”), proposed by Key Energy Storage, LLC (“Applicant”).

The Project proposes the construction, operation, maintenance, and decommissioning of an energy storage facility that would store at least 3 gigawatts of energy. The Project site is located south of W. Jayne Avenue between I-5 and South Lassen Avenue (State Route 269) in Fresno County (APN#s 085-040-58, 085-040-36, 085-040-37). The site proposed for the Project is designated as Agricultural and is classified by the Fresno County Zoning Ordinance as AE-40 (Exclusive Agricultural, 40-acre minimum parcel size).<sup>1</sup> The entire Project site is designated Prime Farmland. The northernmost Project parcel (APN 085- 040-58) is subject to a Williamson Act contract. Seven parcels in the zone of influence for the Project are actively used for agricultural purposes and five parcels are located on Williamson Act–contracted land.<sup>2</sup> The Project seeks an Unclassified Conditional Use Permit

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<sup>1</sup> DEIR, pg. 3.3-14.  
<sup>2</sup> DEIR, pg. 3.3-17.

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Page 2

("CUP") to construct, operate, maintain, and decommission the Project. The Project may also require a Williamson Act cancellation, lot line adjustment, lot merger, subdivision map and/or tentative parcel map, structure height variance, and an encroachment permit.

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F-4  
cont.

Based on our preliminary review of the DEIR and supporting documentation, we conclude that the DEIR fails to comply with the requirements of the California Environmental Quality Act ("CEQA")<sup>3</sup>. We reviewed the DEIR and its technical appendices with the assistance of air quality expert Dr. James Clark.<sup>4</sup>

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CURE's opportunity to meaningfully review the Project was constrained because the County failed to make major components of the DEIR's analysis available throughout the entire comment period, as is required by CEQA. CURE reserves the right to supplement these comments at later proceedings and hearings related to the Project.<sup>5</sup>

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As explained in these comments, the DEIR lacks substantial evidence to support its conclusions with regard to the Projects' impacts relating to agriculture and air quality. The County may not approve the Project until the County revises and recirculates the Project's DEIR to adequately analyze the Project's significant direct and cumulative impacts, and incorporates all feasible mitigation measures to avoid or minimize these impacts to the greatest extent feasible.

F-7

**I. STATEMENT OF INTEREST**

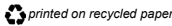
CURE is a coalition of labor organizations whose members encourage sustainable development of California's energy and natural resources. CURE's members help solve the State's energy problems by building, maintaining, and operating conventional and renewable energy power plants and transmission facilities. Since its founding in 1997, CURE has been committed to building a strong economy and a healthier environment. CURE has helped cut smog-forming pollutants in half, reduced toxic emissions, increased the use of recycled water for cooling systems, and pushed for groundbreaking pollution control equipment as the

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<sup>3</sup> Pub. Resources Code §§ 21000 et seq.; 14 Cal. Code Regs ("CEQA Guidelines") §§ 15000 et seq. ("CEQA Guidelines").

<sup>4</sup> Dr. Clark's technical comments and curricula vitae are attached hereto as **Exhibit A**.

<sup>5</sup> Gov. Code § 65009(b); PRC § 21177(a); *Bakersfield Citizens for Local Control v. Bakersfield ("Bakersfield")* (2004) 124 Cal. App. 4th 1184, 1199-1203; see *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal. App. 4th 1109, 1121.



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Page 3

standard for all new power plants, all while helping to ensure that new power plants and transmission facilities are built with highly trained, professional workers who live and raise families in nearby communities.

Individual members of CURE and its member organizations live, work, recreate, and raise their families in Fresno County. Accordingly, they will be directly affected by the Project’s environmental and health and safety impacts. Individual members may also work on the Project itself. They will be the first in line to be exposed to any health and safety hazards that exist onsite.

CURE has an interest in enforcing environmental laws that encourage sustainable development and ensure a safe working environment for the members that they represent. Environmental degradation destroys cultural and wildlife areas, consumes limited fresh surface and ground water resources, causes water pollution, and imposes other stresses on the environmental carrying capacity of the state. This in turn jeopardizes future development by causing construction moratoriums and otherwise reducing future employment opportunities for CURE’s members. CURE therefore has a direct interest in enforcing environmental laws to minimize the adverse impacts of projects that would otherwise degrade the environment.

Finally, CURE members are concerned about projects that risk serious environmental harm without providing countervailing economic benefits. For these reasons, CURE’s mission includes improving California’s economy and the environment by ensuring that new conventional and renewable power plants and their related transmission facilities use the best practices to protect our clean air, land and water and to minimize their environmental impacts and footprint.

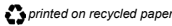
**II. LEGAL BACKGROUND**

CEQA requires public agencies to analyze the potential environmental impacts of their proposed actions in an EIR.<sup>6</sup> “The foremost principle under CEQA is that the Legislature intended the act to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.”<sup>7</sup>

<sup>6</sup> PRC § 21100.

<sup>7</sup> *Laurel Heights Improvement Assn. v. Regents of Univ. of Cal (“Laurel Heights I”)* (1988) 47 Cal.3d 376, 390 (internal quotations omitted).

6241-006acp



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CEQA has two primary purposes. First, CEQA is designed to inform decisionmakers and the public about the potential significant environmental effects of a project.<sup>8</sup> “Its purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, the EIR ‘protects not only the environment but also informed self-government.’”<sup>9</sup> The EIR has been described as “an environmental ‘alarm bell’ whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return.”<sup>10</sup> As the CEQA Guidelines explain, “[t]he EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected.”<sup>11</sup>

Second, CEQA requires public agencies to avoid or reduce environmental damage when “feasible” by requiring consideration of environmentally superior alternatives and adoption of all feasible mitigation measures.<sup>12</sup> The EIR serves to provide agencies and the public with information about the environmental impacts of a proposed project and to “identify ways that environmental damage can be avoided or significantly reduced.”<sup>13</sup> If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has “eliminated or substantially lessened all significant effects on the environment” to the greatest extent feasible and that any unavoidable significant effects on the environment are “acceptable due to overriding concerns.”<sup>14</sup>

While courts review an EIR using an “abuse of discretion” standard, “the reviewing court is not to ‘uncritically rely on every study or analysis presented by a project proponent in support of its position. A clearly inadequate or unsupported



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cont.

<sup>8</sup> Pub. Resources Code § 21061; CEQA Guidelines §§ 15002(a)(1); 15003(b)-(e); *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 517 (“[T]he basic purpose of an EIR is to provide public agencies and the public in general with detailed information about the effect [that] a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project.”).

<sup>9</sup> *Citizens of Goleta Valley*, 52 Cal.3d at pg. 564 (quoting *Laurel Heights I*, 47 Cal.3d at 392).

<sup>10</sup> *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810; *see also Berkeley Keep Jets Over the Bay v. Bd. of Port Comm’rs.* (2001) 91 Cal.App.4th 1344, 1354 (“*Berkeley Jets*”) (purpose of EIR is to inform the public and officials of environmental consequences of their decisions *before* they are made).

<sup>11</sup> CEQA Guidelines § 15003(b).

<sup>12</sup> CEQA Guidelines § 15002(a)(2), (3); *see also Berkeley Jets*, 91 Cal.App.4th at 1354; *Citizens of Goleta Valley*, 52 Cal.3d at pg. 564.

<sup>13</sup> CEQA Guidelines § 15002(a)(2).

<sup>14</sup> PRC § 21081(a)(3), (b); CEQA Guidelines §§ 15090(a), 15091(a), 15092(b)(2)(A), (B); *Covington v. Great Basin Unified Air Pollution Control Dist.* (2019) 43 Cal.App.5th 867, 883.

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Page 5

study is entitled to no judicial deference.”<sup>15</sup> As the courts have explained, a prejudicial abuse of discretion occurs “if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.”<sup>16</sup> “The ultimate inquiry, as case law and the CEQA guidelines make clear, is whether the EIR includes enough detail ‘to enable who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.’”<sup>17</sup>

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F-9  
cont.

**III. THE COUNTY FAILED TO PROVIDE TIMELY ACCESS TO DOCUMENTS REFERENCED IN THE DEIR**

The County failed to make available all documents referenced in the DEIR during the entire public comment period. CEQA requires that “all documents referenced” – and the CEQA Guidelines require that “all documents incorporated by reference” – in a draft environmental impact report shall be “readily accessible to the public during the lead agency’s normal working hours” during the entire public comment period.<sup>18</sup> The DEIR provides access to some reference documents via URLs in the DEIR, but does not provide electronic access to many reference documents. Further, numerous URLs in the DEIR are nonfunctional.

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F-10

On October 3, 2023, CURE submitted a letter to the County (“DEIR References Request”), pursuant to CEQA section 21092(b)(1) and CEQA Guidelines section 15087(c)(5), requesting “immediate access to any and all documents referenced, incorporated by reference, and relied upon” in the DEIR.<sup>19</sup> On October 26, 2023, having not yet gained access to the documents referenced in the DEIR,

<sup>15</sup> *Berkeley Jets*, 91 Cal.App.4th at pg. 1355 (emphasis added) (quoting *Laurel Heights I*, 47 Cal.3d at 391, 409, fn. 12).

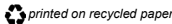
<sup>16</sup> *Berkeley Jets*, 91 Cal.App.4th at pg. 1355; see also *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722 (error is prejudicial if the failure to include relevant information precludes informed decision making and informed public participation, thereby thwarting the statutory goals of the EIR process); *Galante Vineyards*, 60 Cal.App.4th at pg. 1117 (decision to approve a project is a nullity if based upon an EIR that does not provide decision-makers and the public with information about the project as required by CEQA); *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946 (prejudicial abuse of discretion results where agency fails to comply with information disclosure provisions of CEQA).

<sup>17</sup> *Sierra Club*, 6 Cal.5th at pg. 516 (quoting *Laurel Heights I*, 47 Cal.3d at 405).

<sup>18</sup> Pub. Resources Code § 21092(b)(1); 14 C.C.R. § 15072(g)(4); see *Ultramar v. South Coast Air Quality Man. Dist.* (1993) 17 Cal.App.4th 689, 699.

<sup>19</sup> Letter from Adams, Broadwell, Joseph & Cardozo (“ABJC”) to County re Request for Immediate Access to Documents Referenced in DEIR for the Key Energy Storage Project (CUP# 3734; SCH 2022070414) (October 3, 2023).

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CURE emailed the County regarding the request, to which the County responded that the request had been mistakenly closed.<sup>20</sup> On October 30, 2023, having not yet gained access to the documents referenced in the DEIR, CURE submitted a second letter requesting access to the missing documents.<sup>21</sup> The letter also requested an extension of the comment period to allow for adequate review of the DEIR, as required by CEQA.

The County only provided access to the reference documents on November 2, 2023, less than three business days before the close of the public comment period on November 6. The County also did not make a determination to extend the comment period. By failing to make all documents referenced in the DEIR “readily available” during the current comment period, the County violates the clear procedural mandates of CEQA, to the detriment of CURE and other members of the public who wish to meaningfully review and comment on the DEIR. Courts have held that the failure to provide even a few pages of a CEQA documents for a portion of the CEQA review period invalidates the entire CEQA process, and that such a failure must be remedied by permitting additional public comment.<sup>22</sup> It is also well settled that an EIR may not rely on hidden studies or documents that are not provided to the public.<sup>23</sup> The DEIR therefore must be recirculated for public review.

**IV. THE DEIR FAILS TO DISCLOSE, ANALYZE AND MITIGATE POTENTIALLY SIGNIFICANT IMPACTS**

An EIR must fully disclose all potentially significant impacts of a Project and implement all feasible mitigation to reduce those impacts to less than significant levels. The lead agency’s significance determination with regard to each impact must be supported by accurate scientific and factual data.<sup>24</sup> An agency cannot conclude that an impact is less than significant unless it produces rigorous analysis and concrete substantial evidence justifying the finding.<sup>25</sup>



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cont.

F-11

<sup>20</sup> Email Correspondence between Alexandra E. Stukan (ABJC) and Ahla Yang (County) (October 26, 2023).

<sup>21</sup> **Exhibit B:** Letter from ABJC to County re: Request to Extend the Public Review and Comment Period for the Draft Environmental Impact Report for the Key Energy Storage Project (CUP# 3734; SCH 2022070414) (October 30, 2023).

<sup>22</sup> *Ultramar v. South Coast Air Quality Man. Dist.* (1993) 17 Cal.App.4th 689, 699.

<sup>23</sup> *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3rd 818, 831 (“Whatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.”).

<sup>24</sup> CEQA Guidelines § 15064(b).

<sup>25</sup> *Kings Cty. Farm Bur. v. Hanford* (1990) 221 Cal.App.3d 692, 732.



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Page 7

Moreover, the failure to provide information required by CEQA is a failure to proceed in the manner required by CEQA.<sup>26</sup> Challenges to an agency’s failure to proceed in the manner required by CEQA, such as the failure to address a subject required to be covered in an EIR or to disclose information about a project’s environmental effects or alternatives, are subject to a less deferential standard than challenges to an agency’s factual conclusions.<sup>27</sup> In reviewing challenges to an agency’s approval of an EIR based on a lack of substantial evidence, the court will “determine de novo whether the agency has employed the correct procedures, scrupulously enforcing all legislatively mandated CEQA requirements.”<sup>28</sup>

Additionally, CEQA requires agencies to commit to all feasible mitigation measures to reduce significant environmental impacts.<sup>29</sup> In particular, the lead agency may not make required CEQA findings, including finding that a project impact is significant and unavoidable, unless the administrative record demonstrates that it has adopted all feasible mitigation to reduce significant environmental impacts to the greatest extent feasible.<sup>30</sup>

Even when the substantial evidence standard is applicable to agency decisions to certify an EIR and approve a project, reviewing courts will not “uncritically rely on every study or analysis presented by a project proponent in support of its position. A clearly inadequate or unsupported study is entitled to no judicial deference.”<sup>31</sup>

**A. The DEIR’s Evaluation of Agricultural Resource Impacts Violates CEQA, the Williamson Act, and County Zoning Law**

The Legislature has repeatedly held that conversion of agricultural land is a significant concern and that the preservation of agricultural land is a significant goal of the State.<sup>32</sup> The Legislature has further stated that CEQA shall play an

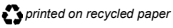


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F-12

<sup>26</sup> *Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236.  
<sup>27</sup> *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 435.  
<sup>28</sup> *Id., Madera Oversight Coal., Inc. v. County of Madera* (2011) 199 Cal. App. 4th 48, 102.  
<sup>29</sup> CEQA Guidelines § 15002(a)(2).  
<sup>30</sup> PRC § 21081(a)(3), (b); CEQA Guidelines §§ 15090, 15091; *Covington v. Great Basin Unified Air Pollution Control Dist.* (2019) 43 Cal.App.5th 867, 883.  
<sup>31</sup> *Berkeley Jets*, 91 Cal.App.4th at 1355.  
<sup>32</sup> Gov. Code, § 51220 (Williamson Act findings that agricultural preservation is valuable and necessary); Civ. Code, § 815 (legislative declaration that preservation of agricultural lands “is among the most important environmental assets of California”); Pub. Resources Code, § 10200, et seq.



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important role in the preservation of agricultural lands.<sup>33</sup> Despite this legislative admonition, the DEIR’s evaluation of the Project’s direct, indirect and cumulative impacts on agricultural resources fails to comply with the requirements of CEQA.

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F-12  
cont.

**1. The DEIR’s Conclusion that Agricultural Resource Impacts Will Be Less than Significant is Not Supported by Substantial Evidence**

The DEIR erroneously determines that the Project’s conversion of Prime Farmland and indirect impacts on agricultural resources would be individually and cumulatively less than significant. The DEIR reasons that the Project’s impacts would be temporary, as the Project will be decommissioned at the end of the Project’s lifespan. The DEIR’s determination is not supported by substantial evidence.

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F-13

The assumption that the Project is temporary in nature and will be decommissioned and returned to agricultural use is speculative and not supported by any evidence in the record. The DEIR fails to identify mitigation measures or conditions of approval requiring the Project be decommissioned and returned to agricultural use. Nor does the DEIR contain any other evidence of the likelihood of the Project parcel returning to agricultural use after decommissioning. Accordingly, the assumption that this farmland will only be temporarily converted is speculative and without foundation. The County has previously acknowledged the speculative nature of decommissioning in an EIR for a different project, which analyzed Unclassified CUPs<sup>34</sup> to construct, operate, maintain, and decommission the Fifth Standard Solar Project Complex:

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F-14

The construction and operation of the proposed facility would result in permanent conversion of approximately 1,600 acres of Prime Farmland to a non-agricultural use. The Applicant has committed to return the land to farmland after the solar facilities are decommissioned through implementation of a Reclamation Plan. However, the conversion of Prime Farmland to nonagricultural use would be considered significant. The term of the lease may be extended with the landowner’s consent and the approval of

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(California Farmland Conservancy Program Act, promoting the establishment of agricultural easements as a means to preserve agricultural land).

<sup>33</sup> This language was used as the finding behind amendments to Pub. Resources Code sections 21060.1, 21061.2 and 21095 in 1993 (Stats. 1993, ch. 812, §1, subd. (d)).

<sup>34</sup> CUPs Application Nos. 3562, 3563, and 3564.

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additional land use permits from the County, thus potentially extending the period the land is out of agricultural use, subject to further environmental review.<sup>35</sup>

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F-15  
cont.

Because the EIR lacks substantial evidence to support its finding that the temporary nature of the Project will reduce the Project’s cumulative agricultural resource impacts below a level of significance, the EIR must be revised and recirculated with a proper agricultural impacts analysis, consistent with the requirements of CEQA.

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F-16

**2. The DEIR Fails to Adequately Evaluate Indirect Effects on Agricultural Resources**

The DEIR’s finding that impacts from the Project’s indirect changes to farmland would be less than significant lacks the support of substantial evidence.<sup>36</sup> The DEIR explains that “the proposed use could attract other solar development, which would enable storage of the energy collected by solar facilities... As an indirect effect, the conversion of agricultural parcels in the zone of influence and in the surrounding landscape could result.”<sup>37</sup> Courts have held that indirect effects of conversion of agricultural resources include the pressure created to encourage additional conversions, as development pressure raises the speculative value of the land and increases the economic costs of farming due to land use incompatibilities.<sup>38</sup> But the DEIR reasons that because “the central force of attraction for the development of renewable energy projects in the region is arguably the PG&E Gates Substation,” the Project would not directly cause or result in conversion of surrounding farmland to non-agricultural use.<sup>39</sup> The DEIR thus adopts a “drop in the bucket” approach to argue that the Project’s own pressure on neighboring agricultural resources is insignificant in light of the PG&E Gates Substation’s “force of attraction.”

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F-17

This “drop in a bucket” approach has been rejected by the courts, and fails to comply with CEQA’s requirement that a project mitigate impacts that are “cumulatively considerable.”<sup>40</sup> In *Kings County Farm Bureau v. City of Hanford*<sup>41</sup>

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<sup>35</sup> County of Fresno, EIR No. 7257, pg. 4.2-9.

<sup>36</sup> DEIR, pg. 3.3-17.

<sup>37</sup> *Id.*

<sup>38</sup> *Masonite Corp. v. County of Mendocino* (2013) 218 Cal.App.4th.

<sup>39</sup> *Id.*

<sup>40</sup> PRC § 21083(b)(2); 14 CCR § 15130.

<sup>41</sup> (1990) 221 Cal. App. 3d 692.

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the city prepared an EIR for a 26.4-megawatt coal-fired cogeneration plant. Notwithstanding the fact that the EIR found that the project region was out of attainment for PM10 and ozone, the city failed to incorporate mitigations for the project’s cumulative air quality impacts from project emissions because it concluded that the Project would contribute “less than one percent of area emissions for all criteria pollutants.”<sup>42</sup> The city reasoned that, because the project’s air emissions were small in ratio to existing air quality problems, that this necessarily rendered the project’s “incremental contribution” minimal under CEQA. The court rejected this approach, finding it “contrary to the intent of CEQA.”<sup>43</sup>

F-18  
cont.

Here, the presence of other projects with strong indirect impacts on surrounding farmland does not eliminate the instant Project’s impacts – especially because the DEIR explicitly acknowledges that the Project would encourage local solar development by enabling storage of the energy collected by solar facilities.<sup>44</sup> The DEIR must be revised and recirculated to fully analyze and mitigate this significant impact.

F-19

**3. The DEIR Fails to Evaluate Cumulative Agricultural Resource Impacts in the Manner Required by Law**

The DEIR’s analysis of the Project’s cumulative agricultural resources impacts violates CEQA because it fails to conduct the cumulative analysis in the manner required by law. The Project will convert approximately 318 acres of Prime Farmland by developing 260 acres of the Project site, and effectively precluding agricultural use on the remaining acres.<sup>45</sup> The DEIR acknowledges that the Project is part of a pattern of solar and renewable energy development in Fresno County, and that as a result, Fresno County is the third fastest of all California counties to lose farmland, and the seventeenth fastest in the nation.<sup>46</sup> The DEIR further states that “[c]ollectively, the incremental impacts of the Project when combined with the incremental impacts of the past, present, and reasonably foreseeable future projects would result in a significant cumulative impact related to the conversion of Farmland to non-agricultural use.”<sup>47</sup> But the DEIR reasons that the Project’s impacts would not be cumulatively considerable because the Project site would be

F-20

<sup>42</sup> *Id.* at 719.  
<sup>43</sup> *Id.* at 721.  
<sup>44</sup> *Id.*  
<sup>45</sup> DEIR, pg. 3.3-12.  
<sup>46</sup> DEIR, pg. 3.3-18.  
<sup>47</sup> DEIR, pg. 3.3-18, 19.

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returned to a condition suitable for continued agricultural use with substantially the same soil conditions as currently exist. The DEIR does not identify any mitigation for this impact, such as a legally enforceable requirement that Project site be decommissioned and the land returned to its current state following decommissioning. Without such mitigation, the DEIR lacks substantial evidence supporting the conclusion that the Project’s impacts to agricultural land will not be cumulatively considerable.

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cont.

Moreover, the DEIR relies on flawed reasoning. Even if the Project is decommissioned, the Project’s construction and operation would still encourage conversion of surrounding farmland to non-agricultural use.<sup>48</sup> The County identified this issue in EIR No. 7257, prepared for the nearby Fifth Standard Solar Project Complex:

Given the increased importance of renewable energy in California, other landowners may determine that the conversion of some of their land holdings to non-agricultural use is economically feasible; thus, indirect conversion of offsite farmland could potentially occur. This is a potentially significant impact. **MM AG-1 would require the implementation of a reclamation plan to return of the project site to potential agricultural use, but it would not address the precedent of a large Prime Farmland conversion to non-agricultural use.** There are no Mitigation Measures that would reduce this impact. The impact would remain significant and unavoidable.<sup>49</sup>

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F-21

The DEIR must be revised and recirculated to disclose, analyze and mitigate this significant impact.

**4. The Proposed Project Would Conflict With a Williamson Act Contract.**

The DEIR provides that conflict with a Williamson Act contract would constitute a significant impact under CEQA.<sup>50</sup> The Project’s northern parcel (APN 085-040 058) is subject to Williamson Act Contract No. 2068, but would be

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<sup>48</sup> DEIR, pg. 3.3-17.; *Masonite Corp. v. County of Mendocino* (2013) 218 Cal.App.4th.  
<sup>49</sup> County of Fresno, EIR No. 7257, pg. 4.2-14. [emphasis added].  
<sup>50</sup> DEIR, pg. 3.3-11.

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petitioned for cancellation by the landowners as part of the Project.<sup>51</sup> Cancellation of a Williamson Act contract constitutes a conflict with a Williamson Act.

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cont.

The DEIR argues that even if cancellation were not proposed, the Project would be compatible with the existing Williamson Act contract.<sup>52</sup> This argument fails because the Project is not consistent with the Williamson Act’s principles of compatibility. According to Gov. Code Section 51238.1, a lead agency may approve uses on contracted lands if they are consistent with the following principles of compatibility:

- (1) The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserves.
- (2) The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves.
- (3) The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use. In evaluating compatibility, a lead agency considers the impacts of the proposed use on noncontracted lands in the agricultural preserve or preserves.

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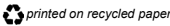
The DEIR reasons that the Project would be compatible with the first two principles because the Project would be decommissioned after 40 years.<sup>53</sup> But as explained herein, the assumption that the Project is temporary in nature and will be decommissioned and returned to agricultural use is speculative and not supported by any evidence in the record. While the Project is operational, agricultural operations on the Project site would be displaced.

The DEIR reasons that the Project would be compatible with the third principle due to the Project’s compliance with the County’s solar facility guidelines.<sup>54</sup> The DEIR’s analysis of this compatibility principle lacks consideration of the Project’s indirect effects on nearby farmland. As discussed herein, the Project’s construction and operation would still encourage conversion of

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<sup>51</sup> DEIR, pg. 3.3-14.  
<sup>52</sup> *Id.*  
<sup>53</sup> DEIR, pg. 3.3-15.  
<sup>54</sup> *Id.*



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surrounding farmland to non-agricultural use.<sup>55</sup> The DEIR explains that “the proposed use could attract other solar development, which would enable storage of the energy collected by solar facilities... As an indirect effect, the conversion of agricultural parcels in the zone of influence and in the surrounding landscape could result.”<sup>56</sup> This effect has been demonstrated across Fresno County, as the DEIR acknowledges that Fresno County is the third fastest of all California counties to lose farmland, and the seventeenth fastest in the nation.<sup>57</sup>



F-24  
cont.

The County thus lacks substantial evidence to find the Project compatible with the existing Williamson Act contract. This significant impact must be disclosed and mitigated in a revised and recirculated DEIR.

**5. The Proposed Project Would Conflict With Existing Zoning for Agricultural Use.**

The DEIR provides that “[c]onflict with existing zoning for agricultural use” would constitute a significant impact under CEQA.<sup>58</sup> The site proposed for the Project is designated as Agricultural and is classified by the Fresno County Zoning Ordinance as AE-40 (Exclusive Agricultural, 40-acre minimum parcel size).<sup>59</sup> The “AE” District is intended to be an exclusive agricultural district and for uses integral to an agricultural operation. The DEIR states that while the zoning designation does not specifically allow for energy storage facilities, the Project’s proposed uses may be permitted in any zone district, subject to consideration and approval by Fresno County of an unclassified CUP. The DEIR concludes that with approval of the CUP, there would be no conflict with agricultural zoning.



F-25

The DEIR’s reasoning is incorrect, as a proposed development must be consistent with the General Plan in order for a CUP to be granted.<sup>60</sup> Granting of a CUP for this Project would be inconsistent with General Plan Policy LU-A.3, which provides: “[t]he County may allow by discretionary permit in areas designated Agriculture, special agricultural uses and agriculturally related activities, including value added processing facilities, and certain non-agricultural uses listed in Table



F-26

<sup>55</sup> DEIR, pg. 3.3-17.; *Masonite Corp. v. County of Mendocino* (2013) 218 Cal.App.4th.

<sup>56</sup> *Id.*

<sup>57</sup> DEIR, pg. 3.3-18.

<sup>58</sup> DEIR, pg. 3.3-11.

<sup>59</sup> DEIR, pg. 3.3-14.

<sup>60</sup> Fresno County Zoning Code Section 873(F)(4) (“The Commission, in approving or recommending approval of a Conditional Use Permit, shall find as follows: ... That the proposed development is consistent with the General Plan.”).

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LU-3.” As acknowledged by the DEIR, energy storage facilities are not within the scope of uses listed in Table LU-3, which lists Agricultural Uses, Special Agricultural Uses, Agriculturally-Related & Value-Added Agricultural Uses, and Agricultural Commercial Center Uses & Other Non-Agricultural Uses.<sup>61</sup> Further, uses listed in Table LU-3 are also subject to several criteria.<sup>62</sup> For instance, “[t]he use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics.”<sup>63</sup> Energy storage facilities do not meet this criterion. The Project’s proposed energy storage uses are thus inconsistent with the General Plan.

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This inconsistency constitutes a significant impact under CEQA, and means that the County lacks substantial evidence to make the requisite findings to approve the Project’s proposed Unclassified CUP. The DEIR must be revised and recirculated after full disclosure and mitigation of this significant impact.

**6. The DEIR Fails to Impose Any Mitigation for the Project’s Significant Impacts on Agricultural Resources**

The Project would have significant impacts on agricultural resources, but the DEIR fails to identify any mitigation to address these impacts. The County’s approach ignores comments from the California Department of Conservation (“DOC”) on the Project’s Notice of Preparation calling for mitigation of the Project’s significant agricultural impacts.<sup>64</sup> The DOC comments explain that “[t]he conversion of agricultural land represents a permanent reduction and significant impact to California’s agricultural land resources.”<sup>65</sup> CEQA requires public agencies

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<sup>61</sup> Fresno County General Plan, pg. 2-13, Table LU-3.

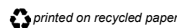
<sup>62</sup> Policy LU-A.3 a. The use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics; b. The use should not be sited on productive agricultural lands if less productive land is available in the vicinity; c. The operational or physical characteristics of the use shall not have a detrimental impact on water resources or the use or management of surrounding properties within at least one-quarter (0.25) mile radius; d. A probable workforce should be located nearby or be readily available.

<sup>63</sup> *Id.*

<sup>64</sup> Letter from CA Dept. of Conservation to County of Fresno re: Notice Of Preparation Of An Environmental Impact Report For The Key Energy Storage Project, SCH# 2022070414 (July 29, 2022), available at <https://files.ceqanet.opr.ca.gov/280337-1/attachment/VtQ0Lk3wcnzAnfMfipBdvmFw8JMd86w00lalMkLCBvIbX7T0kOwMREmms6XKPCmXvGAZBtSqAGInAFv30>.

<sup>65</sup> *Id.* at 2.

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to avoid or reduce environmental damage when “feasible” by requiring the implementation of all feasible mitigation measures.<sup>66</sup> If the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has “eliminated or substantially lessened all significant effects on the environment where feasible” and that any unavoidable significant effects on the environment are “acceptable due to overriding concerns.”<sup>67</sup>

The DOC comments recommend that the County consider agricultural conservation easements, among other measures, as potential mitigation.<sup>68</sup> This mitigation can either include the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements.<sup>69</sup> The DEIR must be revised to identify mitigation to eliminate or substantially lessen all significant effects on the environment where feasible.



F-27  
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**B. The DEIR Fails to Identify All Feasible Mitigation to Reduce Valley Fever Impacts to a Less Than Significant Level**

Project construction and decommissioning would result in soil disturbance that could expose construction workers or nearby receptors to *coccidioides immitis* spores (also known as Valley Fever). The DEIR fails to identify mitigation for this potentially significant impact, claiming that compliance with the requirements of AB 203 and San Joaquin Valley Air Pollution Control District (“SJVAPCD”) Rule 802 would ensure that Valley Fever–related impacts on construction workers would be less than significant.<sup>70</sup> AB 203 requires the Applicant to provide effective awareness training on Valley Fever to all employees annually and before an employee begins work that could reasonably be anticipated to cause substantial dust disturbance.<sup>71</sup> SJVAPCD Rule 802 would require the Project to reduce visible dust emissions to less than 20 percent opacity.



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<sup>66</sup> 14 C.C.R. § 15002(a)(2) and (3); see also, *Berkeley Jets*, 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564.

<sup>67</sup> PRC § 21081; 14 C.C.R. § 15092(b)(2)(A)-(B).

<sup>68</sup> See Cal. Code Regs., tit. 14, § 15370 [mitigation includes “compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements.”]

<sup>69</sup> DOC Comments, pg. 2.

<sup>70</sup> DEIR, pg. 3.4-25.

<sup>71</sup> DEIR, pg. 3.4-25.

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Dr. Clark explains that the measures required by these programs are not sufficient to reduce worker exposure to Valley Fever to a less-than-significant level.<sup>72</sup> CEQA requires public agencies to avoid or reduce significant environmental effects by requiring the implementation of all feasible mitigation measures.<sup>73</sup> Dr. Clark’s comments provide specific, feasible measures to reduce the Project’s Valley Fever impacts. For example, although the DEIR states that the Applicant proposes to provide personal protective respiratory equipment to workers, Dr. Clark identifies the necessary performance standards for the respirators in order to ensure their effectiveness.<sup>74</sup> Dr. Clark’s comments also identify further measures regarding dust exposure control, prevention of transport of cocci outside endemic areas, and medical surveillance for employees.<sup>75</sup>



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Accordingly, the DEIR must be revised to expand and clarify the Project’s Valley Fever measures. The revised measures should include performance standards and be identified as mitigation measures, as CEQA requires mitigation measures to be “fully enforceable through permit conditions, agreements, or other legally binding instruments.”<sup>76</sup>



F-31

**V. CONCLUSION**

For the reasons discussed above, the DEIR for the Project is inadequate under CEQA. It must be revised to provide legally adequate analysis of, and mitigation for, all of the Project’s potentially significant impacts. These revisions will necessarily require that the DEIR be recirculated for additional public review. Until the DEIR has been revised and recirculated, as described herein, the County may not lawfully approve the Project.



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<sup>72</sup> Clark Comments, pg. 5.

<sup>73</sup> 14 C.C.R. § 15002(a)(2) and (3); see also, *Berkeley Jets*, 91 Cal. App. 4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564.

<sup>74</sup> Clark Comments, pg. 10; *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359, 1393; *Quail Botanical, supra*, 29 Cal.App.4th at pg. 1604, fn. 5. (If identification of specific mitigation measures is impractical until a later stage in the Project, specific performance criteria must be articulated and further approvals must be made contingent upon meeting these performance criteria).

<sup>75</sup> Clark Comments, pg. 10-11.

<sup>76</sup> CEQA Guidelines, § 15126.4, subd. (a)(2).

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Thank you for your consideration of these comments. Please include them in the record of proceedings for the Project.

Sincerely,

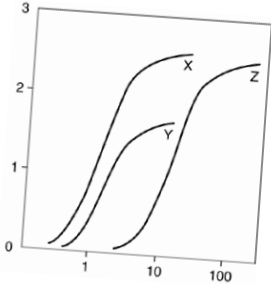


Aidan P. Marshall

Attachments  
APM:acp

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**EXHIBIT A**



November 6, 2023

Adams Broadwell Joseph & Cardozo  
601 Gateway Boulevard, Suite 1000  
South San Francisco, CA 94080

**Attn: Mr. Aidan P. Marshall**

**Clark & Associates**  
Environmental Consulting, Inc.

**OFFICE**  
12405 Venice Blvd  
Suite 331  
Los Angeles, CA 90066

**PHONE**  
310-907-6165

**FAX**  
310-398-7626

**EMAIL**  
jclark.assoc@gmail.com

**Subject: Comment Letter on Draft Environmental Impact Report (DEIR) For Key Energy Storage Project EIR No. 8189m CUP No 3734, State Clearinghouse No. 2022070414 Fresno, California**

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Dear Mr. Marshall:

At the request of Adams Broadwell Joseph & Cardozo (ABJC), Clark and Associates (Clark) has reviewed materials related to the above referenced project.

Clark’s review of the materials in no way constitutes a validation of the conclusions or materials contained within the DEIR. If we do not comment on a specific item, this does not constitute acceptance of the item.

**Project Description:**

Key Energy Storage, LLC (the Applicant) filed an application with the Fresno County Department of Public Works and Planning for an unclassified conditional use permit (CUP) (CUP No. 3734) to construct, operate, maintain, and decommission the Key Energy Storage Project (Project) on approximately 260 acres of private property in western Fresno County.

The Project would be receiving energy (charging) from the point of interconnection (POI) with the regional electric transmission system at the existing Pacific Gas and Electric Company (PG&E) Gates Substation, storing energy, and then later delivering energy (discharging) back to the POI. The Project would consist of batteries using lithium-ion and/or iron-flow storage technology. On-site support facilities would include a collector substation;



F-33

power conversion systems, including bi-directional inverters, transformers, and associated connection lines; heating, ventilation, and air conditioning units; fencing; access roads; a supervisory control and data acquisition (SCADA) system; and security lighting. Diesel generators may be needed temporarily during construction. The Project would be capable of storing approximately 3 gigawatts of energy when completed.

Key Energy Storage, LLC and PG&E would construct, operate, and maintain a new 2,500-foot-long (up to 0.5-mile) 500-kilovolt transmission line between the Project site and the Gates Substation. This line would be installed on new lattice steel towers, each up to 200feet tall, which would be spaced at approximately 500-foot intervals. PG&E’s interconnection infrastructure work also would include other modifications within the existing boundaries of the Gates Substation as well as at PG&E’s existing Midway Substation, which is located in Buttonwillow, an unincorporated community in Kern County, California.

The Project site is located 4 miles southwest of the city of Huron, approximately 1,700 feet northeast of Interstate 5 (I-5), immediately south of West Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to PG&E’s existing Gates Substation.





Figure 1: Project Site Location

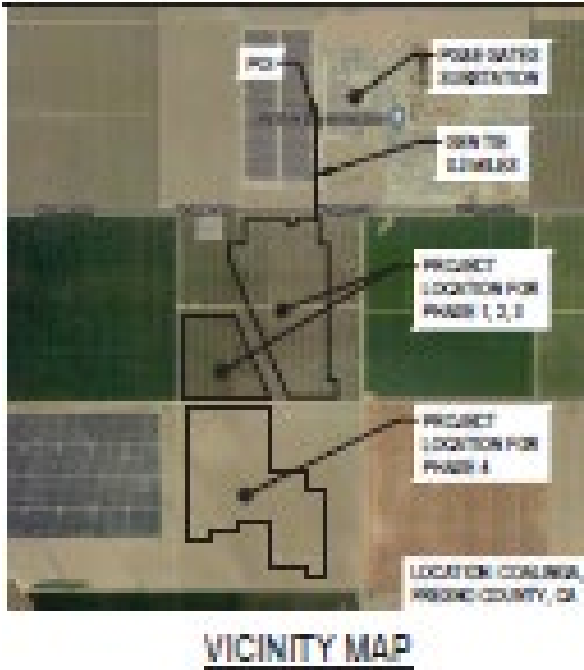


Figure 2: Project Site Plan

The DEIR concludes that there are no significant air impacts from the project on air quality in the area and that the construction and decommissioning of the project would not expose sensitive populations to the risk of developing Valley Fever. The conclusion that there are no air quality impacts is in conflict with the facts provided within the DEIR.

Specific Comments:

**1. The DEIR’s Description of The Construction Phase Is In Conflict With The Description From The Air Quality Analysis of The Project**

According to the DEIR’s description of the Project, “The requested conditional use permit (CUP) would have a 40-year term, during which the Project would be constructed in phases, operated and maintained, and then decommissioned. Project development would occur in four phases, with later phases scheduled for implementation based on the region’s increasing demand for energy storage.

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Phase 1 construction would begin in 2024 and Phase 2 would begin in 2025. Phases 3 and 4 would be constructed between 1 and 3 years after the previous phase, based on the region’s increasing demand for energy storage. Each construction phase would last between 14 and 24 months per phase depending on the battery option chosen with total construction duration of approximately 6 years for either battery option. Specifically, construction of the Lithium Ion Battery option is anticipated to take a total of *approximately 76 months* and construction of the Lithium Ion Battery with Iron Flow Battery option is anticipated to take *a total of 68 months*. The O&M periods for Phase 1 and Phase 2 are projected to begin in 2025 and 2026, respectively. It is assumed that all phases would be in operation by 2032. Decommissioning and site restoration for each phase would occur over a 12-month period. Phases 1, 2, and 3 would be constructed on APN 085-040-58; Phase 4 would be constructed on APNs 085- 040-37 and 085-040-36.”<sup>1</sup>

In Appendix D of the DEIR (Air Quality Analysis) in the Impact Analysis AQ-2 the description of the construction options is very different. “Construction of the Project would require between 14 and 24 months per phase depending on the battery option chosen with total construction duration of approximately 6 years for either battery option. Specifically, construction of the Lithium Ion Battery option is anticipated to take a total of approximately *76 weeks* and construction of the Lithium Ion Battery with Iron Flow Battery option is anticipated to take a total of *104 weeks*.” The difference in the total emissions based on the assumption of weeks versus months of construction is significant. The County must correct this flaw and determine the actual duration of the construction phase(s) so that an accurate measure of the air quality impacts can be performed. This assessment must be presented in a revised DEIR.

**2. The DEIR Minimizes The Impacts from Exposure to *Coccidioides Immitis* (Valley Fever Cocc) From Particulate Matter Released From Site During Construction Activities of The Project.**

The DEIR fails to adequately address the known presence/issue of *Coccidioides Immitis* (Valley Fever Cocc) in the High Desert Portion of Southern California. Dust exposure is one of the primary



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<sup>1</sup> ESA. 2023. Draft Environmental Impact Report (DEIR) For Key Energy Storage Project EIR No. 8189m CUP No 3734, State Clearinghouse No. 2022070414 Fresno, California pgs 2-6 to 2-11

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risk factors for contracting Valley Fever (via *Coccidioides immitis (cocci)* exposure). When soil containing the *cocci* spores are disturbed by construction activities, the fungal spores become airborne, exposing construction workers and other nearby sensitive receptors.

The fungus lives in the top 2 to 12 inches of soil. When soil containing this fungus is disturbed by activities such as digging, vehicles, construction activities, dust storms, or during earthquakes, the fungal spores become airborne. The location of the Project site is in the area known to the County of Fresno to have the highest rates of Valley Fever.



Figure 3: Elevated Areas of Valley Fever In Fresno County

According to the California Department of Public Health (CDPH) the number of reported Valley fever cases has greatly increased in recent years. In fact, Valley fever cases tripled from 2014–2018, and from 2018–2022, between 7,000 and 9,000 cases were reported each year.<sup>2</sup> The

<sup>2</sup> CDPH. 2023. Valley Fever. <https://www.cdph.ca.gov/Programs/CID/DCDC/pages/Coccidioidomycosis.aspx>



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cont.

most at-risk populations are construction and agricultural workers.<sup>3</sup> Here, construction workers are the very population that would be most directly exposed by the Project. A referenced journal article on occupational exposures notes that “[l]abor groups where occupation involves close contact with the soil are at greater risk, especially if the work involves dusty digging operations.”<sup>4</sup>

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cont.

### Fine Particulate Matter Size Comparison



Figure 4: Fine Particle Matter Size Comparison

Very small particles require different mitigation measures than the much larger PM<sub>10</sub>. The settling velocity of a particle (the amount of time a particle takes to fall to the ground) is proportional to the diameter of the spherical particle squared. The larger the particle diameter, the faster the particle will settle. The smaller the particle diameter, the longer it will stay suspended in air. As was noted in my initial comments *Coccidioides Immitis* spores are very small. The spores are typically 0.002–0.005 millimeters (“mm”) or 2 microns to 5 microns in diameter.

In a 2004 paper regarding the fate of viruses and bacteria, including spores, in the air, Utrup and Frey<sup>5</sup> noted that smaller particles like spores require significantly longer to settle out of air. For particles 10 um in diameter the settling time is measured in minutes. For particles less than 10 um

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<sup>3</sup> Lawrence L. Schmelzer and R. Tabershaw, Exposure Factors in Occupational Coccidioidomycosis, *American Journal of Public Health and the Nation’s Health*, v. 58, no. 1, 1968, pp. 107–113, Table 3; available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1228046/?page=1>.

<sup>4</sup> *Ibid.*, p. 110.

<sup>5</sup> Utrup, L. and A. Frey. 2004. Fate of Bioterrorism-Relevant Viruses and Bacteria, Including Spores, Aerosolized into an Indoor Air Environment. *Experimental Biology and Medicine* 229(4):345-50

in diameter, the settling time is measured in hours. This would allow the spores to travel significantly longer distances impacting receptors at greater distances.

| Particle settling time in still air |                              |
|-------------------------------------|------------------------------|
| Particle size (µm)                  | Time required to settle 8 ft |
| 100                                 | 8 secs                       |
| 10                                  | 13 mins                      |
| 1                                   | 19 hrs                       |
| 0.1                                 | 79 days                      |
| 0.01                                | Infinite                     |

Characteristics of Aerosols and Particle Settling Time in Still Air

Figure 5: Particle Settling Times

Clearly, based on the particle size and setting rate, Valley Fever spores present in soils are capable of travel many miles following the disturbance of impacted soils. The County must correct their speculative answer with an accurate assessment of the threat posed to residents and other sensitive receptors in the area.

The County’s response that dust from the construction of the project is not anticipated to exacerbate or significantly add to the existing exposure of people to Valley Fever is misplaced at best. As noted above the rates of Valley Fever are rising across California and the in particular the rates of Valley Fever are increasing in Fresno County in particular. The number of cases of Valley Fever in Fresno County has increased from 161 in 2014 to 625 in 2019 (an increase of 388 percent), as reported by the California Department of Public Health (CDPH).<sup>6</sup> In 2022, 320 cases were recorded in Fresno County,<sup>7</sup> approximately twice as many as the amounts reported in 2015. In the first 3

<sup>6</sup> CDPH. 2019. Epidemiologic Summary of Valley Fever (Coccidioidomycosis) In California, 2019. Surveillance and Statistics Section, Infection Diseases Branch, Division of Communicable Disease Control, Center For Infectious Diseases, California Department of Public Health. <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2019.pdf>

<sup>7</sup> CDPH. 2023. Coccidioidomycosis In California, Provisional Monthly Report, January – September 2023 (as of September 30, 2023). Surveillance and Statistics Section, Infection Diseases Branch, Division of Communicable Disease Control, Center For Infectious Diseases, California Department of Public Health. <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciinCAProvisionalMonthlyReport.pdf>



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quarters of 2023, Fresno County reported 289 cases, representing a nearly 80% increase over the baseline year of 2014 in only three quarters of the year. Since Valley Fever cases are directly related to the disturbance of soils in the area, the County must directly address the impacts that the project's construction phase will have on the community.

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Valley fever is the initial form of coccidioidomycosis infection. The acute form of Valley Fever can develop into a more serious disease, including chronic and disseminated coccidioidomycosis. The initial, or acute, form of coccidioidomycosis is often mild, with few or no symptoms. Signs and symptoms occur one to three weeks after exposure. They tend to be similar to flu symptoms. Symptoms can range from minor to severe, including:

- Fever
- Cough
- Tiredness
- Shortness of breath
- Headache
- Chills
- Night sweats
- Joint aches and muscle soreness
- Red, spotty rash, mainly on lower legs but sometimes on the chest, arms and back

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If the initial coccidioidomycosis infection doesn't completely resolve, it may progress to a chronic form of pneumonia. This complication is most common in people with weakened immune systems. Signs and symptoms of chronic coccidioidomycosis include:

- Low-grade fever
- Weight loss
- Cough
- Chest pain
- Blood-tinged sputum (matter discharged during coughing)
- Nodules in the lungs

The most serious form of the disease, disseminated coccidioidomycosis, is uncommon. It occurs when the infection spreads (disseminates) beyond the lungs to other parts of the body. Most often these parts include the skin, bones, liver, brain, heart, and the membranes that protect the brain

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and spinal cord (meninges). Signs and symptoms of disseminated disease depend on the body parts affected and may include:

- Nodules, ulcers and skin lesions that are more serious than the rash that sometimes occurs with initial infection
- Painful lesions in the skull, spine or other bones
- Painful, swollen joints, especially in the knees or ankles
- Meningitis — an infection of the membranes and fluid surrounding the brain and spinal cord



F-40  
cont.

Given the wide range of public health impacts from coccidioidomycosis infection/exposure it is clear that

The County’s responses are not protective of the community and they should require specific mitigation measures to prevent the spread of Valley Fever in the community. The County should require the following measures to ensure the safety of the community (listed below).

1. Control dust exposure:
  - Apply chemical stabilizers at least 24-hours prior to high wind event;
  - Apply water to all disturbed areas a minimum of three times per day. Watering frequency should be increased to a minimum of four times per day if there is any evidence of visible wind-driven fugitive dust;
  - Provide National Institute for Occupational Safety and Health (NIOSH)-approved respirators for workers with a prior history of Valley Fever.
  - Half-face respirators equipped with a minimum N-95 protection factor for use during worker collocation with surface disturbance activities. Half-face respirators equipped with N-100 or P-100 filters should be used during digging activities. Employees should wear respirators when working near earth-moving machinery.
  - Prohibit eating and smoking at the worksite, and provide separate, clean eating areas with hand-washing facilities.
  - Avoid outdoor construction operations during unusually windy conditions or in dust storms.
  - Consider limiting outdoor construction during the fall to essential jobs only, as the risk of cocci infection is higher during this season.



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2. Prevent transport of cocci outside endemic areas:
  - Thoroughly clean equipment, vehicles, and other items before they are moved off-site to other work locations.
  - Prevent spillage or loss of bulk material from holes or other openings in the cargo compartment's floor, sides, and/or tailgate;
  - Load all haul trucks such that the freeboard is not less than six inches when material is transported on any paved public access road and apply water to the top of the load sufficient to limit VDE to 20 percent opacity; or cover haul trucks with a tarp or other suitable cover.
  - Provide workers with coveralls daily, lockers (or other systems for keeping work and street clothing and shoes separate), daily changing and showering facilities.
  - Clothing should be changed after work every day, preferably at the work site.
  - Train workers to recognize that cocci may be transported offsite on contaminated equipment, clothing, and shoes; alternatively, consider installing boot-washing.
  - Post warnings onsite and consider limiting access to visitors, especially those without adequate training and respiratory protection.
3. Improve medical surveillance for employees:
  - Employees should have prompt access to medical care, including suspected work-related illnesses and injuries.
  - Work with a medical professional to develop a protocol to medically evaluate employees who have symptoms of Valley Fever.
  - Consider preferentially contracting with 1-2 clinics in the area and communicate with the health care providers in those clinics to ensure that providers are aware that Valley Fever has been reported in the area. This will increase the likelihood that ill workers will receive prompt, proper and consistent medical care.
  - Respirator clearance should include medical evaluation for all new employees, annual re-evaluation for changes in medical status, and annual training, and fit-testing.



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- Skin testing is not recommended for evaluation of Valley Fever.<sup>8</sup>
- If an employee is diagnosed with Valley Fever, a physician must determine if the employee should be taken off work, when they may return to work, and what type of work activities they may perform.

The failure to identify real mitigation measures based on actual experience during construction of solar and wind projects in endemic areas is a significant flaw in the DEIR. The County must include concrete measures like the ones listed above in a revised DEIR of the Project.

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**3. The County’s Air Quality Analysis Fails To Include A Quantitative Health Risk Analysis Of The Impacts Of Toxic Air Contaminants From The Construction Phase And The Operational Phase Of The Project For The Nearest Sensitive Receptor(s)**

The Air Quality Analysis does not present a quantitative health risk analysis (HRA) for the operational phase or the construction phase of the Project, even though the Project will release chemicals known to the State of California to cause cancer. Diesel exhaust, in particular DPM, is classified by the State of California as a toxic air contaminant (TAC). The determination of a significance threshold is based on a *quantitative risk analysis* that requires the County to perform a multistep, quantitative health risk analysis for TACs.<sup>9</sup> The DEIR’s claim that since the nearest receptors are over 3,000 feet away the onsite activity would be negligible is inadequate for the purposes of determining the impacts from the Project on the community.

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TACs, including DPM<sup>10</sup>, contribute to a host of respiratory impacts and may lead to the development of various cancers. Failing to quantify those impacts places the community at risk for unwanted adverse health impacts. *Even brief exposures to the TACs could lead to the development of adverse health impacts over the life of an individual.*

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<sup>8</sup> Short-term skin tests that produce results within 48 hours are now available. See Kerry Klein, NPR for Central California, New Valley Fever Skin Test Shows Promise, But Obstacles Remain, November 21, 2016; available at <http://kvpr.org/post/new-valley-fever-skin-test-shows-promise-obstacles-remain>.

<sup>9</sup> City of Los Angeles. 2019. Air Quality and Health Effects Guidance. Pg 9, pg 36.

<sup>10</sup> Because DPM is a TAC, it is a different air pollutant than criteria particulate matter (PM) emissions such as PM10, PM2.5, and fugitive dust. DPM exposure causes acute health effects that are different from the effects of exposure to PM alone.



Diesel exhaust contains nearly 40 toxic substances, including TACs, and may pose a serious public health risk for residents in the vicinity of the facility. TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. The current California list of TACs includes approximately 200 compounds, including particulate emissions from diesel-fueled engines.

Diesel exhaust has been linked to a range of serious health problems including an increase in respiratory disease, lung damage, cancer, and premature death.<sup>11,12,13</sup> Fine DPM is deposited deep in the lungs in the smallest airways and can result in increased respiratory symptoms and disease; decreased lung function, particularly in children and individuals with asthma; alterations in lung tissue and respiratory tract defense mechanisms; and premature death.<sup>14</sup> Exposure to DPM increases the risk of lung cancer. It also causes non-cancer effects including chronic bronchitis, inflammation of lung tissue, thickening of the alveolar walls, immunological allergic reactions, and airway constriction.<sup>15</sup> DPM is a TAC that is recognized by state and federal agencies as causing severe health risk because it contains toxic materials, unlike PM<sub>2.5</sub> and PM<sub>10</sub>.<sup>16</sup>

The inherent toxicity of TACs requires the County to first quantify the concentration released into the environment at each of the sensitive receptor locations (including the closest residence) through air dispersion modeling, calculate the dose of each TAC at that location, and quantify the



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<sup>11</sup> California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998; see also California Air Resources Board, Overview: Diesel Exhaust & Health, <https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health#:~:text=Diesel%20Particulate%20Matter%20and%20Health&text=In%201998%2C%20CARB%20identified%20DPM.and%20other%20adverse%20health%20effects>.

<sup>12</sup> U.S. EPA, Health Assessment Document for Diesel Engine Exhaust, Report EPA/600/8-90/057F, May 2002.

<sup>13</sup> Environmental Defense Fund, Cleaner Diesel Handbook, Bring Cleaner Fuel and Diesel Retrofits into Your Neighborhood, April 2005; [http://www.edf.org/documents/4941\\_cleanerdieselhandbook.pdf](http://www.edf.org/documents/4941_cleanerdieselhandbook.pdf), accessed July 5, 2020.

<sup>14</sup> California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Staff Report, June 1998.

<sup>15</sup> Findings of the Scientific Review Panel on The Report on Diesel Exhaust as adopted at the Panel’s April 22, 1998 Meeting.

<sup>16</sup> Health & Safety Code § 39655(a) (defining “toxic air contaminant” as air pollutants “which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412 (b)) is a toxic air contaminant.”)

cancer risk and hazard index for each of the chemicals of concern. Following that analysis, then the County can make a determination of the relative significance of the emissions.

These receptors would be exposed to TACs released during Project construction and operation, including DPM. No effort is made in the DEIR to quantify the potential health impacts from DPM generated by construction activities or operational activities from the Project on these sensitive receptors. The County therefore lacks supporting evidence for its conclusion that the Project would not result in significant health impacts. The County’s failure to perform such an analysis is clearly a major flaw in the DEIR and may be placing the occupants of the adjacent structures at risk from the construction and operation of the Project.

There is notable precedent requiring a quantitative analysis of TACs from diesel exhaust in CEQA documents. Moreover, the absence of this analysis renders the DEIR’s health risk analysis incomplete. In a 2017 Notice of Preparation of a CEQA Document for the Los Robles Apartments Project, SCAQMD<sup>17</sup> noted that:

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment (“Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis”) can be found at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysishandbook/mobile-source-toxics-analysis>. An analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants should also be included.

This is a common and feasible analysis that is routinely performed for development projects like the Key Energy Storage Project. This omission (lack of HRA) is a continuing flaw that must be addressed by the County. The results should then be presented in a revised EIR prior to approving, or issuing any permits for, the Project.

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<sup>17</sup> SCAQMD. 2017. Comment Letter To David Sanchez, Senior Planner City of Pasadena from Jillian Wong, Planning and Rules Manager, SCAQMD.

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**Conclusion**

The facts identified and referenced in this comment letter leads me to reasonably conclude that the Project could result in significant impacts if allowed to proceed. A revised environmental impact report should be prepared to address these substantial concerns.

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Sincerely,

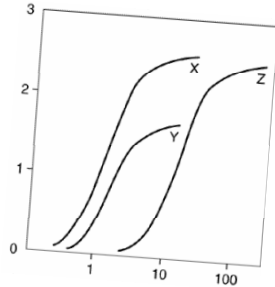
A handwritten signature in black ink, appearing to read "H. J. Coe".

Exhibit A:

Curriculum Vitae

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**James J. J. Clark, Ph.D.**

*Principal Toxicologist*

**Toxicology/Exposure Assessment Modeling**

**Risk Assessment/Analysis/Dispersion Modeling**

**Education:**

Ph.D., Environmental Health Science, University of California, 1995

M.S., Environmental Health Science, University of California, 1993

B.S., Biophysical and Biochemical Sciences, University of Houston, 1987

**Professional Experience:**

Dr. Clark is a well recognized toxicologist, air modeler, and health scientist. He has 20 years of experience in researching the effects of environmental contaminants on human health including environmental fate and transport modeling (SCREEN3, AEROMOD, ISCST3, Johnson-Ettinger Vapor Intrusion Modeling); exposure assessment modeling (partitioning of contaminants in the environment as well as PBPK modeling); conducting and managing human health risk assessments for regulatory compliance and risk-based clean-up levels; and toxicological and medical literature research.

Significant projects performed by Dr. Clark include the following:

**LITIGATION SUPPORT**

**Case: James Harold Caygle, et al, v. Drummond Company, Inc. Circuit Court for the Tenth Judicial Circuit, Jefferson County, Alabama. Civil Action. CV-2009**

**Client: Environmental Litgation Group, Birmingham, Alabama**

Dr. Clark performed an air quality assessment of emissions from a coke factory located in Tarrant, Alabama. The assessment reviewed include a comprehensive review of air quality standards, measured concentrations of pollutants from factory, an inspection of the facility and detailed assessment of the impacts on the community. The results of the assessment and literature have been provided in a declaration to the court.

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**Case Result: Settlement in favor of plaintiff.**

**Case: Rose Roper V. Nissan North America, et al. Superior Court of the State Of California for the County Of Los Angeles – Central Civil West. Civil Action. NC041739**

**Client: Rose, Klein, Marias, LLP, Long Beach, California**

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to multiple chemicals, including benzene, who later developed a respiratory distress. A review of the individual's medical and occupational history was performed to prepare an exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to respiratory irritants. The results of the assessment and literature have been provided in a declaration to the court.

**Case Result: Settlement in favor of plaintiff.**

**Case: O'Neil V. Sherwin Williams, et al. United States District Court Central District of California**

**Client: Rose, Klein, Marias, LLP, Long Beach, California**

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to petroleum distillates who later developed a bladder cancer. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The results of the assessment and literature have been provided in a declaration to the court.

**Case Result: Summary judgment for defendants.**

**Case: Moore V., Shell Oil Company, et al. Superior Court of the State Of California for the County Of Los Angeles**

**Client: Rose, Klein, Marias, LLP, Long Beach, California**

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to chemicals while benzene who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.



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**Case Result: Settlement in favor of plaintiff.**

**Case: Raymond Saltonstall V. Fuller O'Brien, KILZ, and Zinsser, et al. United States District Court Central District of California**

**Client: Rose, Klein, Marias, LLP, Long Beach, California**

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to benzene who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a quantitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

**Case Result: Settlement in favor of plaintiff.**

**Case: Richard Boyer and Elizabeth Boyer, husband and wife, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-7G.**

**Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.**

Dr. Clark performed a toxicological assessment of a family exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

**Case Result: Settlement in favor of plaintiff.**



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**Case: JoAnne R. Cook, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-9R**

**Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.**

Dr. Clark performed a toxicological assessment of an individual exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

**Case Result: Settlement in favor of plaintiff.**

**Case: Patrick Allen And Susan Allen, husband and wife, and Andrew Allen, a minor, V. DESCO Corporation, et al. Circuit Court of Brooke County, West Virginia. Civil Action Number 04-C-W**

**Client: Frankovitch, Anetakis, Colantonio & Simon, Morgantown, West Virginia.**

Dr. Clark performed a toxicological assessment of a family exposed to chlorinated solvents released from the defendant's facility into local drinking water supplies. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to chlorinated solvents. The results of the assessment and literature have been provided in a declaration to the court.

**Case Result: Settlement in favor of plaintiff.**

**Case: Michael Fahey, Susan Fahey V. Atlantic Richfield Company, et al. United States District Court Central District of California Civil Action Number CV-06 7109 JCL.**



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**Client: Rose, Klein, Marias, LLP, Long Beach, California**

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to refined petroleum hydrocarbons who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

**Case Result: Settlement in favor of plaintiff.**

**Case: Constance Acevedo, et al., V. California Spray-Chemical Company, et al., Superior Court of the State Of California, County Of Santa Cruz. Case No. CV 146344**

Dr. Clark performed a comprehensive exposure assessment of community members exposed to toxic metals from a former lead arsenate manufacturing facility. The former manufacturing site had undergone a DTSC mandated removal action/remediation for the presence of the toxic metals at the site. Opinions were presented regarding the elevated levels of arsenic and lead (in attic dust and soils) found throughout the community and the potential for harm to the plaintiffs in question.

**Case Result: Settlement in favor of defendant.**

**Case: Michael Nawrocki V. The Coastal Corporation, Kurk Fuel Company, Pautler Oil Service, State of New York Supreme Court, County of Erie, Index Number I2001-11247**

**Client: Richard G. Berger Attorney At Law, Buffalo, New York**

Dr. Clark performed a toxicological assessment of an individual occupationally exposed to refined petroleum hydrocarbons who later developed a leukogenic disease. A review of the individual's medical and occupational history was performed to prepare a qualitative exposure assessment. The exposure assessment was evaluated against the

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known outcomes in published literature to exposure to refined petroleum hydrocarbons. The results of the assessment and literature have been provided in a declaration to the court.

**Case Result: Judgement in favor of defendant.**

**SELECTED AIR MODELING RESEARCH/PROJECTS**

**Client – Confidential**

Dr. Clark performed a comprehensive evaluation of criteria pollutants, air toxins, and particulate matter emissions from a carbon black production facility to determine the impacts on the surrounding communities. The results of the dispersion model will be used to estimate acute and chronic exposure concentrations to multiple contaminants and will be incorporated into a comprehensive risk evaluation.

**Client – Confidential**

Dr. Clark performed a comprehensive evaluation of air toxins and particulate matter emissions from a railroad tie manufacturing facility to determine the impacts on the surrounding communities. The results of the dispersion model have been used to estimate acute and chronic exposure concentrations to multiple contaminants and have been incorporated into a comprehensive risk evaluation.

**Client – Los Angeles Alliance for a New Economy (LAANE), Los Angeles, California**

Dr. Clark is advising the LAANE on air quality issues related to current flight operations at the Los Angeles International Airport (LAX) operated by the Los Angeles World Airport (LAWA) Authority. He is working with the LAANE and LAX staff to develop a comprehensive strategy for meeting local community concerns over emissions from flight operations and to engage federal agencies on the issue of local impacts of community airports.



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**Client – City of Santa Monica, Santa Monica, California**

Dr. Clark is advising the City of Santa Monica on air quality issues related to current flight operations at the facility. He is working with the City staff to develop a comprehensive strategy for meeting local community concerns over emissions from flight operations and to engage federal agencies on the issue of local impacts of community airports.

**Client: Omnitrans, San Bernardino, California**

Dr. Clark managed a public health survey of three communities near transit fueling facilities in San Bernardino and Montclair California in compliance with California Senate Bill 1927. The survey included an epidemiological survey of the effected communities, emission surveys of local businesses, dispersion modeling to determine potential emission concentrations within the communities, and a comprehensive risk assessment of each community. The results of the study were presented to the Governor as mandated by Senate Bill 1927.

**Client: Confidential, San Francisco, California**

Summarized cancer types associated with exposure to metals and smoking. Researched the specific types of cancers associated with exposure to metals and smoking. Provided causation analysis of the association between cancer types and exposure for use by non-public health professionals.

**Client: Confidential, Minneapolis, Minnesota**

Prepared human health risk assessment of workers exposed to VOCs from neighboring petroleum storage/transport facility. Reviewed the systems in place for distribution of petroleum hydrocarbons to identify chemicals of concern (COCs), prepared comprehensive toxicological summaries of COCs, and quantified potential risks from carcinogens and non-carcinogens to receptors at or adjacent to site. This evaluation was used in the support of litigation.

**Client – United Kingdom Environmental Agency**

Dr. Clark is part of team that performed comprehensive evaluation of soil vapor intrusion of VOCs from former landfill adjacent residences for the United Kingdom’s Environment

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Agency. The evaluation included collection of liquid and soil vapor samples at site, modeling of vapor migration using the Johnson Ettinger Vapor Intrusion model, and calculation of site-specific health based vapor thresholds for chlorinated solvents, aromatic hydrocarbons, and semi-volatile organic compounds. The evaluation also included a detailed evaluation of the use, chemical characteristics, fate and transport, and toxicology of chemicals of concern (COC). The results of the evaluation have been used as a briefing tool for public health professionals.

**EMERGING/PERSISTENT CONTAMINANT RESEARCH/PROJECTS**

**Client: Ameren Services, St. Louis, Missouri**

Managed the preparation of a comprehensive human health risk assessment of workers and residents at or near an NPL site in Missouri. The former operations at the Property included the servicing and repair of electrical transformers, which resulted in soils and groundwater beneath the Property and adjacent land becoming impacted with PCB and chlorinated solvent compounds. The results were submitted to U.S. EPA for evaluation and will be used in the final ROD.

**Client: City of Santa Clarita, Santa Clarita, California**

Dr. Clark is managing the oversight of the characterization, remediation and development activities of a former 1,000 acre munitions manufacturing facility for the City of Santa Clarita. The site is impacted with a number of contaminants including perchlorate, unexploded ordinance, and volatile organic compounds (VOCs). The site is currently under a number of regulatory consent orders, including an Imminent and Substantial Endangerment Order. Dr. Clark is assisting the impacted municipality with the development of remediation strategies, interaction with the responsible parties and stakeholders, as well as interfacing with the regulatory agency responsible for oversight of the site cleanup.

**Client: Confidential, Los Angeles, California**

Prepared comprehensive evaluation of perchlorate in environment. Dr. Clark evaluated the production, use, chemical characteristics, fate and transport, toxicology, and remediation of perchlorate. Perchlorates form the basis of solid rocket fuels and have recently been detected in water supplies in the United States. The results of this research

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were presented to the USEPA, National GroundWater, and ultimately published in a recent book entitled *Perchlorate in the Environment*.

**Client – Confidential, Los Angeles, California**

Dr. Clark is performing a comprehensive review of the potential for pharmaceuticals and their by-products to impact groundwater and surface water supplies. This evaluation will include a review if available data on the history of pharmaceutical production in the United States; the chemical characteristics of various pharmaceuticals; environmental fate and transport; uptake by xenobiotics; the potential effects of pharmaceuticals on water treatment systems; and the potential threat to public health. The results of the evaluation may be used as a briefing tool for non-public health professionals.

**PUBLIC HEALTH/TOXICOLOGY**

**Client: Brayton Purcell, Novato, California**

Dr. Clark performed a toxicological assessment of residents exposed to methyl-tertiary butyl ether (MTBE) from leaking underground storage tanks (LUSTs) adjacent to the subject property. The symptomology of residents and guests of the subject property were evaluated against the known outcomes in published literature to exposure to MTBE. The study found that residents had been exposed to MTBE in their drinking water; that concentrations of MTBE detected at the site were above regulatory guidelines; and, that the symptoms and outcomes expressed by residents and guests were consistent with symptoms and outcomes documented in published literature.

**Client: Confidential, San Francisco, California**

Identified and analyzed fifty years of epidemiological literature on workplace exposures to heavy metals. This research resulted in a summary of the types of cancer and non-cancer diseases associated with occupational exposure to chromium as well as the mortality and morbidity rates.

**Client: Confidential, San Francisco, California**

Summarized major public health research in United States. Identified major public health research efforts within United States over last twenty years. Results were used as a briefing tool for non-public health professionals.



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cont.

**Client: Confidential, San Francisco, California**

Quantified the potential multi-pathway dose received by humans from a pesticide applied indoors. Part of team that developed exposure model and evaluated exposure concentrations in a comprehensive report on the plausible range of doses received by a specific person. This evaluation was used in the support of litigation.

**Client: Covanta Energy, Westwood, California**

Evaluated health risk from metals in biosolids applied as soil amendment on agricultural lands. The biosolids were created at a forest waste cogeneration facility using 96% whole tree wood chips and 4 percent green waste. Mass loading calculations were used to estimate Cr(VI) concentrations in agricultural soils based on a maximum loading rate of 40 tons of biomass per acre of agricultural soil. The results of the study were used by the Regulatory agency to determine that the application of biosolids did not constitute a health risk to workers applying the biosolids or to residences near the agricultural lands.

**Client – United Kingdom Environmental Agency**

Oversaw a comprehensive toxicological evaluation of methyl-*tertiary* butyl ether (MtBE) for the United Kingdom’s Environment Agency. The evaluation included available data on the production, use, chemical characteristics, fate and transport, toxicology, and remediation of MtBE. The results of the evaluation have been used as a briefing tool for public health professionals.

**Client – Confidential, Los Angeles, California**

Prepared comprehensive evaluation of *tertiary* butyl alcohol (TBA) in municipal drinking water system. TBA is the primary breakdown product of MtBE, and is suspected to be the primary cause of MtBE toxicity. This evaluation will include available information on the production, use, chemical characteristics, fate and transport in the environment, absorption, distribution, routes of detoxification, metabolites, carcinogenic potential, and remediation of TBA. The results of the evaluation were used as a briefing tool for non-public health professionals.

**Client – Confidential, Los Angeles, California**

Prepared comprehensive evaluation of methyl *tertiary* butyl ether (MTBE) in municipal drinking water system. MTBE is a chemical added to gasoline to increase the octane

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cont.

rating and to meet Federally mandated emission criteria. The evaluation included available data on the production, use, chemical characteristics, fate and transport, toxicology, and remediation of MTBE. The results of the evaluation have been used as a briefing tool for non-public health professionals.

**Client – Ministry of Environment, Lands & Parks, British Columbia**

Dr. Clark assisted in the development of water quality guidelines for methyl tertiary-butyl ether (MTBE) to protect water uses in British Columbia (BC). The water uses to be considered includes freshwater and marine life, wildlife, industrial, and agricultural (e.g., irrigation and livestock watering) water uses. Guidelines from other jurisdictions for the protection of drinking water, recreation and aesthetics were to be identified.

**Client: Confidential, Los Angeles, California**

Prepared physiologically based pharmacokinetic (PBPK) assessment of lead risk of receptors at middle school built over former industrial facility. This evaluation is being used to determine cleanup goals and will be basis for regulatory closure of site.

**Client: Kaiser Venture Incorporated, Fontana, California**

Prepared PBPK assessment of lead risk of receptors at a 1,100-acre former steel mill. This evaluation was used as the basis for granting closure of the site by lead regulatory agency.

**RISK ASSESSMENTS/REMEDIAL INVESTIGATIONS**

**Client: Confidential, Atlanta, Georgia**

Researched potential exposure and health risks to community members potentially exposed to creosote, polycyclic aromatic hydrocarbons, pentachlorophenol, and dioxin compounds used at a former wood treatment facility. Prepared a comprehensive toxicological summary of the chemicals of concern, including the chemical characteristics, absorption, distribution, and carcinogenic potential. Prepared risk characterization of the carcinogenic and non-carcinogenic chemicals based on the exposure assessment to quantify the potential risk to members of the surrounding community. This evaluation was used to help settle class-action tort.



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cont.

**Client: Confidential, Escondido, California**

Prepared comprehensive Preliminary Endangerment Assessment (PEA) of dense non-aqueous liquid phase hydrocarbon (chlorinated solvents) contamination at a former printed circuit board manufacturing facility. This evaluation was used for litigation support and may be used as the basis for reaching closure of the site with the lead regulatory agency.

**Client: Confidential, San Francisco, California**

Summarized epidemiological evidence for connective tissue and autoimmune diseases for product liability litigation. Identified epidemiological research efforts on the health effects of medical prostheses. This research was used in a meta-analysis of the health effects and as a briefing tool for non-public health professionals.

**Client: Confidential, Bogotá, Columbia**

Prepared comprehensive evaluation of the potential health risks associated with the redevelopment of a 13.7 hectares plastic manufacturing facility in Bogotá, Colombia. The risk assessment was used as the basis for the remedial goals and closure of the site.

**Client: Confidential, Los Angeles, California**

Prepared comprehensive human health risk assessment of students, staff, and residents potentially exposed to heavy metals (principally cadmium) and VOCs from soil and soil vapor at 12-acre former crude oilfield and municipal landfill. The site is currently used as a middle school housing approximately 3,000 children. The evaluation determined that the site was safe for the current and future uses and was used as the basis for regulatory closure of site.

**Client: Confidential, Los Angeles, California**

Managed remedial investigation (RI) of heavy metals and volatile organic chemicals (VOCs) for a 15-acre former manufacturing facility. The RI investigation of the site included over 800 different sampling locations and the collection of soil, soil gas, and groundwater samples. The site is currently used as a year round school housing approximately 3,000 children. The Remedial Investigation was performed in a manner

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cont.



that did not interrupt school activities and met the time restrictions placed on the project by the overseeing regulatory agency. The RI Report identified the off-site source of metals that impacted groundwater beneath the site and the sources of VOCs in soil gas and groundwater. The RI included a numerical model of vapor intrusion into the buildings at the site from the vadose zone to determine exposure concentrations and an air dispersion model of VOCs from the proposed soil vapor treatment system. The Feasibility Study for the Site is currently being drafted and may be used as the basis for granting closure of the site by DTSC.

**Client: Confidential, Los Angeles, California**

Prepared comprehensive human health risk assessment of students, staff, and residents potentially exposed to heavy metals (principally lead), VOCs, SVOCs, and PCBs from soil, soil vapor, and groundwater at 15-acre former manufacturing facility. The site is currently used as a year round school housing approximately 3,000 children. The evaluation determined that the site was safe for the current and future uses and will be basis for regulatory closure of site.

**Client: Confidential, Los Angeles, California**

Prepared comprehensive evaluation of VOC vapor intrusion into classrooms of middle school that was former 15-acre industrial facility. Using the Johnson-Ettinger Vapor Intrusion model, the evaluation determined acceptable soil gas concentrations at the site that did not pose health threat to students, staff, and residents. This evaluation is being used to determine cleanup goals and will be basis for regulatory closure of site.

Client –Dominguez Energy, Carson, California

Prepared comprehensive evaluation of the potential health risks associated with the redevelopment of 6-acre portion of a 500-acre oil and natural gas production facility in Carson, California. The risk assessment was used as the basis for closure of the site.

**Kaiser Ventures Incorporated, Fontana, California**

Prepared health risk assessment of semi-volatile organic chemicals and metals for a fifty-year old wastewater treatment facility used at a 1,100-acre former steel mill. This evaluation was used as the basis for granting closure of the site by lead regulatory agency.



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cont.

ANR Freight - Los Angeles, California

Prepared a comprehensive Preliminary Endangerment Assessment (PEA) of petroleum hydrocarbon and metal contamination of a former freight depot. This evaluation was as the basis for reaching closure of the site with lead regulatory agency.

**Kaiser Ventures Incorporated, Fontana, California**

Prepared comprehensive health risk assessment of semi-volatile organic chemicals and metals for 23-acre parcel of a 1,100-acre former steel mill. The health risk assessment was used to determine clean up goals and as the basis for granting closure of the site by lead regulatory agency. Air dispersion modeling using ISCST3 was performed to determine downwind exposure point concentrations at sensitive receptors within a 1 kilometer radius of the site. The results of the health risk assessment were presented at a public meeting sponsored by the Department of Toxic Substances Control (DTSC) in the community potentially affected by the site.

**Unocal Corporation - Los Angeles, California**

Prepared comprehensive assessment of petroleum hydrocarbons and metals for a former petroleum service station located next to sensitive population center (elementary school). The assessment used a probabilistic approach to estimate risks to the community and was used as the basis for granting closure of the site by lead regulatory agency.

**Client: Confidential, Los Angeles, California**

Managed oversight of remedial investigation most contaminated heavy metal site in California. Lead concentrations in soil excess of 68,000,000 parts per billion (ppb) have been measured at the site. This State Superfund Site was a former hard chrome plating operation that operated for approximately 40-years.

**Client: Confidential, San Francisco, California**

Coordinator of regional monitoring program to determine background concentrations of metals in air. Acted as liaison with SCAQMD and CARB to perform co-location sampling and comparison of accepted regulatory method with ASTM methodology.

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cont.

**Client: Confidential, San Francisco, California**

Analyzed historical air monitoring data for South Coast Air Basin in Southern California and potential health risks related to ambient concentrations of carcinogenic metals and volatile organic compounds. Identified and reviewed the available literature and calculated risks from toxins in South Coast Air Basin.

**IT Corporation, North Carolina**

Prepared comprehensive evaluation of potential exposure of workers to air-borne VOCs at hazardous waste storage facility under SUPERFUND cleanup decree. Assessment used in developing health based clean-up levels.

**Professional Associations**

American Public Health Association (APHA)  
Association for Environmental Health and Sciences (AEHS)  
American Chemical Society (ACS)  
California Redevelopment Association (CRA)  
International Society of Environmental Forensics (ISEF)  
Society of Environmental Toxicology and Chemistry (SETAC)

**Publications and Presentations:**

**Books and Book Chapters**

- Sullivan, P., **J.J. J. Clark**, F.J. Agardy, and P.E. Rosenfeld. (2007). *Synthetic Toxins In The Food, Water and Air of American Cities*. Elsevier, Inc. Burlington, MA.
- Sullivan, P. and **J.J. J. Clark**. 2006. *Choosing Safer Foods, A Guide To Minimizing Synthetic Chemicals In Your Diet*. Elsevier, Inc. Burlington, MA.
- Sullivan, P., Agardy, F.J., and **J.J.J. Clark**. 2005. *The Environmental Science of Drinking Water*. Elsevier, Inc. Burlington, MA.
- Sullivan, P.J., Agardy, F.J., **Clark, J.J.J.** 2002. *America's Threatened Drinking Water: Hazards and Solutions*. Trafford Publishing, Victoria B.C.
- Clark, J.J.J.** 2001. "TBA: Chemical Properties, Production & Use, Fate and Transport, Toxicology, Detection in Groundwater, and Regulatory Standards" in *Oxygenates in the Environment*. Art Diaz, Ed.. Oxford University Press: New York.
- Clark, J.J.J.** 2000. "Toxicology of Perchlorate" in *Perchlorate in the Environment*. Edward Urbansky, Ed. Kluwer/Plenum: New York.
- Clark, J.J.J.** 1995. Probabilistic Forecasting of Volatile Organic Compound Concentrations At The Soil Surface From Contaminated Groundwater. UMI.

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Baker, J.; **Clark, J.J.J.**; Stanford, J.T. 1994. Ex Situ Remediation of Diesel Contaminated Railroad Sand by Soil Washing. Principles and Practices for Diesel Contaminated Soils, Volume III. P.T. Kostecki, E.J. Calabrese, and C.P.L. Barkan, eds. Amherst Scientific Publishers, Amherst, MA. pp 89-96.

**Journal and Proceeding Articles**

Tam L. K., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, Volume 70 (2008) page 002254.

Tam L. K., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008) Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, Volume 70 (2008) page 000527

Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** (2007). "Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." *Environmental Research*. 105:194-199.

Rosenfeld, P.E., **Clark, J. J.**, Hensley, A.R., and Suffet, I.H. 2007. "The Use Of An Odor Wheel Classification For The Evaluation of Human Health Risk Criteria For Compost Facilities" *Water Science & Technology*. 55(5): 345-357.

Hensley A.R., Scott, A., Rosenfeld P.E., **Clark, J.J.J.** 2006. "Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility." The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006, August 21 – 25, 2006. Radisson SAS Scandinavia Hotel in Oslo Norway.

Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2005. "The Value Of An Odor Quality Classification Scheme For Compost Facility Evaluations" The U.S. Composting Council's 13<sup>th</sup> Annual Conference January 23 - 26, 2005, Crowne Plaza Riverwalk, San Antonio, TX.

Rosenfeld, P.E., **Clark, J. J.** and Suffet, I.H. 2004. "The Value Of An Odor Quality Classification Scheme For Urban Odor" WEFTEC 2004. 77th Annual Technical Exhibition & Conference October 2 - 6, 2004, Ernest N. Morial Convention Center, New Orleans, Louisiana.

**Clark, J.J.J.** 2003. "Manufacturing, Use, Regulation, and Occurrence of a Known Endocrine Disrupting Chemical (EDC), 2,4-Dichlorophenoxyacetic Acid (2,4-D) in California Drinking Water Supplies." National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Minneapolis, MN. March 20, 2003.



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Rosenfeld, P. and **J.J.J. Clark**. 2003. "Understanding Historical Use, Chemical Properties, Toxicity, and Regulatory Guidance" National Groundwater Association Southwest Focus Conference: Water Supply and Emerging Contaminants. Phoenix, AZ. February 21, 2003.

**Clark, J.J.J.**, Brown A. 1999. Perchlorate Contamination: Fate in the Environment and Treatment Options. In Situ and On-Site Bioremediation, Fifth International Symposium. San Diego, CA, April, 1999.

**Clark, J.J.J.** 1998. Health Effects of Perchlorate and the New Reference Dose (RfD). Proceedings From the Groundwater Resource Association Seventh Annual Meeting, Walnut Creek, CA, October 23, 1998.

Browne, T., **Clark, J.J.J.** 1998. Treatment Options For Perchlorate In Drinking Water. Proceedings From the Groundwater Resource Association Seventh Annual Meeting, Walnut Creek, CA, October 23, 1998.

**Clark, J.J.J.**, Brown, A., Rodriguez, R. 1998. The Public Health Implications of MtBE and Perchlorate in Water: Risk Management Decisions for Water Purveyors. Proceedings of the National Ground Water Association, Anaheim, CA, June 3-4, 1998.

**Clark J.J.J.**, Brown, A., Ulrey, A. 1997. Impacts of Perchlorate On Drinking Water In The Western United States. U.S. EPA Symposium on Biological and Chemical Reduction of Chlorate and Perchlorate, Cincinnati, OH, December 5, 1997.

**Clark, J.J.J.**; Corbett, G.E.; Kerger, B.D.; Finley, B.L.; Paustenbach, D.J. 1996. Dermal Uptake of Hexavalent Chromium In Human Volunteers: Measures of Systemic Uptake From Immersion in Water At 22 PPM. *Toxicologist*. 30(1):14.

Dodge, D.G.; **Clark, J.J.J.**; Kerger, B.D.; Richter, R.O.; Finley, B.L.; Paustenbach, D.J. 1996. Assessment of Airborne Hexavalent Chromium In The Home Following Use of Contaminated Tapwater. *Toxicologist*. 30(1):117-118.

Paulo, M.T.; Gong, H., Jr.; **Clark, J.J.J.** (1992). Effects of Pretreatment with Ipratropium Bromide in COPD Patients Exposed to Ozone. *American Review of Respiratory Disease*. 145(4):A96.

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McManus, M.S.; Gong, H., Jr.; Clements, P.; **Clark, J.J.J.** (1991). Respiratory Response of Patients With Interstitial Lung Disease To Inhaled Ozone. *American Review of Respiratory Disease*. 143(4):A91.

Gong, H., Jr.; Simmons, M.S.; McManus, M.S.; Tashkin, D.P.; Clark, V.A.; Detels, R.; **Clark, J.J.** (1990). Relationship Between Responses to Chronic Oxidant and Acute

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## Comment Letter F

Ozone Exposures in Residents of Los Angeles County. American Review of Respiratory Disease. 141(4):A70.

Tierney, D.F. and **J.J.J. Clark**. (1990). Lung Polyamine Content Can Be Increased By Spermidine Infusions Into Hyperoxic Rats. American Review of Respiratory Disease. 139(4):A41.



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cont.

**EXHIBIT B**

ADAMS BROADWELL JOSEPH & CARDOZO

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Of Counsel  
MARC D. JOSEPH  
DANIEL L. CARDOZO

October 30, 2023

**Via U.S. Mail and Email**

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Dept of Public Works and Planning  
2220 Tulare Street, 6th Floor  
Fresno, CA 93721  
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Bernice E. Seidel  
Clerk of the Board of Supervisors  
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**Via Online Portal**

<https://fresnocountyca.nextrequest.com/>

**Re: Request to Extend the Public Review and Comment Period for the Draft Environmental Impact Report for the Key Energy Storage Project (CUP# 3734; SCH 2022070414)**

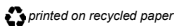
Dear Mr. White, Ms. Seidel, and Mr. Shaw:

On behalf of California Unions for Reliable Energy (“CURE”), we respectfully request that Fresno County (“the County”) extend the public review and comment period for the Draft Environmental Impact Report (“DEIR”) prepared for the Key Energy Storage Project (CUP# 3734; SCH 2022070414) (“Project”). The current public comment period ends on November 6, 2023.<sup>1</sup> Extension of the comment period is necessary under the California Environmental Quality Act (“CEQA”)<sup>2</sup> because the County failed to provide access to DEIR reference documents during the entire public comment period.

<sup>1</sup> Exhibit A: County of Fresno, Notice of Availability (“NOA”) re Draft Environmental Impact Report For Key Energy Storage Project, State Clearinghouse No. 2022070414. (Filed September 20, 2023).

<sup>2</sup> Public Resources Code §21000 et seq.; California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000 et seq.

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Page 2

**A. Failure to Provide Access to Reference Documents**

CEQA requires that “all documents referenced” – and the CEQA Guidelines require that “all documents incorporated by reference” – in a draft environmental impact report shall be “readily accessible to the public during the lead agency’s normal working hours” during the entire public comment period.<sup>3</sup> Although access to some of the DEIR’s reference documents is provided via URLs in the DEIR, access to many reference documents was not made available. Further, numerous URLs in the DEIR are nonfunctional. A small number of the many reference documents with nonfunctional URLs include the following:

- DOF (California Department of Finance), 2022a. E-5 Population and Housing Estimates for Cities, Counties and the State—January 1, 2021–2022. Available: <https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housingestimates-for-cities-counties-and-the-state-2020-2022/> Accessed March 22, 2023.
- Fresno County, 2017. County of Fresno Solar Facility Guidelines. Revised by Board of Supervisors on December 12, 2017. Available: <https://www.co.fresno.ca.us/departments/public-works-planning/divisions-of-public-worksand-planning/development-services-division/planning-and-land-use/photovoltaic-facilitiesp-1621>. Accessed March 22, 2023.
- Fresno County, 2018. Onsite Wastewater Treatment System Guidance Manual. Department of Public Works and Planning, Fresno, CA. January 2018. Available: <https://www.co.fresno.ca.us/home/showdocument?id=26349>. Accessed March 22, 2023
- Fresno County, 2019. Fresno County Local Area Management Program (LAMP). Available: <https://www.co.fresno.ca.us/home/showpublisheddocument/39300/637086255221370000>. Accessed March 22, 2023.
- CPUC (California Public Utilities Commission), 2022. LS Power Grid California, LLC Gates 500kV Dynamic Reactive Support Project Final Initial Study Mitigated Negative Declaration. July 2022. Available: [https://ia.cpuc.ca.gov/environment/info/esa/gates/pdfs/Gates\\_500kV\\_Final\\_IS\\_MND\\_July\\_2022.pdf](https://ia.cpuc.ca.gov/environment/info/esa/gates/pdfs/Gates_500kV_Final_IS_MND_July_2022.pdf). Accessed March 22, 2023.
- Fresno County, 2000. Fresno County General Plan. Open Space and Conservation Element. Approved October 2000. Available: [http://www2.co.fresno.ca.us/4510/4360/General\\_Plan/GP\\_Final\\_policy\\_doc/Open\\_Space\\_Element\\_rj.pdf](http://www2.co.fresno.ca.us/4510/4360/General_Plan/GP_Final_policy_doc/Open_Space_Element_rj.pdf).

<sup>3</sup> Pub. Resources Code § 21092(b)(1); 14 C.C.R. § 15072(g)(4); see *Ultramar v. South Coast Air Quality Man. Dist.* (1993) 17 Cal.App.4th 689, 699.

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cont.

October 30, 2023

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On October 3, 2023, CURE submitted a letter to the County (“DEIR References Request”), pursuant to CEQA section 21092(b)(1) and CEQA Guidelines section 15087(c)(5), requesting “immediate access to any and all documents referenced, incorporated by reference, and relied upon” in the DEIR.<sup>4</sup> The County failed to provide reference documents in response to CURE’s request. CURE emailed the County regarding the request on October 26, 2023, to which the County responded that the request had been mistakenly closed.<sup>5</sup> As of the date of this letter, the County has not provided CURE with the reference documents, which are necessary for adequate review of the DEIR.

Without access to these critical DEIR reference documents during the public comment period, CURE and other members of the public are precluded from having the meaningful opportunity to comment on the DEIR as required by CEQA. The courts have held that the failure to provide even a few pages of a CEQA documents for a portion of the CEQA review period invalidates the entire CEQA process, and that such a failure must be remedied by permitting additional public comment.<sup>6</sup> It is also well settled that an EIR may not rely on hidden studies or documents that are not provided to the public.<sup>7</sup> By failing to make all documents referenced in the DEIR “readily available” during the current comment period, the County is violating the clear procedural mandates of CEQA, to the detriment of CURE and other members of the public who wish to meaningfully review and comment on the DEIR.

Accordingly, we request that the County extend the public review and comment period on the DEIR for at least 45 days from the date on which the County releases all reference documents for public.

Sincerely,



Aidan P. Marshall

Attachments

APM:acp

<sup>4</sup> **Exhibit B:** Letter from Adams, Broadwell, Joseph & Cardozo (“ABJC”) to County re Request for Immediate Access to Documents Referenced in DEIR for the Key Energy Storage Project (CUP# 3734; SCH 2022070414) (October 3, 2023).

<sup>5</sup> Email Correspondence between Alexandra E. Stukan (ABJC) and Ahla Yang (County) (October 26, 2023).

<sup>6</sup> *Ultramar v. South Coast Air Quality Man. Dist.* (1993) 17 Cal.App.4th 689, 699.

<sup>7</sup> *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3rd 818, 831 (“Whatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.”).



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cont.

**EXHIBIT A**



E26231000256

# County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING  
STEVEN E. WHITE, DIRECTOR

## NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL IMPACT REPORT FOR KEY ENERGY STORAGE PROJECT  
STATE CLEARINGHOUSE NO. 2022070414; FRESNO COUNTY EIR 8189

**FILED**  
SEP 20 2023  
TIME 1:21 pm  
FRESNO COUNTY CLERK  
DEPUTY

**LEAD AGENCY:** Fresno County

**PROJECT TITLE:** Draft Environmental Impact Report (EIR) for the Key Energy Storage Project

**PROJECT LOCATION:** The Project site is in western Fresno County, approximately 0.4 mile east of Interstate 5 (I-5), immediately south of West Jayne Avenue, and between I-5 and South Lassen Avenue (State Route 269) and adjacent to PG&E's existing Gates Substation. Nearby communities include Huron (4 miles to the northeast), Avenal (7.5 miles to the south), and Coalinga (11.5 miles to the west). The 260-acre site is within the approximately 318 acres consisting of Fresno County Assessor Parcel Numbers: 085-040-58, 085-040-36, and 085-040-37.

**PROJECT DESCRIPTION:** Key Energy Storage, LLC has applied to the Fresno County Department of Public Works and Planning for a Conditional Use Permit No. 3734 to construct, operate, maintain, and decommission an energy storage facility. Project build-out would be phased. At full build-out, the Project would have capacity to store up to 3 gigawatts of energy during times of excess generation and dispatch it into the existing electrical grid later when needed. The Project would receive energy (charge) from the point of interconnection (POI) with the regional electric transmission system at PG&E's existing Gates Substation, store energy, and then deliver energy (discharge) back to the POI. The Project would consist of batteries using lithium-ion or lithium-ion and iron-flow storage technology. To interconnect the Project, Key Energy Storage, LLC and PG&E would construct, operate, and maintain a new 2,500-foot-long (up to 0.5-mile) 500-kilovolt transmission line, mostly on substation property, between the Gates Substation and the Project site. This line would be installed on new lattice steel towers, each up to 200 feet tall, which would be spaced at approximately 500-foot intervals. To accommodate the Project, PG&E also would modify existing infrastructure on the Gates Substation site and at the Midway Substation located approximately 63 miles southeast of the Project site in Buttonwillow, an unincorporated community in Kern County, California.

**SIGNIFICANT ENVIRONMENTAL EFFECTS:** The County of Fresno has prepared a Draft EIR analyzing the Project's potential environmental effects. The Project would have a less-than-significant impact (with or without mitigation measures) regarding: Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural and Tribal Cultural Resources; Energy; Geology, Soils, and Paleontological Resources; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Noise and Acoustics; Transportation; Utilities and Service Systems; and Wildfire. No impact would result to Land Use and Planning, Mineral Resources, Population and Housing, Public Services, or Recreation.

DEVELOPMENT SERVICES AND CAPITAL PROJECTS DIVISION  
2220 Tulare Street, Sixth Floor / Fresno, California 93721 / Phone (559) 600-4497 / 600-4022 / 600-4540 / FAX 600-4200  
The County of Fresno is an Equal Employment Opportunity Employer

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**PUBLIC REVIEW:** A 45-day comment period for the Draft EIR begins Thursday, September 21, 2023 and ends at 5:00 p.m. Monday, November 6, 2023. Written comments should reference EIR 8189, Key Energy Storage Project. Include your name, address, and phone number or email address so we may contact you for clarification, if necessary. Send written comments to:

Fresno County Department of Public Works and Planning  
Development Services and Capital Projects Division  
ATTN: Jeremy Shaw, Planner  
2220 Tulare Street, Suite B Annex (below street level)  
SW Corner of Tulare and 'M' Street  
Fresno, CA 93721  
Email: [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)

**AVAILABILITY OF THE DRAFT EIR:** Copies of the Draft EIR are available for review at the following locations:

- Fresno County Public Works and Planning Department, 2220 Tulare Street, Fresno.
- Fresno County Main Library, Reference Department, 2420 Mariposa Street, Fresno.
- Huron Public Library, 36050 O St, Huron, CA 93234.

**EXHIBIT B**

ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

601 GATEWAY BOULEVARD, SUITE 1000  
SOUTH SAN FRANCISCO, CA 94080-7037

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TARA C. RENGIFO

Of Counsel  
MARC D. JOSEPH  
DANIEL L. CARDOZO

October 3, 2023

**Via U.S. Mail and Email**

Steven E. White, Director  
Dept of Public Works and Planning  
2220 Tulare Street, 6th Floor  
Fresno, CA 93721  
Email: [stwhite@fresnocountyca.gov](mailto:stwhite@fresnocountyca.gov)

Bernice E. Seidel  
Clerk of the Board of Supervisors  
2281 Tulare St, Room 301  
Fresno, CA 93721  
Email: [ClerkBOS@fresnocountyca.gov](mailto:ClerkBOS@fresnocountyca.gov)

**Via Email Only**

Jeremy Shaw, Planner  
Email: [jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)

**Via Online Portal**

<https://fresnocountyca.nextrequest.com/>

**Re: Request for Immediate Access to Documents Referenced in the  
Draft Environmental Impact Report – Key Energy Storage  
Project (CUP# 3734; SCH 2022070414)**

Dear Mr. White, Ms. Seidel, and Mr. Shaw:

We are writing on behalf of California Unions for Reliable Energy (“CURE”) to request ***immediate access*** to any and all documents referenced, incorporated by reference, and relied upon in the Draft Environmental Impact Report (“DEIR”) prepared for the Key Energy Storage Project (CUP# 3734; SCH 2022070414) proposed by Key Energy Storage, LLC. ***This request excludes a copy of the DEIR and its appendices. This request also excludes any documents that are currently available on the County of Fresno’s website, as of today’s date.***<sup>1</sup>

The Project proposes the construction, operation, maintenance, and decommissioning of an energy storage facility that would store at least 3 gigawatts of energy. The Project site is located south of W. Jayne Avenue between I-5 and

<sup>1</sup> Accessed <https://www.fresnocountyca.gov/Departments/Public-Works-and-Planning/divisions-of-public-works-and-planning/development-services-division/planning-and-land-use> on October 2, 2023.

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South Lassen Avenue (State Route 269) in Fresno County (APN#s 085-040-58, 085-040-36, 085-040-37).

Our request for *immediate access* to all documents referenced in the DEIR is made pursuant to the California Environmental Quality Act (“CEQA”), which requires that all documents referenced, incorporated by reference, and relied upon in an environmental review document be made available to the public for the entire comment period.<sup>2</sup>

We request access to the above records in their original form, as maintained by the agency.<sup>3</sup> Pursuant to Government Code Section 7922.570, if the requested documents are in electronic format, please upload them to a file hosting program such as Dropbox, NextRequest or a similar program. Alternatively, if the electronic documents are 10 MB or less (or can be easily broken into sections of 10 MB or less), they may be emailed as attachments.

We will pay for any direct costs of duplication associated with filling this request up to \$200. However, please contact me with a cost estimate before copying/scanning the materials.

Please use the following contact information for all correspondence:

**U.S. Mail**

Alex Stukan  
Adams Broadwell Joseph & Cardozo  
601 Gateway Boulevard, Suite 1000  
South San Francisco, CA 94080-7037

**Email**

[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)

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<sup>2</sup> See Public Resources Code § 21092(b)(1) (stating that “all documents referenced in the draft environmental impact report” shall be made “available for review”); 14 Cal. Code Reg. § 15087(c)(5) (stating that all documents incorporated by reference in the EIR . . . shall be readily accessible to the public”); see also *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 442, as modified (Apr. 18, 2007) (EIR must transparently incorporate and describe the reference materials relied on in its analysis); *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3rd 818, 831 (“[W]hatever is required to be considered in an EIR must be in that formal report. . .”), internal citations omitted.

<sup>3</sup> Gov. Code § 7922.570; *Sierra Club v. Super. Ct.* (2013) 57 Cal. 4th 157, 161-62.



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Page 3

If you have any questions, please call me at (650) 589-1660 or email me at the address above. Thank you for your assistance with this matter.

Sincerely,



Alex Stukan  
Paralegal

AES:lj1

6241-003j

ADAMS BROADWELL JOSEPH & CARDOZO

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Of Counsel  
MARC D. JOSEPH  
DANIEL L. CARDOZO

March 8, 2024

**VIA EMAIL AND OVERNIGHT MAIL**

Fresno County Department of Public Works and Planning  
Development Services and Capital Projects Division  
ATTN: Jeremy Shaw, Planner  
2220 Tulare Street, Suite B Annex  
SW Corner of Tulare and 'M' Street  
Fresno, CA 93721  
Email: [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)

**Re: Supplemental Comments on the Draft Environmental Impact Report for the Key Energy Storage Project (CUP# 3734; SCH 2022070414)**

Dear Mr. Shaw:

We write on behalf of California Unions for Reliable Energy (“CURE”) to provide comments on the Draft Environmental Impact Report (“DEIR”) prepared by the County of Fresno (“County”) for the Key Energy Storage Project (CUP# 3734; SCH 2022070414) (“Project”), proposed by Key Energy Storage, LLC (“Applicant”). These comments supplement CURE’s preliminary comments on the DEIR, submitted on November 6, 2023.

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These comments demonstrate that the DEIR fails to comply with the requirements of the California Environmental Quality Act (“CEQA”)¹. We reviewed the DEIR and its technical appendices with the assistance of experts Gregory House, Certified Professional Agronomist, and Henry House, Professional Agricultural Economist.² Their comments must be addressed and responded to separately.

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¹ Pub. Resources Code §§ 21000 et seq.; 14 Cal. Code Regs (“CEQA Guidelines”) §§ 15000 et seq. (“CEQA Guidelines”).

² Mr. Gregory and Henry House’s technical comments and curricula vitae are attached hereto as **Exhibit A**.

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Page 2

The DEIR lacks substantial evidence to support its conclusions with regard to the Projects’ impacts relating to agriculture and disturbance of contaminated soil. The County may not approve the Project until the County revises and recirculates the Project’s DEIR to adequately analyze the Project’s significant direct and cumulative impacts, and incorporates all feasible mitigation measures to avoid or minimize these impacts to the greatest extent feasible.



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**I. STATEMENT OF INTEREST**

CURE is a coalition of labor organizations whose members encourage sustainable development of California’s energy and natural resources. CURE’s members help solve the State’s energy problems by building, maintaining, and operating conventional and renewable energy power plants and transmission facilities. Since its founding in 1997, CURE has been committed to building a strong economy and a healthier environment. CURE has helped cut smog-forming pollutants in half, reduced toxic emissions, increased the use of recycled water for cooling systems, and pushed for groundbreaking pollution control equipment as the standard for all new power plants, all while helping to ensure that new power plants and transmission facilities are built with highly trained, professional workers who live and raise families in nearby communities.

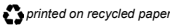


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Individual members of CURE and its member organizations live, work, recreate, and raise their families in Fresno County. Accordingly, they will be directly affected by the Project’s environmental and health and safety impacts. Individual members may also work on the Project itself. They will be the first in line to be exposed to any health and safety hazards that exist onsite.

CURE has an interest in enforcing environmental laws that encourage sustainable development and ensure a safe working environment for the members that they represent. Environmental degradation destroys cultural and wildlife areas, consumes limited fresh surface and ground water resources, causes water pollution, and imposes other stresses on the environmental carrying capacity of the state. This in turn jeopardizes future development by causing construction moratoriums and otherwise reducing future employment opportunities for CURE’s members. CURE therefore has a direct interest in enforcing environmental laws to minimize the adverse impacts of projects that would otherwise degrade the environment.

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Finally, CURE members are concerned about projects that risk serious environmental harm without providing countervailing economic benefits. For these reasons, CURE’s mission includes improving California’s economy and the environment by ensuring that new conventional and renewable power plants and their related transmission facilities use the best practices to protect our clean air, land and water and to minimize their environmental impacts and footprint.

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cont.

**II. THE DEIR FAILS TO DISCLOSE, ANALYZE AND MITIGATE POTENTIALLY SIGNIFICANT IMPACTS**

An EIR must fully disclose all potentially significant impacts of a Project and implement all feasible mitigation to reduce those impacts to less than significant levels. The lead agency’s significance determination with regard to each impact must be supported by accurate scientific and factual data.<sup>3</sup> An agency cannot conclude that an impact is less than significant unless it produces rigorous analysis and concrete substantial evidence justifying the finding.<sup>4</sup>

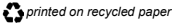
Moreover, the failure to provide information required by CEQA is a failure to proceed in the manner required by CEQA.<sup>5</sup> Challenges to an agency’s failure to proceed in the manner required by CEQA, such as the failure to address a subject required to be covered in an EIR or to disclose information about a project’s environmental effects or alternatives, are subject to a less deferential standard than challenges to an agency’s factual conclusions.<sup>6</sup> In reviewing challenges to an agency’s approval of an EIR based on a lack of substantial evidence, the court will “determine de novo whether the agency has employed the correct procedures, scrupulously enforcing all legislatively mandated CEQA requirements.”<sup>7</sup>

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Additionally, CEQA requires agencies to commit to all feasible mitigation measures to reduce significant environmental impacts.<sup>8</sup> In particular, the lead agency may not make required CEQA findings, including finding that a project impact is significant and unavoidable, unless the administrative record

<sup>3</sup> CEQA Guidelines § 15064(b).  
<sup>4</sup> *Kings Cty. Farm Bur. v. Hanford* (1990) 221 Cal.App.3d 692, 732.  
<sup>5</sup> *Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236.  
<sup>6</sup> *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 435.  
<sup>7</sup> *Id., Madera Oversight Coal., Inc. v. County of Madera* (2011) 199 Cal. App. 4th 48, 102.  
<sup>8</sup> CEQA Guidelines § 15002(a)(2).

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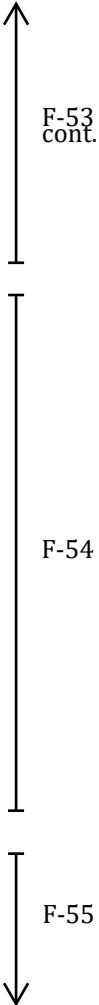
demonstrates that it has adopted all feasible mitigation to reduce significant environmental impacts to the greatest extent feasible.<sup>9</sup>

Even when the substantial evidence standard is applicable to agency decisions to certify an EIR and approve a project, reviewing courts will not “uncritically rely on every study or analysis presented by a project proponent in support of its position. A clearly inadequate or unsupported study is entitled to no judicial deference.”<sup>10</sup>

**A. The County Improperly Defers Analysis and Mitigation of Soil Contamination**

The DEIR acknowledges that contaminated soil on the Project site may be disturbed during construction or operations, but impermissibly defers analysis and mitigation of this significant impact. As summarized in the DEIR, a Phase I Environmental Site Assessment (“ESA”) identified the existence of an on-site natural gas pipeline and petroleum and natural gas easements, and an on-site diesel AST with stained soil associated with the on-site water supply well.<sup>11</sup> The DEIR acknowledges that an accidental release (e.g., breaking the natural gas pipeline during construction activities) or exacerbation of an existing release of hazardous materials (e.g., spreading contaminated soil from the diesel AST located on the western boundary of Assessor’s Parcel Number 085-040-58 into drainages that lead to waterways) could create a significant hazard to the public or the environment.<sup>12</sup> Finally, the Project site has a history of agricultural use that may have included the use of pesticides, residual levels of which could remain in soil at the Project site.<sup>13</sup>

Despite identifying sources of soil contamination that would pose a significant risk to human health, the County defers analysis of the soil contamination until after Project approval.<sup>14</sup> Specifically, Mitigation Measure (“MM”) 3.10-1 defers the soil sampling necessary to characterize the nature, geographic extent, and magnitude of the contamination until after Project approval:



<sup>9</sup> PRC § 21081(a)(3), (b); CEQA Guidelines §§ 15090, 15091; *Covington v. Great Basin Unified Air Pollution Control Dist.* (2019) 43 Cal.App.5th 867, 883.

<sup>10</sup> *Berkeley Jets*, 91 Cal.App.4th at 1355.

<sup>11</sup> DEIR, pg. 3.10-16.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> DEIR, pg. 3.10-19

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Prior to issuance of grading permits, soil shall be tested for total petroleum hydrocarbons near the on-site agricultural wells and pumps, fuel ASTs, turbine oil ASTs, diesel powered agricultural engines, and engine oil ASTs under the supervision of a professional geologist or professional engineer. In addition, soil shall be tested at four locations in a grid pattern and analyzed for pesticides and metals. The County shall review the results of the soil sampling to determine if any additional investigation or remedial activities are deemed necessary.<sup>15</sup>

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cont.

Due to the deferred analysis of soil contamination on the Project site, MM 3.10-1 also defers formulation of mitigation to reduce this significant impact to a less than significant level. MM 3.10-1 calls for preparation of a soil management plan and remediation plan that would be approved by the County. MM 3.10-1 includes language discussing potential features of the soil management and remediation plan:

If concentrations of contaminants are identified in areas of the Project site and are confirmed to pose a potential risk to human health and/or the environment by a qualified environmental specialist, contaminated materials shall be remediated either prior to or concurrent with construction. Remediation shall generally include a management plan which establishes design and implementation of remediation. Cleanup may include excavation, disposal, bioremediation, and/or any other treatment of conditions subject to regulatory action. All necessary reports, regulations and permits shall be followed to achieve cleanup of the site. The contaminated materials shall be remediated under the supervision of an environmental consultant licensed to oversee such remediation and under the direction of the lead oversight agency. The remediation program shall also be approved by the County. All proper waste handling and disposal procedures shall be followed. Upon completion of the remediation, the environmental consultant shall prepare a report summarizing the project, the remediation approach implemented, and the analytical results after completion of the remediation, including all waste disposal or treatment manifests.<sup>16</sup>

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The County’s approach fails to meet CEQA’s standards. CEQA requires that the lead agency disclose the severity of a project’s soil contamination impacts and

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<sup>15</sup> DEIR, pg. 3.10-19.  
<sup>16</sup> *Id.*

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the probability of their occurrence *before* a project can be approved.<sup>17</sup> The DEIR fails to quantify the extent of impacts from the Project’s disturbance of known soil contamination, and proposes instead proposes to flesh out the required soil analysis and mitigation measures at a later date, without providing supporting evidence demonstrating the scope of soil management that will be necessary to avoid potential exposure to soil contaminants during construction and operation of the Project. As such, neither the County nor the public can determine that they will be effective. The DEIR therefore fails as an informational document under CEQA. These analyses must be included in a revised DEIR that is circulated for public review in order to accurately inform the public about the nature and extent of the Project’s contamination impacts.

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cont.

Further, CEQA requires that the County propose mitigation measures to reduce the Project’s impacts below a level of significance.<sup>18</sup> It is generally improper to defer the formulation of mitigation measures.<sup>19</sup> An exception to this general rule applies when the agency has committed itself to specific performance criteria for evaluating the efficacy of the measures to be implemented in the future, and the future mitigation measures are formulated and operational before the project activity that they regulate begins.<sup>20</sup> As the courts have explained, deferral of mitigation may be permitted only where the lead agency: (1) undertakes a complete analysis of the significance of the environmental impact; (2) proposes potential mitigation measures early in the planning process; and (3) articulates specific performance criteria that would ensure that adequate mitigation measures were eventually implemented.<sup>21</sup> CEQA also requires that all proposed mitigation measures be supported by substantial evidence to demonstrate that they will be effective and enforceable.<sup>22</sup> In *Preserve Wild Santee v. City of Santee*, the city impermissibly deferred mitigation where the EIR did not state why specifying performance standards for mitigation measures “was impractical or infeasible at

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<sup>17</sup> 14 CCR §§ 15143, 15162.2(a); *Cal. Build. Indust. Ass’n v. BAAQMD* (2015) 62 Cal.4th 369, 388-90 (“*CBIA v. BAAQMD*”) (disturbance of toxic soil contamination at project site is potentially significant impact requiring CEQA review and mitigation); *Madera Oversight Coalition*, 199 Cal.App.4th at 82; *Berkeley Keep Jets Over the Bay Com. v. Bd. of Port Comrs.* (“*Berkeley Jets*”) (2001) 91 Cal.App.4th 1344, 1370-71; CEQA Guidelines, Appendix G.

<sup>18</sup> Cal. Public Resources Code §§ 21002, 21100.

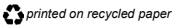
<sup>19</sup> 14 CCR § 15126.4(a)(1)(B); *POET v. CARB*, 218 Cal.App.4th at 735.

<sup>20</sup> *POET*, 218 Cal.App.4th at 738.

<sup>21</sup> *Comtys. for a Better Env’t v. City of Richmond* (2010) 184 Cal.App.4th 70, 95; *Cal. Native Plant Socy’ v. City of Rancho Cordova* (2009) 172 Cal.App.4th 603, 621.

<sup>22</sup> *Sierra Club v. County of San Diego* (2014) 231 CA 4th 1152, 1168.

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the time the EIR was certified.”<sup>23</sup> The court determined that although the city would ultimately review and approve the mitigation standards, this does not cure the informational defects in the EIR.<sup>24</sup> Further, the court in *Endangered Habitats League, Inc. v. County of Orange*, held that mitigation that does no more than require a report to be prepared and followed, or allow approval by a county department without setting any standards is inadequate.<sup>25</sup> Here, the County fails to undertake a complete analysis of the environmental impact by deferring necessary soil sampling, fails to articulate specific mitigation measures early in the process, and fails to articulate specific performance criteria. The County’s approach is similar to that rejected in *Endangered Habitats League* because it merely requires a report to be prepared and followed, subject to approval by a county department, without setting standards.

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cont.

The DEIR’s improper deferral of analysis and mitigation of significant soil contamination impacts must be corrected in a revised and recirculated DEIR.

F-59

**B. The DEIR’s Evaluation of Agricultural Resource Impacts Violates CEQA, the Williamson Act, and County Zoning Law**

CURE’s preliminary comments on the DEIR explain that the DEIR’s evaluation of the Project’s direct, indirect and cumulative impacts on agricultural resources fails to comply with the requirements of CEQA. Gregory and Henry House’s comments further illustrate the Project’s impacts on agricultural resources.

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**1. The County’s Assumption that the Project Would be Decommission After 40 years Is Not Supported By Substantial Evidence**

The DEIR erroneously determines that the Project’s conversion of Prime Farmland and indirect impacts on agricultural resources would be individually and cumulatively less than significant. The DEIR reasons that the Project’s impacts would be temporary, as the Project will be decommissioned at the end of the Project’s lifespan. The House comments explain that this assumption is not supported by substantial evidence. Historical data on prime farmland conversion in Fresno County shows that there is scant evidence that farmland converted to a non-

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<sup>23</sup> *Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 281.

<sup>24</sup> *Id.*

<sup>25</sup> *Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 794.



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agricultural use is ever restored to agricultural use.<sup>26</sup> Rather, the evidence available shows that solar development in Fresno County is a significant component of the urban increases in the County. Further, Department of Conservation data shows that Urban and Built-Up Land in Fresno County has not seen a decrease between 1984 and 2020.<sup>27</sup> The House comments further explain that because power needs in California will continue to increase in the coming decades, an economic incentive would appear to exist for the project to operate at the site far into the future. Substantial evidence thus demonstrates that the Project constitutes a permanent conversion of Prime Farmland.<sup>28</sup>



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cont.

CURE’s preliminary comments also explained that the proposed Project would conflict with a Williamson Act Contract. According to Gov. Code Section 51238.1, a lead agency may approve uses on contracted lands if they are consistent with the following principles of compatibility:

- (1) The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserves.
- (2) The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves.



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The DEIR reasons that the Project would be compatible with these principles because the Project would be decommissioned after 40 years.<sup>29</sup> But the House comments demonstrate that the assumption that the Project is temporary in nature and will be decommissioned and returned to agricultural use is speculative and not supported by any evidence in the record. The Project thus conflicts with a Williamson Act Contract, requiring mitigation in a revised and recirculated DEIR.

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<sup>26</sup> House Comments, pg. 2.  
<sup>27</sup> House Comments, pg. 3.  
<sup>28</sup> *Id.*  
<sup>29</sup> DEIR, pg. 3.3-15.

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**2. The DEIR’s Conclusion that Agricultural Resource Impacts Will Be Less than Significant is Not Supported by Substantial Evidence**

The DEIR claims that construction and operation and maintenance of the proposed energy storage use would not adversely affect any of the environmental characteristics of the site that qualify it for mapping as Prime Farmland on the basis of its Storie Index Rating.<sup>30</sup>

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The DEIR first claims that the Project would not affect the soil chemistry of the Project site, and thus not result in a significant impact. The House comments explain that the County’s reasoning is not supported by substantial evidence and that the proposed development would have potentially significant impacts on the soil chemistry of the Prime Farmland making up the Project site.<sup>31</sup> The House comments discuss well-established scientific authority showing that soil chemistry is altered and can be permanently degraded when it is covered by impervious surfaces, such as those proposed by the Project.<sup>32</sup> Moreover, battery leakage of chemicals including lithium cobalt dioxide would profoundly degrade soil chemistry.<sup>33</sup>

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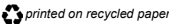
F-67

The DEIR next argues that any changes to soil chemistry would be reversed via a reclamation plan. The effectiveness of the proposed plan to reduce impacts to a less than significant level is not supported by substantial evidence. The House comments explain that without an agronomic baseline report, a detailed work plan and timeline, and a financial bond to cover the required restoration, the DEIR fails to adequately assure the County that the restoration will be successful in restoring the land to its pre-Project condition.<sup>34</sup> An agronomic baseline report is a necessary element of an effective reclamation plan, because in order to restore the Project site to its current agricultural condition, there needs must be a means of establishing that baseline agronomic condition.<sup>35</sup> The House comments also identify the aspects

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<sup>30</sup> DEIR, pg. 3.3-12.  
<sup>31</sup> House Comments, pg. 4.  
<sup>32</sup> *Id.*  
<sup>33</sup> *Id.*  
<sup>34</sup> House Comments, pg. 5.  
<sup>35</sup> *Id.*



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Page 10

of a detailed work plan necessary for the reclamation plan to comply with CEQA.<sup>36</sup> Without a work plan, the County fails to evaluate the extent of reclamation activities. The House comments also explain that the County fails to provide an estimate of the costs of reclamation.<sup>37</sup> Without an assessment of the costs of restoring the land to its pre-Project state, and without a requirement that a bond be posted for the costs of the restoration work, the effectiveness of the County’s mitigation is not supported by substantial evidence.<sup>38</sup>

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F-69  
cont.

In sum, the County lacks substantial evidence to find that impacts to the Project site’s Prime Agricultural land would be less than significant. Instead, the House comments demonstrate that impacts would be significant.

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F-70

**3. Mitigation is Necessary to Address Impacts to Agricultural Resources**

As explained herein and in CURE’s preliminary comments, the Project would result in significant impacts to agricultural resources by converting agricultural land to a nonagricultural use and impacting the environmental characteristics of the site that qualify it for mapping as Prime Farmland. CEQA provides that if the project will have a significant effect on the environment, the agency may approve the project only if it finds that it has “eliminated or substantially lessened all significant effects on the environment where feasible” and that any unavoidable significant effects on the environment are “acceptable due to overriding concerns.”<sup>39</sup> In erroneously finding that agricultural impacts would be less than significant, the County fails to identify necessary mitigation.

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F-71

The House comments explain that the Project’s impacts must be mitigated through effective measures such as conservation easements, as recommended by the Department of Conservation.<sup>40</sup> Mitigation through agricultural easements can take at least two forms: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements.<sup>41</sup> In addition to CEQA’s

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F-72  
↓

<sup>36</sup> *Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 281 (an EIR was inadequate because it did not state why specifying performance standards for mitigation measures “was impractical or infeasible at the time the EIR was certified.”)

<sup>37</sup> House Comments, pg. 7.

<sup>38</sup> *Id.*

<sup>39</sup> PRC § 21081; 14 C.C.R. § 15092(b)(2)(A)-(B).

<sup>40</sup> *Id.* at 5.

<sup>41</sup> *Id.*

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requirement to mitigate agricultural impacts, the Fresno County General Plan includes policies recommending conservation easements to protect agricultural land. Policy LU-A.16 provides: “[t]he County should consider the use of agricultural land preservation programs that improve the competitive capabilities of farms and ranches, thereby ensuring long-term conservation of viable agricultural operations.” The DEIR must be revised to identify feasible mitigation such as conservation easements.

↑  
F-72  
cont.

**4. The DEIR Fails to Evaluate Cumulative Agricultural Resource Impacts in the Manner Required by Law**

CURE’s preliminary comments explained that the DEIR’s analysis of the Project’s cumulative agricultural resources impacts fails to meet CEQA’s standards. In short, despite acknowledging that the Project is part of an extensive pattern of conversion of agricultural land to renewable energy development in Fresno County, the County erroneously assumes that the Project is not cumulatively considerable because the Project site may eventually be returned to agricultural use. The House comments discuss the elements of an adequate cumulative impacts discussion.<sup>42</sup> First, the discussion should assume that the conversion of the Project site to non-agricultural use would be permanent, in light of any substantial evidence to the contrary. Second, the analysis cannot simply conclude that impacts would be insignificant because the 300+ acres of development proposed by the Project is a small percentage of the total Prime Farmland acreage of Fresno.<sup>43</sup> Third, the analysis must evaluate the Project’s relation to future anticipated energy installations similar to and near the Project site.

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F-73

**III. CONCLUSION**

For the reasons discussed above and in CURE’s preliminary comments, the DEIR for the Project is inadequate under CEQA. It must be revised to provide legally adequate analysis of, and mitigation for, all of the Project’s potentially significant impacts. These revisions will necessarily require that the DEIR be recirculated for additional public review. Until the DEIR has been revised and recirculated, as described herein, the County may not lawfully approve the Project.

↑  
F-74

<sup>42</sup> House Comments, pg. 7.

<sup>43</sup> *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692 (The “drop in a bucket” approach has been rejected by the courts, and fails to comply with CEQA’s requirement that a project mitigate impacts that are “cumulatively considerable”).

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Page 12

Thank you for your consideration of these comments. Please include them in the record of proceedings for the Project.

Sincerely,



Aidan P. Marshall

Attachment  
APM:acp

6241-007acp

**EXHIBIT A**



Providing expertise in agricultural science, management, & appraisal since 1977.

1105 Kennedy Place Suite 1 Davis, California 95616 telephone +1 530 753-3361

To: Aidan P. Marshall, Adams Broadwell Joseph & Cardozo, Attorneys at Law
From: Gregory & Henry House
Re: Expert review of the Agricultural Aspects of the NextEra Key Energy Storage Project DEIR in Fresno County

Dear Aidan:

At your request, we have briefly examined the NextEra Key Energy Storage Project in Fresno County (hereinafter, the the project), examining the foregoing project's draft EIR documentation as it has been provided to us (hereinafter, the DEIR) to identify agricultural issues in our capacity as agriculture experts. Our preliminary findings follow.

F-75

Preliminary findings

There are four findings:—

—1. A presumption of the project as only a temporary use and conversion of the agricultural resources is unsupported and false. In fact, once land is converted for development, it is highly unlikely to be restored for use as agriculture ever again.

F-76

—2. The DEIR fails to find a significant impact to the agricultural resources of the project's site in repudiation of its own LESA-analysis finding, using sham arguments to establish a less-than-significant impact to the conversion of prime farmland to nonagricultural uses in defiance of CEQA requirements.

F-77

—3. The soil-restoration plan is vague and shows little or no understanding of the project's actual impact on agricultural productivity. An agronomic-baseline report should be required along with a schedule of detailed machinery and agronomic activities to be performed to restore the land to its preproject condition for agriculture.

F-78

—4. The DEIR fails to recognize the cumulative impact of increasing energy infrastructure projects in the project site's neighborhood. The DEIR fails to consider whether the installation of the project will cause additional energy infrastructure to be constructed adjacent to or in the immediate neighborhood of the project, and whether it will contribute future urban development on Prime Farmland in Fresno County.

F-79

Presumption of "temporary" use status is unsupported and false. Because the project's requested conditional use permit (CUP) would have a 40-year term, The DEIR assumes that it will be decommissioned, that the entire installation will be removed, and that the land will be restored to its former condition suitable for farming after the 40-year period. In essence it is pitched as a temporary land use. There is no justification for this assumption, no evidence provided that any similar project anywhere at any time has been removed and the underlying land restored to its former agricultural condition and use.

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On the contrary, the DEIR describes the 208 acres of roads and concrete buildings to be constructed on the project site as the “permanent footprint”. Although use of the word “permanent” here may be casual, it does reflect the common sense of development-planning principles: once developed, the conversion is permanent.

F-80  
cont.

HISTORICAL DATA ON PRIME FARMLAND CONVERSION IN FRESNO COUNTY. Table 1 sets out California Department of Conservation (DOC) historical data on the loss of *Prime Farmland* in Fresno County from 1984 through 2020 (the most recent data), and the contemporaneous increase of *Urban and Built-Up Land* during this same thirty-six year period. As the table shows, the change in Fresno County’s acres of land mapped by DOC as *Prime Farmland* is a negative number in every year-to-year comparison in the thirty-six-year span of the DOC’s data, the negative sign indicating loss of *Prime Farmland*.

TABLE 1 History of Prime Farmland conversion (acres lost) and increase of urban/developed acres in Fresno County from 1984 through 2020.

| Period  | Prime Farmland, change in acres | Urban and Built-Up Land, change in acres |
|---------|---------------------------------|--|
| 1984-86 | -508                            | +1,345                                   |
| 1986-88 | -557                            | +1,699                                   |
| 1988-90 | -1,524                          | +4,218                                   |
| 1990-92 | -3,326                          | +3,240                                   |
| 1992-94 | -918                            | +1,474                                   |
| 1994-96 | -2,388                          | +3,146                                   |
| 1996-98 | -4,662                          | +4,037                                   |
| 1998-00 | -3,438                          | +3,693                                   |
| 2000-02 | -2,116                          | +2,601                                   |
| 2002-04 | -9,352                          | +3,364                                   |
| 2004-06 | -9,499                          | +4,467                                   |
| 2006-08 | -19,911                         | +2,201                                   |
| 2008-10 | -7,764                          | +3,186                                   |
| 2010-12 | -1,485                          | +1,973                                   |
| 2012-14 | -5,822                          | +1,299                                   |
| 2014-16 | -2,381                          | +4,885                                   |
| 2016-18 | -3,514                          | +3,958                                   |
| 2018-20 | -8,502                          | +419                                     |
| totals  | -87,667                         | +51,207                                  |

F-81

From 1984 to 2020, 87,667 acres of *Prime Farmland* in Fresno County were converted to nonagricultural uses while 51,207 acres of land in Fresno County were added to the *Urban and Built-Up Land* use category of the Farmland Mapping and Monitoring Program of DOC.

Importantly, the DOC includes the development of energy infrastructure within its category of new *Urban and Built-up Land*. There is no category for *Urban and Built-up Land* converted back to agriculture. In its *2016-2018 California Farmland Conversion Report*\* reports that in California: “Solar facility development accounted for 17,192 acres of urban development between 2016 and

F-82

\* This 2016-2018 report is the most recent update on farmland conversion in the State of California.



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2018. Solar facility construction was a significant component of the urban increases in Imperial (91 percent), Kern (73 percent), Los Angeles (67 percent), and Fresno (63 percent) counties.”

This same report goes on to state that “additions of solar facilities have made a large contribution to the urbanization of the State for the last three map update cycles (2012 through 2018), and in Table 7, page 18 enumerates the conversion of 353 acres of farmland in Fresno County to its Urban category during 2012 to 2014, then 2,820 acres in 2014 to 2016, and then 2,500 acres during 2016 to 2018, all for solar and energy installations, a total of 5,673 acres over the six year period.”

Of particular pertinence in our table 1 is that in no year between 1984 and 2020 did the acres of *Urban and Built-Up Land* decrease in Fresno County: no urban land was returned to agricultural use. This is strong evidence that in forty years the project site will not be restored and returned to agriculture.

Clearly, the project’s DEIR fails to consider the increasing unlikelihood that this land will ever be converted back to agricultural use. It does not examine the strong demographic and economic forces that may influence the continued use as energy storage or some other urban use after the initial 40-year period is up.

For instance, the DEIR is silent as to the possibility that market demand for power from the project might continue or even increase, and that the aging plant might be refurbished in order to meet this demand. Given the high investment in infrastructure by the local power company to connect to the subject project, however, and given the likelihood that power needs in California will continue to increase in the coming decades, an economic incentive would appear to exist for the project to operate at the site far into the future. The storage equipment may be repaired, replaced, or upgraded over time, allowing indefinite use of the parcel for this purpose.

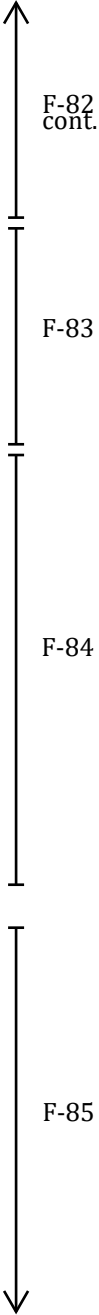
EXAMPLE OF CONTINUING USE FOR ENERGY-INFRASTRUCTURE SITES. We have an example right in our Davis neighborhood of a “temporary” solar farm constructed in 1986 on farmland that still exists 37 years later; it has been renovated several times. The City of Davis and Clean Energy Assess/CleanPath Ventures currently co-own this 86-acre solar farm just north of the city limits. Originally a research facility for PG&E, it was reactivated in 2003 to generate power for the city. The facility can currently generate seven megawatts of capacity with an annual output of 1,300 MWh. There are plans to expand to twenty megawatts and beyond as aging equipment is replaced.

**LESA findings are ignored in the DEIR.** This land is classed Prime Farmland by USDA and DOC: there is no higher of better farm land.

LESA FINDING FOR THE PROJECT. The California Department of Conservation (DOC) has created a Land Evaluation and Site Assessment (LESA) model to make determinations of the potential significance of a project’s conversion of agricultural lands as part of the CEQA review process, and is the standard method used for rating the relative value of agricultural land resources. It measures a set of agricultural elements such as soil, water, and certain geographic or site circumstances. Each element is scored based on the DOC’s rating system, and then the individual element scores are summed for one final LESA score for the project. This final score is evaluated based on thresholds of significance.

Appendix C of the Key Energy Storage Project states the results of applying the DOC’s LESA model to the project on page C-20 as follows:

As shown in Table 12, the weighted LE sub-score for the Project site is 36.53, while the weighted SA sub-score for the Project site is 42.88. The final LESA Model score for the Project site is 79.41. As previously shown in Table 1, a final LESA score of 60 to 79 points is considered significant unless



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either the LE or SA subscore is less than 20. However, both the LE and SA scores exceed a 20-point threshold. Therefore, the Project would have a potentially significant impact on agricultural resources based on the LESA.

DEIR IGNORES ITS OWN LESA SIGNIFICANT IMPACT FINDING. In a complete repudiation of its own significance finding stated on page C-20, the DEIR recklessly concludes a Less-than-Significant Impact for Impact 3.3-1: (The Project would convert Prime Farmland to non-agricultural use), and thus no mitigation is required. This is completely unfounded. This is a major error in the DEIR and must be corrected. The DEIR should truthfully adhere to its own LESA findings, and recognize that the project will create a Significant Impact to the agricultural resources of the project site: Impact 3.3-1: (The Project would convert Prime Farmland to non-agricultural use).

↑  
F-85  
cont.

FAILED ARGUMENTS REGARDING THE STORIE INDEX. Instead of following its own LESA findings, the DEIR, beginning on page 3.3-12, launches on a long argument concerning the Storie Index-analysis portion of the LESA model, and attempts to wave away the LESA finding of Significant Impact by reviewing the definitions and factors within the Storie Index. This argument fails and is nothing but a bald attempt to manipulate the soil science inherent in the Storie Index analysis of soils. The DEIR’s argument is twofold: first that there is no change to the soil chemistry of the project site, “during construction, operation, and maintenance”, and therefore there is no impact; and second that conceded change to soil physical condition through soil compaction “would be corrected during Project decommissioning and site restoration.”

The “no change to soil chemistry” argument has no evidence, is entirely made-up, and is completely unfounded. It is a well-established fact that soils are biologically active and that a major portion of soil volume is composed of microscopic organisms; the biological activity of soil is fundamental to the soil chemistry. The project will cover approximately 208 acres of the site with pads, buildings and roads—these will cover and seal the soil off from air and water, the elements of life. Well-established scientific study over the decades has confirmed the biological decline, and therefore the chemical alteration, of soils under pads, buildings and roads. Scientific studies on the reclamation of sealed soils—that is, soils covered with impervious surfaces such as concrete or asphalt—indicate that previously sealed soils can take years to reclaim and may suffer permanent changes. This excerpt, for instance, from a 2015 study in Poland by Piotrowska-Długosz and Charzyński<sup>†</sup> describes the magnitude of the problem:

↑  
F-86

Covering soils with impervious materials has a significant impact on their properties and is essentially an irreversible process. In contrast to natural, open soils, sealed soils undergo a significant alteration of their physicochemical properties, and in turn, negatively influence microbial biomass and enzymatic activity.

Moreover, the possibility of battery leakage and subsequent soil contamination is also waved away. The chief chemical component of lithium batteries is acid containing lithium cobalt dioxide, a highly toxic substance that if leaked into the soil would profoundly affect and change its soil chemistry.

↑  
F-87

The second argument that soil compaction will be corrected in the restoration process is also seriously flawed by relying on a plan that does not exist, and undefined “requisite compliance with applicable laws and standards for the protection of the environment and any conditions of approval imposed by the County as Lead Agency”. Our criticism of the Restoration Plan such as it is presented in given in section 1.3.

↑  
F-88

<sup>†</sup> Piotrowska-Długosz, A.; Charzyński, P. *The impact of the soil sealing degree on microbial biomass, enzymatic activity, and physicochemical properties in the Ekranic Technosols of Toruń (Poland)*—in *Journal of Soils and Sediments*, 2015.

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MITIGATION IS REQUIRED. The California Department of Conservation (DOC) submitted a comment letter dated July 29, 2022 (Appendix A-92 to A-94) to Fresno County regarding the DEIR. In it the DOC identifies that this project converts agricultural land to non-agricultural use:

The conversion of agricultural land represents a permanent reduction and significant impact to California’s agricultural land resources. CEQA requires that all feasible and reasonable mitigation be reviewed and applied to projects. Under CEQA, a lead agency should not approve a project if there are feasible alternatives or feasible mitigation measures available that would lessen the significant effects of the project.

Consistent with CEQA Guidelines, the DOC goes on to recommend the use of agricultural conservation easements, among other measures, as potential mitigation.‡ Mitigation through agricultural easements can take at least two forms: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements. The conversion of agricultural land should be deemed an impact of at least regional significance. Hence, the search for replacement lands should not be limited strictly to lands within the project’s surrounding area.

The DEIR has not done this, but instead has erroneously determined that the project will have less than significant impact. Again, this contradicts and refutes its own findings in the LESA Analysis, Appendix C of the DEIR.

F-89

**Restoration plan is grossly inadequate as presented.** The entire Restoration Plan for the agricultural component is stated in the following paragraph found on page Appendix B-8:

Prior to completion of decommissioning, the Project site would be restored to its current agricultural condition. All roads and other areas compacted during original construction or by equipment used for decommissioning would be tilled in a manner adequate to restore the sub- grade material to the proper density and depth consistent with adjacent properties. Low areas would be filled with clean, compatible sub-grade material. After proper sub-grade depth is established, locally sourced (from the City of Fresno or other location within 50 miles of the Project site) topsoil would be placed to a depth and density consistent with adjacent properties. Locally sourced compost would be applied to the topsoil, and the entire site would be tilled to further loosen the soil and blend in the compost. An appropriate seed mixture would be broadcast or drilled across the site and weed-free mulch would be applied to stabilize the soil and retain moisture for seedling germination and establishment.

This brief description gives no agronomic indicators of the current status of the soil on the project site.

F-90

AGRONOMIC BASELINE REPORT NEEDED. In order to restore the Project site to its current agricultural condition, there needs must be a means of establishing that baseline agronomic condition. There is no mention of such a baseline condition agronomic report of which conditions—that is, which factors influencing the land’s productivity—should be measured, evaluated, and documented for future reference. A start would be to assess the chemical and physical properties of each soil unit (there are three identified in the DEIR) on the project site, using the chemical and physical categories listed in the “Soil Properties and Qualities” pages of the United States Department of Agriculture’s Soil Web Survey: see figure 1 for details on what scientific features these pages describe for the actual soil on the project site.

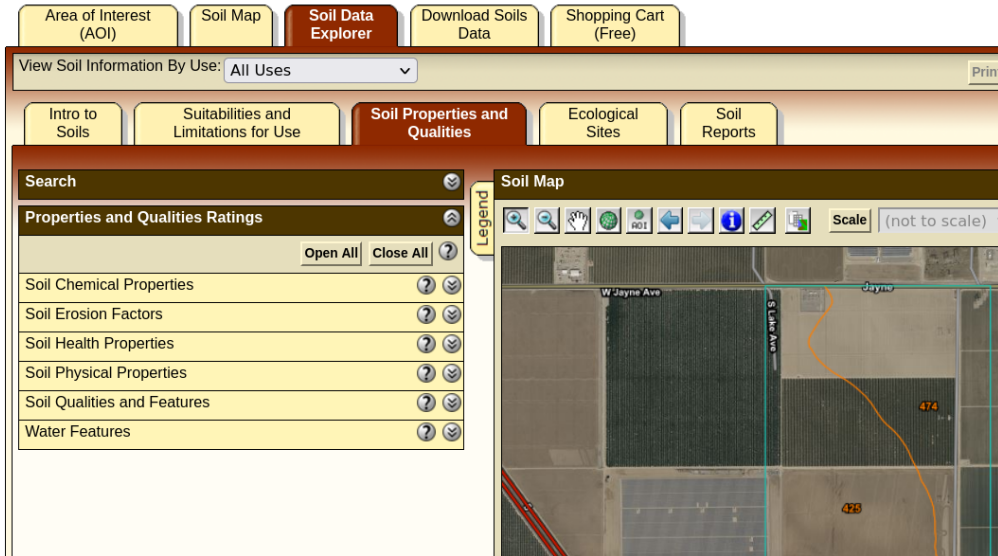
F-91

‡ See Cal. Code Regs., tit. 14, § 15370: mitigation includes “compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements.”

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FIGURE 1 “Soil Properties and Qualities” pages of the United States Department of Agriculture’s Soil Web Survey: (a) overview, (b) detail of chemical properties, (c) detail of physical properties.

a)



b)

| Properties and Qualities Ratings          |   |
|---|---|
| Open All Close All ?                      |   |
| <b>Soil Chemical Properties</b> ?         |   |
| Calcium Carbonate (CaCO <sub>3</sub> )    | ⌵ |
| Cation-Exchange Capacity (CEC-7)          | ⌵ |
| Effective Cation-Exchange Capacity (ECEC) | ⌵ |
| Electrical Conductivity (EC)              | ⌵ |
| Gypsum                                    | ⌵ |
| pH (1 to 1 Water)                         | ⌵ |
| Sodium Adsorption Ratio (SAR)             | ⌵ |

c)

| Soil Physical Properties                                  |   |
|---|---|
| Available Water Capacity                                  | ⌵ |
| Available Water Storage                                   | ⌵ |
| Available Water Supply, 0 to 100 cm                       | ⌵ |
| Available Water Supply, 0 to 150 cm                       | ⌵ |
| Available Water Supply, 0 to 25 cm                        | ⌵ |
| Available Water Supply, 0 to 50 cm                        | ⌵ |
| Bulk Density, One-Third Bar                               | ⌵ |
| Linear Extensibility                                      | ⌵ |
| Liquid Limit  | ⌵ |
| Organic Matter  | ⌵ |
| Percent Clay  | ⌵ |
| Percent Sand  | ⌵ |
| Percent Silt  | ⌵ |
| Plasticity Index  | ⌵ |
| Saturated Hydraulic Conductivity (Ksat)                   | ⌵ |
| Saturated Hydraulic Conductivity (Ksat), Standard Classes | ⌵ |
| Surface Texture   | ⌵ |
| Water Content, 15 Bar                                     | ⌵ |
| Water Content, One-Third Bar                              | ⌵ |

F-92

DETAILS OF AGRONOMIC RESTORATION REQUIRED WITH TIMELINE. In order to restore the land to its former condition as documented in an agronomic baseline report, a much more detailed

↓ F-93

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schedule of agricultural operations will be required than what is provided in the paragraph from page Appendix C-8 quoted above. At a minimum, 1) a land re-leveling survey should be provided with topsoil yardage needs, 2) a schedule of planned machinery operations such as removal of rubble and buried pipes and cables, grading, ripping, and other operations to re-establish soil tilth, 3) a schedule of soil amendments provided, and 4) a schedule of re-vegetation and re-establishment of soil micro-biology. Each schedule should clearly state the operations to be undertaken, and the time required for their completion.

↑  
F-93  
cont.

NO FINANCIAL ESTIMATES FOR RESTORATION ARE PROVIDED IN THE DEIR. The DEIR gives no estimate of the cost of restoring the land to its former condition. This is an extremely short-sighted and unacceptable level of environmental review, and leaves the entire restoration up to a next generation of owners and operators who may not be able to afford to restore the land to its pre-project condition (especially if that pre-project condition is fully evaluated and documented as noted in section 1.3.1 above.

F-94

Moreover, the DEIR should require that a bond be posted for the required restoration work.

SUMMARY OF RESTORATION PLAN PROBLEMS. Without a baseline report, a detailed work plan and timeline, and a financial bond to cover the required restoration, the DEIR fails to adequately assure the County that the restoration will be successful in restoring the land to its pre-project condition, the pre-condition and reason given for a Less than Significant impact finding.

F-95

**Failure to consider likely cumulative impacts.** The DEIR fails to recognize the cumulative impact of increasing energy infrastructure projects in the project site neighborhood, and it fails to consider whether the installation of the project will cause additional energy infrastructure to be constructed adjacent to or in the immediate neighborhood of the project. Will it will contribute future urban development on Prime Farmland in Fresno County?

F-96

Table 1 clearly demonstrates for Fresno County a growth trend in Urban and Built-Up Land while Prime Farmland is steadily decreasing. A serious study of cumulative impacts must first recognize that this project will convert Prime Farmland to non-agricultural use. Having established this Significant Impact, the DEIR cannot dismiss this individual project, at some 300 acres, as insignificant by simply showing its small ratio to the entire Prime Farmland acreage of Fresno County. It is strongly suggestive that in the year 2000, the DOC decided to document the changes in land use of western Fresno County, because it had observed a substantial uptick in farmland conversion to non agricultural uses, and the NRCS soil survey for that area had just been completed.<sup>§</sup>

Moreover, the very intent of a cumulative impact review is to examine current trends in farmland conversion, and project likely changes in the future. Thus it does not address the cumulative question to stop at the mere addition of the project’s 300+ acres; the likelihood of future additional energy installations, including more solar fields and more battery storage similar to the project must be considered, and are not sufficiently considered in the DEIR.

**Conclusion.** This concludes our preliminary review of the Agriculture element of the NextEra Key Energy Storage Project DEIR in Fresno County. A description of our qualifications as consultants is included in an appendix to this memorandum. Please do not hesitate to reach out with your questions to us.

F-97

Sincerely,

<sup>§</sup> Prior to 2000, DOC did not map land use in a large portion of Fresno County, including the project site.

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Gregory A. House  
Certified Professional Agronomist (CPAg)  
Accredited Farm Manager (AFM)  
Accredited Rural Appraiser (ARA)

Henry House  
Professional Agricultural Economist  
Licensed Appraiser

### Exhibit: Qualifications of House Agricultural Consultants

**Gregory A. House.** Agricultural Consultant · Agronomist · Professional Farm Manager · Rural Appraiser · Farmer.

*Experience:—*

- Agricultural consultant, 1983–present—House Agricultural Consultants, providing agricultural-science, economics, management, and appraisal services.
- Farmer, 1987–present.—Growing organic apples, peaches, cherries, apricots, field and seed crops.
- Corporation secretary and consulting agronomist, 1977–1983—Hannesson, Riddle & Associates, Inc.

*Professional affiliations:—*

- American Society of Farm Managers & Rural Appraisers
- American Society of Agronomy
- Crop Science Society of America
- Soil Science Society of America
- California Certified Organic Farmers
- California Farm Bureau.

*Accreditations:—*

- Accredited Farm Manager (AFM), American Society of Farm Managers & Rural Appraisers, certificate no. 501
- Certified Professional Agronomist (CPAg), American Registry of Certified Professionals in Agronomy, Crops. & Soils, Ltd., certificate no. 2319
- Certified Crop Advisor (CCA), American Registry of Certified Professionals in Agronomy, Crops. & Soils, Ltd.
- Accredited Rural Appraiser (ARA), American Society of Farm Managers & Rural Appraisers, certificate no. 749
- Certified General Appraiser in the State of California, license no. AG 001999.

N.B.—These credentials have continuing-education requirements with which I am in compliance.

*Education:—*

- B.S., Crop Ecology, University of California, Davis, 1975, with Honors
- Numerous courses from the University of California Extension in agricultural economics, crop management, real estate, & hazardous waste management



F-97  
cont.

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- Cornell University Certificate Program, Implementing Good Agricultural Practices: A Key to Produce Safety
- Courses of the American Society of Farm Managers and Rural Appraisers: Principles of Rural Appraisal · Advanced Rural Appraisal · Eminent Domain · Report Writing School · Economics of Farm Management · Principles of Farm Management · Standards and Ethics · Permanent Plantings Seminar · Standards and Ethics for Farm Managers · ASFMRA Code of Ethics · National Uniform Standards of Professional Appraisal Practice Courses of the Appraisal Institute: Basic Valuation Procedures Real Estate Statistics and Valuation Modeling Advanced Income Capitalization Valuation of Conservation Easements Certificate Program Condemnation Appraising: Principles and Applications Appraising the Appraisal How Tenants Create or Destroy Value: Leasehold Valuation and Its Impact on Value

*Expert-witness court testimony:—*

- Superior Court Qualified Expert Witness in the following California counties: Alameda, Colusa, Kern, Fresno, Madera, Merced, Monterey, Orange, Riverside, San Joaquin, San Luis Obispo, Santa Barbara, Santa Cruz, Solano, Sonoma, Sutter, Ventura, Yolo
- United States Tax Court qualified expert witness
- United States Bankruptcy Court qualified expert witness.

A comprehensive listing of depositions and trial appearances is available upon request.

*Awards:—*

- CCOF Presidential Award, California Certified Organic Farmers, February, 2001
- Meritorious Service in Communications, American Society of Farm Managers and Rural Appraisers, November 2004
- H.E. Buck Stalcup Excellence in Education Award, American Society of Farm Managers and Rural Appraisers, October, 2011.

*Appointments & activities:—*

- Adjunct Lecturer, University of California, Davis, Department of Agricultural & Resource Economics, current; Courses ARE 140 Farm Management; ARE 145 Appraisal of Farms and Rural Resources, current.
- Instructor, “Principles of Farm Management”, an Internet course of the American Society of Farm Managers and Rural Appraisers, 1996–2007.
- President, California Chapter American Society of Farm Managers & Rural Appraisers 1994–1995; Secretary–Treasurer, 1984–1990.
- Board of Directors, Yolo Land Trust, 1993–2001.
- Board of Directors, American Red Cross, Yolo County Chapter 1987–1989.
- Member, Yolo County Right to Farm Grievance Committee 1992–1995.
- Vice Chairman, Management Education Committee, American Society of Farm Managers and Rural Appraisers, 1998–2000 (committee member since 1986).
- Yolo County LAFCo Agricultural Forum LESA subcommittee, 1999.
- California Certified Organic Farmers: Treasurer of the Board of Directors, 1998–2003; Executive Director, 1999–2000; Member of the Finance Committee, 1998–current.
- CCOF Foundation Going Organic Program, Management Team member, 2006–2012.
- USDA Organic Grant Panel member, Washington, DC, 2002.
- City of Davis Open Space and Habitat Commission, 2006–2016, Chairman, 2007–2009.
- Member, Fruit Orchard Technical Advisory Group, Filoli Gardens, Woodside, California.
- Member, Organic and Sustainable Agriculture Program Steering Committee, University of California Cooperative Extension, Yolo and Solano Counties, California, 2008–2013.



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Speaking engagements:—

- Guest lecturer, University of Florida at Gainesville–Vegetable Crops Department. Seminar on transition to organic agriculture, November 1994.
- Featured program speaker, 1995 annual *Eco-Farm Conference*. Lecture on economics of organic-apple production, Asilomar, California, 1995.
- Guest speaker, multiple events of Community Alliance with Family Farmers. Presentations on farm management and agricultural economics, 1996 and 1997.
- Instructor, American Society of Farm Managers & Rural Appraisers. Course “M-12”, *Standards and Ethics for Professional Farm Managers*, March 1997.
- Guest speaker, American Horticultural Society. Lecture entitled *Challenges of Organic Stone Fruit Production*, Sacramento, California, July 2001.
- Organizer and presenter, *Going Organic Kickoff Meetings*. A program of California Certified Organic Farmers, November 2005 and December 2006.
- Master of ceremonies, annual meeting of California Certified Organic Farmers. Sacramento, California, February 2006.
- Featured program speaker, 2012 annual *Eco-Farm Conference*. Lecture entitled *Imitating Natural Systems: Towards an Indigenous Agro-forestry*, Asilomar, California, 2012.
- Seminar presentation, American Society of Farm Managers & Rural Appraisers. *Rapid Fire Seminar: What Makes for Comparable Sales in Condemnation Appraisal*—Reno, Nevada, October 2013.
- Featured program speaker, 2014 annual *Eco-Farm Conference*. Lecture entitled *Food Safety Regulatory Compliance in Fruit Orchards*, Asilomar, California, 2014.

Publications:—

- *Principles of Farm Management*, course “M-10”, a forty-hour professional-credit online educational offering of the American Society of Farm Managers & Rural Appraisers.
- *Conservation Issues in Agriculture*, a unit of course “M-25”, a fifteen-hour professional-credit online educational offering of the American Society of Farm Managers & Rural Appraisers.
- *A Primer on Organic Agriculture*, an article in *2006 Trends in Agricultural Land and Lease Values*, a publication of the California Chapter of the American Society of Farm Managers & Rural Appraisers.
- *Case Study: Using Indigenous Agroforestry Management Techniques to Support Sustainability in Production Agriculture*, a paper-poster presented at *Harlan II, An International Symposium on Biodiversity in Agriculture: Domestication, Evolution and Sustainability*, September 14–18, 2008, University of California–Davis.

**Henry House.** Agricultural Consultant · Licensed Appraiser · Consulting Agricultural Economist · Farmer.

Topics of professional expertise:—

- Appraisal: valuation of agricultural and rural land, valuation of livestock, valuation of fresh-water aquaculture facilities (fish farms). Experienced appraiser—California appraiser’s license number AG-3010876 (Certified General Appraiser).
- Farm management: good farming practices in orchards, such as almonds and walnuts, row crops.
- Livestock management: carrying capacity of land, range management, standard of care for grazing animals, fencing.
- Management evaluation of commercial equestrian facilities.
- Management of rural-residential property.
- Agricultural economics and lost profits.



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- Expert services to litigation regarding agricultural economics, farm management, and the foregoing.
- Statistical analysis, geographic-information-system (GIS) analysis, and software engineering (analytics).

*Experience:—*

Agricultural consultant, appraiser, consulting agricultural economist.— House Agricultural Consultants, providing agricultural science, economics, management, and appraisal services. 2000–present.

Farmer.— Coco Ranch, a family farm growing organic apples, peaches, cherries, and field crops and raising sheep, poultry, and goats. 2000–present.

*Education:—*

- B.S., “Natural History”, University of California, Davis, 1999, with Honors. Coursework in agronomy, botany, ecology, entomology, geology, hydrology, nematology, plant pathology, soil biology, sustainable agriculture, statistics, and wildlife biology.

- Numerous courses of the American Society of Farm Managers and Rural Appraisers regarding farm management, agricultural consulting.

- Numerous courses of the Appraisal Institute regarding real-estate appraisal

- Courses from Savory Institute regarding livestock management.

*Partial list of management-consulting assignments:—*

- Numerous consulting assignments for Leland Stanford Junior University on the management of its agricultural lands, which feature cattle, horses, and vegetable crops. Topics addressed have included livestock standard of care, carrying capacity of lands, safety of animals, safety of structures, and management of drainage and water quality.

- Consulting farm management for John and Marie Cronin Trust B, a landowner near Rio Vista, California. Lands were utilized for cattle grazing.

- Numerous appraisal assignments of farmland and rangeland properties utilized for crops and livestock (cattle, sheep, and aquaculture).

- A list of additional management-consulting clients served available on request.

*Selected recent legal matters in which Mr. Henry House has been retained as expert:—*

April 2023.—*Jack Wright v. Dhillon et al.*. Client: Randeep Dhillon; attorney: Reshma Kamath; court: Kern Court Superior (case no. BCV-21-100320). *I testified on production costs for almonds, customary farming practices for almonds, and the value of hay in a dispute over possession rights to an almond orchard and a hay-storage building. My testimony served as a rebuttal of the plaintiff’s alleged damages.*

March 2023.—*Shaina Gallagher et al. v. Bishop’s Pumpkin Farm, Inc., et al.* Client: Sandra Bishop (codefendant); attorney: Monika Troike—Jones & Dyer; court: Yuba County Superior (case no. CVPO 17-00253). *I assisted the client to achieve a settlement by opining on the defendants’ standard of care operating a petting zoo at a seasonal rural amusement park (pumpkin patch) near Wheatland, California. My oral report to counsel included analyzing the terms client’s ground lease with the operating corporation to assist in a defense for the landowner based on the pumpkin farm’s business structure.*

January 2023.—*Guadalupe Lopez Granados v. James Ferreira, Brooke Shelton, and James Ferreira Horse Training* Client: James Ferreira et al.; attorney: Nicholas Burke—Resnick & Louis, P.C.; court: San Joaquin County Superior (case no. STK-CV-UAT-2021-0010053). *Following a property inspection, my oral report to counsel assisted the client to settle a matter of cattle that escaped from a fenced enclosure and subsequently struck by a vehicle on a public road.*



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cont.

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November 2022–February 2023.—*Petition for instructions in re survivor’s trust—probate code § 17200— In re the matter of Conrad and Berniece Silva Revocable Trust dated February 26, 1993.* Client: Connie Sanguinetti, co-trustee of Conrad and Berniece Silva Revocable Trust; attorney: Jason Harrel—Calone & Harrel Law Group, LLP; court: San Joaquin County Superior Court (case no. STK-PR-2022-1011). *I provided a written appraisal report to the client opining on the value of assets being divided, including an analysis of economics of the subject properties and rebutting the adverse party’s value opinions.*

August 2022.—*Gill et al. v. Superior Well Drillers et al.* Client: Superior Well Drillers; attorney: Matthew Pascale—Lewis Brisbois Bisgaard & Smith LLP; court: Kern County Superior Court (case no. BCV-16-102317 SDS); *I provided oral report to client for August 17, 2022 mediation, assisting the defendant to achieve a settlement by reviewing and rebutting the plaintiff’s demand for damages claimed for a defective well installed by the defendant that failed to provide irrigation water to the plaintiffs’ crops, raisin grapes and almonds in Kern County.*

July–August 2022.—*Michael Lux et al. v. Wadham Energy Limited Partnership et al.* Client: Wadham Energy Limited Partnership (defendant); attorney: Joann Rangel and Joseph Salazar—Lewis Brisbois Bisgaard & Smith LLP; court: Colusa County Superior Court (case no. CV24457); deposition: July 19 and August 2, 2022 in Sacramento, California for Colusa Superior Court via videoconference. *I testified in deposition on the economics of an almond orchard that the plaintiffs alleged had been damaged by trespass by dust from the defendant’s property and correct methodology to compute damages for lost profits alleged for said orchard. My testimony included scientific analysis utilizing aerial imagery and agronomy, economic analysis of the plaintiffs’ assertions of lost profits from almond crops, and rebuttal of the plaintiffs’ financial expert’s methodology and opinions.*

*Appointments & activities:—*

- Member, Solano County Farm Bureau.
- Member, American Society of Farm Managers and Rural Appraisers.
- Board of Directors, Davis Media Access, Davis, California, 2014–2017.
- Board of Directors, Davis Farmers Market Association, 2001–2003.
- Assistant instructor, “Principles of Farm Management”, course M-10, an Internet course of the American Society of Farm Managers & Rural Appraisers, 1999–2003.
- Course proctor, “M-25: Enhanced Client Services”, an Internet course of the American Society of Farm Managers & Rural Appraisers, 1999–2003.

*Publications & speaking engagements:—*

- Lecturer/instructor, “Farm Management”, course ARE 140, and “Rural Appraisal”, course ARE 145, University of California–Davis, 2015 to present.
- *Principles of Farm Management*, Course M-10, a 40-hour professional credit Internet educational offering of the American Society of Farm Managers & Rural Appraisers
- Educational speaker at the annual meeting of the California Chapter of the American Society of Farm Managers and Rural Appraisers, November 19, 2021, Coalinga, California. Topic: valuation of conservation easements.



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cont.

## 2.4.6 Letter F: Adams Broadwell Joseph & Cardozo

F-1 Contrary to the statement made in this comment, copies of all the documents referenced in the Draft EIR were readily accessible to interested parties at multiple locations during the entire public comment period. Copies of the materials cited in the Draft EIR were included in the County's Project files and were included on the USBs that were provided with the printed copies of the Draft EIR that were made available for review at the Fresno County Main Library and at the Huron Public Library. The URLs provided in the references sections of the document were provided as a courtesy, in addition to and not instead of other available access to the cited materials. The County's lack of written response to the commenter's October request for access to documents is unfortunate but does not change the fact that all documents were readily available at the two area libraries and could have been accessed upon request at the County Planning Department.

Under CEQA Guidelines section 15087(c)(5), as amended in 2018, public review notices need only specify where documents "incorporated by reference" in the draft EIR will be made available for public review. This amendment was adopted to clarify that documents that are cited in an EIR under CEQA Guidelines section 15148, but not incorporated by reference, need not be made available for public review along with the draft EIR.<sup>2</sup>

Nonetheless, during the public review period, the County made a good faith effort to provide all of the documents references in the Draft EIR to the commenter on November 2, 2023. Although the County disagrees with the suggestion that CEQA required extension of the comment period, the County extended the initial 45-day comment period to 60 days. The extended period concluded on November 21, 2023. And then as a courtesy to this commenter, accepted comments received as late as March 8, 2024.

F-2 The County acknowledges receipt of this copy of the County's Notice of Availability of the Draft EIR for agency and public review. The notice is not itself a comment on the adequacy or accuracy of the Draft EIR.

F-3 See Response F-1 regarding the timeliness of access to the reference materials cited in the Draft EIR.

F-4 The comment overstates the Project's anticipated energy storage capacity. Rather than "at least 3 gigawatts" of storage as asserted in the comment, one of the Project proponent's objectives is to site "approximately 3 gigawatts of energy storage" in the proposed location (Draft EIR Section ES.3, page ES-2). See also Draft EIR Section 1.2 (page 1-1) and Section 2.1 (page 2-1), each of which says: "At full build-out, the Project is expected to have capacity to store up to 3 gigawatts of energy...." The summary of Project details

<sup>2</sup> California Natural Resources Agency, 2018. Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines, pp 28–29. November 2018.  
[https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/2018\\_CEQA\\_Final\\_Statement\\_of%20Reasons\\_111218.pdf](https://resources.ca.gov/CNRALegacyFiles/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf).  
 Accessed June 19, 2024.

provided in this comment otherwise is consistent with information provided in Draft EIR Chapter 2, *Project Description* (page 2-1 et seq.).

- F-5 For the reasons explained in greater detail below (see Responses F-7, F-12, F-13, and F-14), the County disagrees with the commenter’s preliminary determination about CEQA compliance. Responses to input provided by Dr. Clark are provided below in Responses F-6 through F-48.
- F-6 The County made Project documents, including all components of the Draft EIR, available for review consistent with the requirements of CEQA. See, for example, documents posted in the County’s website for the project (<https://www.fresnocountyca.gov/Departments/Public-Works-and-Planning/divisions-of-public-works-and-planning/development-services-division/planning-and-land-use/environmental-impact-reports/eir-8189-key-energy-storage-project>) and Response F-1. Consistent with CEQA and the overview of the CEQA process presented during the scoping meeting for this Project (Draft EIR Appendix A, *Scoping Report*), the commenter’s upcoming public involvement opportunities include participation in public hearings in advance of a decision on the Project. Without more information about the perceived constraints or the components, the County is unable to provide a more detailed response to this comment.
- F-7 The County disagrees with the opinion expressed in this comment regarding substantial evidence in support of conclusions reached in the Draft EIR regarding agriculture and air quality.

Contrary to the assertion made in this comment, CEQA does not require recirculation of the Draft EIR. CEQA requires recirculation of an EIR when the lead agency adds “significant new information” to the EIR regarding changes to the project description or the environmental setting after public notice is given of the availability of a draft EIR for public review but before EIR certification. Recirculation is not required unless the EIR is changed in a way that would deprive the public of the opportunity to comment on significant new information, including a new significant impact for which no feasible mitigation is available to fully mitigate the impact (thus resulting in a significant and unavoidable impact), a substantial increase in the severity of a disclosed environmental impact, or development of a new feasible alternative or mitigation measures that would clearly lessen environmental impacts but that the project proponent declines to adopt (CEQA Guidelines §15088.5[a]). Recirculation is not required when the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR (CEQA Guidelines §15088.5[b]). Here, no changes are proposed in the Project that would require major revisions of the EIR and the minor editorial, clarifying, and similar revisions to the Draft EIR set forth in Chapter 3 of this Final EIR do not trigger recirculation.

For a summary of the Project’s potential significant impacts, and the mitigation measures identified to avoid or reduce them, see Draft EIR Table ES-2, *Summary of Impacts and Mitigation Measures* (page ES-9 et seq.).

- F-8 The County acknowledges the commenter’s statement of interest in the Project.
- F-9 The County acknowledges this summary of CEQA. The summary of the statute and regulations do not constitute comments on the adequacy or accuracy of the Draft EIR.
- F-10 See Response F-1, which explains that the County made available all documents referenced in the Draft EIR during the entire public comment period.

Consistent with the Thursday, November 16, 2023, notice of extension of the comment period provided in Appendix A5 of this Final EIR and explained in Section 2.1, the extended comment period closed November 21 and late-received comments were accepted through November 27, 2023.

- F-11 The County acknowledges this summary of CEQA. The summary of the statute and regulations do not constitute comments on the adequacy or accuracy of the Draft EIR.
- F-12 Draft EIR Section 3.2.1 (page 3.2-4 et seq.) provides information about the regulatory and environmental setting of the Project relating to agricultural resources. Section 3.2.2 (page 3.2-10 et seq.) documents the County’s analysis of the Project’s potential direct and indirect effects; Section 3.2.4 (page 3.2-20 et seq.) documents the analysis of cumulative effects. The County disagrees with the opinion expressed about the Draft EIR’s failure to comply with CEQA.
- F-13 The comment correctly summarizes the conclusions reached in Draft EIR Section 3.3, *Agriculture and Forestry Resources* (page 3.3-1 et seq.), that the Project’s conversion of prime farmland and indirect impacts on agricultural resources would be individually and cumulatively less than significant. See Draft EIR Section 3.3.3 (page 3.3-12 et seq.) and Section 3.3.4 (page 3.3-18 et seq.), respectively. The comment also is correct that the Draft EIR considers Project impacts on agriculture resources to be limited to the term of the Project, i.e., lasting until completion of the activities described in the draft reclamation and site restoration plan included in Draft EIR Appendix B1, since the completion of these activities would return the Project site to a condition suitable for agricultural use. As discussed in Responses F-14 and F-15, the analysis of agricultural impacts in the Draft EIR includes substantial evidence to support the conclusion that impacts to agricultural resources would be less than significant, including a Land Evaluation and Site Assessment (LESA), which is used for rating the relative value of agricultural land resources. The County disagrees with the suggestion that either the conclusions or the reasoning is “erroneous” and so has not revised the Draft EIR in response to this comment.
- F-14 The EIR’s assumption that the Project’s impacts to agriculture resources would be temporary in nature since the Project would be decommissioned and the site returned to

agricultural use is supported by evidence in the record. Although neither CEQA nor the CEQA Guidelines defines “temporary” in terms of a distinction from “permanent,” the Court of Appeals recently considered the issue in the context of a street closure for display of public art. *Committee to Relocate Marilyn v. City of Palm Springs* (2023) 88 Cal.App.5th 607. The court distinguished “vacation” (i.e., a termination of the right to use a street for public use to the exclusion of a future reversion to public use) from a “temporary” street closure (i.e., where the public regains its right to use the street when the closure expires.”

Following the same reasoning, the proposed energy storage use is temporary in that the ability to use the Project site for agricultural uses comparable to existing (baseline) agricultural uses will resume when the requested unclassified conditional use permit (CUP) expires; the opportunity to resume agricultural use of the Project site would not be lost the way it could be if subject to a residential or commercial development with an indefinite permit term. For this Project, the CUP would expire after a set term anticipated to be 30 years (Draft EIR Appendix B1, p. 2).

The Applicant submitted a draft reclamation plan as part of the CUP application package. The County included the draft reclamation plan in the Draft EIR as Appendix B1. If the Project is approved, the draft reclamation plan will be updated and finalized in accordance with final, approved design plans and submitted with the Project’s grading and building permit applications – a final reclamation plan would be in place before ground disturbance occurs (Draft EIR Appendix B1, p. 2). The proposed reclamation is intended “to return the site to its previous agricultural condition” (Draft EIR Appendix B1, p. 2). As explained in more detail in Draft EIR Appendix B1 (p. 3):

“Prior to completion of decommissioning, the Project site would be restored to its current agricultural condition. All roads and other areas compacted during original construction or by equipment used for decommissioning would be tilled in a manner adequate to restore the subgrade material to the proper density and depth consistent with adjacent properties. Low areas would be filled with clean, compatible sub-grade material. After proper sub-grade depth is established, locally sourced (from the City of Fresno or other location within 50 miles of the Project site) topsoil would be placed to a depth and density consistent with adjacent properties. Locally sourced compost would be applied to the topsoil, and the entire site would be tilled to further loosen the soil and blend in the compost. An appropriate seed mixture would be broadcast or drilled across the site and weed-free mulch would be applied to stabilize the soil and retain moisture for seedling germination and establishment.”

Further, “Agricultural land, water, and utility pipes on site prior to energy storage facility construction may remain throughout the facility's use.... [and] may once again be used to provide irrigation on the property after the site has been decommissioned. Once the facility is completely removed, the property owner will be able to commence farming on this property if they so choose” (Draft EIR Appendix B1, pp. 3, 4). The County requires,

and the Applicant would provide, money in an amount equal to the estimated cost of implementing all activities associated with returning the Project site to its original state (Draft EIR Appendix B1, p. 3).

The County’s expectation (reflected in the Draft EIR) that renewable energy uses such as the Project would be temporary is underscored both in the County’s Supplemental Information for Solar Electrical Generation Facilities (which requires applicants to “[p]rovide a Reclamation Plan detailing the lease life, timeline for removal of the improvements and specific measures to return the site to the agricultural capability prior to installation of solar improvements”)<sup>3</sup> and the County’s Guidelines for Preparing a Solar Electrical Generation Facility Reclamation Plan (which requires such plans to “specify termination date” and a “[t]imeline for completion of reclamation after solar facility lease has termed”).<sup>4</sup>

While the Project would effectively preclude agricultural use on the entire 318-acre site, it would not adversely affect any of the environmental characteristics of the site that qualify it for mapping as Prime Farmland. After decommissioning, the texture of surface soils would be returned to a condition suitable for agricultural use. The EIR’s conclusion that the Project’s impact on loss of farmland would be temporary is consistent with input provided by the Department of Conservation, which defines the “conversion” of agricultural land as “a permanent reduction in the State’s agricultural land resources.”<sup>5</sup> Unlike the development of homes, businesses, and community facilities that permanently convert prime agricultural land, structures associated with the development of this Project would be removed and the site returned to a condition suitable for agricultural use within the timeframe specified in the permit. As stated in Section 2.5.1 in Section 2.5, *Description of the Project*, of the Draft EIR, the conditional use permit (CUP) issued by the County for the Project would have a 40-year term.

The comment correctly anticipates that, if the Project is approved, then the County would monitor and enforce implementation of the Project in compliance with the project description set forth in Draft EIR Chapter 2 (page 2-1 et seq.) as a condition of permit approval. However, identification of conditions of approval are functions of the California Planning and Zoning Law (Government Code § 65000 et seq.) and are outside the scope of CEQA, which is limited to the identification and analysis of impacts of the project and alternatives. The Applicant’s commitment to decommission the Project and reclaim the site is an element of the Project as proposed: it is not a mitigation measure (as defined in CEQA Guidelines § 15370) required to minimize a significant environmental effect of the Project. Public Resources Code §§21061, 21100(b)(3); CEQA Guidelines

<sup>3</sup> County of Fresno, 2017. Supplemental Information for Solar Electrical Generation Facilities. Rev. December 12, 2017.

<sup>4</sup> County of Fresno, 2024a. Guidelines for Preparing a Solar Electrical Generation Facility Reclamation Plan. <https://www.fresnocountyca.gov/Departments/Public-Works-and-Planning/divisions-of-public-works-and-planning/development-services-division/planning-and-land-use/photovoltaic-facilities/photovoltaic-facilities-p-3106>. Accessed June 18, 2024.

<sup>5</sup> California Department of Conservation, 2023b. California Environmental Quality Act (Land Protection). [https://www.conservation.ca.gov/dlrp/Pages/CA-Environmental-Quality-Act-\(CEQA\)-.aspx](https://www.conservation.ca.gov/dlrp/Pages/CA-Environmental-Quality-Act-(CEQA)-.aspx). Accessed January 8, 2024.

§§15121(a), 15126.4(a). For these reasons, and contrary to the suggestion in this comment, substantial evidence supports the EIR's assumption that Project impacts to agricultural resources would be temporary.

- F-15 The County's conclusion that the description of a different project proposed on a different site contained insufficient specificity to reach a conclusion of less than significant impact on the conversion of prime farmland is not relevant to the County's evaluation of details provided about this Project in this EIR. Of note, unlike the Draft EIR for this Project, the Draft EIR for the Fifth Standard Solar Project Complex included no draft reclamation plan and, as a result, considerably less detail about the activities that would comprise project decommissioning and site restoration. The additional information contained in the Project's draft reclamation plan and in the Draft EIR adequately support the EIR's impact conclusion of less-than-significant impact on farmland.

Further, the two projects are different in ways that fundamentally affect conclusions of the site assessment aspect of the LESA evaluation for the Project. Section II of the environmental checklist set forth in CEQA Guidelines Appendix G says, "In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California [Department] of Conservation as an optional model to use in assessing impacts on agriculture and farmland." The County exercised its discretion to review and rely on LESA modeling to reach a conclusion of less-than-significant impact for this project. The site assessment aspect of the LESA model includes four factors (ratings) that are intended to measure social, economic, and geographic attributes that contribute to the overall value of agricultural land. They include project size rating, water resource availability rating, surrounding agricultural land rating, and surrounding protected resource land rating. Among other things, these ratings recognize the roles that farm size, the availability of adequate water supplies, and the amount of surrounding lands with long term use restrictions that are compatible with or supportive of agricultural land (such as Williamson Act contracted lands) play in the viability of an agricultural operation.

Each project and project site are evaluated on their own merits, not by comparison to other projects. Nonetheless, a comparison may be illustrative here to provide additional information about why the County reached different conclusions for the two projects: This project would affect 318 acres, the southern half of which is fallow; the Fifth Standard project would be more than five times larger - 1,600 acres. A water supply assessment was prepared for this Project; no water supply assessment was included in the Fifth Standard Draft EIR. Another relevant difference between the two project sites is that this Project site is not completely surrounded by Williamson Act contracted lands, while the Fifth Standard project site was. Consistent with CEQA, the County exercises its discretion under CEQA to evaluate the impacts of each project based on project-specific and site-specific facts. That different facts may lead to different conclusions does not support a suggestion that the analysis in this EIR is speculative or insufficiently supported.



- F-16 As explained in Responses F-13, F-14, and F-15, the EIR provides substantial evidence to support its findings that Project impacts (direct, indirect, and cumulative) on agricultural resources would be less than significant. In light of the limited circumstances under which CEQA requires recirculation (see Response F-7) and the absence of significant new information following agency and public review of the Draft EIR, no substantial revisions have been made to the Draft EIR (see Final EIR Chapter 3) and the County declines the request to recirculate the draft.
- F-17 The Draft EIR’s determination that the Project’s indirect impacts on farmland would be less than significant is supported by substantial evidence. The study area for the analysis of impacts on agriculture resources consists of “farmland within Fresno County (including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance, as shown on maps prepared pursuant to the FMMP) (Draft EIR Section 3.3.1.1, page 3.3-1). The environmental and regulatory setting for the analysis is summarized in Draft EIR Section 3.3.1.2 (page 3.3-1 et seq.) based on FMMP mapping, a Project-specific and site-specific LESA (Draft EIR Appendix C), Fresno County assessor’s data, and state and local laws such as Government Code Section 51201 (which defines prime farmland), the Fresno County General Plan’s Agriculture and Land Use Element. The potential indirect impacts of development pressure on farming within the County due to land use incompatibilities resulting from renewable energy projects also are addressed by consistency with the County’s Solar Facility Guidelines (see Draft EIR Appendix I) and limitations on pesticide use (see Draft EIR Appendix B2). Significance criteria relied upon in the analysis, consistent with the environmental checklist found in CEQA Guidelines Appendix G, are presented in Draft EIR Section 3.3.2 (page 3.3-11).

The comment correctly acknowledges the Draft EIR’s disclosure (in Draft EIR Section 3.3.3.3) that the Project would result in an indirect impact on the conversion of farmland to non-agricultural use. The comment also correctly acknowledges the explanation that the development of energy storage projects such as this Project “follows in the footsteps of the development of renewable energy generation projects in the region, rather than leading it” and that “the central force of attraction for the development of renewable energy projects in the region is arguably the PG&E Gates Substation, and not the Project itself.”

The commenter’s reliance on the decision in *Masonite Corp. v. County of Mendocino* (2013) 218 Cal.App.4th 230 is misplaced. That decade-old decision held that agricultural conservation easements were a legally feasible mitigation measure that could reduce the project’s significant unavoidable impact on loss of farmland.<sup>6</sup> This EIR, however, concludes that the Project would result in a less-than-significant, temporary impact due to farmland conversion. Therefore, the holding in *Masonite Corp.* decision regarding the

<sup>6</sup> As an aside, the court in a more recent decision reached the opposite conclusion: that agricultural conservation easements do not provide effective mitigation for a significant conversion of agricultural land. See, *King & Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal. App. 5th 814.

appropriateness of a particular mitigation measure to address a significant impact does not apply here.

The unsupported opinion in this comment expressing disagreement with the EIR's conclusion does not indicate that the EIR is wrong. As explained in Public Resources Code Section 21082.2(c), “Argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly inaccurate or erroneous, or evidence of social or economic impacts which do not contribute to, or are not caused by, physical impacts on the environment, is not substantial evidence. Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.” Here, the comment provides no evidence to support its presumption that mitigation is warranted.

As noted in the comment, the Draft EIR acknowledges that “the proposed use could attract other solar development, which would enable storage of the energy collected by solar facilities. As an indirect effect, the conversion of agricultural parcels in the zone of influence and in the surrounding landscape could result.” However, it would be speculative to determine the extent that the proposed battery energy storage facility could indirectly result in the conversion of farmland to solar facilities. Speculative analysis is not required under CEQA. CEQA Guidelines Section 15187 states: “The agency... is not required to, nor should it, engage in speculation or conjecture.” This disclosure is consistent with the discussion in the *Masonite Corp.* decision (218 Cal. App. 4<sup>th</sup> 230, 236) that “indirect effects include the pressure created to encourage additional conversions.” This consistency does not, however, compel a conclusion that the Project’s impact would be a significant one.

Further, the commenter does not provide any substantial evidence that the PG&E Gates Substation is not the central force of attraction for development of renewable energy projects in the region. The purpose of battery energy storage projects is to provide a method to store energy during low-demand periods and supply unused energy during high-demand periods. By their nature, it is necessary to site battery storage projects in proximity to existing substations, where they can connect to the existing energy distribution system. Close proximity to an existing substation is a primary factor considered when siting renewable projects, because proximity to an existing substation minimizes the complexity of interconnection (both logistical and safety) and reduces the required length of the gen-tie lines. As such, the PG&E Gates Substation, and not the proposed battery energy storage system, could attract other renewable projects because they would also need to be located close to a substation so they can connect to the existing energy distribution system.

The Draft EIR does not adopt a “drop in the bucket” approach to support a conclusion that the Project’s own pressure on neighboring agricultural resources is insignificant in light of other considerations. To the contrary, the County and its environmental consultant evaluated the context of the Project’s indirect impact (including relevant considerations evaluated in the LESA) and evidence in the record (including the

Reclamation Plan included in Draft EIR Appendix B1) that Project decommissioning and site restoration would return the site to a condition suitable for agricultural use upon the conclusion of the permit period.

- F-18 The Project would have no cumulative CEQA impact to other types of farmland mapped by the California Department of Conservation - because the Project would cause no impact on unique farmland or farmland of statewide importance, it could not cause or contribute to any significant cumulative effect on either of these two types of land.

In the context of Impact 3.3-4, the Draft EIR (p. 3.3-18 et seq.) concludes that the Project would not cause a cumulatively considerable contribution to a significant cumulative effect due to conversion of Prime Farmland to non-agricultural use. The analysis explains (pp. 3.3-18, 3.3-19) that the Project's contribution to cumulative effects on Prime Farmland would be temporary (limited to the construction and operations and maintenance phases of the Project) because Project decommissioning and site restoration would return the site to a condition suitable for continued agricultural use and because Project development would not significantly adversely impact any of the environmental characteristics of the site that qualify it for mapping as Prime Farmland on the basis of its Storie Index Rating. The commenter's disagreement with this rationale and conclusion does not render the EIR inadequate. The commenter's opinions about the *Kings County Farm Bureau v. City of Hanford* decision and whether the CEQA lead agency for the project at issue in that case also do not raise significant environmental issues about this project or this EIR.

- F-19 The County agrees with the suggestion that the presence of other projects that would cause or contribute to cumulative effects on surrounding farmland does not eliminate the Project's contribution. However, for the reasons described in the analysis of cumulative effects (Draft EIR Section 3.3.4, page 3.3-18 et seq.) and in Response F-18, the Project's incremental, less-than-significant contribution to any significant cumulative impact to agricultural resources would not be cumulatively considerable. Because the comment does not identify significant new information, CEQA does not require the County to recirculate the Draft EIR. See Response F-7, which summarizes the limited circumstances under which CEQA requires recirculation.

- F-20 The comment correctly summarizes disclosures provided in Draft EIR Section 3.3.4 (page 3.3-18 et seq.) about the extent of the Project's incremental temporary contribution to the loss of farmland (i.e., 318 acres), the impacts of past conversions are ongoing (and reflected in baseline conditions), and that other present and reasonably foreseeable future projects may result in impacts related to farmland conversion. However, the comment incorrectly concludes that the analysis violates CEQA.

CEQA requires an EIR to discuss a cumulative impact if the project's incremental effect combined with the effects of other projects is "cumulatively considerable" (CEQA Guidelines Section 15130(a)). Lead agencies are to make this determination based on an assessment of the project's incremental effects "viewed in connection with the effects of

past projects, the effects of other current projects, and the effects of probable future projects” including whether a project’s potential effects that are “individually limited” may nonetheless be cumulatively considerable (CEQA Guidelines §15065(a)(3)). The Draft EIR does so. See, for example, the analysis in Draft EIR Section 3.3.4 of Impact 3.3-4 (Draft EIR pages 3.3-18 and 3.3-19), which describes the relevant geographic and temporal context for the cumulative analysis; identifies the Three Rocks and Fifth Standard projects as other past, present, or reasonably foreseeable future projects that could cause the same kinds of impacts as the Project; and concludes that the Project would not cause a cumulatively considerable contribution to a significant cumulative effect due to conversion of farmland to non-agricultural use.

For the reasons stated in Response F-18, the commenter’s disagreement with the EIR’s conclusions that the Project’s impacts would be temporary and less than significant does not dictate a different conclusion. As analyzed in the EIR and summarized above, the Project’s impact on farmland conversion would not be cumulatively considerable (and so would be less than significant). Since CEQA requires mitigation only for significant environmental impacts (Public Resources Code §§21100(b)(3), 21150; CEQA Guidelines §15126.4(a)), the EIR correctly does not identify mitigation for this impact. Regarding the Draft EIR’s inclusion of legally enforceable requirements that the site be decommissioned, see Response F-14.

- F-21 See Response F-15 regarding the County's reasons for reaching different conclusions regarding impacts of the Project and impacts of the Fifth Standard project, including but not limited to the size of each project and specific aspects of neighboring parcels. See Response F-7 regarding the limited circumstances under which CEQA requires recirculation. CEQA does not require the County to recirculate the Draft EIR based on this comment because it does not provide significant new information. Regarding the potential for the Project to cause indirect conversion of farmland, see Response F-17.
- F-22 The comment correctly notes that the Project would conflict with Williamson Act contract number 2068 if it is in place at the time the Project is approved. The comment also correctly reports the Draft EIR’s determination that, if contract number 2068 does not govern the Project parcel, then there would be no conflict with contract number 2068. As described in Draft EIR Section 3.3.1.3 (page 3.3-7), cancellation of a contract would be consistent with the purposes of the Williamson Act if the findings specified in Government Code Section 51282(b) are made.

There is no evidence in the record that contract cancellation would result in an adverse impact on the “environment,” which is defined in Public Resources Code Section 21063.5 as “the physical conditions that exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, or objects of historic or aesthetic significance.” Economic and social changes resulting from a project are not impacts on the physical environment (CEQA Guidelines §15064[e]). The comment provides no data or other information suggesting that cancellation of a contract, without more, would result in any change to existing physical conditions that

would be different than the changes that would result from impacts to farmland. Therefore, the comment identifies no new significant impact and/or more severe an impact than disclosed in the Draft EIR.

- F-23 As stated in Draft EIR Section 3.3.1.3 (page 3.3-6), and consistent with this comment, a lead agency may approve uses on contracted lands if they are consistent with the stated principles of compatibility. The Draft EIR analyzes the Project’s compatibility with these principles in the context of Impact 3.3-2 (page 3.3-14 et seq.), which details the reasons that the project would not conflict with a Williamson Act contract. The comment’s statement that agricultural uses would be displaced during the term of the Project also is correct; however, the characterization of temporary displacement as a significant impact in the context of this Project is mistaken.

For the reasons explained Response F-17 and F-18, the EIR’s identification of Project impacts on farmland as “temporary” and its conclusion that impacts on loss of farmland would be less than significant are supported by substantial evidence in the record. The County acknowledges that the opinions expressed in this comment are at variance with these aspects of the Draft EIR and has made a good faith effort to provide further explanation of the reasons for the assumptions and conclusions reflected in the EIR, including why no changes have been made in response to the comments. However, since the opinions expressed by the commenter are not supported by facts, reasonable assumptions predicated upon facts, expert opinion supported by facts, the comments provide insufficient basis for the County to reach conclusions that differ from those presented and supported in the Draft EIR. In evaluating input received on a Draft EIR, the lead agency is entitled to weigh the evidence relating to the accuracy and sufficiency of the information in the EIR and to decide whether to accept it. Here, even though the commenter may disagree with the underlying data, analysis, or conclusions, the County is entitled to rely on the environmental analysis and conclusions reached by the experts who prepared the EIR. *Laurel Heights Improvement Association v Regents of University of California* (1988) 47 C3d 376, 408.

- F-24 See Responses F-17 and F-18 regarding the Draft EIR’s analysis of the Project’s indirect effects on nearby farmland, and its conclusions that less-than-significant impacts would result at the Project level and cumulatively. See also Response F-23, which refers the commenter to the Draft EIR’s analysis of Project compatibility with the principles of compatibility. Specifically regarding the third principle of compatibility, see Draft EIR pages 3.3-15 and 3.3-16, which provide evidence and analysis supporting the EIR’s conclusion that the Project would not result in the significant removal of adjacent contracted land from agricultural or open-space use. See Draft EIR pages 3.3-14 through 3.316, which provide evidence and analysis supporting the EIR’s conclusion that the Project would not conflict with a Williamson Act contract.
- F-25 This comment correctly summarizes information provided at the cited locations in the Draft EIR. See Draft EIR Section 3.12.2.2 (page 3.12-7 et seq.).

F-26 The Draft EIR analyzes Project consistency with the General Plan in Section 3.12 (page 3.12-1) and provides additional detail in Appendix I1, *Consistency with Fresno County General Plan*. General Plan Policy LU-A.3 states: “The County may allow by discretionary permit in areas designated Agriculture, special agricultural uses and agriculturally-related activities, including value added processing facilities, and certain non-agricultural uses listed in Table LU-3.” The County’s Agriculture and Land Use Element is clear that the list provided in Table LU-3 is not an exclusive list and instead is “a list of typical uses” and is “illustrative of the range of uses allowed in areas designated Agriculture.”<sup>7</sup> The non-exclusive list of examples of other allowable uses provided in Table LU-3 includes administration offices, machinery storage and maintenance, wireless communication facilities, and electrical substations.

In Draft EIR Appendix I1, Table I1-2 provides a side-by-side consistency analysis that identifies Fresno County General Plan Agriculture and Land Use Element policies and whether the Project is consistent with them. The Project consistency analysis in the Draft EIR mistakenly concluded that Policy LU-A.3 is “not applicable” to the Project. In revisiting the analysis in response to this comment, the County has corrected Draft EIR Appendix I1 Table I1-2 as follows (see also Section 3.2.7):

**Consistent.** The General Plan’s illustrative list of uses typical of nonagricultural uses allowable with a permit in an area designated Agriculture is sufficiently similar to uses proposed by the Project (such as administration offices, equipment storage and maintenance, and electrical and wireless communication infrastructure). Further:

(a) the proposed energy storage use would provide a needed service to the surrounding agricultural area (e.g., increase local energy storage capacity at the Gates Substation to address the limitations of the electric grid and make it more resilient to disturbances and peaks in energy demand) that cannot be provided more efficiently within urban areas and that requires location in the proposed non-urban area (see DEIR section 2.4, Project Purpose and Objectives, p. 2-6).

(b) No less productive land is available in the vicinity (see DEIR section 4.2.1.1, Alternative Sites, p. 4-4 et seq.).

(c) The operational or physical characteristics of the use would not have a detrimental impact on water resources or the use (see DEIR section 3.11, Hydrology and Water Quality, p. 3.11-1 et seq.) or management of surrounding properties within at least one-quarter (1/4) mile radius. (see DEIR Figure 2 2, Project Site, which shows energy and agriculture uses within 0.25-mile of the

<sup>7</sup> Fresno County, 2000. Fresno County General Plan Policy Document. October 3, 2000. <https://www.fresnocountyca.gov/files/sharedassets/county/v1/vision-files/files/18117-2000-general-plan-policy-document.pdf>. Accessed January 8, 2024. In the Agriculture and Land Use Element, see page 2-7 (definitions of “agriculture” and “irrigated agriculture”), page 2-11 (Policy LU-A.2), and page 2-13 (Table LU-3).

Project site; see also DEIR Section 3.3, which concludes that the Project would not cause a significant unavoidable impact on agriculture resources).

(d) A probable workforce would be located nearby or be readily available. See DEIR Section 2.5.6.2, Construction Workforce and Schedule, which explains that Project construction is anticipated to employ a maximum of 150 on-site personnel. Once operational, the Project would require limited personnel to visit the Project site. The Project site would be remotely operated and monitored 7 days a week through the proposed supervisory control and data acquisition system. Routine maintenance and one annual maintenance inspection are expected to occur as described in Section 2.5.7, Energy Storage System Operation and Maintenance,

Based on consistency with each of these criteria, the County finds the Project to be consistent with Policy LU-A.3. ~~Not applicable. The policies pertain to County policy actions that are not related to the Project or review of its associated permit applications.~~

State law requires every county and city to adopt “a comprehensive, long-term general plan for the physical development of the county or city” (Government Code §65300). It also requires a county’s land use decisions to be consistent with the policies expressed in the general plan (*Corona–Norco Unified School District v. City of Corona* (1993) 17 Cal.App.4th 985, 994). A project “is consistent with the general plan if, considering all its aspects, it will further the objectives and policies of the general plan and not obstruct their attainment” (*Corona–Norco*, 17 Cal.App.4th 985, 994). To be “consistent,” the project must be “compatible with the objectives, policies, general land uses, and programs specified” in the applicable plan; it need not be strictly compliant in every respect. See, *Friends of Lagoon Valley v. City of Vacaville* (2007) 154 Cal. App. 4th 807, 817. In this context, the County has determined that the Project is consistent with the General Plan, including General Plan Policy LU-A.3, because it would be compatible with the objectives, policies, general land uses, and programs specified in the General Plan. Because the comment does not identify significant new information, CEQA does not require recirculation of the Draft EIR on this basis. See Response F-7, which summarizes the limited circumstances under which CEQA requires recirculation.

- F-27 Because the Project would not have significant impacts on agricultural resources, the Draft EIR was correct not to include mitigation measures to address impacts to agriculture. The County received and considered scoping input provided by the California Department of Conservation as part of the scoping process for the EIR. See Draft EIR page 3.3-1 (“The County received scoping input from the California Department of Conservation, Division of Land Resource Protection, and the Fresno County Development Services and Capital Projects Division, Policy Planning Unit, regarding the Project’s potential impacts on agricultural resources. The specific input received related to potential impacts and mitigation measures regarding the Project site’s designation as

Prime Farmland and enrollment in the Williamson Act program. Copies of the letters are provided in Draft EIR Exhibit E of Appendix A, *Scoping Report*.”).

The comment characterizes the Department’s scoping input in a way that is consistent with the County’s own understanding, i.e., that a permanent reduction in farmland would represent a conversion of agricultural land and could (depending on other factors) result in a significant impact on California’s agricultural land resources. However, those are not the facts of this Project. As explained in Responses F-17 and F-18 and in Draft EIR Section 3.3 (page 3.3-1 et seq.), the Project’s temporary impact on farmland would not be permanent and would not rise to a level of significance requiring mitigation. Because the Project would not result in a potential significant impact, the Draft EIR is correct not to identify agricultural conservation easements or other measures, as potential mitigation.

F-28 The County does not agree that the Project’s Valley Fever-related impact would be potentially significant; therefore, mitigation is not required. See Responses F-39 through F-41.

F-29 To clarify, it is rule SJVAPCD Rule 8021 that would be required to reduce visible dust emissions to less than 20 percent opacity (see the fourth paragraph and first sentence of the fifth paragraph the Draft EIR Impact 3.4-4 discussion on page 3.4-25). The last sentence of the Draft EIR Impact 3.4-4 discussion incorrectly refers to Rule 802 instead of Rule 8021. To correct this error, and as shown in Section 3.2.4, the County has made the following edit to the last sentence of the Draft EIR Impact 3.4-4 discussion (p. 3.4-25):

Compliance with the requirements of AB 203 and SJVAPCD Rule 8021 would ensure that Valley Fever–related impacts on construction workers would be less than significant.

F-30 See Responses F-39 through F-41.

F-31 See Responses F-39 through F-41.

F-32 The County disagrees with the opinions expressed about the Draft EIR’s adequacy for purposes of CEQA. See Response F-7, which summarizes the limited circumstances under which CEQA requires recirculation. Because this comment does not provide significant new information and because major revisions to the Draft EIR are not required, CEQA does not require recirculation.

F-33 This summary of Project details is consistent with information provided in Draft EIR Chapter 2 (page 2-1 et seq.).

F-34 It is acknowledged that the Draft EIR concludes that there would be no significant air impacts from the Project. However, contrary to the statement made in this comment that the Draft EIR concludes that the Project would not expose sensitive populations to the risk of developing Valley Fever, the Draft EIR discloses that there would be a risk, albeit



- low, that fugitive dust generated by the Project could cause adverse effects on human beings (page 3.4-25). Further, the comment suggests that the Draft EIR concludes that there would be no air quality impacts; this is false. In fact, the Draft EIR identifies nine unique air quality impacts that would be associated with the Project, which would be less than significant or less than significant with mitigation incorporated (see Impacts 3.4-1 through 3.4-9; page 3.4-18, et seq.).
- F-35 The Project construction schedule described in the second sentence of the Impact AQ-2 discussion in Draft EIR Appendix D, *Air Quality, Greenhouse Gas Emissions, and Fuel Use*, is incorrect. As stated in both the Draft EIR and Appendix D paragraphs quoted in the comment, the actual total construction duration of either battery option would take approximately 6 years to complete. Consistent with that schedule, construction emission estimates associated with the Lithium Ion Battery Option were modeled based on assumptions over a period from January 2024 through November 2029, and construction emission estimates of the Lithium Ion and Iron Flow Battery Option were modeled over an assumed period from January 2024 through June 2029 (see Appendix A, *Assumptions and Calculations*, of Appendix D). Therefore, an accurate measure of the air quality impacts was provided, and a revised air quality assessment is not necessary.
- F-36 Impacts related to Valley Fever are analyzed in Section 4.3, *Air Quality*, of the Draft EIR (p. 4.3-1 et seq.). Any presence of Valley Fever cocci in the “high desert portion of Southern California” is irrelevant to the potential impacts of the Project. The term “high desert” generally describes the area centered around Victorville in San Bernardino County, California. The region extends as far west as Lancaster and as far northwest as Palmdale (both in Los Angeles County), and north to Barstow. By contrast, the Project site is located within Fresno County with minor incidental work also needed within an existing substation footprint in Kern County. See Draft EIR Section ES.1 (page ES-1), Section 1.2 (pages 1-1 and 1-2), and Chapter 2 (page 2-1 et seq.).
- F-37 The County acknowledges this summary of issues associated with *Coccidioides immitis*. The summary is consistent with that presented in the Valley Fever discussion in Draft EIR Section 3.4.1.2, most notably that farm workers, construction workers, others who engage in soil-disturbing activities, and anyone spending time outdoors in western Fresno County are at risk for contracting Valley Fever; Valley Fever is considered “highly endemic” in Fresno County; and that the western part of the County is considered an area of elevated Valley Fever activity (see Draft EIR, page 3.4-3 et seq.).
- F-38 The County agrees that based on size and settling rate, spores present in soils that can cause Valley Fever can travel many miles following the disturbance of impacted soils. This is consistent with the discussion presented in the Draft EIR, which includes the following statement: “High winds can carry dust containing the spores for long distances” (see second to last sentence on page 3.4-3 of the Draft EIR). The Draft EIR does not include speculative or inaccurate information regarding the ability of *Coccidioides immitis* spores to travel for long distances and the County does not agree that the discussion must be corrected in this regard.

F-39 In response to this comment, the County has reviewed the most recently available California Department of Public Health (CDPH) data for Valley Fever cases in California and Fresno County for 2021 through 2023, which was not previously available during the preparation of the Draft EIR. The data indicate there was a 6 percent increase in cases in California and a 25 percent increase in cases in Fresno County during that period. Although this new information does not change the less-than-significant determination of Impact 3.3-4, revisions have been made to the Draft EIR air quality environmental setting to incorporate the updated CDPH data.

The first sentence of the second paragraph of the *Valley Fever* discussion in Draft EIR Section 3.4.1.2 has been revised as shown in Section 3.2.4 and as follows to incorporate updated information from CDPH:

The California Department of Public Health (CDPH) received ~~7,252 and 8,030~~ 7,277, 6,747, and 7,696 new Valley Fever case reports in ~~2020 and 2021, 2022,~~ and 2023, respectively, as of November 30 of each year (CDPH ~~2022-2023~~).

The second and third sentences of the fourth paragraph of the *Valley Fever* discussion in Draft EIR Section 3.4.1.2 has been revised/replaced as shown in Section 3.2.4 as follows to incorporate accurate information for Fresno County updated from recent CDPH data:

The number of cases of Valley Fever in Fresno County has ~~varied-increased~~ increased in the past several years. ~~Between 2011 and 2014, the total number of cases decreased from 22,634 to 8,232; however, in 2019, the number of total cases spiked to 20,003, from 15,611 cases reported in 2018. Between 2021 and 2023, the total number of cases in Fresno County increased from 353 cases to 443 cases (CDPH 2023).~~

As shown in Section 3.2.4, the following reference has been added to Draft EIR Section 3.4.5:

CDPH (California Department of Public Health), 2023. Coccidioidomycosis in California Provisional Monthly Report, January – November 2023 (as of November 30, 2023), available online at: <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciinCAProvisionalMonthlyReport.pdf>

As concluded in Impact 3.3-4, because ground disturbance in Fresno County is ongoing and the Project would implement fugitive dust control measures consistent with SJVAPCD Rule 8021, and because independently enforceable protections of worker safety and health are in place, the risk is low that fugitive dust generated by the Project would cause substantial adverse effects on human beings.

F-40 This summary of Valley Fever symptoms is consistent with information provided in Draft EIR Section 3.4.1.2.

F-41 The comment includes lists of recommended measures to prevent the spread of Valley Fever. As described in the Valley Fever discussion in Draft EIR Section 3.4.1.3 (page 3.4-8, et seq.), Section 6709 to the Labor Code would require the Applicant to implement similar measures to provide effective awareness training about Valley Fever to all employees annually and before an employee begins work that is reasonably anticipated to cause substantial dust disturbance. The training must cover the specific topics described in Draft EIR Section 3.4.1.3 (pages 3.4-8 and 3.4-9), including but not limited to: personal and environmental exposure prevention methods; the importance of early detection, diagnosis, and treatment to help prevent the disease from progressing; recognizing common signs and symptoms of Valley Fever; and the importance of reporting symptoms to the employer and seeking medical attention from a physician and surgeon for appropriate diagnosis and treatment. In addition, as described in the discussion of Regulation VIII and Rule 8021 (Fugitive PM10 Prohibitions) in Draft EIR Section 3.4.1.3 (page 3.4-12, et seq.), the Applicant would be required to implement specific effective and enforceable fugitive dust controls described in Tables 3.4-4 and 3.4-5, including but not limited to, preparation and implementation of a SJVAPCD-approved Dust Control Plan.

Compliance with the requirements of Section 6709 to the Labor Code and SJVAPCD Rule 8021 would ensure that Valley Fever–related effects on construction workers described in Draft EIR Impact 3.4-4 (page 3.4-24, et seq.) would be less than significant. Therefore, additional mitigation measures are not required to reduce a significant impact. The County acknowledges the commenter’s concerns regarding Valley Fever, but disagrees with the opinions expressed about the Draft EIR’s adequacy for purposes of CEQA. The commenter does not provide substantial evidence that measures described above that would be implemented during Project construction and decommissioning are not sufficient for reducing the risk of Valley Fever. See Response F-7, which summarizes the limited circumstances under which CEQA requires recirculation. Because the comment does not provide substantial new information, CEQA does not require recirculation on this basis.

F-42 For this Project, a screening radius of 1,000 feet from the Project site to sensitive receptors was used to determine if a health risk assessment (HRA) would be required to evaluate Project-related diesel particulate matter emissions (see Impact 3.4-3, page 3.4-23 et seq. in the Draft EIR). Use of this screening radius is justified and supported by evidence because the 1,000-foot radius is consistent with findings in the California Air Resources Board’s *Land Use Compatibility Handbook*,<sup>8</sup> California Health & Safety Code Section 42301.6, *Notice for Possible Source Near School*,<sup>9</sup> and studies such as that of Zhu et al<sup>10</sup> that found concentrations of particulate matter tends to be reduced substantially at a distance of 1,000 feet or greater downwind from sources such as

<sup>8</sup> California Air Resources Board, 2005. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005.

<sup>9</sup> FindLaw, 2023. FindLaw.com - California Code, Health and Safety Code - HSC § 42301.6 - last updated January 01, 2023, available at: <https://codes.findlaw.com/ca/health-and-safety-code/hsc-sect-42301-6/>

<sup>10</sup> Zhu, Y. Hinds, W.C., Kim S, and Sioutas, C. 2002. Concentration and size distribution of ultrafine particles near a major highway. Journal of Air and Waste Management Association. 2002 Sep; 52 (9): 1032-42.

- freeways or large distribution centers.<sup>11</sup> Therefore, the County has determined that use of this screening radius to qualitatively assess health risks that would be associated with the Project is appropriate, and preparation of a quantitative HRA is not warranted in this case since the nearest sensitive receptors are at a distance of more than 3,000 feet upwind of the Project site (see page 3.4-6 of the Draft EIR).
- F-43 For the reasons described in Response F-42, the County disagrees with the notion that failing to quantify Project-related health impacts places the community at risk for unwanted adverse health impacts. The County otherwise acknowledges the summary of the toxic nature and potential health risks that can be associated with diesel particulate matter.
- F-44 The County disagrees with the comment that the EIR lacks supporting evidence for the conclusion that the Project would not result in significant health impacts. See Response F-42 for additional information.
- F-45 The comment appears to describe a request to conduct an HRA from the South Coast Air Quality Management District relative to a Notice of Preparation of an EIR for the Los Robles Apartment Project as a precedent requiring a quantitative analysis of toxic air contaminants. However, the Los Robles Apartment Project has vastly different circumstances compared to the Key Energy Storage Project. For example, as described in the Draft EIR prepared for that project, the Los Robles Apartments Project site is located within a developed area of Downtown Pasadena that is surrounded, in part, by single- and multi-family residential land uses, some of which appear to be located within 100 feet of that project site.<sup>12</sup> This is not a similar circumstance to that of the Key Energy Storage Project, which would be located roughly 3,300 feet from the nearest residence. Therefore, the County does not find the Los Robles Apartment Project in Downtown Pasadena to be persuasive precedent setting for the need to prepare of quantitative analysis for health impacts due to toxic air contaminants. See Response F-42 for a discussion of why a health risk assessment is not required for the Project.
- F-46 For the reasons described in Responses F-35 through F-45, the County disagrees that the Project could result in significant air quality impacts and does not agree that a revised EIR should be prepared to address the commenter's concerns.
- F-47 The County acknowledges receipt of Dr. Clark's resume, which details work in other states (such as Alabama, West Virginia, and New York) and other parts of the State (such as Long Beach, Los Angeles, and Santa Cruz) and which does not contain input on the adequacy or accuracy of the Draft EIR for this Project.

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<sup>11</sup> Bay Area Air Quality Management District, 2022. 2022 CEQA Guidelines Appendix A: Thresholds of Significance Justification.

<sup>12</sup> Meridian Consultants, Chapter 3.0, Project Description, of the Draft Environmental Impact Report for the Los Robles Apartments Project, September 2017. Pages 3.0-5 and 3.0-6. Available at: <https://www.cityofpasadena.net/planning/wp-content/uploads/sites/30/3.0-Project-Description.pdf?v=1700990124524>.

- F-48 See Response F-1 regarding the timeliness of access to the reference materials cited in the Draft EIR.
- F-49 Responses to comments dated November 6, 2023, are found in Response F-4 through Response F-48.
- F-50 The County disagrees with the stated opinion about the Draft EIR's compliance with CEQA. Responses to comments provided by House Agricultural Consultants are provided in Responses F-74 through F-98.
- F-51 The County disagrees with the opinion about the sufficiency of the evidence supporting conclusions reached in the Draft EIR regarding agriculture and disturbance of contaminated soil. The County also disagrees with the unsupported assertion that CEQA requires the Draft EIR to be recirculated with a revised analysis of direct and cumulative impacts and mitigation measures to mitigate related impacts. See Response F-7, which summarizes the limited circumstances under which CEQA requires recirculation.
- F-52 The County acknowledges the commenter's statement of interest in the Project.
- F-53 The County acknowledges this summary of CEQA. The summary of the statute, regulations, and case law interpreting CEQA do not constitute comments on the adequacy or accuracy of the Draft EIR.
- F-54 In the context of Impact 3.10-2 (Draft EIR, p. 3.10-16 et seq.), the Draft EIR concludes that the Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the energy storage system and release of hazardous materials into the environment and that this this impact would be less than significant with mitigation incorporated.

Information provide in this comment is consistent with the disclosure on Draft EIR page 3.10-16 that a "Phase I assessment identified the existence of an on-site natural gas pipeline and petroleum and natural gas easements, and an on-site diesel AST with stained soil associated with the on-site water supply well. The accidental release (e.g., breaking the natural gas pipeline during construction activities) or exacerbation of an existing release of hazardous materials (e.g., spreading contaminated soil from the diesel AST located on the western boundary of Assessor's Parcel Number 085-040-58 into drainages that lead to waterways) could create a significant hazard to the public or the environment. Finally, the Project site has a history of agricultural use that may have included the use of pesticides, residual levels of which could remain in soil at the Project site."

**Natural Gas Pipeline:** A site-specific, project-specific Phase I environmental site assessment is provided in Draft EIR Appendix H. The Phase I assessment shows in Figure 2 (Draft EIR Appendix H, p. 7) the location of a reportedly active PG&E natural gas pipeline and onsite petroleum and natural gas easements as traversing the property from northwest to southeast. Draft EIR Section 3.10.1.2 (p. 3.10-2) explains that the "Project design has accounted for the location of the natural gas pipeline and easement."

This is consistent with the preliminary site plans shown in Figures 2-3a and 3b, and in Figures 2-4a and 4b (Draft EIR, p. 2-7 through p. 2-10), which include a 100-foot setback from each side of the pipeline. Because the natural gas pipeline would not be disturbed during construction activities, the Draft EIR concludes in the context of Impact 3.10-2 that the impact resulting from an accidental release (such as could result if the natural gas pipeline were to be ruptured during construction activities) would be less than significant (Draft EIR, p. 3.10-18).

CEQA Guidelines section 15126.4(a)(3) says, “Mitigation measures are not required for effects which are not found to be significant.” The Draft EIR appropriately did not identify mitigation measures relating to Impact 3.10-2’s analysis of the PG&E natural gas pipeline and onsite petroleum and natural gas easements, and so this comment’s suggestion that improper deferral has occurred is incorrect.

**Diesel Aboveground Storage Tank:** The Phase I assessment shows in Figure 2 (Draft EIR Appendix H, p. 7) and the Draft EIR shows in Figure 3.10-1 (p. 3.10-3) a diesel above ground storage tank (AST), water supply well and existing irrigation equipment marked with the letter “C.” The Draft EIR explains that “soil around the diesel AST... is stained with diesel fuel” (p. 3.10-18). Because the area of contaminated soil may be disturbed during construction or operations, the analysis discloses that a potential significant impact would result (Draft EIR, p. 3.10-18) and so recommends that the soil management plan described in Mitigation Measure 3.10-1 (Draft EIR, p. 3.10-19 et seq.) be implemented to ensure that the contaminated soils associated with the AST are properly removed and disposed of in accordance with all applicable federal, state, and local regulations. With implementation of this mitigation measure, this impact would be less than significant.

CEQA Guidelines section 15126.4(a)(1)(B) establishes both the general rule that “Formulation of mitigation measures shall not be deferred until some future time” and the exception, which is that the “specific details of a mitigation measure... may be developed after project approval when it is impractical or infeasible to include those details during the project’s environmental review provided that the agency (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure.” Further, “Compliance with a regulatory permit or other similar process may be identified as mitigation if compliance would result in implementation of measures that would be reasonably expected, based on substantial evidence in the record, to reduce the significant impact to the specified performance standards.” It is impractical to require the details of a soil management plan to be developed in advance of project approval because there is insufficient certainty about the specific area that would be disturbed (and so the boundaries for testing) and because the Applicant would not have a contractor in place to develop the plan until after Project approval. The specifics of Mitigation Measure 3.10-1 satisfy the prerequisites in CEQA Guidelines section 15126.4(a)(1)(B) for later formulation of mitigation details. First, the County commits itself to the mitigation (“The

County shall review the results of the soil sampling to determine if any additional investigation or remedial activities are deemed necessary. No work shall resume in that area until the County has provided written authorization that the area does not warrant any additional action.”). Second, under the heading “Significance after Mitigation” (Draft EIR, p. 3.10-20), the Draft EIR states: “Implementing Mitigation Measure 3.10-1 would ensure that contaminated soil is properly removed and disposed of in accordance with all applicable federal, state, and local regulations.” This demonstrates that use of the word “proper” in Mitigation Measure 3.10-1 meant “in accordance with all applicable federal, state, and local regulations.” Consistent with CEQA Guidelines section 15126.4(a)(1)(B), the County can rely on requisite compliance with a regulatory permit or other similar process as performance standards to mitigate the impact. Applicable federal, state, and local laws are summarized in Draft EIR Section 3.10.1.3, *Regulatory Setting* (p. 3.10-5 et seq.). As explained on Draft EIR page 3.10-20, compliance with applicable laws would “prevent adverse water quality effects from management of a contaminated material and adverse effects on construction workers, the public, and the environment.” Finally, Mitigation Measure 3.10-1 identifies the types of potential actions that can feasibly achieve that performance standard (e.g., describe the hazardous materials that may be encountered, provide onsite training, and follow the protocols for testing the soil to evaluate the proper handling, removing, transporting, and disposing of all excavated materials in a safe, appropriate, and lawful manner). The County reasonably can expect, based on facts presented in Draft EIR Section 3.10, Draft EIR Appendix H, reasonable assumptions based upon facts (e.g., the requirements and limits set by federal state, and local laws regarding the handling, treatment, storage, and disposal of hazardous wastes are set where needed to protect human health and the environment), and the expert opinion of the EIR preparers as supported by facts in the record, to reduce the potential significant impact due to removal and disposal of contaminated soils associated with the AST. For these reasons, the comment is incorrect in suggesting that the County has improperly deferred the development of details for Mitigation Measure 3.10-1.

**Pesticides:** Draft EIR Figure 3.10-1 (p. 3.10-3) shows the location of fertilizer and tote tanks, marked with the letter “A,” along Jayne Avenue. As explained in Section 3.10.1.2 (Draft EIR, p. 3.10-4), “Staining was observed in the vicinity of the tote tanks. However, because it appears that the tote tanks are associated with SoilBasics, a plant food/fertilizer, minor releases to the soil are not expected to impact the subject property and are considered a de minimis condition.” The Draft EIR reports that the Project site has been used for agricultural purposes and could have residual levels of pesticides soil and/or groundwater. All Product Use Reports since current ownership as of April 1, 2021, are on file with the County (Draft EIR Appendix H *Property Owner Interview Questionnaire*, p. 7). However, because some uncertainty about past pesticide use at the Project site remains, the Draft EIR concludes that there is a potential for residual pesticide levels to pose a risk to construction workers or the environment and that this possibility constitutes a potential significant impact for purposes of CEQA. To reduce the potential adverse impact of the known contaminated soil, and to mitigate currently unknown contaminated soil that may be discovered during construction activities, the Draft EIR recommends Mitigation Measure 3.10-1. For the reasons explained above

- under the heading “Diesel Aboveground Storage Tank,” the County has not improperly deferred the development of details for Mitigation Measure 3.10-1.
- F-55 The comment is correct that some of the specific details of Mitigation Measure 3.10-1 would not be developed until after Project approval. See Response F-54, which explains why this is permissible under CEQA.
- F-56 See Response F-54, which explains that the County has not improperly deferred the development of details for Mitigation Measure 3.10-1.
- F-57 See Response F-54, which explains that the County has not improperly deferred the development of details for Mitigation Measure 3.10-1. CEQA does not require the extent of impacts to be quantified, and so not doing so in the Draft EIR is not contrary to CEQA. Contrary to the suggestion in this comment, the areas where construction and operation could occur in proximity to potentially contaminated soils is clear in the Draft EIR. See Draft EIR Section 3.10.1, *Environmental Setting* (p. 3.10-1 et seq.) and Draft EIR Appendix H.

Contrary to the suggestion in this comment, the Draft EIR is adequate as an informational document. CEQA’s primary purpose for an EIR is “to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project.” *Martis Camp Community Association v. County of Placer* (2020) 53 Cal. App. 5<sup>th</sup> 569, 603. An EIR’s analysis and discussion of a significant environmental impact fulfills this informational purpose when it includes “sufficient detail to enable those who did not participate in its preparation to understand and to consider meaningfully the issues the proposed project raises” *Sierra Club v. County of Fresno* (2018) 6 Cal.5<sup>th</sup> 502 (the “Friant Ranch” decision). A conclusory discussion of a significant impact can make an EIR “inadequate as an informational document” as a matter of law. *Friant Ranch*, 6 Cal.5<sup>th</sup> at 514. According to CEQA Guidelines section 15003(i), “CEQA does not require technical perfection in an EIR, but rather adequacy, completeness, and a good-faith effort at full disclosure.” For the reasons explained in Response F-54, the Draft EIR, including the analysis of potential impacts related to hazardous materials, meets CEQA’s standard of adequacy as an informational document.

See Response F-7, which summarizes the limited circumstances under which CEQA requires recirculation. Because the Draft EIR’s discussion and analysis of potential impacts relating to hazardous materials is sufficient to inform the public about the nature and extent of the Project’s potential impacts, CEQA does not require it to be revised and recirculated.

- F-58 See Response F-54 regarding CEQA Guidelines section 15126.4(a), CEQA’s mitigation obligation, and the circumstances when it is permissible for the specific details of a mitigation measure to be developed after project approval. The suggestion in the comment that the County’s approach to Mitigation Measure 3.10-1 “merely requires a



- report to be prepared and followed... without setting standards” ignores the performance standards established in applicable federal, state, and local regulations for the handling, treatment, storage, and disposal of hazardous wastes are set where needed to protect human health and the environment.
- F-59 See Response F-7, which summarizes the limited circumstances under which CEQA requires recirculation. Because the Draft EIR’s discussion and analysis of potential impacts relating to hazardous materials is sufficient to inform the public about the nature and extent of the Project’s potential impacts, neither comments F-53 through F-59 nor the responses to them provide substantial new information that would require recirculation.
- F-60 See Response F-12 through Response F-20 for responses to the commenter’s preliminary comments on the Draft EIR’s analysis of impacts on agricultural resources. Responses to comments provided by House Agricultural Consultants are provided in Responses F-74 through F-98. For the reasons stated in this suite of responses, the County disagrees with the commenter’s opinion about the Draft EIR’s compliance with CEQA.
- F-61 The County acknowledges, and disagrees with, the stated opinion about the Draft EIR’s conclusions that the Project would result in a less than significant impact on agricultural resources.
- F-62 See Response F-14 regarding the temporary nature of the proposed energy storage use. Responses to comments provided by House Agricultural Consultants are provided beginning with Response F-75.
- F-63 CEQA Guidelines section 15151 says, “Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts.” The County has considered the information provided by House Agricultural Consultants but disagrees with the conclusion they reach. The House comments suggest that this Project would not restore the underlying farmland to agricultural use because “scant data” supports that other projects have done so, and so that the County has incorrectly characterized this Applicant’s proposed change in land use of the Project site as “temporary.” The County disagrees. Past actions by different applicants on other sites do not dictate what actions this Applicant would take on this Project site with the limited term-CUP, a reclamation plan, and financial assurances in place. Further, the commenter’s speculation about economic incentives driving extended use of the site for the proposed energy storage use ignores myriad other factors that could affect land use and planning decisions in 30 years’ time, including potential increased demand for agricultural production. Disagreement with the County’s conclusions does not make the EIR inadequate.
- F-64 See Responses F-22, F-23, and F-24 for responses to earlier-submitted comments about Williamson Act compatibility. Responses to comments provided by House Agricultural Consultants, including regarding the temporary nature of the proposed use, are provided beginning with Response F-75. Based on evidence provided in the indicated responses, the County disagrees with the commenter’s conclusion of any conflict that requires

- mitigation or a revised and recirculated EIR and so has made no change in response to this comment. In light of the evidence provided in Section 3.2 (Draft EIR, p. 3.2-1 et seq.), these responses to comments (including Responses F-22, F-23, and F-24), and elsewhere in the record, the commenter's disagreement with the County's conclusions does not make the EIR inadequate.
- F-65 This comment accurately reflects information presented in the last paragraph on Draft EIR page 3.3-12 within the discussion of Impact 3.3-1, which concludes that Project would cause a less-than-significant impact due to conversion of Prime Farmland to non-agricultural use.
- F-66 Responses to comments provided by House Agricultural Consultants, including regarding soil chemistry and the conditions under which permanent degradation can occur, are provided beginning with Response F-75.
- F-67 Responses to comments provided by House Agricultural Consultants regarding Project impacts due to battery leakage and related hazards are provided in Response F-87.
- F-68 Responses to earlier-submitted comments about the effectiveness of the proposed reclamation plan in returning on-site soils to a condition suitable for agricultural use are provided in Responses F-14 and F-18. Responses to comments provided by House Agricultural Consultants are provided beginning with Response F-75.

Neither the County nor CEQA requires a reclamation plan to include an agronomic baseline report. The County requires renewable energy project applicants to provide "a Reclamation Plan detailing the lease life, timeline for removal of the improvements and specific measures to return the site to the agricultural capability prior to installation of solar improvements."<sup>13</sup> Additional details about what the County requires in a reclamation plan are provided in the County's Guidelines for Preparing a Solar Electrical Generation Facility Reclamation Plan.<sup>14</sup> Among other things, required components of an adequate reclamation plan include the descriptions of the present and proposed use of the site and how it will be reclaimed to its previous agricultural condition, specifically including details about any grading necessary to return the site to original grade, the type of crops to be planted, and irrigation system details.<sup>15</sup> An engineering cost estimate of reclaiming the site to its previous agricultural condition and financial assurances equal to the cost of reclaiming the land to its previous agricultural condition also are required.<sup>16</sup> As explained in Response F-14, the reclamation plan provided for this Project satisfies

<sup>13</sup> County of Fresno, 2017. Supplemental Information for Solar Electrical Generation Facilities. Rev. December 12, 2017.

<sup>14</sup> County of Fresno, 2024a. Guidelines for Preparing a Solar Electrical Generation Facility Reclamation Plan. <https://www.fresnocountyca.gov/Departments/Public-Works-and-Planning/divisions-of-public-works-and-planning/development-services-division/planning-and-land-use/photovoltaic-facilities/photovoltaic-facilities-p-3106>. Accessed June 18, 2024.

<sup>15</sup> County of Fresno, 2024a.

<sup>16</sup> County of Fresno, 2024a.

the County’s requirements. The comment provides no evidence suggesting that the County’s reclamation plan requirements are insufficient.

The comment also provides no basis for asserting that an agronomic baseline report is a “necessary” element of an effective reclamation plan. Regional and local baseline conditions are described in Draft EIR Section 3.3.1.2, *Environmental Setting* (Draft EIR, p. 3.3-1 et seq.). This section identifies the Project site as Prime Farmland pursuant to the Farmland Mapping and Monitoring Program (Draft EIR, p. 3.3-2). On-site soils consist of Westhaven loam, Kimberlina sandy loam, and Wasco sandy loam (Draft EIR, p. 3.3-2; Draft EIR Appendix C Figure 3). Recent on-site land uses on the northernmost Project parcel (APN 085-040-58) have included irrigated agricultural production (orchard crops such as citrus and almonds); recent on-site land uses on the southern half of the project site have included non-irrigated winter wheat (APN 085-040-37), and fallowed land (APN 085-040-36) (Draft EIR, p. 3.3-2). Site-specific details also are provided in the site-specific Land Evaluation and Site Assessment (LESA) provided in Draft EIR Appendix C. The Project site descriptions presented in Draft EIR Section 3.3 and Appendix C provide sufficient evidence of pre-Project conditions on an APN-specific basis to monitor the effectiveness of post-Project reclamation.

Prime Farmland is the Department of Conservation mapping category that “has the best combination of physical and chemical features able to sustain long term agricultural production. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields” (Draft EIR, p. 3.3-5). The defining characteristics of prime farmland are clear. As described by the U.S. Department of Agriculture’s NRCS, “In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent.”<sup>17</sup> The soil, water, and site preparation needs of irrigated citrus and almond crops, as well as of non-irrigated winter wheat, are well-known in western Fresno County. For example, citrus requires well-drained soil.<sup>18</sup> The “roots of most fruit and nut trees extend out well past the drip line or canopy edge and well down into the soil to about 6-7 feet.”<sup>19</sup> Winter wheat, like other types of wheat,

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- <sup>17</sup> Natural Resources Conservation Service (NRCS), 2024. Soil Data Access (SDA) Prime and other Important Farmlands. [https://efotg.sc.gov.usda.gov/references/public/LA/Prime\\_and\\_other\\_Important\\_Farmland.html#:~:text=In%20general%2C%20prime%20farmland%20has,dependable%20and%20of%20adequate%20quality](https://efotg.sc.gov.usda.gov/references/public/LA/Prime_and_other_Important_Farmland.html#:~:text=In%20general%2C%20prime%20farmland%20has,dependable%20and%20of%20adequate%20quality). Accessed June 18, 2024.
- <sup>18</sup> Central Valley Builders, 2024. Growing Citrus. <https://www.central-valley.com/growing-citrus#:~:text=Citrus%20require%20well%20drained%20soil,be%20protected%20from%20freezing%20temperatu> res. Accessed June 18, 2024.
- <sup>19</sup> Regents of the University of California, 2024. University of California, Agriculture and Natural Resources Master Gardeners of Fresno County. <https://ucanr.edu/sites/mgfresno/?story=281>. Accessed June 18, 2024.

grows best in a well-drained loamy soil.<sup>20</sup> Because the Draft EIR provides sufficient evidence of baseline conditions, a separate agronomic baseline report is not a necessary element of the reclamation plan. Consistent with CEQA Guidelines section 15204(a), which establishes that “CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commentors,” the County declines to require the agronomic baseline report suggested in this comment.

- F-69 See Response F-14 regarding the County-required contents of a reclamation plan for a renewable energy project, including preparation of a cost estimate. The activities proposed in the draft reclamation plan provided in Draft EIR Appendix B1 sufficiently describe the work that would be involved in implementation of the reclamation plan to inform the analysis of potential impacts. The comment provides no evidence to support a conclusion that the impact analysis is inadequate or inaccurate, and insufficient detail about any perceived analytical shortcoming to allow the County to consider and respond to the concern.

CEQA does not include requirements for a reclamation plan (Public Resources Code section 21000 et seq.; CEQA Guidelines section 15000 et seq.). Further, the commenter’s reliance on the Court’s decision in *Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260 is misplaced. The holding cited in the comment (i.e., that the EIR at issue in that case improperly deferred mitigation of impacts) is not relevant to the reclamation plan for this Project because the reclamation plan is not a CEQA mitigation measure. See Response F-68, which explains that the reclamation plan is a component of the project application package and a requirement of project approval, not a CEQA mitigation measure. Therefore, the CEQA requirements for mitigation measures do not apply, including the CEQA requirement that performance standards be specified for mitigating a significant impact when it is impractical or infeasible to specify the specific details of mitigation during the EIR review process.

Responses to comments provided by House Agricultural Consultants, including regarding the contents of a reclamation plan, are provided beginning with Response F-75.

- F-70 For the reasons explained in Responses F-65 through and including F70 and contrary to this general comment, the EIR’s conclusion that the Project would cause a less-than-significant impact on prime agricultural land is supported by substantial evidence in the record. Responses to comments provided by House Agricultural Consultants, including regarding the Project’s impacts on agricultural land, are provided beginning with Response F-75.
- F-71 Responses to prior comments about farmland version are provided in Responses F-13, F14, F-15, F-17, F-18, F-20, and F-27. Because substantial evidence supports the Draft

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<sup>20</sup> NASA, 2024. Global Precipitation Measurement Mission. [https://gpm.nasa.gov/education/sites/default/files/lesson\\_plan\\_files/water-for-wheaties/AG\\_MS\\_GrowingWheat.pdf](https://gpm.nasa.gov/education/sites/default/files/lesson_plan_files/water-for-wheaties/AG_MS_GrowingWheat.pdf). Accessed June 18, 2024.

EIR’s determination that impacts on agricultural lands would be less than significant, CEQA does not require or authorize the imposition of mitigation in the current context.

- F-72 This comment’s reference to “CEQA’s requirement to mitigate agricultural impacts” is overbroad and therefore mistaken: CEQA requires mitigation of agricultural impacts only when such impacts are potentially significant. CEQA Guidelines section 15162.4(a) limits a lead agency’s authority to impose mitigation measures to those measures “which could minimize significant adverse impacts in the EIR.” CEQA provides no authority to impose mitigation measures that would be less than significant. Because the EIR concludes in the context of Impact 3.3-1 (Draft EIR, p. 3.3-12 et seq.) that the Project would cause a less-than-significant impact due to a conversion of Prime Farmland to non-agricultural use and reaches the same conclusion in the context of Impact 3.3-2 (Draft EIR, p. 3.3-14 et seq.) regarding the Project’s compatibility with an existing Williamson Act contract, the County disagrees that CEQA requires mitigation measures for these impacts. Responses to comments provided by House Agricultural Consultants, including regarding mitigation for agricultural land impacts, are provided beginning with Response F-75.

This comment summarizes County of Fresno General Plan Policy LU-A.16, which says in full: “The County should consider the use of agricultural land preservation programs that improve the competitive capabilities of farms and ranches, thereby ensuring long-term conservation of viable agricultural operations. Examples of programs to be considered should include: land trusts; conservation easements; dedication incentives; new and continued Williamson Act contracts; Farmland Security Act contracts; the California Farmland Conservancy Program Fund; agricultural education programs; zoning regulations; agricultural mitigation fee program; urban growth boundaries; transfer of development rights; purchase of development rights; and agricultural buffer policies.”<sup>21</sup> However, because CEQA does not require mitigation for impacts determined to be less than significant, there is no obligation under CEQA to revise the Draft EIR to identify one or more conservation easements as a mitigation measure to address the impacts of this Project on agricultural land.

Nonetheless, consistent with General Plan Policy LU-A.16, the County did consider the use of agricultural land preservation programs in preparing the Draft EIR. See Draft EIR Appendix I1, *Consistency with Fresno County General Plan* (Table I1-2, *Fresno County General Plan Agriculture and Land Use Element Policies*, Draft EIR p. I1-5).that analysis concluded that Policy LU-A.16 was not applicable because the “Project does not conflict with the County’s ability to establish agricultural preservation programs. Owners of property enrolled in the Williamson Act program are free to unenroll subject to the process requirements summarized in Section 3.3, *Agriculture and Forestry Resources*.”

<sup>21</sup> County of Fresno, 2000. Fresno County General Plan Policy Document. October 3, 2000. <https://www.fresnocountyca.gov/files/sharedassets/county/v/1/vision-files/files/18117-2000-general-plan-policy-document.pdf>. Accessed June 18, 2024.

Fresno County adopted Resolution No. 24-053 certifying the Final Program EIR for the General Plan Review and Zoning Ordinance Update on February 20, 2024.<sup>22</sup> The updated General Plan includes Policy LU-A.23. Policy LU-A.23 is similar to the prior General Plan Policy LU-A.16 in that both contemplate conservation easements as potential mitigation for significant impacts to agriculture. Policy LU-A.23 says this: “For discretionary land use projects that are not directly related to or supportive of agricultural uses and which propose the permanent conversion of twenty acres or more of Prime Farmland, Unique Farmland or Farmland of Statewide Importance (as designated by the Farmland Mapping and Monitoring Program) to nonagricultural uses, the County shall consider and adopt feasible measures including, but not limited to: ...Acquisition of conservation easements at a 1:1 ratio for lands lost to nonagricultural uses...” However, because CEQA does not require mitigation for impacts determined to be less than significant, there is no obligation under CEQA to revise the Draft EIR to identify one or more conservation easements as a mitigation measure to address the impacts of this Project on agricultural land.

- F-73 Responses to prior comments about the CEQA adequacy of the Draft EIR’s analysis of cumulative effects on agricultural resources are provided in Responses F-18, F-19, and F-20. Substantial evidence supports a conclusion that the Project site would be returned to agricultural use via implementation of the reclamation plan (see Response F-14 regarding the reclamation plan and the County’s reclamation requirements). Therefore, the suggested presumption of permanence does not apply. See Response F-17, which explains that the Draft EIR does not adopt a “drop in the bucket” approach in concluding that the Project’s cumulative impact would not be significant.

Section 3.1.3, *Cumulative Effects Approach* (Draft EIR, p. 3.1-3 et seq.), identifies closely related past, present, and reasonably foreseeable probable future projects that would cause impacts that could combine with impacts of the Project to cause or contribute to potential significant cumulative effects. Table 3.3-1, *Cumulative Projects List* (Draft EIR, p. 3.1-5 et seq.) identifies numerous other energy projects and citations to the sources of information relied upon, including documentation developed by the County of Fresno and input provided by the Pacific Gas and Electric Company (PG&E), California Public Utilities Commission (CPUC), California Department of Transportation (Caltrans), and the City of Coalinga. This comment does not identify any future anticipated energy installations similar to and near the Project site that should have been considered and CEQA does not require the County to speculate (Public Resources Code section 21080[e][2]).

- F-74 For the reasons described in Responses F-1 through F-73, the County disagrees with the commenter’s opinion about the adequacy of the Draft EIR, including its impacts analysis and mitigation recommendations. In light of the limited circumstances under which

<sup>22</sup> County of Fresno, 2024b. Resolution No. 24-053. February 20, 2024. <https://www.fresnocountyca.gov/files/sharedassets/county/v/2/public-works-and-planning/development-services/planning-and-land-use/general-plan-review-comments/resolution-no-24-053-with-mmmp.pdf>. Accessed June 18, 2024.

- CEQA requires recirculation (see Response F-7) and the absence of significant new information following agency and public review of the Draft EIR, no substantial revisions have been made to the Draft EIR (see Final EIR Chapter 3). Accordingly, the County declines the request to recirculate the draft.
- F-75 Because this statement is not focused on the sufficiency of the Draft EIR’s identification and analysis of significant impacts, identification of mitigation measures, or other significant environmental issues, the County is not providing a more detailed response (CEQA Guidelines sections 15088[c], 15132[d], 15204[a]).
- F-76 Evidentiary support for the Draft EIR’s conclusion that the Project would result in temporary impacts on agricultural land and would not result in permanent conversion is provided in Responses F-18, F-18, and F-20. This comment provides no facts or other evidence to support the stated opinion, and the County does not agree, that the Project site “is highly unlikely to be restored for use as agriculture ever again.” Case law interpreting CEQA is clear that a lead agency may reject criticism from an expert on a given issue as long as its reasons for doing so are supported by substantial evidence. *Laurel Heights Improvement Association v Regents of University of California* (1988) 47 Cal.3d 376; *North Coast Rivers Alliance v Marin Municipal Water District* (2013) 216 CA4th 614, 642. The County chooses to do so here.
- F-77 CEQA Guidelines section 15384(a) defines *substantial evidence* as “enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached. Whether a fair argument can be made that the project may have a significant effect on the environment is to be determined by examining the whole record before the lead agency.” Further, “[s]ubstantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts” CEQA Guidelines section 15384[b]). When a lead agency is faced with conflicting evidence on an issue, CEQA permits it to give more weight to some of the evidence and to favor the opinions of some experts over others. See, *Association of Irrigated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1397; see also, *Greenebaum v. City of Los Angeles* (1984) 153 Cal.App.3d 391, 413.

For this Project, the Land Evaluation and Site Assessment (LESA) provided in Draft EIR Appendix C was prepared by experts at Rincon Consultants, Inc., on behalf of the Applicant. The County’s environmental consultant, Environmental Science Associates, independently reviewed the LESA on the County’s behalf and found it to be “suitable for reliance in combination with other sources of data informing the analysis of potential environmental impacts of the project.”<sup>23</sup> This also is explained in Draft EIR Section 3.3 (p. 3.3-1). Draft EIR Section 3.3.3.2, *Methodology* (pp. 3.3-11, 3.3-12) explains that the “Project’s potential impacts on Prime Farmland, Unique Farmland, or Farmland of

<sup>23</sup> Environmental Science Associates, 2022. Memorandum from Jill Feyk-Miney (ESA), to Jeremy Shaw and David Randall (Fresno County) regarding EIR 8189 Key Battery Storage Project: Land Evaluation and Site Assessment (LESA). September 23, 2022.

Statewide Importance were evaluated based on the LESA model.” This is true: the analysis of Impact 3.3-1 expressly relies on the LESA in paragraphs one, three, and four. However, the description of the methodology provided in Section 3.3.3.2 inadvertently omitted from the explanation that the analysis also relied on other sources of substantial evidence: specifically, facts, reasonable assumptions predicated upon facts, and the expert opinion of the County’s own environmental consultant supported by facts as presented in the analysis of Impact 3.3-1.

The LESA indicates the Project would have a potentially significant impact on agricultural resources based on a final LESA Model score of 79.41, where a score between 60 and 79 points is considered significant unless either the land evaluation (LE) or the site assessment (SA) sub-score is less than 20 points (here, both the LE and the SA scores exceeded a 20-point threshold), and where a score between 80 and 100 points is considered significant (Draft EIR Appendix C Table 1, p. 7). Data and evidence provided in the LESA combined with expert opinion based on facts about hazards and hazardous materials (Draft EIR, pp. 3.3-13, 3.10-1 et seq.), pest management (Draft EIR, p. 3.3-13, Appendix B2), reclamation of the site following Project decommissioning (Draft EIR, p. 3.3-13, Appendix B1), and water supply (Draft EIR, pp. 3.3-13, 3.19-1 et seq.) support a conclusion of less than significant. Where there is conflicting evidence and conflicting opinions, the County is entitled to choose to believe one side more than the other. *San Francisco Ecology Center v. City & County of San Francisco* (1975) 48 Cal. App. 3d 584, 594.

Because the County did rely on the LESA and properly considered conflicting evidence, the County disagrees with the suggestion in this comment that the Draft EIR “repudiates” the LESA, that the evidence presented is a “sham,” and that the Draft EIR “defies” the requirements of CEQA.

- F-78 See Response F-68 regarding why an agronomic report is not required. This comment does not challenge the accuracy or completeness of the EIR. The fact that additional details might be helpful does not mean that they are required. CEQA Guidelines section 15204(a); *Association of Irrigated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1396. On the contrary, the County’s requirement that a reclamation plan be included in the proposed Project and the EIR’s description and analysis of its potential impacts indicates that the EIR was prepared with an eye toward completeness and a good faith effort at full disclosure. This approach is consistent with CEQA Guidelines section 15151.
- F-79 The Draft EIR analyzes potential cumulative impacts on a resource-by-resource basis throughout Chapter 3, *Environmental Analysis*. Consistent with CEQA, the analysis identifies the geographic scope of consideration, the temporal scope of consideration, the incremental impact that the Project would contribute, and other projects’ incremental impacts that could combine with those of the Project to cause or contribute to a significant cumulative effect. As explained in Draft EIR Section 3.1.3, *Cumulative Effects Approach* (draft EIR, p. 3.1-3 et seq.), the Draft EIR relies on a blend of two



approaches to identify those projects: the “list-of-projects” approach and the “summary of projections” approach (CEQA Guidelines section 15130[b]).

The regional location of the Project site is shown in Figure 2-1 (Draft EIR, p. 2-3); the immediate vicinity of the Project site is shown in Figure 2-2 (Draft EIR, p. 2-4). A list of past projects, other current projects, and probable future projects (CEQA Guidelines section 15065[a][3]) that would cause impacts that could combine with those of the Project is provided in Draft EIR Table 3.1-1, *Cumulative Projects List* (Draft EIR, p. 3.1-5 et seq.). Figure 3.1-1 shows the locations of cumulative projects within 15 miles of the Project site (Draft EIR, p. 3.1-8). For example, projects 6, 7, 8, and 9 shown on Figure 3.1-1 and summarized in Table 3.1-1 are all energy-related projects. PG&E’s existing 10 MW West Gates Solar Facility is located on approximately 90 acres adjacent to the western boundary of PG&E’s existing Gates Substation site.<sup>24</sup> PG&E’s existing 20 MW Huron Solar Station is located adjacent to APN 085-040-37, the Project site’s southwestern-most parcel.<sup>25</sup> Both PG&E projects are shown on Draft EIR figures (see, e.g., Figure 3.2-1, Draft EIR p. 3.2-3). Although neither project is summarized in the draft EIR, both facilities are currently operating, and their ongoing impacts are reflected in baseline conditions summarized in the environmental setting section of each resource section in Draft EIR Chapter 3.

This comment speculates that Project approval would induce the development of additional energy infrastructure adjacent to or near the Project site but provides no evidence of any probable future projects that were not considered in the analysis and no evidence that this Project would be the cause of any such future development, should it be proposed in the future. No probable future projects are identified in the area on the County’s active list of solar projects.<sup>26</sup> Without some level of detail about the type of project (e.g., solar, energy storage, transmission reliability upgrade), site location (e.g., relative to Interstate-5, which may function as a barrier to the interconnection of new above- or below ground power lines from the west, and relative to PG&E’s existing transmission lines, which may function as a barrier to the development of new projects adjacent to or near the Project site to the east and south), and other details (e.g., workforce, the dimensions of any structures, equipment mix and schedule, extent of ground disturbance), the County does not have enough information to meaningfully evaluate associated impacts as part of the cumulative effects analysis for this Project. CEQA does not require the County to guess at who may propose what, where, at some future unspecified time. See CEQA Guidelines section 15145 (“If, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for

- <sup>24</sup> Sustainable Group, Inc., 2017. Pacific Gas and Electric (PG&E) West Gates Solar Site. February 20, 2017. [https://sustainable-group.com/assets/pge-west-gates-solar-site\\_project\\_20170220\\_v2.pdf](https://sustainable-group.com/assets/pge-west-gates-solar-site_project_20170220_v2.pdf). Accessed June 19, 2024.
- <sup>25</sup> Global Energy Monitor, 2024. Huron Solar Station. June 1, 2024. [https://www.gem.wiki/Huron\\_Solar\\_Station](https://www.gem.wiki/Huron_Solar_Station). Accessed June 19, 2024. See also, Database Earth, 2024. Solar Power. <https://database.earth/energy/power-plants/solar-power>. Accessed June 19, 2024.
- <sup>26</sup> County of Fresno, 2024c. Photovoltaic Solar & Energy Storage Projects Submitted to Fresno County. Updated June 12, 2024. <https://www.fresnocountyca.gov/files/sharedassets/county/v5/public-works-and-planning/development-services/planning-and-land-use/photovoltaic-solar-facilities/pv-solar-projects-in-process-24-06-12.pdf>. Accessed June 19, 2024.

evaluation, the agency should note its conclusion and terminate discussion of the impact.”).

The speculation in the comment also ignores the more likely scenario that it would be the Gates Substation itself, and not this Project, that would induce future energy infrastructure development, since the availability of an interconnection point rather than the presence of energy storage capacity seems the more likely driver of future energy proposals. See, for example, the cluster of existing, developing, and proposed energy infrastructure projects centered on access to the Tranquillity Switching Station located approximately 35 miles southeast of the Project site (Draft EIR Table 3.1-1, pp. 3.1-6, 3.1-7), including RE Tranquillity 1-8 and the Adams East, Luna Valley, Scarlet, Sonrisa, and Heartland energy projects. By contrast, the County is unaware of any example where energy storage reasonably could be considered the inducement of later energy infrastructure development.

Regarding the Project’s potential to result in urban development, see Draft EIR Section 3.15.3.3 (p. 3.15-6 et seq.), which considers whether the Project would induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure) and determines that no impact would result. As the Draft EIR explains (p. 3.15-7), “the Project would not generate energy, but it would contribute to the energy supply by storing electricity during times of excess generation and dispatching it to the grid when needed. The development of power infrastructure is a response to increased market demand, and the availability of electrical capacity by itself does not ensure or encourage growth within a particular area. Other factors such as economic conditions, land availability, population trends, availability of water supply or sewer services, and local planning policies have a more direct effect on growth.”

- F-80 See Response F-76 for evidentiary support for the Draft EIR’s determination that the project would be a temporary use for purposes of the analysis of impacts on agricultural land.

The comment questions the Draft EIR’s use of the word “permanent.” The comment correctly notes that the Draft EIR uses the word “permanent” and allows that use of the word may have been “casual.” The Draft EIR uses the word permanent in different contexts to mean different things. For example, the word *permanent* is used to describe the Project’s 208-acre footprint within 260-acre site (Draft EIR, pp. 2-11, 2-12, 3.2-21, 4.10) and to describe staffing levels if the Project were to become operational (Draft EIR, p. 3.16-6). In these instances, the word *permanent* was intended to mean for the duration of the Project. The Draft EIR uses the word *permanent* with a second meaning in CEQA’s definition of mitigation measures (p. 3.1-3), in the description of conservation easements (Draft EIR, p. 3.3-7), and in significance criterion a) in the noise impacts analysis (Draft EIR, p. 3.14-12). In those instances, the word permanent was intended to mean in perpetuity. The Draft EIR uses the word *permanent* in a third way in Section 3.7, Energy (p. 3.7-10), which says that the Project “would not result in the permanent

- increased use of nonrenewable energy resources.” In this instance, the word *permanent* meant irreversible. Context is important.
- F-81 The County acknowledges receipt of this historical data on prime farmland conversion within the County. However, because the comment is not specific to the Project or this Draft EIR and does not suggest an inadequacy or inaccuracy in the analysis, it does not raise a “significant environmental issue” and so no more detailed response is provided.
- F-82 Whether prior energy projects have been decommissioned and the affected sites restored does not provide substantial evidence about this Project. Energy projects that would have contributed to the 2012-2014 data cited would not have completed a 30-year CUP term until 2042 at the earliest, the 2014-2016 projects would not have completed a 30-year CUP term until 2044 at the earliest, and the 2016-2018 projects would not have completed a 30-year CUP term until 2046 at the earliest. Accordingly, none of these projects would have been decommissioned or the affected sites reclaimed. It is far too soon to cry foul based on this data.
- F-83 While the Department of Conservation may include energy infrastructure in its definition of *urban and built-up land*, it also includes “Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.”<sup>27</sup> As stated in Comment 82, the Department of Conservation reported in 2018 that “solar facilities have made a large contribution to the urbanization of the State for the last three map update cycles,” i.e., 2012 through 2018.<sup>28</sup> To clarify, the Project proposes energy storage and has no solar or other energy component. See Draft EIR page ES-1 (“The facility would not generate electricity”). Nonetheless, neither the Department of Conservation’s report nor this comment provides any evidence of the allocation of uses within urban and built-up land between 1984 and 2012. Without some information about whether renewable energy uses were even a component of the category at that time, the asserted fact that no urban land was returned to agricultural use during this time period has no bearing on the Draft EIR for this Project. Further, as noted above, the first year for which solar facilities were expressly included in the Department of Conservation’s reported data was 2012: a 30-year CUP for any of those projects would not expire until 2042. Accordingly, it is not surprising that none of those projects have been returned to agricultural use. For these reasons, the County disagrees with the commenter’s conclusion about the persuasiveness of the historical data on prime farmland conversion within the County.

<sup>27</sup> Department of Conservation, 2024. Important Farmland Categories.

<https://www.conservation.ca.gov/dlrp/fmmp/Pages/Important-Farmland-Categories.aspx>. Accessed June 19, 2024.

<sup>28</sup> Department of Conservation, 2018. 2016-2018 California Farmland Conversion Report: documenting Changes in Agricultural Land Use Since 1984. [https://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp/pubs/2016-2018/FCR/FCR\\_1618\\_Report.pdf](https://www.conservation.ca.gov/dlrp/fmmp/Documents/fmmp/pubs/2016-2018/FCR/FCR_1618_Report.pdf). Accessed June 19, 2024.

See Response F-76 for evidentiary support for the Draft EIR’s determination that the project would be a temporary use for purposes of the analysis of impacts on agricultural land. The comment provides no evidence of the countervailing demographic or economic forces alluded to in this comment that could inhibit or prevent the Project site’s return to agricultural use. Regarding the Draft EIR’s conclusion that the Project would have no impact relating to population inducement, see Response F-79. There is no evidence of projections or forecasts of economic conditions in 2064 in the record of proceedings for this Project, and CEQA does not require the County to speculate. In any event, whether population growth or economic conditions could affect land use and planning decisions in 2064 is not a CEQA impact of this Project. Therefore, contrary to the suggestion in this comment, the County is under no CEQA obligation to examine demographic or economic forces that may influence land use decisions once the CUP period expires.

- F-84 This comment paints an image of a future wherein energy needs are the driving factor in land use decision-making. Here’s another: agriculture is multi-billion dollar business in Fresno County,<sup>29</sup> produces many crops that are not grown commercially anywhere else in the nation, and is a major economic engine: agriculture currently supports 20 percent of all jobs in the Fresno area and “[e]very \$1 generated on the farm produces another \$3.50 in the local and regional economy.”<sup>30</sup> It is at least as plausible that the pressure to return the Project site to active agricultural use will be as or more powerful that prioritization of the site for energy storage. Regardless, CEQA does not require the County to speculate about future conditions or how they may affect future decision-making (CEQA Guidelines section 15145). Substantial evidence supports the Draft EIR’s conclusion that the Project site would be returned to agricultural use. CEQA requires no more.

The example of the solar farm in Davis, California, does not inform consideration of this EIR because it alleges no inadequacy, inaccuracy, or other significant environmental issue about this EIR. Further, there is no evidence in the record that the Davis project is subject to a reclamation plan or that there are financial assurances in place to ensure that site reclamation occurs.

- F-85 Contrary to the statement in this comment, the Draft EIR does not ignore the LESA findings. See Response F-77, which explains how the LESA (including its points score determination) were considered and relied upon in the Draft EIR. The comment correctly suggests (consistent with information provided in the Draft EIR) that prime farmland has the best combination of physical and chemical features able to sustain long term agricultural production (Draft EIR, p. 3.3-5). The comment also correctly summarizes (consistent with information provided in the Draft EIR) considerations evaluated in a LESA (Draft EIR, p. 3.3-11). The County disagrees with the alleged error identified in this comment and has made no change to the Draft EIR in response to this comment,

<sup>29</sup> County of Fresno, 2022. 2022 Crop Report. <https://www.fresnocountyca.gov/files/sharedassets/county/v/1/agricultural-commissioner/ag-crop-reports/2022-ag-crop-report-optimized.pdf>. Accessed June 19, 2024.

<sup>30</sup> County of Fresno, 2024d. Annual Crop & Livestock Report. <https://www.fresnocountyca.gov/Departments/Agricultural-Commissioner/Annual-Crop-Livestock-Report>. Accessed June 19, 2024.

choosing instead to rely on the analysis provided in the Draft EIR, other substantial evidence noted in Response F-77, CEQA Guidelines section 15151's acknowledgement that "[d]isagreement among experts does not make an EIR inadequate," and case law's reminder that the County is entitled to rely on the environmental analysis and conclusions reached by the experts who prepared the EIR even if a commenter disagrees with the underlying data, analysis, or conclusions. See, *Laurel Heights Improvement Association v Regents of University of California* (1988) 47 C3d 376, 408.

- F-86 See Response F-77 regarding the LESA findings. Regarding soil compaction, see Response 88. In the context of Impact 3.3-1 (Draft EIR, p. 3.3-12 et seq.), the Draft EIR says (p. 3.3-13), "The chemical and physical soil properties of the soil would remain substantially the same under Project conditions." The analysis that follows this statement focuses on how the Project would affect baseline conditions on the Project site, including as a result of implementation of the proposed reclamation plan. For consistency with the analysis provided and to improve clarity, the County has revised the quoted sentence as set forth below and in Section 3.2.3 of this Final EIR:

The chemical and physical soil properties of the soil would remain substantially the same under pre-Project and post Project (post-reclamation) conditions.

The County agrees that soils are biologically active but disagrees with the suggestion in the comment that the Project would cause irreversible harm to soil chemistry. As explained by Ohio State University Extension, "Biological activity in your soil helps to add organic matter, cycle nutrients, and create biodiversity. A biologically active soil supports natural soil food webs and the interactions that support a resilient and healthy soil."<sup>31</sup> The draft reclamation plan estimates that it would take a year to return the site to its previous agricultural condition (Draft EIR Appendix B1, p. 2). Proposed activities include the following: "All roads and other areas compacted during original construction or by equipment used for decommissioning would be tilled in a manner adequate to restore the subgrade material to the proper density and depth consistent with adjacent properties. Low areas would be filled with clean, compatible sub-grade material. After proper sub-grade depth is established, locally sourced (from the City of Fresno or other location within 50 miles of the Project site) topsoil would be placed to a depth and density consistent with adjacent properties. Locally sourced compost would be applied to the topsoil, and the entire site would be tilled to further loosen the soil and blend in the compost. An appropriate seed mixture would be broadcast or drilled across the site and weed-free mulch would be applied to stabilize the soil and retain moisture for seedling germination and establishment." The comment acknowledges that reclamation of sealed soils is documented in scientific studies but provides no citations to facts or other evidence of irreversible harm.

<sup>31</sup> The Ohio State University, 2024. Biological Activity. <https://soilhealth.osu.edu/soil-health-management/biological-activity#:~:text=Overview,a%20resilient%20and%20healthy%20soil..> Accessed June 19 2024.

- The County has reviewed the 2015 study cited in this comment.<sup>32</sup> As the comment indicates, the study concludes that artificial sealing of soils in urban areas can affect soils by reducing their carbon and nitrogen content as well as microbial biomass and its activity compared with open (non-sealed) soils.<sup>33</sup> However, the cited study did not evaluate the impacts of site restoration such as would occur via the reclamation plan if this Project were approved. Other published materials fill that gap. See, for example, the article published in 2021 by Anita Maienza, et al., which defines soil sealing as “any physical separation of soil from the atmosphere and above-ground biosphere by impermeable layers” and which reports results from Italy that “demonstrate that de-sealed urban soils rapidly restore their biological quality and fertility.”<sup>34</sup> The results of this second study provide an additional source of substantial evidence for the Draft EIR’s conclusion that biological restoration of agricultural soils after de-sealing can be successful.
- F-87 See the Draft EIR’s analysis of Impact 3.10-2 (Draft EIR, p. 3.10-16 et seq.), which concludes that the Project would cause a less than significant impact with mitigation incorporated as a result of its potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the energy storage system and release of hazardous materials into the environment. Specifically with respect to battery energy storage system components, the Draft EIR concludes that the Project would have a less-than-significant impact in this regard (Draft EIR, p. 3.10-17). This is in part because the “battery modules would be sealed such that in the unlikely event of a fluid leak, fluids would be contained” (Draft EIR, p. 3.10-17). This comment does not provide any evidence to suggest that the Draft EIR, including its analysis of Impact 3.10-2, is inadequate or inaccurate.
- F-88 The comment is incorrect about the existence of the reclamation plan: a draft reclamation plan is provided in Draft EIR Appendix B1. Regarding the effectiveness of the proposed reclamation plan in returning on-site soils to a condition suitable for agricultural use, see Responses F-14 and F-18. The comment also is incorrect that applicable laws and standards are undefined. See, e.g., Draft EIR Section 3.10.1.3, *Regulatory Setting* (Draft EIR, p. 3.10-5 et seq.). The County is entitled to rely on a reclamation plan prepared and finalized for County approval consistent with known County requirements.
- F-89 The Department of Conservation’s July 29, 2022, letter was received during the scoping period that followed the County’s issuance of a Notice of Preparation of a Draft EIR for the Project and included in Draft EIR Appendix A, *Scoping Report*. The contents of the letter were considered in the preparation of the Draft EIR. See, e.g., Draft EIR page 3.3-1, which states: “The County received scoping input from the California Department of Conservation, Division of Land Resource Protection... regarding the Project’s potential

<sup>32</sup> Piotrowska-Długosz and Charzyński, 2015. The impact of the soil sealing degree on microbial biomass, enzymatic activity, and physicochemical properties in the Ekranic Technosols of Toruń (Poland). *J Soils Sediments* (2015) 15:47–59. Published online August 23, 2014. Accessed June 19, 2024.

<sup>33</sup> Piotrowska-Długosz and Charzyński, 2015.

<sup>34</sup> Maienza et al., 2021. Biological Restoration of Urban Soils after De-Sealing Interventions. *Agriculture* 2021, 11(3), 190; <https://doi.org/10.3390/agriculture11030190>. Accessed June 19, 2024.

- impacts on agricultural resources. The specific input received related to potential impacts and mitigation measures regarding the Project site’s designation as Prime Farmland and enrollment in the Williamson Act program.” As explained in Responses F-14 and F-18, the County disagrees that the Project’s temporary impact related to the conversion of Prime Farmland to non-agricultural use is significant. See also, Responses F-13, F-15, F-17, F-20, and F-27 regarding farmland. Because substantial evidence supports the Draft EIR’s determination that impacts on agricultural lands would be less than significant, CEQA does not require or authorize the imposition of mitigation in the current context (CEQA Guidelines section 15126.4[a]). Regarding the LESA, see Response F-85.
- F-90 The text of the reclamation plan is provided in Draft EIR Appendix B1. See Responses F-68 and F-78 regarding why an agronomic report is not required.
- F-91 See Response F-68 regarding why an agronomic report is not required. Further, as explained in Response F-78, the fact that additional details might be helpful does not mean that they are required (see, CEQA Guidelines section 15204[a]; see also, *Association of Irrigated Residents v. County of Madera* [2003] 107 Cal.App.4th 1383, 1396]. To the contrary, the County’s requirement that a reclamation plan be included in the proposed Project and the EIR’s description and analysis of its potential impacts indicates that the EIR was prepared with an eye toward completeness and a good faith effort at full disclosure as CEQA Guidelines section 15151 requires.
- F-92 See Response F-91, which responds to the requested additional soil properties and qualities detail illustrated in this comment.
- F-93 See Response F-68 regarding why an agronomic report is not required. This comment provides no facts and no reasonable assumption predicated upon fact or expert opinion supported by fact, that call into question the adequacy or accuracy of the Draft EIR, including the reclamation plan as a component of the project description. While a more detailed schedule of agricultural operations might be helpful, CEQA does not require the County to provide one (see, CEQA Guidelines section 15204[a]; see also, *Association of Irrigated Residents v. County of Madera* [2003] 107 Cal.App.4th 1383, 1396].
- F-94 CEQA does not require an EIR to include financial estimates for restoration. However, see Response F-68, which confirms that an engineering cost estimate of reclaiming the site to its previous agricultural condition and financial assurances equal to the cost of reclaiming the land to its previous agricultural condition would be required if the Project is approved.<sup>35</sup> In terms of the form of financial assurances, the County does not accept a bond, but instead requires cash deposit to guarantee that, if reclamation is not completed by the property owner of site, then the County could complete the reclamation.
- F-95 See Responses F-68 and F-78 regarding why an agronomic baseline report is not required. See Response F-92 and Response F-93 regarding the request for additional details. See Response F-94 about the County’s financial assurance requirement. Contrary

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<sup>35</sup> County of Fresno, 2024a.

- to the suggestion in this comment, substantial evidence supports a conclusion that the Project site would be returned to agricultural use via implementation of the reclamation plan (see Response F-14 regarding the reclamation plan and the County’s reclamation requirements) and the Draft EIR’s conclusion that the Project would have a less than significant impact on agricultural resources.
- F-96 See Response F-79 regarding the suggestion that the Project would induce the future development of additional energy infrastructure adjacent to or near the Project site. See Responses F-81 through F-83, which respond to input received regarding Table 1 and the historical prime farmland conversion data is presents. See Response F-95 and Response F-14 regarding the temporary nature of the Project’s impact on prime farmland. See also, Response F-17, which explains that the Draft EIR does not adopt a “drop in the bucket” approach in concluding that the Project’s cumulative impact would not be significant.
- F-97 The County acknowledges receipt of the description of qualifications. However, because the qualifications do not raise any “significant environmental issues” (Public Resources Code section 21091[d][2][B]; CEQA Guidelines sections 15088[c], 15132[d], 15204[a]), CEQA does not require the County to provide a more detailed response.





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November 6, 2023

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RE: Draft Environmental Impact Report – Key Energy Storage Project  
(SCH 2022070414)

Dear Mr. Shaw:

Thank you for the opportunity to provide comments in response to the Draft Environmental Impact Report (DEIR) for the proposed Key Energy Storage Project (Project). Defenders of Wildlife (Defenders) is dedicated to protecting all wild animals and plants in their natural communities and has nearly 2.1 million members and supporters in the United States, with more than 316,000 residing in California.

Defenders strongly support the development of renewable energy production. A low-carbon energy future is critical for California’s economy, communities and environment. Achieving this future—and how we achieve it—is critical for protecting California's internationally treasured wildlife, landscapes and diverse habitats. We believe transitioning to a renewable energy future need not exacerbate the ongoing extinction crisis by thoughtfully planning projects while protecting habitat critical to species.

**Project Description**

The proposed 260-acre energy storage facility would store up to 3 gigawatts of energy during times of excess generation, which would later be dispatched into the electrical grid when needed. It would include a 2,500-foot-long 500-kilovolt transmission line that would connect to the Gates Substation. The proposed Project is on private land within western Fresno County. It is located approximately 11.5 miles east of Coalinga, 4 miles southwest of Huron, 1,700 feet northeast of Interstate 5 and is adjacent to the Gates Substation. The proposed Project site has the potential to provide habitat for or support numerous special-status wildlife species, including but not limited to San Joaquin kit fox and Swainson’s hawk.<sup>1</sup>

G-1

<sup>1</sup> California Natural Diversity Database. Accessed 10/10/2023. <https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>.

**Comments**

We offer the following comments on the DEIR for the proposed Project:

**1. Project Objectives**

One of the stated objectives of the proposed Project is to site an energy storage project adjacent to the existing Gates Substation to minimize gen-tie length. A “Smart from the Start” approach to the siting and development of renewable energy projects dictates that projects should be located near existing or planned transmission facilities to reduce the need for additional lines.<sup>2</sup> This minimizes the amount of development occurring and, therefore, minimizes potential Project impacts on special-status species and their habitat. Defenders appreciates the prioritization of minimizing the gen-tie length to reduce the amount of infrastructure needed and reduce land-use conflicts. We encourage the continued development of projects with objectives that prioritize least conflict siting.

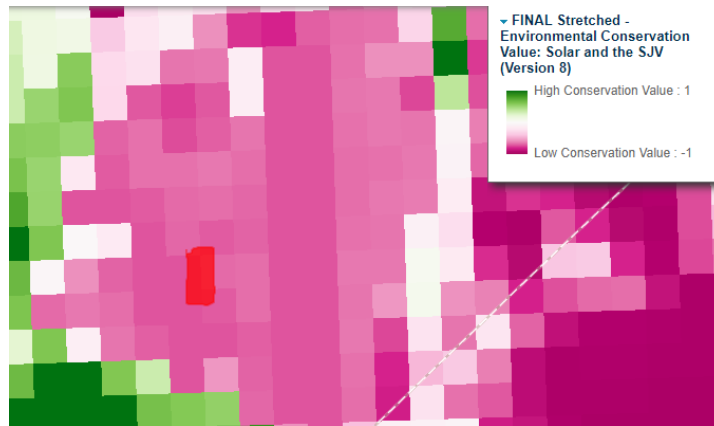
G-2

**2. Least Conflict**

The Project site is located on land designated with a low conservation value as demonstrated by Figure 1 below. This designation was made through the San Joaquin Valley Least Conflict Solar Project, which was a state agency collaborative project with multiple stakeholders. The red represents the approximate outline of the Project area.

G-3

Figure 1: Approximate Vicinity of the Project with the Environmental Conservation Value<sup>3</sup>



<sup>2</sup> Defenders of Wildlife. *Smart From the Start: Responsible Renewable Energy Development in the Southern San Joaquin Valley*. 2012. Washington, D.C.

<sup>3</sup> See <https://databasin.org/datasets/5678d8175d694e5ea89183730af3d1a4/>

Leaders from the agricultural, conservation, solar PV development communities, tribes and key state and federal agencies identified this area as a “low conflict” and “low value” area based on the present biological resources as depicted by the gradient within the map.

Defenders supports the development and operation of renewable energy projects on sites identified as least conflict lands, as development projects should avoid areas with high conservation values for natural resources, such as the presence of special-status species, high biodiversity or connectivity corridors. Defenders encourages the project proponents to site development projects on land identified as least conflict and avoid lands with a high conservation value.

↑  
G-3  
cont.

**3. Deficient Mitigation Measures**

Although the proposed Project is located on land with a lower conservation value, special-status species and habitats may still occur. Therefore, mitigation measures must be required that will avoid or minimize the impact to special-status species. We request Fresno County incorporate the following revisions to reduce Project impacts:

**a. Revise MM 3.5-1**

Mitigation Measure (MM) 3.5-1 states that San Joaquin kit fox (SJKF) preconstruction surveys do not need to be conducted for the entire project area at one time, but rather allow for areas of suitable habitat to be surveyed in phases prior to that portion of the site being disturbed. US Fish and Wildlife Service (USFWS) recommendations for SJKF surveys state the written results of the preconstruction/preactivity surveys should be submitted to USFWS prior to the start of ground disturbance and/or construction activities. The recommendations do not allow the results to be provided after the start of ground disturbance based on phases. Additionally, completing these surveys as construction work occurs at specific portions in phases will create challenges to ensure that adequate exclusion zones are applied around SJKF dens that may be observed near a portion of the site where construction has already occurred.

↑  
G-4

It is appropriate to conduct surveys as needed during phases, only if complete preconstruction surveys were conducted before the start of ground-breaking activities. Defenders requests the entirety of the Project site be initially surveyed for SJKF during the preconstruction surveys, and then specific areas surveyed once again as the different phases are developed.

Furthermore, MM 3.5-1 states that SJKF den buffers shall be established but fails to require a minimum distance. Defenders requests exclusion zones are established around SJKF dens that adhere to the following distances as outlined in USFWS recommendations:

↑  
G-5  
↓

| Den Type                                       | Buffer Distance         |
|--|-------------------------|
| Potential den                                  | 50 feet                 |
| Atypical den                                   | 50 feet                 |
| Known den                                      | 100 feet                |
| Natal/pupping den<br>(occupied and unoccupied) | USFWS must be contacted |

G-5  
cont.

“Preconstruction surveys shall be conducted by a qualified biologist for the presence of San Joaquin kit fox dens within 14 days before the start of construction activities. The surveys shall be conducted for the entirety of the Project site prior to any ground-level disturbance and surveyed again as the different phases of the Project commence. in areas of suitable habitat for San Joaquin kit fox. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days before that portion of the site is disturbed. If no potential San Joaquin kit fox dens are present, no further mitigation is required. If the qualified biologist observes potential dens and determines, in consultation with the Project owner and the County, that avoidance is feasible (as defined in CEQA Guidelines Section 15364 consistent with the USFWS [1999] Standardized Recommendations for Protection of the San Joaquin Kit Fox), buffer distances shall be established that adhere to the minimum distance for exclusion zones outlined in US Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance, before each phase of construction activities.”

G-6

b. Revise MM 3.5-2

USFWS recommends that night-time construction be minimized to the extent possible.<sup>4</sup> SJKF are most active at night and, therefore, more vulnerable to construction and traffic-related incidents. The speed limit for the Project must follow the recommendations outlined by the USFWS to mitigate the potential impact of construction activity and significantly decrease the potential mortality of the SJKF population.

“A day-time speed limit of ~~20~~ 15 miles per hour shall be enforced within all construction areas. To the extent possible, night-time construction related activity should be minimized, but if work must be conducted at night, then a night-time speed limit of 10 miles per hour shall be enforced.”

G-7

<sup>4</sup> U.S. Fish and Wildlife Service. 2011. *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior To or During Ground Disturbance*. Sacramento, CA.

c. **Revise MM 3.5-3**

Similar to the preconstruction surveys for SJKF, the DEIR states that preconstruction surveys for nesting birds shall be conducted for all potential nesting habitat within the Project site and may be performed in phases so that surveys occur before a portion of the site is disturbed. Defenders requests the entirety of the Project site be initially surveyed for nesting birds during the preconstruction surveys, and then specific areas surveyed once again as they are developed.

G-8

Furthermore, MM 3.5-3 establishes a 0.25 mile buffer around an active Swainson’s hawk nest. This is inconsistent with the recommendation outlined in the California Department of Fish and Wildlife’s (CDFW) scoping comments on the Project, which states that a minimum 0.5 mile no-disturbance buffer should be delineated around active nests.<sup>5</sup> Defenders requests compliance with CDFW’s no-disturbance buffer recommendation of 0.5 mile around an active Swainson’s hawk nest.

G-9

“If construction is scheduled to commence outside of nesting season (September 1 to January 31), no preconstruction surveys or additional measures are required for nesting birds, including raptors. During the nesting bird breeding season (February 1 to August 31), to avoid impacts on nesting birds in the Project site and immediate vicinity, a qualified biologist shall conduct preconstruction surveys of ~~the entirety of all potential nesting habitat within~~ the Project site prior to any ground-level disturbance and surveyed again as the different phases of the Project commence, where vegetation removal or ground disturbance is planned. The survey shall be performed within the site and shall also include potential nest sites within a 0.5-mile buffer around the site in areas where access to neighboring properties is available or visible using a spotting scope. Surveys shall be conducted no more than 14 days prior to each phase of construction activities. If construction is halted for 14 days or more, the area shall be re-surveyed prior to resuming work. ~~Surveys need not be conducted for the entire Project site at one time; they may be phased so that surveys occur shortly before a portion of the Project site is disturbed.~~ The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer around active nests (e.g., 300 feet for common raptors; ~~0.25~~ 0.5 mile for Swainson’s hawk; 100 feet for passerines) shall be established and no construction within the buffer shall be allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of the qualified biologist in coordination with CDFW.”

G-10

<sup>5</sup> California Department of Fish and Wildlife. 2022. *Notice of Preparation (NOP) – Environmental Impact Report (EIR) No. 8189, CUP No. 3734, Key Energy Storage, LLC Project (Project) SCH No.: 2022070414.*

**d. Additional Mitigation Measure**

The DEIR states that the Project site would be fenced with chain-link fencing and would include space underneath to allow for transit access by SJKF but fails to include a specific mitigation measure that requires SJKF-friendly fencing. Defenders requests the Final EIR include a mitigation measure for SJKF-friendly fencing that adheres to recommendations outlined in *Permeable Fence and Wall Designs that Facilitate Passage by Endangered San Joaquin Kit Foxes*.<sup>6</sup> The MM should read as follows:

**“To enable San Joaquin kit fox movement through the Project site, the security fence shall be a wildlife-friendly design that shall be raised 4-6 inches above the ground, leaving a gap between the fence mesh and the ground. The bottom of the fence fabric shall be knuckled to protect the wildlife that passes under the fence and a buried apron of fencing material shall extend up to 3 feet from the fence. The Perimeter fencing shall not be electrified.”**

G-11

Thank you once again for the opportunity to provide comments on the DEIR for the Key Energy Storage Project. We look forward to reviewing the Final EIR for the Project and request to be notified when it is available. Please feel free to contact me with any questions.

Respectfully submitted,



Sophia Markowska  
Senior California Representative  
408-603-4694  
[Smarkowska@defenders.org](mailto:Smarkowska@defenders.org)

<sup>6</sup> Cypher, B. L., & Van Horn Job, C. L. 2009. *Permeable Fence and Wall Designs that Facilitate Passage by Endangered San Joaquin Kit Foxes*. Stanislaus, CA.

## 2.4.7 Letter G: Defenders of Wildlife

- G-1 This summary of project details is consistent with information provided in Draft EIR Chapter 2, *Project Description*, and in Section 3.5, *Biological Resources*. Section 3.5 of the Draft EIR, discloses that San Joaquin kit fox and Swainson’s hawk have a potential to occur on the project site.
- G-2 This comment correctly summarizes the first of five Project objectives listed in Draft EIR Section 2.4 (page 2-6). County representatives participated in the Central Valley Renewable Energy Project, which produced the “Smart From the Start” report identified in this comment,<sup>36</sup> and the County acknowledges the commenter’s expression of favor for “least conflict siting” consistent with the “Smart From the Start” report.
- G-3 The County verified the location of the Project site within the dataset accessible via the link provided in this comment.<sup>37</sup> See **Figure 1**, *Conservation Value of the Project Site*. The County acknowledges the commenter’s support for projects like this one, which are proposed on sites identified as “least conflict” lands.
- G-4 The County declines this request that additional surveys for San Joaquin kit fox be added to Mitigation Measure 3.5-1, *Protection of San Joaquin Kit Fox*. Draft EIR Section 3.5.3.3 (page 3.5-12) acknowledges that “the San Joaquin kit fox could occur on the Project site sporadically,” e.g., in transit; however, the “disked and actively cultivated agricultural lands on-site are not preferred denning habitat and only provide limited foraging habitat for San Joaquin kit fox.” The County disagrees with the suggestion that surveying in phases would present challenges to ensuring the adequacy of exclusion zones around kit fox dens if observed near a portion of the site where construction has already occurred because, due to existing Project site conditions, kit fox dens are unlikely to be found onsite, and a take permit for this species is not anticipated for the Project. Further, consistent with Mitigation Measure 3.5-1, USFWS would be alerted if survey were positive: “If the qualified biologist determines that a potential non-natal den may be active, an on-site passive relocation program shall be implemented prior to ground disturbance within the established buffer with prior approval from USFWS.” Thus, the survey requirements stated in Mitigation Measure 3.5.-1 are consistent with the USFWS *Standardized Recommendations* (1999) and would provide sufficient mitigation for purposes of CEQA.
- G-5 Mitigation Measure 3.5-1 has been revised as shown in Section 3.2.5 and as follows to clarify that buffer distances shall be established consistent with the buffer distances provided in USFWS *Standardized Recommendations* (1999).

<sup>36</sup> Defenders of Wildlife, 2012. Smart From the Start: Responsible Renewable Energy Development in the Southern San Joaquin Valley. <https://www.defenders.org/sites/default/files/publications/smart-from-the-start-responsible-renewable-energy-development-southern-san-joaquin-valley.pdf>. Accessed December 8, 2023.

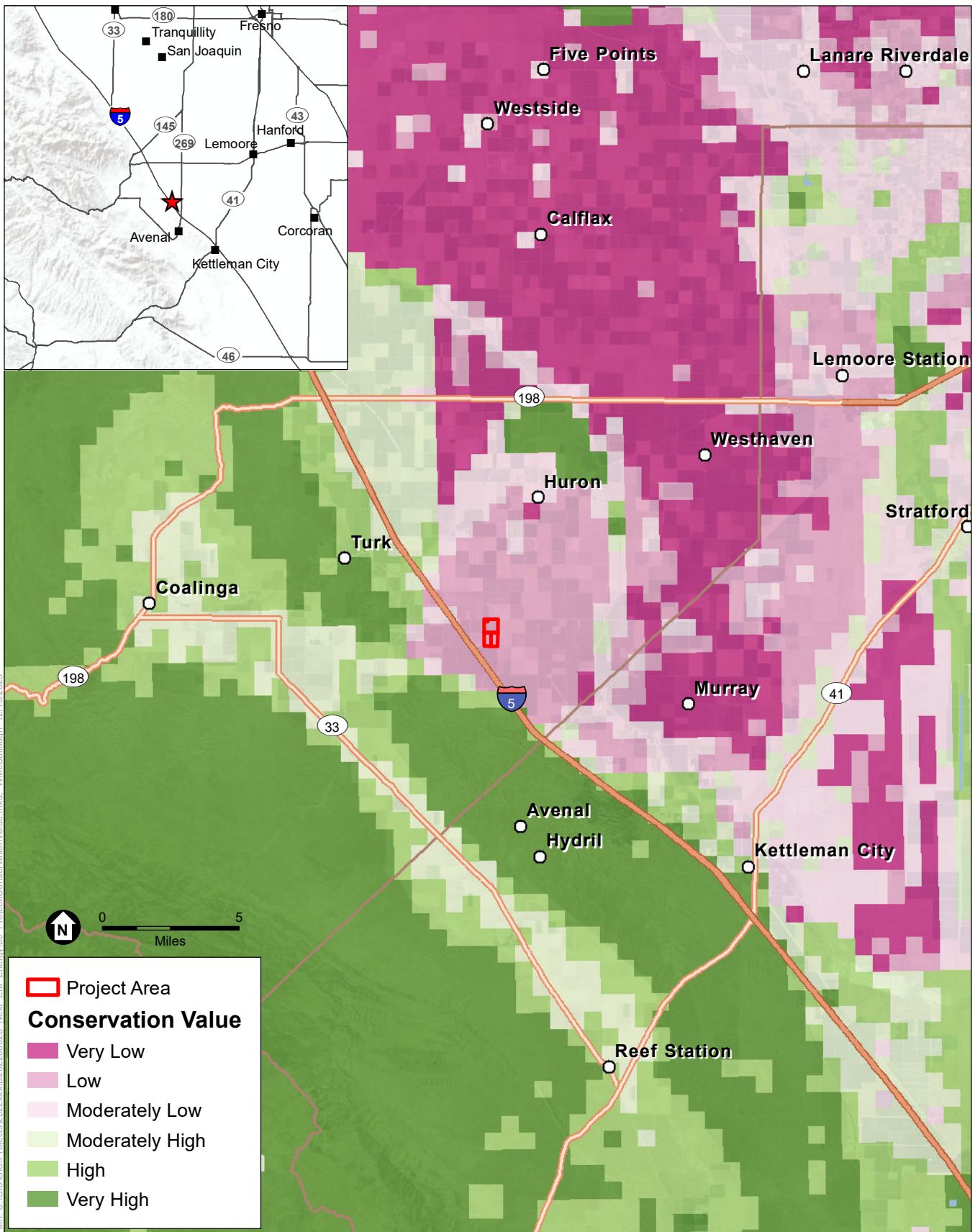
<sup>37</sup> Data Basin, 2016. FINAL - Environmental Conservation Value: Solar and the SJV (Version 8). October 12, 2015; last modified March 10, 2016. <https://databasin.org/datasets/5678d8175d694e5ea89183730af3d1a4/>. Accessed December 8, 2023.

**Mitigation Measure 3.5-1: Protection of San Joaquin Kit Fox.**

Preconstruction surveys shall be conducted by a qualified biologist for the presence of San Joaquin kit fox dens within 14 days before the start of construction activities. The surveys shall be conducted in areas of suitable habitat for San Joaquin kit fox. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days before that portion of the site is disturbed. If no potential San Joaquin kit fox dens are present, no further mitigation is required. If the qualified biologist observes potential dens and determines, in consultation with the Project owner and the County, that avoidance is feasible (as defined in CEQA Guidelines Section 15364 ~~consistent with the USFWS [1999] *Standardized Recommendations for Protection of the San Joaquin Kit Fox*~~), buffer distances shall be established before each phase of construction activities consistent with the buffer recommendations in the USFWS [1999] *Standardized Recommendations for Protection of the San Joaquin Kit Fox*.

- G-6 See Response G-4, which addresses the request for additional kit fox surveys, and Response G-5, which addresses buffers.





SOURCE: ESA, 2023; Conservation Biology Institute, 2023

NextEra- Key Energy Storage Project

**Figure 1**  
Conservation Value of the Project Site

- G-7 The daytime speed limit of 20 mph provided in Mitigation Measure 3.5-2 is consistent with the USFWS *Standardized Recommendations* (1999), therefore, the recommendation to revise the speed limit to 15 mph is not required. This mitigation measure will be amended to add the following statement regarding night-time construction as suggested by the commenter. See Section 3.2.4, which shows the following revision:

A daytime speed limit of 20 miles per hour shall be enforced within all construction areas. Night-time construction shall be minimized to the extent possible. If work is conducted at night, a night-time speed limit of 10 mph shall be enforced for protection of wildlife.

- G-8 As drafted, Mitigation Measure 3.5-3 states that nesting bird surveys may be phased to occur shortly before a portion of the Project site is disturbed. This approach is adequately protective of nesting birds. Additional nesting bird surveys occurring several weeks or months prior to construction would not be informative regarding actively nesting birds, because preconstruction surveys conducted within 14 days prior to construction would identify any nesting birds present on the Project site. For these reasons, no change has been made in response to this comment.
- G-9 As detailed in Response E-5, the buffer around Swainson hawk's nests was revised in Mitigation Measure 3.5-3, consistent with the recommendation in this comment.
- G-10 As detailed in Response E-5, the Swainson's hawk nest buffer distance was revised in Mitigation Measure 3.5-3, consistent with the recommendation in this comment. See Response G-8 regarding why no change has been made to the nest survey protocol in Mitigation Measure 3.5-3.
- G-11 The comment correctly states that the Draft EIR does not include a mitigation measure that dictates fence clearance specifications. In the context of the analysis of Impact 3.5-2, Draft EIR Section 3.5.3.3 (page 3.5-17), the Draft EIR concludes that the Project would have a less than significant impact related to biological resources significance criterion d) because it would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. The Draft EIR based this conclusion in part on a statement that the Project "would not interfere substantially with movement by kit foxes" because, "[after] construction, the perimeter would be surrounded by chain-link fence with space underneath to allow passage by kit foxes and other small mammals." This sentence was included in error. See Draft EIR Section 2.5.9.5, *Wildlife-Friendly Design Features*, which does not specify a fencing design that would maintain a 4-inch to 6-inch clearance between the bottom of the site's perimeter fencing and the ground to allow passage by kit foxes. Nonetheless, a conclusion of less-than-significant impact is warranted here.

Not every interference with the potential movement of native wildlife species constitutes a significant impact under CEQA. To result in a potential significant impact, the interference must be "substantial." An interference is not substantial if the obstruction is

temporary or if there are other available routes. This Project would not interfere substantially with the movement of kit foxes because there are other available routes. As explained in Draft EIR Section 3.5.1.2 (p. 3.5-5), no San Joaquin kit foxes, suitable dens, or sign were observed during field surveys. The intensive agricultural activities, minimal sign of prey species, and presence of coyotes on-site substantially reduce the Project site's habitat value, and kit foxes are not expected to use the site for breeding. There is a low potential for San Joaquin kit fox to use the site for foraging and dispersal; however, lack of cover may discourage kit foxes from crossing the site. Further, although the lack of a California Natural Diversity Database (CNDDDB) listing of a particular species is not proof of absence; however, no occurrences of kit fox have been reported within 5 miles of the Project site since 1981 (Draft EIR, p. 3.5-5). Because the Project site does not contain preferred denning habitat for the San Joaquin kit fox and provides limited foraging habitat, and because kit fox could bypass the site, the Draft EIR correctly concluded in the context of Impact 3.5-2 that the Project would cause a less than significant impact related to the movement of kit foxes.

In response to this comment and in light of this response, the first paragraph of the analysis in Impact 3.5-2 (Draft EIR, p. 3.5-17) has been revised as shown in Section 3.2.4 and as set forth below:

To result in a potential significant impact, interference with the movement of native wildlife must be “substantial.” An interference is not substantial if the obstruction is temporary or if there are other available routes. This Project would not interfere substantially with the movement of kit foxes primarily because there is little evidence of active use of the site and because there are other available routes. The Project site is not located in an identified terrestrial movement corridor for San Joaquin kit fox (USFWS 1998) or other wildlife species; the site is located in an agricultural area near major roads, which discourage wildlife movement. No San Joaquin kit foxes, suitable dens, or sign were observed during field surveys. The intensive agricultural activities, minimal sign of prey species, and presence of coyotes on-site substantially reduce the Project site's habitat value, and kit foxes are not expected to use the site for breeding. There is a low potential for San Joaquin kit fox to use the site for foraging and dispersal; however, lack of cover may discourage kit foxes from crossing the site. ~~However, small terrestrial species may occasionally disperse through the site. After construction, the perimeter would be surrounded by chain link fence with space underneath to allow passage by kit foxes and other small mammals.~~ Thus, the Project would not interfere substantially with movement by kit foxes.

The County has reviewed the suggested recommendations<sup>38</sup> and finds the language to be consistent with examples of wildlife-friendly design features identified in County EIRs

<sup>38</sup> Cypher, Brian L., and Van Horn Job, Christine L., 2009. Permeable Fence and Wall Designs that Facilitate Passage by Endangered San Joaquin Kit Foxes. March 2009. <https://fliphtml5.com/kgpm/iuum/basic>. Accessed December 8, 2023. See also, Cypher et al, 2021. Photovoltaic solar farms in California: can we have renewable electricity and our species, too? California Fish and Wildlife Journal, Volume 107, Issue 3:231-248; 2021. Summer 2021. <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=195581>. Accessed June 10, 2024.

for other renewable energy projects. However, impact conclusions reached for other projects proposed on other sites does not suggest that the County's Project-specific, site-specific conclusion in the Draft EIR is inadequate or inaccurate.



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Page 1 of 2 E-mail: d1wz@pge.com

November 6, 2023

Jeremy Shaw
Fresno County Department of Public Works and Planning
Development Services and Capital Projects Division
2220 Tulare Street, Sixth Floore
Fresno, CA 93721

RE: EIR 8189 Key Energy Storage Project Unclassified Conditional Use Permit
Application No. 3734 – Response To Request For Comments

Dear Mr. Shaw:

On behalf of Pacific Gas and Electric Company (PG&E), please find the following response to
comments for The Key Energy Storage 8189 Key Energy Storage Project (Project) Unclassified
Conditional Use Permit Application No. 3734, Draft Environmental Impact Report (DEIR).

The Key Storage Project will interconnect with PG&E’s Gates Substation in Fresno County;
PG&E’s interconnection work includes the construction, operation, and maintenance of a new
500-kilovolt (kV) transmission line, approximately 120 feet of which is located outside of
PG&E’s substation, supported by new lattice steel towers. Modifications at PG&E’s existing
Midway Substation located in Kern County will also be required. As such, PG&E respectfully
requests the following revisions to the Key Storage DEIR.

H-1

PG&E Comment I
ES. 4 Permits and Approvals

Regarding California Public Utilities Commission (CPUC) jurisdiction, please revise the
following statement to read:

~~Authorizations pursuant to Compliance with General Order 131-D for PG&E’s expansion of the
Tranquillity Switching Station modification of Gates Substation and construction of the gen-tie
line. The CPUC has preemptive discretionary jurisdiction over the design, construction, and
operation of PG&E’s utility facilities.~~

H-2

PG&E Comment II

2.5.10.1 Substation Modifications (p.69): PG&E now has additional details about the required
wall. After “below-grade elevation,” please add a new sentence with further details: “It will be
supported by concrete piers approximately 2 feet in diameter, installed every 6-12 feet and up to
20 feet below existing grade.”

H-3

PG&E Comment III
3.5 Biological Resources

H-4

Internal

**Mitigation measures BIO 3.5-1 and 3.5-3**

Please include language that clarifies that the pre-construction surveys will include PG&E work areas and any requirements will be implemented by the project applicant in coordination with PG&E.

H-4  
cont.

**PG&E Comment IV**

**3.8 Geology, Soils, and Paleontological Resources**

**Mitigation Measure 3.8-1**

As stated in the DEIR analyses, PG&E is not subject to any mitigation measures in the DEIR. Furthermore, PG&E does not believe the following measures identified for PG&E would be necessary to reduce impacts to less than significant in any event.

Mitigation Measure 3.8-1 requires paleontological monitoring for all ground disturbance below 10 feet, except limited-diameter drilling. However, the discussion prior to the mitigation measure suggests that monitoring would only be needed if a significant resource is discovered, on an as-needed basis. We suggest that mitigation measure 3.8-1 be revised to indicate that it only applies in that circumstance. The discussion indicates that the potential to encounter significant paleontological resources is low in the first 10 feet bgs and undetermined below 10 feet bgs. Given the lack of known discoveries of paleontological resources within the immediate area despite numerous ground disturbing projects in and around Gates Substation, we suggest following the approach taken for LS Power’s Gates 500 kV Dynamic Reactive Support Project, interconnecting to PG&E’s 500 kV yard immediately north of this project; there, the CPUC found less than significant impacts with measures requiring worker awareness training and inadvertent discovery protocols.

H-5

We would be happy to discuss these comments further if that would be helpful. Please do not hesitate to contact me at (916) 320-5459 if you have any questions or concerns.

Sincerely,



Danielle Wilson  
Contract Senior Land Planner

Cc:  
Jo Lynn Lambert, PG&E Legal Counsel  
Wendy Nettles, PG&E Supervisor, Environmental Management

## 2.4.8 Letter H: Pacific Gas and Electric Company

- H-1 This summary of project details regarding the PG&E infrastructure improvements that would be needed to interconnect the Project is consistent with the information provided in Draft EIR Section 2.5.10 (pages 2-26 through 2-29).
- H-2 Draft EIR Section ES.4 (p. ES-5) and Section 2.6 (p. 2-29) both say that permits and approvals that could be required for the Project include the following from the California Public Utilities Commission (CPUC): “authorizations pursuant to General Order 131-D for PG&E’s expansion of Gates Substation in Fresno County and/or the Midway Substation in Kern County the and construction of the gen-tie line.” In response to this comment, the bullet point containing that statement has been clarified in both places as follows:
- ~~CPUC—authorizations pursuant to~~ Compliance with General Order 131-D for PG&E’s expansion of Gates Substation in Fresno County and/or the Midway Substation in Kern County ~~the~~ and for construction of the gen-tie line.

Draft EIR Section 2.5.10.1 (pages 2-26 an 2-27) describes the proposed Gates Substation modifications as including the following: “To accommodate the Project, PG&E would enlarge the Gates Substation 500 kV yard within the Gates Substation property boundaries by approximately 2.6 acres.” Accordingly, the suggestion to replace the word “expansion” with “modification” has not been accepted.

As drafted, the Draft EIR is clear that the CPUC would have “sole and exclusive jurisdiction over PG&E’s construction, operation, and maintenance of the PG&E infrastructure and improvements needed to connect the Project to the grid because it regulates activities undertaken by PG&E and the other investor-owned public utilities in the state. PG&E’s work (as regulated by CPUC) would not be subject to the County’s or Kern County’s [discretionary land use permitting process].” See, e.g., Section 3.2.1.3 (page 3.2-9), Section 3.12.1.3 (page 3.12-2), Section 3.14.1.3 (page 3.14-9), Section 3.15.1.2 (page 3.15-3), and Section 3.16.1.3 (page 3.16-3). Accordingly, the suggestion to include the new last sentence proposed in this comment has not been accepted.

- H-3 The description of the proposed Gates Substation modifications provided in Draft EIR Section 2.5.10.1 (page 2-28) has been refined as shown in Section 3.2.2 and as follows:

The new wall would be 12 feet above grade, so the overall height measured from the inside of the substation would be approximately 17.5 feet, owing to the 500 kV yard’s below-grade elevation. It would be supported by concrete piers approximately 2 feet in diameter, installed every 6-12 feet and up to 20 feet below existing grade. The new wall would tie into the existing security walls located on the north and south sides of the 500 kV yard within the Gates Substation.

The Draft EIR anticipated that proposed modifications at the Gates Substation would include grading to a depth of approximately 5.5 feet below grade and that the proposed

transmission line work in this area would include foundations installed approximately 15 feet below grade (Draft EIR page 2-28). For the reasons discussed below, the 5-foot difference between 15 feet below ground surface and the 20 feet below ground surface proposed by PG&E in its refinement of project details does not trigger CEQA's requirements for recirculation.

The 5-foot difference between 15 feet below ground surface and the 20 feet below ground surface proposed by PG&E in its refinement of project details would not result in major revisions of the EIR because the difference would result in neither new significant environmental impacts nor a substantial increase in the severity of previously identified significant impacts. The refinement would result in no change to the Draft EIR's analysis of impacts or conclusions relating to resources within 15 feet below ground surface.

The Draft EIR acknowledges the possibility that buried archaeological resources may be encountered during ground-disturbing activities (Draft EIR, page 3.6-16). The implementation of the PG&E Cultural Resource Protection Measures set forth in Draft EIR Section 3.6.3.2 (pages 3.6-13 and 3.6-14), which would be implemented in the event of an unanticipated discovery of archeological resources or human remains, would ensure that the proposed depth of the concrete piers would not result in new significant environmental impacts or a substantial increase in the severity of significant impacts related to cultural resources identified in the Draft EIR. The Draft EIR also discloses that "construction of the Project could encounter paleontological resources in Pleistocene-age sediments areas where excavations result in disturbance at depths at or below 10 feet" (Draft EIR, page 3.8-19). The Draft EIR acknowledges that "PG&E is not an applicant subject to the mitigation measures" identified in the Draft EIR; however, "the Applicant would be responsible for compliance with any necessary mitigation. PG&E would comply with the CPUC's General Order 131-D and would coordinate with the Applicant in complying with any required mitigation, which in the instance of a significant impact to paleontological resources would consist of Mitigation Measure 3.8-1" (Draft EIR, p. 3.8-20). Compliance with General Order 131-D and Mitigation Measure 3.8-1, which requires paleontological monitoring of all excavation at depths at or greater than 10 feet below ground surface (bgs) in previously undisturbed sediments, would ensure that the proposed depth of the concrete piers would not result in new significant environmental impacts or a substantial increase in the severity of significant impacts related to paleontological resources identified in the Draft EIR. Finally, the change in depth of the concrete piers from 15 to 20 feet would not result in new significant environmental impacts or a substantial increase in the severity of significant impacts related to groundwater resources, because groundwater is located more than 40 feet below ground surface and would not be anticipated to be encountered during the Gates Substation improvements.

- H-4 In the context of its discussion of the potential impacts that could be caused by the proposed PG&E infrastructure improvements, the Draft EIR (page 3.5-19) explains that "PG&E would coordinate with the Applicant on implementation of any mitigation measures that would apply to PG&E's construction, to minimize risks to migratory birds



of collision with lines or towers.” In response to this Comment H-4, the County is refining the text on Draft EIR page 3.5-19 to clarify that the Applicant would be responsible for compliance with any necessary mitigation, that PG&E would comply with the CPUC’s General Order 131-D and would coordinate with the Applicant in complying with any required mitigation, which in the instance of a significant impact to San Joaquin kit fox would consist of Mitigation Measure 3.5-1 and in the instance a significant impact to nesting birds would consist of Mitigation Measure 3.5-3. More specifically, as shown in Section 3.2.4, the text of Draft EIR page 3.5-19 has been supplemented to insert the following new paragraph between the existing two paragraphs under the heading *PG&E Infrastructure*:

Construction activities associated with the PG&E infrastructure could result in a potential significant impact to San Joaquin kit fox and/or nesting birds. However, because PG&E is not an applicant subject to the mitigation measures identified in this Draft EIR, the Applicant would be responsible for compliance with any necessary mitigation. PG&E would comply with the CPUC’s General Order 131-D and would coordinate with the Applicant in complying with any required mitigation, which in the instance of a significant impact to San Joaquin kit fox would consist of Mitigation Measure 3.5-1 and in the instance a significant impact to nesting birds would consist of Mitigation Measure 3.5-3.

- H-5 The paragraph on Draft EIR page 3.8-19 immediately preceding the full text of Mitigation Measure 3.8-1 makes clear that the measure would be required for the protection of paleontological resources, *if present*, during construction. It also makes clear that the “inadvertent discovery” approach described in the comment also applies here: “Mitigation Measure 3.8-1 would require that all earthwork halt *in the event of a fossil discovery* and that a qualified paleontologist assess the discovery...” Because the Draft EIR is consistent with the request made in the comment, no revision has been made in response to the comment.

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# CHAPTER 3

## Revisions to the Draft EIR

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### 3.1 Introduction

The following changes have been made to the previously published text of the Draft EIR. Changes to the Draft EIR include minor corrections made to improve writing clarity, grammar, and consistency; clarifications, additions, or deletions resulting from specific responses to comments; and changes to update information in the Draft EIR – the changes do not constitute “significant new information” requiring recirculation (see Public Resources Code §21092.1; CEQA Guidelines §15088.5). Text revisions are organized by the chapter and page number (provided on the left-hand side of the page, below) that appear in the Draft EIR. An explanation of the change, including identification of where it would be made, is provided. The specific additions and deletions use the following conventions:

- Text deleted from the Draft EIR is shown in ~~strike-out text~~.
- Text added to the Draft EIR is shown in underline text.

### 3.2 Text Changes to the Draft EIR

#### 3.2.1 Executive Summary

Page ES-5      The third bullet point in Section ES.4, *Permits and Approvals*, has been clarified as follows:

- ~~CPUC—authorizations pursuant to~~ Compliance with General Order 131-D for PG&E’s expansion of Gates Substation in Fresno County and/or the Midway Substation in Kern County ~~the~~ and for construction of the gen-tie line.

Page ES-12      In Table ES-2, Mitigation Measure 3.5-3 has been revised as follows:

If construction is scheduled to commence outside of nesting season (September 1 to January 31), no preconstruction surveys or additional measures are required for nesting birds, including raptors. During the nesting bird breeding season (February 1 to ~~August 31~~ September 15), to avoid impacts on nesting birds in the Project site and immediate vicinity, a qualified biologist shall conduct preconstruction surveys of all potential nesting habitat within the Project site

where vegetation removal or ground disturbance is planned. The survey shall be performed within the site and shall also include potential nest sites within a 0.5-mile buffer around the site in areas where access to neighboring properties is available or visible using a spotting scope. Surveys shall be conducted no more than ~~14~~ 10 days prior to each phase of construction activities. If construction is halted for ~~14~~ 10 days or more, the area shall be resurveyed prior to resuming work.”

Surveys need not be conducted for the entire Project site at one time; they may be phased so that surveys occur shortly before a portion of the Project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer around active nests (e.g., ~~300~~ 500 feet for common raptors; ~~0.25~~ 0.5 mile for Swainson’s hawk; 100 feet for passerines) shall be established and no construction within the buffer shall be allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of the qualified biologist in coordination with CDFW.

### 3.2.2 Chapter 2, Project Description

Page 2-28 The description of the proposed Gates Substation modifications provided in Draft EIR Section 2.5.10.1 (page 2-28) has been refined as follows:

The new wall would be 12 feet above grade, so the overall height measured from the inside of the substation would be approximately 17.5 feet, owing to the 500 kV yard’s below-grade elevation. It would be supported by concrete piers approximately 2 feet in diameter, installed every 6-12 feet and up to 20 feet below existing grade. The new wall would tie into the existing security walls located on the north and south sides of the 500 kV yard within the Gates Substation.

Page 2-29 The third bullet point in Section 2.6, *Permits and Approvals*, has been clarified as follows:

- ~~CPUC—authorizations pursuant to~~ Compliance with General Order 131-D for PG&E’s expansion of Gates Substation in Fresno County and/or the Midway Substation in Kern County ~~the~~ and for construction of the gen-tie line.

### 3.2.3 Section 3.3, Agriculture and Forest Resources

Page 3.3-13 Lines three and four have been revised as follows:

The chemical and physical soil properties of the soil would remain substantially the same under pre-Project and post Project (post-reclamation) conditions.

### 3.2.4 Section 3.4, Air Quality

Page 3.4-3 The second paragraph under the heading “Valley Fever” has been revised as follows:

The California Department of Public Health (CDPH) received ~~7,252 and 8,030~~ 7,277, 6,747, and 7,696 new Valley Fever case reports in ~~2020 and 2021, 2022,~~ and 2023, respectively, as of November 30 of each year (CDPH 2022-2023).

Page 3.4-4 The first full paragraph on this page has been revised as follows:

On average, approximately 200 Valley Fever–associated deaths (deaths in which Valley Fever was listed as a primary or contributing cause on a death certificate) occurred in the United States each year between 1999 and 2019 (CDC 2022a). The number of cases of Valley Fever in Fresno County has ~~increased varied~~ in the past several years. Between 2021 and 2023, the total number of cases in Fresno County increased from 353 cases to 443 cases (CDPH 2023). ~~Between 2011 and 2014, the total number of cases decreased from 22,634 to 8,232; however, in 2019, the number of total cases spiked to 20,003, from 15,611 cases reported in 2018.~~ Those most at risk of developing severe symptoms include Hispanics, African Americans, Filipinos, pregnant women, adults of older age groups, and people with weakened immune systems (CDC 2022b).

Page 3.4-11 Draft EIR Section 3.4.1.3, *Regulatory Setting*, has been revised to include the following:

#### Rule 2010 (Permits Required)

Rule 2010 requires any person constructing, altering, replacing, or operating any source that emits emissions, such as the Project’s proposed generators, to obtain an Authority to Construct and then a Permit to Operate. Before initiation of any such activities associated with the source can begin, authorization referred to as an Authority to Construct must be provided by the Air Pollution Control Officer (APCO). Before any new or modified source initiated under an Authority to Construct can begin operation, a written Permit to Operate is required to be obtained from the APCO.

Page 3.4-25 The last sentence analysis presented in Impact 3.4-4 has been revised to include the following:

Compliance with the requirements of AB 203 and SJVAPCD Rule 8021 would ensure that Valley Fever–related impacts on construction workers would be less than significant.

Page 3.4-30 The list of references has been revised to include the following:

CDPH (California Department of Public Health), 2023. Coccidioidomycosis in California Provisional Monthly Report, January – November 2023 (as of November 30, 2023), available online at: <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciinCAProvisionalMonthlyReport.pdf>

### 3.2.5 Section 3.5, Biological Resources

Page 3.5-14 The first paragraph of Mitigation Measure 3.5-1 has been revised as follows:

Preconstruction surveys shall be conducted by a qualified biologist for the presence of San Joaquin kit fox dens within 14 days before the start of construction activities. The surveys shall be conducted in areas of suitable habitat for San Joaquin kit fox. Surveys need not be conducted for all areas of suitable habitat at one time; they may be phased so that surveys occur within 14 days before that portion of the site is disturbed. If no potential San Joaquin kit fox dens are present, no further mitigation is required. If the qualified biologist observes potential dens and determines, in consultation with the Project owner and the County, that avoidance is feasible (as defined in CEQA Guidelines Section 15364 ~~consistent with the USFWS [1999] *Standardized Recommendations for Protection of the San Joaquin Kit Fox*~~), buffer distances shall be established before each phase of construction activities consistent with the USFWS [1999] *Standardized Recommendations for Protection of the San Joaquin Kit Fox*.

Page 3.5-15 In Mitigation Measure 3.5-2, the third bullet point from the bottom of the page has been revised as follows:

- A daytime speed limit of 20 miles per hour shall be enforced within all construction areas. Night-time construction shall be minimized to the extent possible. If work is conducted at night, a night-time speed limit of 10 mph shall be enforced for protection of wildlife.

Page 3.5-16 Mitigation Measure 3.5-3 has been revised as follows:

If construction is scheduled to commence outside of nesting season (September 16 to January 31), no preconstruction surveys or additional measures are required for nesting birds, including raptors. During the nesting bird breeding season (February 1 to ~~August 31~~ September 15), to avoid impacts on nesting birds in the Project site and immediate vicinity, a qualified biologist shall conduct preconstruction surveys of all potential nesting habitat within the Project site where vegetation removal or ground disturbance is planned. The survey shall be performed within the site and shall also include potential nest sites within a 0.5-

mile buffer around the site in areas where access to neighboring properties is available or visible using a spotting scope. Surveys shall be conducted no more than ~~14~~ 10 days prior to each phase of construction activities. If construction is halted for ~~14~~ 10 days or more, the area shall be resurveyed prior to resuming work.

Surveys need not be conducted for the entire Project site at one time; they may be phased so that surveys occur shortly before a portion of the Project site is disturbed. The surveying biologist must be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance. If active nests are found, a suitable buffer around active nests (e.g., ~~300~~ 500 feet for common raptors; ~~0.25~~ 0.5 mile for Swainson's hawk; 100 feet for passerines) shall be established and no construction within the buffer shall be allowed until a qualified biologist has determined that the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). Encroachment into the buffer may occur at the discretion of the qualified biologist in coordination with CDFW.

Page 3.5-17 The first paragraph of the analysis in Impact 3.5-2 has been revised as follows:

To result in a potential significant impact, interference with the movement of native wildlife must be "substantial." An interference is not substantial if the obstruction is temporary or if there are other available routes. This Project would not interfere substantially with the movement of kit foxes primarily because there is little evidence of active use of the site and because there are other available routes. The Project site is not located in an identified terrestrial movement corridor for San Joaquin kit fox (USFWS 1998) or other wildlife species; the site is located in an agricultural area near major roads, which discourage wildlife movement. No San Joaquin kit foxes, suitable dens, or sign were observed during field surveys. The intensive agricultural activities, minimal sign of prey species, and presence of coyotes on-site substantially reduce the Project site's habitat value, and kit foxes are not expected to use the site for breeding. There is a low potential for San Joaquin kit fox to use the site for foraging and dispersal; however, lack of cover may discourage kit foxes from crossing the site. However, small terrestrial species may occasionally disperse through the site. After construction, the perimeter would be surrounded by chain link fence with space underneath to allow passage by kit foxes and other small mammals. Thus, the Project would not interfere substantially with movement by kit foxes.

Page 3.5-19 The summary of impacts and mitigation measures specific to implementation of the proposed PG&E infrastructure has been supplemented to add the following:

Construction activities associated with the PG&E infrastructure could result in a potential significant impact to San Joaquin kit fox and/or nesting birds. However, because PG&E is not an applicant subject to the mitigation measures identified in this Draft EIR, the Applicant would be responsible for compliance with any

necessary mitigation. PG&E would comply with the CPUC's General Order 131-D and would coordinate with the Applicant in complying with any required mitigation, which in the instance of a significant impact to San Joaquin kit fox would consist of Mitigation Measure 3.5-1 and in the instance a significant impact to nesting birds would consist of Mitigation Measure 3.5-3.

### 3.2.6 Section 3.19, Utilities and Service Systems

Page 3.29-13 The text under Impact 3.19-2 has been revised as follows:

Because the northern parcel is in irrigated agriculture under existing conditions, and because this irrigation would cease with the Project, the Project would reduce total water demand across the site. Thus, implementation of the Project would result in an incremental decrease in total water demand. The water supply assessment concluded that the construction and operational water demands of the Project can be met under average water year, single-dry water year, and multiple dry water year scenarios over the next 20 years through various sources. In addition, water demand during operation would be minimal (1,036 gallons per year, which is equivalent to 5.2 days of one person's water demand) and would be substantially less than the existing water demand for irrigation. While WWD only currently projects water supply availability through 2045 as part of its Urban Water Management Plan, water for decommissioning would be obtained from an available source prior to decommissioning and is anticipated to either be delivered to the site by truck or obtained from an on-site well. Therefore, a less-than significant impact on water supply would result ~~over the next 20 years.~~

~~However, the requested conditional use permit would have a term of 40 years (see Section 2.5.1, Project Phasing). For the purposes of this analysis, operation and maintenance phase water demand during the second 20-year period would be the same during the first, i.e., 0.003 acre-feet per year, and decommissioning water requirements are assumed to be similar to those required during construction (approximately 300 acre-feet). The WSA prepared for the Project (Appendix L) does not address the availability of the water supply for the latter portion of the operation and maintenance phase or at the time the Project would be decommissioned. Therefore, Mitigation Measure 3.19-2: Determine Future Water Supply Availability would be required.~~

~~Mitigation Measure 3.19-1: Determine Future Water Supply Availability~~  
~~Eighteen (18) years after the issuance of the conditional use permit, the Project owner shall identify and provide an analysis to the County that the water supply source(s) proposed for use during the remaining operation, maintenance, and decommissioning activities are sufficient and will not impede sustainable groundwater management of the basin. If sufficient water supplies are not available to serve the Project and~~



reasonably foreseeable future development during normal, dry, and multiple dry years, then Project decommissioning would be initiated.

**Significance after Mitigation:** ~~Less than Significant. Implementation of this mitigation measure would ensure that future water supply needed for operation, maintenance and decommissioning would be available by requiring identification of water supply prior to decommissioning activities.~~

**Mitigation:** None required

### 3.2.7 Appendix I, Land Use and Planning

Page Appendix I-5 Table I1-2 as follows has been revised as follows:

|   |   |
|---|---|
| <p><b>Policy LU-A.3:</b> The County may allow by discretionary permit in areas designated Agriculture, special agricultural uses and agriculturally-related activities, including value added processing facilities, and certain non-agricultural uses listed in Table LU-3. Approval of these and similar uses in areas designated Agriculture shall be subject to the following applicable criteria:</p> <ol style="list-style-type: none"> <li>The use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics;</li> <li>The use should not be sited on productive agricultural lands if less productive land is available in the vicinity;</li> <li>The operational or physical characteristics of the use shall not have a detrimental impact on water resources or the use or management of surrounding properties within at least one-quarter (1/4) mile radius;</li> <li>A probable workforce should be located nearby or be readily available</li> </ol> | <p><b>Consistent.</b> The General Plan's illustrative list of uses typical of nonagricultural uses allowable with a permit in an area designated Agriculture is sufficiently similar to uses proposed by the Project (such as administration offices, equipment storage and maintenance, and electrical and wireless communication infrastructure). Further:</p> <p>(a) the proposed energy storage use would provide a needed service to the surrounding agricultural area (e.g., increase local energy storage capacity at the Gates Substation to address the limitations of the electric grid and make it more resilient to disturbances and peaks in energy demand) that cannot be provided more efficiently within urban areas and that requires location in the proposed non-urban area (see DEIR section 2.4, <i>Project Purpose and Objectives</i>, p. 2-6).</p> <p>(b) No less productive land is available in the vicinity (see DEIR section 4.2.1.1, <i>Alternative Sites</i>, p. 4-4 et seq.).</p> <p>(c) The operational or physical characteristics of the use would not have a detrimental impact on water resources or the use (see DEIR section 3.11, <i>Hydrology and Water Quality</i>, p. 3.11-1 et seq.) or management of surrounding properties within at least one-quarter (1/4) mile radius. (see DEIR Figure 2-2, <i>Project Site</i>, which shows energy and agriculture uses within 0.25-mile of the Project site; see also DEIR Section 3.3, which concludes that the Project would not cause a significant unavoidable impact on agriculture resources).</p> <p>(d) A probable workforce would be located nearby or be readily available. See DEIR Section 2.5.6.2, <i>Construction Workforce and Schedule</i>, which explains that Project construction is anticipated to employ a maximum of 150 on-site personnel. Once operational, the Project would require</p> |
|---|---|

|  |   |
|--|---|
|  | <p><u>limited personnel to visit the Project site. The Project site would be remotely operated and monitored 7 days a week through the proposed supervisory control and data acquisition system. Routine maintenance and one annual maintenance inspection are expected to occur as described in Section 2.5.7, <i>Energy Storage System Operation and Maintenance</i>. Based on consistency with each of these criteria, the County finds the Project to be consistent with Policy LU-A.3.</u></p> <p><del><b>Not applicable.</b> The policies pertain to County policy actions that are not related to the Project or review of its associated permit applications.</del></p> |
|--|---|

# Appendix A

## **Public Notices**



# EIR 8189 Key Energy Storage Project

## Summary

**SCH Number**

2022070414

**Lead Agency**

Fresno County

**Document Title**

EIR 8189 Key Energy Storage Project

**Document Type**

EIR - Draft EIR

**Received**

9/20/2023

**Present Land Use**

AE-40/Agriculture

**Document Description**

The project proposes to construct, operate, maintain, and decommission an energy storage facility on up to 260 acres of private land in western Fresno County. Project build-out would occur in four phases.

---

## Contact Information

**Name**

Jeremy Shaw

**Agency Name**

Fresno County

**Job Title**

Planner

**Contact Types**

Lead/Public Agency

**Address**

2220 Tulare St. 6th Floor  
Fresno, CA 93721

**Phone**

(559) 600-4207

**Email**

jshaw@fresnocountyca.gov

---

## Location

**Cities**

Unincorporated area

**Counties**

Fresno

**Regions**

Countywide

**Cross Streets**

W. Jane Avenue between Interstate 5 and S. Lassen Avenue

**Total Acres**

318

**Jobs**

150

**Parcel #**

085-040-58S, 085-040-36S, 085-040-37S

**State Highways**

Interstate 5, State Route 269

**Railways**

None

**Airports**

None

**Schools**

None

**Waterways**

None

**Township**

21S

**Range**

17E

**Section**

4

**Base**

MDBM

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# Notice of Completion

**State Review Period Start**

9/21/2023

**State Review Period End**

11/6/2023

**State Reviewing Agencies**

California Air Resources Board (ARB), California Department of Conservation (DOC), California Department of Fish and Wildlife, Central Region 4 (CDFW), California Department of Forestry and Fire Protection (CAL FIRE), California Department of Parks and Recreation, California Department of Transportation, District 6 (DOT), California Department of Water Resources (DWR), California Energy Commission, California Governor's Office of Emergency Services (OES), California Highway Patrol (CHP), California Native American Heritage Commission (NAHC), California Natural Resources Agency, California Public Utilities Commission (CPUC), California Regional Water Quality Control Board, Central Valley Fresno Region 5 (RWQCB), Central Valley Flood Protection Board, Department of Toxic Substances Control, Office of Historic Preservation

**Development Types**

Power:Other Power Type (Energy Storage)(Megawatts 3000)

**Local Actions**

Use Permit

**Project Issues**

Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Cumulative Effects, Drainage/Absorption, Energy, Flood Plain/Flooding, Geology/Soils, Greenhouse Gas Emissions, Growth Inducement, Hazards & Hazardous Materials, Hydrology/Water Quality, Land Use/Planning, Mandatory Findings of Significance, Mineral Resources, Noise, Population/Housing, Public Services, Recreation, Schools/Universities, Septic System, Sewer Capacity, Solid Waste, Transportation, Tribal Cultural Resources, Utilities/Service Systems, Vegetation, Wetland/Riparian, Wildfire

**Local Review Period Start**

9/21/2023

**Local Review Period End**

11/6/2023

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## Attachments

**Draft Environmental Document [Draft IS, NOI\_NOA\_Public notices, OPR Summary Form, Appx,]**

EIR 8189 CEQA Summary Form

PDF

625 K

Key\_Energy\_Storage\_Project\_DEIR\_Appendix\_Sep\_2023

PDF

68216 K

Key\_Energy\_Storage\_Project\_DEIR\_Sep\_2023 - Print

PDF

12566 K

NOA Filed

PDF

792 K

**Notice of Completion [NOC] Transmittal form**

NOC

PDF

1109 K

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[state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov) or via phone at [\(916\) 445-0613](tel:(916)445-0613). For more information, please visit [OPR's Accessibility Site](#).



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(Space Below for use of County Clerk only)

## IN THE COUNTY OF FRESNO, STATE OF CALIFORNIA

### NOTICE OF SECOND PUBLIC SCOPING MEETING FOR THE KEY ENERGY STORAGE PROJECT

Second Public Scoping Meeting:  
September 21, 2022 at 10:00 am

### DECLARATION OF PUBLICATION (2015.5 C.C.P.)

#### MISC. NOTICE

#### STATE OF CALIFORNIA

#### COUNTY OF FRESNO

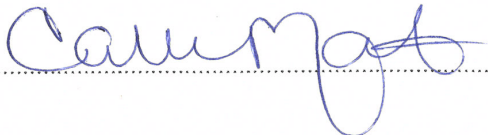
I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of **THE BUSINESS JOURNAL** published in the city of Fresno, County of Fresno, State of California, Monday, Wednesday, Friday, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Fresno, State of California, under the date of March 4, 1911, in Action No.14315; that the notice of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

SEPTEMBER 16, 2022

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed at Fresno, California,

SEPTEMBER 16, 2022

ON .....



NOTICE OF SECOND PUBLIC SCOPING MEETING FOR THE KEY ENERGY STORAGE PROJECT  
TO: Responsible and Trustee Agencies, other interested agencies, and members of the public  
FROM: County of Fresno, Department of Public Works and Planning Development Services and Capital Projects Division  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721  
SUBJECT: Notice of Second Public Scoping Meeting for the Key Energy Storage Project  
Notice Date: September 16, 2022  
Action: The County of Fresno will be the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and will be responsible for preparing an Environmental Impact Report (EIR) pursuant to CEQA and the CEQA Guidelines for the Key Energy Storage Project. To inform the identification and analysis of potential impacts, alternatives, and mitigation measures in the EIR, the County will be holding a second public scoping meeting.  
Project Title: Key Energy Storage Project, Unclassified Conditional Use Permit Application No. 3734 & EIR No. 8189  
Project Applicant: Key Energy Storage, LLC  
Second Public Scoping Meeting: CEQA encourages public input throughout the planning process. Consistent with CEQA and CEQA Guidelines Section 15083, oral and written comments may be presented at one or more scoping meetings where the County will solicit input on the scope and content of the EIR, including environmental impacts of concern and mitigation measures or alternatives that should be considered. The County held one scoping meeting on Tuesday, August 9, 2022, and will hold a second scoping meeting for 30 minutes or until all who wish to speak have had an opportunity to do so. Meeting details for the second public scoping meeting are as follows:  
Date: Wednesday, September 21, 2022  
Time: 10:00 a.m.

If joining from a computer: <https://bit.ly/KeyEnergyStorageScopingMeeting>;  
Webinar ID: 816 6750 2078  
If joining by phone: (888) 788-0099  
Written Comments:  
Written scoping comments in will be accepted through 5 p.m. Friday, September 30, 2022. Please send written scoping input to:  
Attn: Jeremy Shaw  
Fresno County Department of Public Works and Planning  
Development Services and Capital Projects Division  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721  
Phone: (559) 600-4207 Fax: (559) 600-4200  
Email: [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)  
Please reference EIR 8189, Key Energy Storage Project. Include your name, address, and phone number and/or email address so that we may contact you for clarification, if necessary.  
Project Location and Summary:  
The Applicant proposes to construct, operate, maintain, and decommission an energy storage facility on approximately 318-acres of private land comprised of APNs 085-040-58S, 085-040-36S, and 085-040-37S in western Fresno County. The site is located 4 miles southwest of the City of Huron, 0.4 mile east of Interstate 5 (I-5), immediately south of W. Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to PG&E's existing Gates Substation.  
The project could store 3 gigawatts of energy or more in modular enclosures. The project would consist of a lithium ion, iron-flow, or other similar storage technology. On-site project support facilities would include a collector substation, inverters with connection lines, heating ventilating and air conditioning units, transformers, fencing, access roads, a supervisory control and data acquisition system, and security lighting. Diesel generators may be needed for substation purposes or to power water pumps for the existing well on parcel 085-040-58S. The project also includes an approximately 0.3-mile

long, 500-kilovolt (kV) overhead generation tie line that would extend north to the Gates Substation. This line would be installed on new steel or concrete poles, each up to 150 feet tall and spaced at approximately 500-foot intervals. Project buildout would occur in four phases.

Public notices, a project description, maps, and figures are available for review at the following locations:

§ Fresno County Public Works and Planning Department, 2220 Tulare Street, Suite A Street Level, Fresno, CA 93721

§ Fresno County website: [www.co.fresno.ca.us/EIR](http://www.co.fresno.ca.us/EIR)

09/16/2022



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Home / Departments / Public Works and Planning / Divisions of Public Works and Planning / Development Services / Planning and Land Use / Environmental Impact Reports / EIR 8189 Key Energy Storage Project

- Administration
- Maps and GIS Information
- Apply for a Building Permit via Citizens Portal
- Code Enforcement
- Construction Bidding Opportunities
- Divisions of Public Works and Planning
  - Admin Division
  - Capital Projects Division
  - Computer Data Systems (CDS)
  - Community Development Division
  - Construction Management Division
  - Design Division
  - Development Services
    - Building & Safety
    - Code Enforcement
    - Development Engineering (Grading/Drainage/Flood Information)
    - Planning and Land Use
    - Planning Forms
    - Zoning Ordinance
  - Resources and Parks Division
  - Road Maintenance and Operations Division
  - Water and Natural Resources Division
  - Flood Protection and Planning
  - General Plan
  - Household Hazardous Waste
  - Landfill Operations
  - Parks
  - Planning and Land Use
  - Forms
  - Customer Satisfaction Survey for Public Works
  - Recycling and Solid Waste Disposal
  - Request For Proposals
  - Surveyor's Office
  - Traffic Control

## EIR 8189 Key Energy Storage Project

### Unclassified Conditional Use Permit Application No. 3734

(PDF, 16.23KB)

#### Environmental Documents



- [Notice of Preparation \(NOP\)](#) (PDF, 2MB)
- [Notice of Second Preparation \(NOP\)](#) (PDF, 2MB)
- [Draft Environmental Impact Report](#) (PDF, 12MB)
- [Draft Environmental Impact Report Appendix](#) (PDF, 6.7MB)
- [Notice of Availability](#) (PDF, 2MB)
- [Notice of Completion](#) (PDF, 3MB)

#### Public Scoping Meeting

Date: Wednesday, September 21, 2022  
 Time: 10:00 a.m.  
 If joining from a computer: <https://bit.ly/KeyEnergyStorageScopingMeeting>  
 Webinar ID: 816 6750 2078  
 If joining by phone: (888) 788-0099

The CEQA process encourages comments and questions from the public throughout the planning process. Consistent with the California Public Resources Code and Section 15083(c)(1), (2)(A) to (D) of the CEQA Guidelines, a Public Scoping Meeting will be held to solicit public and agency comments on the Scope and content of the Draft EIR. Oral and/or written comments also may be presented at the Public Scoping Meeting. The Public Scoping Meeting will be held online on:

Comments in response to this NOP will be accepted through 5 p.m. Tuesday, August 24, 2022 and may be submitted by mail or email to the addresses below:

Please send your written comments to:

Attn: Jeremy Shaw.

Fresno County Department of Public Works and Planning

Development Services and Capital Projects Division

2220 Tulare Street, Sixth Floor

Fresno, CA 93721

Phone: (559) 600-4204 Fax: (559) 600-4200

Email: [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)



E252310000256

# County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING  
STEVEN E. WHITE, DIRECTOR

## NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL IMPACT REPORT FOR KEY ENERGY STORAGE PROJECT  
STATE CLEARINGHOUSE NO. 2022070414; FRESNO COUNTY EIR 8/189

**FILED**  
SEP 20 2023  
TIME 1:21 pm  
FRESNO COUNTY CLERK  
DEPUTY

**LEAD AGENCY:** Fresno County

**PROJECT TITLE:** Draft Environmental Impact Report (EIR) for the Key Energy Storage Project

**PROJECT LOCATION:** The Project site is in western Fresno County, approximately 0.4 mile east of Interstate 5 (I-5), immediately south of West Jayne Avenue, and between I-5 and South Lassen Avenue (State Route 269) and adjacent to PG&E's existing Gates Substation. Nearby communities include Huron (4 miles to the northeast), Avenal (7.5 miles to the south), and Coalinga (11.5 miles to the west). The 260-acres site is within the approximately 318 acres consisting of Fresno County Assessor Parcel Numbers: 085-040-58, 085-040-36, and 085-040-37.

**PROJECT DESCRIPTION:** Key Energy Storage, LLC has applied to the Fresno County Department of Public Works and Planning for a Conditional Use Permit No. 3734 to construct, operate, maintain, and decommission an energy storage facility. Project build-out would be phased. At full build-out, the Project would have capacity to store up to 3 gigawatts of energy during times of excess generation and dispatch it into the existing electrical grid later when needed. The Project would receive energy (charge) from the point of interconnection (POI) with the regional electric transmission system at PG&E's existing Gates Substation, store energy, and then deliver energy (discharge) back to the POI. The Project would consist of batteries using lithium-ion or lithium-ion and iron-flow storage technology. To interconnect the Project, Key Energy Storage, LLC and PG&E would construct, operate, and maintain a new 2,500-foot-long (up to 0.5-mile) 500-kilovolt transmission line, mostly on substation property, between the Gates Substation and the Project site. This line would be installed on new lattice steel towers, each up to 200 feet tall, which would be spaced at approximately 500-foot intervals. To accommodate the Project, PG&E also would modify existing infrastructure on the Gates Substation site and at the Midway Substation located approximately 63 miles southeast of the Project site in Buttonwillow, an unincorporated community in Kern County, California.

**SIGNIFICANT ENVIRONMENTAL EFFECTS:** The County of Fresno has prepared a Draft EIR analyzing the Project's potential environmental effects. The Project would have a less-than-significant impact (with or without mitigation measures) regarding: Aesthetics; Agriculture and Forestry Resources; Air Quality; Biological Resources; Cultural and Tribal Cultural Resources; Energy; Geology, Soils, and Paleontological Resources; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Noise and Acoustics; Transportation; Utilities and Service Systems; and Wildfire. No impact would result to Land Use and Planning, Mineral Resources, Population and Housing, Public Services, or Recreation.

E202310000256

**PUBLIC REVIEW:** A 45-day comment period for the Draft EIR begins Thursday, September 21, 2023 and ends at 5:00 p.m. Monday, November 6, 2023. Written comments should reference EIR 8189, Key Energy Storage Project. Include your name, address, and phone number or email address so we may contact you for clarification, if necessary. Send written comments to:

Fresno County Department of Public Works and Planning  
Development Services and Capital Projects Division  
ATTN: Jeremy Shaw, Planner  
2220 Tulare Street, Suite B Annex (below street level)  
SW Corner of Tulare and 'M' Street  
Fresno, CA 93721  
Email: [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)

**AVAILABILITY OF THE DRAFT EIR:** Copies of the Draft EIR are available for review at the following locations:

- Fresno County Public Works and Planning Department, 2220 Tulare Street, Fresno.
- Fresno County Main Library, Reference Department, 2420 Mariposa Street, Fresno.
- Huron Public Library, 36050 O St, Huron, CA 93234.

**Key Battery Storage Project-specific Distribution List**  
**CUP No. 3734; EIR No. 8189**

| <b>Delivery Method</b>   | <b>Agencies, Tribes, Other Stakeholders</b>  | <b>Contact</b>   | <b>Address</b>                   | <b>City, State, ZIP</b>     |
|--|--|--|----------------------------------|-----------------------------|
| <b>Project-specific recipients</b>   |  |  |                                  |                             |
| Email-only   | Fresno County  | Jeremy Shaw  | 2220 Tulare St. 6th Floor        | Fresno, CA 93721            |
| Email-only   | Fresno County  | David Randall  | 2220 Tulare St. 6th Floor        | Fresno, CA 93721            |
| Email-only   | Environmental Science Associates   | Janna Scott  | 787 The Alameda, Suite 250       | San Jose, CA 95126          |
| Email-only   | Environmental Science Associates   | Olivia Silverstein   | 550 Kearny St, Suite 800         | San Francisco, CA 94108     |
| Email-only   | NextEra  | Patti Murphy   |                                  |                             |
| Email-only   | NextEra  | Kaitlyn Toebe  |                                  |                             |
| Email-only   | NextEra  | Virginia Thompson  |                                  |                             |
| <b>Possible responsible agencies, trustee agencies, or potentially affected Federal agencies</b> |  |  |                                  |                             |
| Certified  | California Department of Conservation, Division of Land Resource Protection                  | Dennis O'Bryant  | 801 "K" Street - M/S 13-71       | Sacramento, CA 95814-3514   |
| Certified  | California Department of Conservation, Geologic Energy Management Division                   | Chris Jones, Acting District Deputy                                  | 801 "K" Street - M/S 18-05       | Sacramento, CA 95814-3514   |
| Certified  | California Department of Fish & Wildlife, Region 8   | Craig Bailey   | 1234 E. Shaw Avenue              | Fresno, CA 93710            |
| Certified  | California Department of Forestry and Fire Protection, Fresno-Kings Unit                     |  | 210 S. Academy Ave.              | Sanger, CA 93657-9306       |
| Certified  | California Department of Transportation, District 6  | Dave Padilla, Branch Chief, Transportation Planning – North          | P.O. Box 12616                   | Fresno, CA 93778-2616       |
| Certified  | California Energy Commission   | Terry O'Brien  | 1516 Ninth Street, MS-29         | Sacramento, CA 95814-5512   |
| Certified  | California Environmental Protection Agency, Department of Toxic Substance Control            | Dave Kereazis  | 1515 Tollhouse Road              | Clovis, CA 93612            |
| Certified  | California Highway Patrol  | Eric Walker, Captain   | 1380 E. Fortune Ave              | Fresno, CA 93725            |
| Certified  | California Native American Heritage Commission   | Katy Sanchez   | 1550 Harbor Boulevard, Suite 100 | West Sacramento, CA 95691   |
| Certified  | California Public Utilities Commission   | Mary Jo Borak  | 505 Van Ness Avenue              | San Francisco, CA 94102     |
| Certified  | California Regional Water Quality Control Board, Region 5                                    | Lewis Lummen   | 1685 E. Street                   | Fresno, CA 93706-2020       |
| Certified  | San Joaquin Valley Air Pollution Control District  | Arnaud Marjollet, Director of Permit Services                        | 1990 E. Gettysburg Avenue        | Fresno, CA 93726            |
| Certified  | Southern San Joaquin Valley Archaeological Info Center                                       | Celeste Thompson   | 9001 Stockdale Ave.              | Bakersfield, CA 93311-1099  |
| Certified  | State Office of Historic Preservation, Department of Parks & Recreation                      | Lucinda Woodward   | 1725 23rd Street, Ste. 100       | Sacramento CA 95816         |
| Certified  | United States Department of the Interior, Fish & Wildlife Services - Endangered Species Div. | Matthew J. Nelson, Wildlife Biologist/ Patricia Cole Division Superv | 2800 Cottage Way                 | Sacramento, CA 95825-1888   |
| Certified  | State Water Resources Control Board, Division of Drinking Water                              | Jose Robledo/Cinthia Reyes   | 265 W. Bullard, Suite 101        | Fresno, CA 93704            |
| <b>Native American Tribes</b>  |  |  |                                  |                             |
| US Mail  | Dumna Wo Wah   | Chris Acree  | 262 N. Glenn Avenue              | Fresno, CA 93701            |
| US Mail  | Dumna Wo Wah Government  | Robert Ledger, Tribal Chairman                                       | 2191 W. Pico                     | Fresno, CA 93705            |
| US Mail  | Picayune Rancharia of the Chukchansi Indians   | Heather Airey - Cultural Resources Director                          | PO Box 2226                      | Oakhurst, CA 93644          |
| US Mail  | Santa Rosa Rancharia Tachi Yokut Tribe   | Ruben Barrios, Tribal Chairman, c/o Cultural Department              | PO Box 8                         | Lemoore, CA 93245           |
| US Mail  | Table Mountain Rancharia   | Robert Pennell, Tribal Cultural Resources Director                   | P.O. BOX 410                     | Friant, CA 93626            |
| <b>Other agencies</b>  |  |  |                                  |                             |
| US Mail  | Central Valley Flood Protection Board  | Leslie Gallagher   | 3310 El Camino, Room LL40        | Sacramento, CA 95821        |
| US Mail  | City of Kerman, Community Development Department   | Jesus R. Orozco  | 850 S. Madera Avenue             | Kerman, CA 93630-1741       |
| US Mail  | City of Mendota, Planning and Community Development  | Cristian Gonzalez  | 643 Quince Street                | Mendota, CA 93640           |
| US Mail  | City of Huron  | John Kunkel, Interim City Manager                                    | 36311 S. Lassen Ave/P.O. Box 339 | Huron, CA 93234             |
| US Mail  | City of San Joaquin  | Lupe Estrada   | 21900 W Colorado Avenue          | San Joaquin, CA 93660       |
| US Mail  | Consolidated Mosquito Abatement District   | Steve Mulligan   | P.O. Box 784                     | Parlier, CA 93648           |
| US Mail  | Fresno Council of Governments  | Tory Boren   | 2035 Tulare St Ste 201           | Fresno CA 93721             |
| US Mail  | Fresno Metropolitan Flood Control District   | Frank Fowler   | 5469 E. Olive Avenue             | Fresno, CA 93727            |
| US Mail  | Golden Plains Unified School District  | Martin Macias, Superintendent  | 22000 Nevada Street              | San Joaquin, CA 93660       |
| US Mail  | James Irrigation District  | Manny Amorelli, Manager/ Donna Hanneman, Exc Assistant               | P.O. Box 757                     | San Joaquin, CA 93660       |
| US Mail  | Kings Basin Water Authority  |  | 4886 E. Jensen Avenue            | FRESNO, CA 93725            |
| US Mail  | Kings River Conservation District  |  | 4886 E. Jensen Avenue            | Fresno, CA 93725            |
| US Mail  | Mendota Unified School District  | Paul Peschel, General Manager  | 115 McCabe Ave.                  | Mendota, CA 93640           |
| US Mail  | NAVFACSW INTERGOVERNMENTAL BRANCH  | Dr. Paul Lopez, Superintendent                                       | 1220 Pacific Highway             | SAN DIEGO, CA 92132         |
| US Mail  | State of California Reclamation Board  |  | P.O. Box 942836                  | Sacramento, CA 94236        |
| US Mail  | Tranquillity Irrigation District   | Liz Reeves   | Box 487                          | Tranquillity, CA 93668      |
| US Mail  | Tranquillity Resource Conservation District  | Danny Wade   | PO Box 487                       | Tranquillity, CA 93668-0487 |
| US Mail  | United State Department of Agriculture, Natural Resources Conservation Service               | David Durnham  | 4625 W. Jennifer, Suite 125      | Fresno, CA 93722            |
| US Mail  | United States Army Corp of Engineers, Sacramento District                                    | Kathy Norton   | 1325 J Street, Room 1350         | Sacramento CA 95814-2922    |
| US Mail  | United States Environmental Protection Agency Region 9                                       | Dawn Richmond  | 75 Hawthorne Street (WTR-9)      | San Francisco, CA 94105     |
| US Mail  | Westlands Water District   | Russ Freeman/ Jose Gutierrez   | P.O. Box 6056                    | Fresno, CA 93703-6056       |

|         |  |                      |               |                                    |
|---------|--|----------------------|---------------|------------------------------------|
| US Mail | Westlands Water District (Westside Subbasin GSA) | Kiti Buelna Campbell | PO Box 6056   | Fresno, CA 93703                   |
| US Mail | Westside Resources Conservation District         |                      | P.O. Box 6079 | Tranquility, California 93624-0038 |

**Other stakeholders and special interests**

|         |  |   |                              |                                    |
|---------|--|---|------------------------------|------------------------------------|
| US Mail | Adams Broadwell Joseph & Cardozo                   | Maya Smith  | 601 Gateway Blvd, Suite 1000 | South San Francisco, CA 94080-7037 |
| US Mail | Laborers Intl Union of N. America, Local Union 294 |   | 1939 Harrison St Suite 150   | Oakland, CA 94612                  |
| US Mail | Lozeau Drury, LLP                                  | R. Drury, M. Lozeau, T. Rettinghouse, S. Osborne, H. Hughes, K. T | 1939 Harrison St Suite 150   | Oakland, CA 94612                  |
| US Mail | Downey Brand LLP                                   | C/O Nicole Bigley   | 621 Capitol Mall, 18th Floor | Sacramento, CA 95814               |
| US Mail | Ann Dresick Family Trust                           |   | PO BOX 1260                  | Huron, CA 93234                    |
| US Mail | Rebecca Avellar Turst                              |   | 466 W FALLBROOK #107         | Fresno, CA 93711                   |
| US Mail | Key Energy Storage, LLC                            |   | 700 Universe Blvd.           | June Beach, FL 33408               |
| US Mail | John Dresick                                       |   | PO BOX 1260                  | Huron, CA 93234                    |
| US Mail | Rebecca Kaser                                      |   | 466 W FALLBROOK #107         | Fresno, CA 93711                   |

| EIR 8189 17 SurPOs by 1 mile      | APN:s 085-040-58S, 36S, 37S    | 7/11/2022              | 19                   |             |
|-----------------------------------|--------------------------------|------------------------|----------------------|-------------|
| SAJE FARMING CO II LP             |                                | P O BOX 1260           | HURON CA 93234       | Surrounding |
| NICHOLS THOMAS E JR               |                                | P O BOX 420            | FARWELL TX 79325     | Surrounding |
| WOLF CHRISTOPHER R TRUSTEE        | DELAWARE ANNE A TRUSTEE ETAL   | 7041 N VAN NESS        | FRESNO CA 93711      | Surrounding |
| COELHO JOE JR TRUSTEE             | JACT I LLC ETALC/O J COELHO    | 1615 E WOOD            | LATON CA 93242       | Surrounding |
| SAJE FARMING CO LP                |                                | P O BOX 1260           | HURON CA 93234       | Surrounding |
| WOLF CHRISTOPHER R TRUSTEE (LAND) | DELAWARE ANNE A TRUSTEE (LAND) | 7041 N VAN NESS        | FRESNO CA 93711      | Surrounding |
| ANDREWS NANCY R                   |                                | 772 OCEAN AVE          | CAYUCOS CA 93430     | Surrounding |
| NAGRA SUKHBIR S & PARAMJEET K     |                                | 202 SAGE SPARROW CIR   | VACAVILLE CA 95687   | Surrounding |
| DRESICK MICHELLE L TRUSTEE        |                                | P O BOX 1260           | HURON CA 93234       | Surrounding |
| KASER REBECCA L TRS               |                                | 466 W FALLBROOK #107   | FRESNO CA 93711      | Surrounding |
| DRESICK JOHN E TRUSTEE            |                                | P O BOX 1260           | HURON CA 93234       | Surrounding |
| BOYCE LAND CO INC                 | C/O A BOYCE                    | 2133 GARDEN VIEW LN    | WEDDINGTON NC 28104  | Surrounding |
| WOLF CHRISTOPHER R TRUSTEE        | DELAWARE ANNE A TRUSTEE        | 7041 N VAN NESS        | FRESNO CA 93711      | Surrounding |
| CALIFLAND CORPORATION             | C/O SUN GRAPE MKTG             | P O BOX 870            | VISALIA CA 93279     | Surrounding |
| CHEVRON USA INC                   | C/O PROPERTY TAX DEPT          | P O BOX 1392           | BAKERSFIELD CA 93302 | Surrounding |
| GONELLA NEIL                      |                                | 11454 HARVEY PETTIT RD | LE GRAND CA 95333    | Surrounding |
| WOLF MICHAEL T TRUSTEE            |                                | 7031 N VAN NESS        | FRESNO CA 93711      | Surrounding |
| Ann Dresick Family Trust          |                                | PO BOX 1260            | Huron, CA 93234      | O           |
| Rebecca Avellar Turst             |                                | 466 W FALLBROOK #107   | Fresno, CA 93711     | O           |
| John Dresick                      |                                | PO BOX 1260            | Huron, CA 93234      | R           |
| Rebecca Kaser                     |                                | 466 W FALLBROOK #107   | Fresno, CA 93711     | R           |



**Subject:** FW: Key Energy Storage Project/RE: CEQA Comment Period Extension Request

**Importance:** High

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**From:** Shaw, Jeremy

**Sent:** Thursday, November 16, 2023 3:30 PM

**To:** Aidan P. Marshall <[amarshall@adamsbroadwell.com](mailto:amarshall@adamsbroadwell.com)>

**Cc:** Potthast, Joseph <[jpotthast@fresnocountyca.gov](mailto:jpotthast@fresnocountyca.gov)>; Avalos, Michelle <[mavalos@fresnocountyca.gov](mailto:mavalos@fresnocountyca.gov)>

**Subject:** RE: Key Energy Storage Project/RE: CEQA Comment Period Extension Request

**Importance:** High

Good afternoon Mr. Marshall,

The County has reviewed your request for the time extension to review the Draft EIR for the Key Energy Storage Project. We disagree that the County failed to provide access to the reference materials during the public review period, as the Draft EIR along with appendices and references were available in hard copy at two public library locations addressed in the Notice of Availability, and here in the Development Services Office, as per CEQA requirements. Nonetheless, we will extend the public review period for 15 calendar days effective November 7, 2023, ending at 5:00 p.m. Pacific Standard Time on November 21, 2023.

Sincerely,



**Jeremy Shaw | Planner**

**Department of Public Works and Planning |  
Development Services and Capital Projects Division**

2220 Tulare St. 6th Floor Fresno, CA 93721

Main Office: (559) 600-4230 Direct: (559) 600-4207

Email: [jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)

[Your input matters! Customer Service Survey](#)

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**From:** Aidan P. Marshall <[amarshall@adamsbroadwell.com](mailto:amarshall@adamsbroadwell.com)>

**Sent:** Thursday, November 02, 2023 2:51 PM

**To:** Shaw, Jeremy <[jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)>

**Cc:** Potthast, Joseph <[jpotthast@fresnocountyca.gov](mailto:jpotthast@fresnocountyca.gov)>; Avalos, Michelle <[mavalos@fresnocountyca.gov](mailto:mavalos@fresnocountyca.gov)>

**Subject:** RE: Key Energy Storage Project/RE: CEQA Comment Period Extension Request

Hi Jeremy,

Has the County finished reviewing our request to extend the public review period? The public comment period closes in two business days on November 6<sup>th</sup>, and the County is only providing access to the DEIR reference documents today. Per my prior correspondence, CEQA requires DEIR reference documents to be made available for public review throughout the public review period. We respectfully request the County approve our extension request as soon as possible. Please let me know if you have any questions.

Best,

Aidan

Aidan P. Marshall  
Adams Broadwell Joseph & Cardozo  
601 Gateway Boulevard, Suite 1000  
South San Francisco, CA 94080  
(650) 589-1660  
[amarshall@adamsbroadwell.com](mailto:amarshall@adamsbroadwell.com)

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**From:** Shaw, Jeremy <[jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)>  
**Sent:** Tuesday, October 31, 2023 4:46 PM  
**To:** Aidan P. Marshall <[amarshall@adamsbroadwell.com](mailto:amarshall@adamsbroadwell.com)>  
**Cc:** Potthast, Joseph <[jpotthast@fresnocountyca.gov](mailto:jpotthast@fresnocountyca.gov)>; Avalos, Michelle <[mavalos@fresnocountyca.gov](mailto:mavalos@fresnocountyca.gov)>  
**Subject:** Key Energy Storage Project/RE: CEQA Comment Period Extension Request  
**Importance:** High

 [Key References](#)

Good afternoon Aiden,

We will review your request for an extension of time on the public review period. In the meantime, please utilize the above link to access the requested reference materials.

Thank you.

Sincerely,



**Jeremy Shaw | Planner**  
**Department of Public Works and Planning |**  
**Development Services and Capital Projects Division**  
2220 Tulare St. 6th Floor Fresno, CA 93721  
Main Office: (559) 600-4230 Direct: (559) 600-4207  
Email: [jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)  
[Your input matters! Customer Service Survey](#)

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**From:** Aidan P. Marshall <[amarshall@adamsbroadwell.com](mailto:amarshall@adamsbroadwell.com)>  
**Sent:** Tuesday, October 31, 2023 11:36 AM  
**To:** Shaw, Jeremy <[jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)>  
**Subject:** CEQA Comment Period Extension Request

Hi Jeremy,

Thank you for taking my call. Below is correspondence between our paralegal and the County regarding our two records requests. It appears that our request for access to documents referenced in the DEIR, made pursuant to CEQA, was mistakenly closed.

To summarize the issue (described more thoroughly in the attached letter), the EIR relies on numerous reference documents that have not been made available during the public comment period. CEQA requires that "all documents referenced" – and the CEQA Guidelines require that "all documents incorporated by reference" – in a draft

environmental impact report shall be “readily accessible to the public during the lead agency’s normal working hours” during the entire public comment period. [Pub. Resources Code § 21092(b)(1); 14 C.C.R. § 15072(g)(4); see *Ultramar v. South Coast Air Quality Man. Dist.* (1993) 17 Cal.App.4th 689, 699.]. Since the reference documents were not made available during the public comment period, we request the County extend the public review and comment period on the DEIR for at least 45 days from the date on which the County releases all reference documents for public.

Since the public comment period concludes on September 6<sup>th</sup> (four business days from now), we request the County approve our extension request as soon as possible.

Please let me know if you have any questions.

Best,  
Aidan

Aidan P. Marshall  
Adams Broadwell Joseph & Cardozo  
601 Gateway Boulevard, Suite 1000  
South San Francisco, CA 94080  
(650) 589-1660  
[amarshall@adamsbroadwell.com](mailto:amarshall@adamsbroadwell.com)

---

**From:** Yang, Ahla <[ahlayang@fresnocountyca.gov](mailto:ahlayang@fresnocountyca.gov)>  
**Sent:** Thursday, October 26, 2023 1:08 PM  
**To:** Alexandra E. Stukan <[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)>  
**Subject:** RE: Confirming PRA received by the County of Fresno -

Hi Alexandra,

I will follow up with PWP staff on 23-891 as well. I see that the task was closed, as it was erroneously identified as a “duplicate” of 23-854. I apologize for the inconvenience. This was the sort of confusion I was trying to avoid previously. I have reopened it, and will notify PWP staff.

To answer your second question, Requesters do have the ability to make a comments and ask questions directly to the PRA request task. If you make a comment or ask a question in the NextRequest system, the comment will be posted to the actual PRA request, tracked within the system, and the staff assigned to the request will be notified.



**Ahla Yang** | Senior Administrative Analyst  
County Administrative Office  
2281 Tulare St., Suite 304, Fresno, CA 93721  
Main Office: (559) 600-1710 Direct: (559) 600-1227  
*Providing excellent public services to our diverse community*



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**From:** Alexandra E. Stukan <[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)>  
**Sent:** Thursday, October 26, 2023 12:18 PM  
**To:** Yang, Ahla <[ahlayang@fresnocountyca.gov](mailto:ahlayang@fresnocountyca.gov)>  
**Subject:** RE: Confirming PRA received by the County of Fresno -

Hi Ahla,

Sounds good, thank you! We also have an open request #23-891, would you mind checking on that one also? If there's another person in Public Works and Planning I should contact instead for updates in the future, please let me know.

Thanks!  
Alex

---

**From:** Yang, Ahla <[ahlayang@fresnocountyca.gov](mailto:ahlayang@fresnocountyca.gov)>  
**Sent:** Thursday, October 26, 2023 12:06 PM  
**To:** Alexandra E. Stukan <[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)>  
**Subject:** RE: Confirming PRA received by the County of Fresno -

Good afternoon Alexandra,

Of the records I can find for you, I see request number 23-854 open, in "Overdue" status, pertaining to 624-004j.

I do not have an ETA for you, as the Department of Public Works and Planning is assigned to this task. I will follow up with them.

Please confirm if there are any different requests you are awaiting for.



**Ahla Yang** | Senior Administrative Analyst

County Administrative Office

2281 Tulare St., Suite 304, Fresno, CA 93721

Main Office: (559) 600-1710 Direct: (559) 600-1227

*Providing excellent public services to our diverse community*



---

**From:** Alexandra E. Stukan <[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)>  
**Sent:** Thursday, October 26, 2023 12:01 PM  
**To:** Yang, Ahla <[ahlayang@fresnocountyca.gov](mailto:ahlayang@fresnocountyca.gov)>  
**Subject:** RE: Confirming PRA received by the County of Fresno -

Good afternoon, Ahla,

I hope you're doing well! Would you happen to have an estimated timeframe for a response to our requests?

Thanks!  
Alex

---

**From:** Yang, Ahla <[ahlayang@fresnocountyca.gov](mailto:ahlayang@fresnocountyca.gov)>  
**Sent:** Thursday, October 12, 2023 3:33 PM  
**To:** Alexandra E. Stukan <[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)>  
**Subject:** RE: Confirming PRA received by the County of Fresno -

Thank you Alex! Much appreciated. And please do not hesitate to contact me if you ever have any questions or require assistance.



**Ahla Yang** | Senior Administrative Analyst

**County Administrative Office**

2281 Tulare St., Suite 304, Fresno, CA 93721

Main Office: (559) 600-1710 Direct: (559) 600-1227

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---

**From:** Alexandra E. Stukan <[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)>

**Sent:** Thursday, October 12, 2023 2:10 PM

**To:** Yang, Ahla <[ahlayang@fresnocountyca.gov](mailto:ahlayang@fresnocountyca.gov)>

**Subject:** RE: Confirming PRA received by the County of Fresno -

Hi Ahla,

Not a problem, I'll make a note to include you on all future requests. I don't think the possibility of your replacement would be an issue – if you're not the one responding to me, I'll probably figure it out.

Thank you so much for your help with this!

Alex

---

**From:** Yang, Ahla <[ahlayang@fresnocountyca.gov](mailto:ahlayang@fresnocountyca.gov)>

**Sent:** Thursday, October 12, 2023 1:25 PM

**To:** Alexandra E. Stukan <[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)>

**Subject:** RE: Confirming PRA received by the County of Fresno -

Alex,

That is a great suggestion and would be extremely helpful. The only future issue I can think of, is in the event that I am replaced as the PRA Coordinator for the County, however we can cross that bridge when we get there, and I can update you should that happen.

Yes, if you can include me as a CC in any PRA requests sent to the County, it would allow me to keep tabs on which of your requests are current vs duplicates.

Thank you.



**Ahla Yang** | Senior Administrative Analyst

**County Administrative Office**

2281 Tulare St., Suite 304, Fresno, CA 93721

Main Office: (559) 600-1710 Direct: (559) 600-1227

*Providing excellent public services to our diverse community*



---

**From:** Alexandra E. Stukan <[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)>  
**Sent:** Thursday, October 12, 2023 1:18 PM  
**To:** Yang, Ahla <[ahlayang@fresnocountyca.gov](mailto:ahlayang@fresnocountyca.gov)>  
**Subject:** RE: Confirming PRA received by the County of Fresno -

Hi Ahla,

Thank you so much, I really appreciate you reaching out about this. You're correct, only one of the documents was submitted to the online portal when both should have been. That's entirely my mistake, thank you for pointing it out. Sometimes I submit so many requests in a day, they all start to look the same.

Would you like me to include you on future emails when we send notice about records requests? I'd be more than happy to do so if you think it would reduce any future confusion.

I really appreciate your help with this.

Sincerely,  
Alex

Alex Stukan  
Paralegal  
Adams Broadwell Joseph & Cardozo  
601 Gateway Boulevard, Suite 1000  
South San Francisco, CA 94080  
Phone (650) 589-1660  
Fax (650) 589-5062  
[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)

---

**From:** Yang, Ahla <[ahlayang@fresnocountyca.gov](mailto:ahlayang@fresnocountyca.gov)>  
**Sent:** Thursday, October 12, 2023 1:12 PM  
**To:** Alexandra E. Stukan <[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)>  
**Subject:** RE: Confirming PRA received by the County of Fresno -

Alex,

After I had sent you the below email, I did find Request #23-854 in our NextRequest system, for the document numbered 6241-004j, so I did not create a new request for that item.

For the document with the number 6241-003j, I could not locate an existing record, so a new NextRequest number #23-891, was assigned. You should have received an email notification for that request.

As an FYI to you, when these items are sent by US mail, email, or in any other manner to departments, including when sent in duplicate to multiple departments (such as to PWP, Clerk, to the Board, etc.), all the requests make their way back to me, so that I can verify that they are entered into NextRequest.

As you imagine, things can get a little mixed up at first, so thank you for circling back to confirm the number of requests.

I'll continue to reach out in the future should there be any clarification needed.



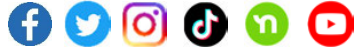
**Ahla Yang | Senior Administrative Analyst**

**County Administrative Office**

2281 Tulare St., Suite 304, Fresno, CA 93721

Main Office: (559) 600-1710 Direct: (559) 600-1227

*Providing excellent public services to our diverse community*



---

**From:** Alexandra E. Stukan <[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)>  
**Sent:** Thursday, October 12, 2023 12:18 PM  
**To:** Yang, Ahla <[ahlayang@fresnocountyca.gov](mailto:ahlayang@fresnocountyca.gov)>  
**Subject:** RE: Confirming PRA received by the County of Fresno -

**CAUTION!!! - EXTERNAL EMAIL - THINK BEFORE YOU CLICK**

Hi Ahla,

It seems like there was an issue with the first email sent, hence why our Legal Admin tried to recall it and then sent the second one. These are the same request, just sent twice due to a mistake.

I did submit the request through the online portal – our request number is 23-854. I received an acknowledgment message stating that we would receive a response in 10 days. Please do not open another online request for this project.

Please let me know if you have any questions.

Sincerely,  
Alex

Alex Stukan  
Paralegal  
Adams Broadwell Joseph & Cardozo  
601 Gateway Boulevard, Suite 1000  
South San Francisco, CA 94080  
Phone (650) 589-1660  
Fax (650) 589-5062  
[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)

---

**From:** Yang, Ahla <[ahlayang@fresnocountyca.gov](mailto:ahlayang@fresnocountyca.gov)>  
**Sent:** Thursday, October 12, 2023 9:52 AM  
**To:** Alexandra E. Stukan <[astukan@adamsbroadwell.com](mailto:astukan@adamsbroadwell.com)>  
**Subject:** Confirming PRA received by the County of Fresno -

Alex,

The Fresno County Clerk to the Board, forwarded me what I believe to be two (2) public records requests from your office, dated October 3, 2023.

There were several emails, including some recall notices, and some duplicate requests.

I also notice that these two requests state "Via Online Portal", however I am unable to locate these requests in the County's NextRequest system. As such, I will be entering them into the system. I apologize if there is any duplication, as I try to organize these request.

Please confirm if there were any additional requests that I have not captured here in your latest request. I have the above 2 requests, that I will be entering into our Next Request PRA system.



**Ahla Yang | Senior Administrative Analyst**

**County Administrative Office**

2281 Tulare St., Suite 304, Fresno, CA 93721

Main Office: (559) 600-1710 Direct: (559) 600-1227

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# Appendix B

## **Recipients of the Final EIR**



Key Battery Storage Project-specific Distribution List  
CUP No. 3734; EIR No. 8189

| Delivery Method  | Agencies, Tribes, Other Stakeholders   | Contact  | Address                              | City, State, ZIP           | Email  | Email NOP notification | Scoping Input Rec'd | Comments on DEIR |
|--|--|--|--------------------------------------|----------------------------|--|------------------------|---------------------|------------------|
| <b>Project-specific recipients</b>   |  |  |                                      |                            |  |                        |                     |                  |
| Email-only   | Fresno County  | Jeremy Shaw  | 2220 Tulare St. 6th Floor            | Fresno, CA 93721           | <a href="mailto:jshaw@fresnocounty.ca.gov">jshaw@fresnocounty.ca.gov</a>   | 7/25/2022              |                     |                  |
| Email-only   | Fresno County  | David Randall  | 2220 Tulare St. 6th Floor            | Fresno, CA 93721           | <a href="mailto:drandall@fresnocounty.ca.gov">drandall@fresnocounty.ca.gov</a>   | 7/25/2022              |                     |                  |
| Email-only   | Environmental Science Associates   | Janna Scott  | 787 The Alameda, Suite 250           | San Jose, CA 95126         | <a href="mailto:jscott@esassoc.com">jscott@esassoc.com</a>   | 7/25/2022              |                     |                  |
| Email-only   | Environmental Science Associates   | Olivia Silverstein   | 550 Kearny St, Suite 800             | San Francisco, CA 94108    | <a href="mailto:Osilverstein@esassoc.com">Osilverstein@esassoc.com</a>   | 7/25/2022              |                     |                  |
| Email-only   | NextEra  | Patti Murphy   |                                      |                            | <a href="mailto:patti.murphy@nexteraenergy.com">patti.murphy@nexteraenergy.com</a>   | 7/25/2022              |                     |                  |
| Email-only   | NextEra  | Kaitlyn Toebe  |                                      |                            | <a href="mailto:kaitlyn.toebe@nexteraenergy.com">kaitlyn.toebe@nexteraenergy.com</a>   | 7/25/2022              |                     |                  |
| Email-only   | NextEra  | Virginia Thompson  |                                      |                            | <a href="mailto:virginia.thompson@nexteraenergy.com">virginia.thompson@nexteraenergy.com</a>   | 7/25/2022              |                     |                  |
| <b>Possible responsible agencies, trustee agencies, or potentially affected Federal agencies</b> |  |  |                                      |                            |  |                        |                     |                  |
| Certified  | California Department of Conservation, Division of Land Resource Protection                  | Dennis O'Bryant  | 801 "K" Street - M/S 13-71           | Sacramento, CA 95814-3514  | <a href="mailto:dbrp@conservation.ca.gov">dbrp@conservation.ca.gov</a>   | 7/25/2022              | 7/29/2022           |                  |
| Certified  | California Department of Conservation, Geologic Energy Management Division                   | Chris Jones, Acting District Deputy                                  | 715 P Street, MS 1803                | Sacramento, CA 95814       | <a href="mailto:Victor.Medrano@conservation.ca.gov">Victor.Medrano@conservation.ca.gov</a>   | 7/25/2022              | 7/27/2022           | 9/27/2023        |
| Certified  | California Department of Fish & Wildlife, Central Region (Region 8)                          | Julie A. Vance, Regional Manager                                     | 1234 E. Shaw Avenue                  | Fresno, CA 93710           | <a href="mailto:craig.bailey@wildlife.ca.gov">craig.bailey@wildlife.ca.gov</a> ,<br><a href="mailto:Kelley.Nelson@wildlife.ca.gov">Kelley.Nelson@wildlife.ca.gov</a> ,<br><a href="mailto:R4CEQA@wildlife.ca.gov">R4CEQA@wildlife.ca.gov</a> | 7/25/2022              | 9/2/2022            | 11/27/2023       |
| Certified  | California Department of Forestry and Fire Protection, Fresno-Kings Unit                     |  | 210 S. Academy Ave.                  | Sanger, CA 93657-9306      | <a href="mailto:FKU.Prevention-Planning@fire.ca.gov">FKU.Prevention-Planning@fire.ca.gov</a>   | 7/25/2022              |                     |                  |
| Certified  | California Department of Transportation, District 6  | Dave Padilla, Branch Chief, Transportation Planning – North          | 1352 West Olive Avenue (P.O. Box 12) | Fresno, CA 93778-2616      | <a href="mailto:dave.padilla@dot.ca.gov">dave.padilla@dot.ca.gov</a> ,<br><a href="mailto:edgar.hernandez@dot.ca.gov">edgar.hernandez@dot.ca.gov</a> ,<br><a href="mailto:Christopher.Xiong@dot.ca.gov">Christopher.Xiong@dot.ca.gov</a>     | 7/25/2022              | 8/24/2022           | 11/21/2023       |
| Certified  | California Energy Commission   | Terry O'Brien  | 1516 Ninth Street, MS-29             | Sacramento, CA 95814-5512  |  |                        |                     |                  |
| Certified  | California Environmental Protection Agency, Department of Toxic Substance Control            | Dave Kerezais  | 1515 Tollhouse Road                  | Clovis, CA 93612           | <a href="mailto:dave.kerezais@dtsc.ca.gov">dave.kerezais@dtsc.ca.gov</a>   | 7/25/2022              |                     |                  |
| Certified  | California Highway Patrol  | Eric Walker, Captain   | 1380 E. Fortune Ave                  | Fresno, CA 93725           |  |                        |                     |                  |
| Certified  | California Native American Heritage Commission   | Katy Sanchez   | 1550 Harbor Boulevard, Suite 100     | West Sacramento, CA 95691  | <a href="mailto:Cameron.Vela@nahc.ca.gov">Cameron.Vela@nahc.ca.gov</a>   |                        | 7/22/2022           |                  |
| Certified  | California Public Utilities Commission   | Mary Jo Borak  | 505 Van Ness Avenue                  | San Francisco, CA 94102    | <a href="mailto:bor@cpuc.ca.gov">bor@cpuc.ca.gov</a> ,<br><a href="mailto:Roxanne.Henriquez@cpuc.ca.gov">Roxanne.Henriquez@cpuc.ca.gov</a>   | 7/25/2022              |                     |                  |
| Certified  | California Regional Water Quality Control Board, Region 5                                    | Lewis Lummen   | 1685 E. Street                       | Fresno, CA 93706-2020      | <a href="mailto:centralvalleyfresno@waterboards.ca.gov">centralvalleyfresno@waterboards.ca.gov</a> ,<br><a href="mailto:Lewis.Lummen@waterboards.ca.gov">Lewis.Lummen@waterboards.ca.gov</a>   | 7/25/2022              |                     |                  |
| Certified  | San Joaquin Valley Air Pollution Control District  | Brian Clements, Director of Permit Services                          | 1990 E. Gettysburg Avenue            | Fresno, CA 93726           | <a href="mailto:ceqa@valleyair.org">ceqa@valleyair.org</a> , <a href="mailto:keanu.morin@valleyair.org">keanu.morin@valleyair.org</a> ,<br><a href="mailto:Matt.Crow@valleyair.org">Matt.Crow@valleyair.org</a>                              | 7/25/2022              | 8/24/2022           | 11/6/2023        |
| Certified  | Southern San Joaquin Valley Archaeological Info Center                                       | Celeste Thompson   | 9001 Stockdale Ave.                  | Bakersfield, CA 93311-1099 | <a href="mailto:ssivic@csub.edu">ssivic@csub.edu</a>   | 7/25/2022              |                     |                  |
| Certified  | State Office of Historic Preservation, Department of Parks & Recreation                      | Lucinda Woodward   | 1725 23rd Street, Ste. 100           | Sacramento CA 95816        | <a href="mailto:lwoodward@parks.ca.gov">lwoodward@parks.ca.gov</a> ,<br><a href="mailto:Shannon.Pries@parks.ca.gov">Shannon.Pries@parks.ca.gov</a>   | 7/25/2022              |                     |                  |
| Certified  | United States Department of the Interior, Fish & Wildlife Services - Endangered Species Div. | Matthew J. Nelson, Wildlife Biologist/ Patricia Cole Division Superv | 2800 Cottage Way                     | Sacramento, CA 95825-1888  | <a href="mailto:matthew_nelson@fws.gov">matthew_nelson@fws.gov</a> ,<br><a href="mailto:patricia_cole@fws.gov">patricia_cole@fws.gov</a>   | 7/25/2022              |                     |                  |
| Certified  | State Water Resources Control Board, Division of Drinking Water                              | Jose Robledo/Cinthia Reyes   | 265 W. Bullard, Suite 101            | Fresno, CA 93704           | <a href="mailto:Jose.Robledo@Waterboards.ca.gov">Jose.Robledo@Waterboards.ca.gov</a> ,<br><a href="mailto:Cinthia.Reyes@Waterboards.ca.gov">Cinthia.Reyes@Waterboards.ca.gov</a>   | 7/25/2022              |                     |                  |
| <b>Native American Tribes</b>  |  |  |                                      |                            |  |                        |                     |                  |
| US Mail  | Dumna Wo Wah   | Chris Acree  | 262 N. Glenn Avenue                  | Fresno, CA 93701           | <a href="mailto:cacree@hotmail.com">cacree@hotmail.com</a>   | 7/25/2022              |                     |                  |
| US Mail  | Dumna Wo Wah Government  | Robert Ledger, Tribal Chairman                                       | 2191 W. Pico                         | Fresno, CA 93705           | <a href="mailto:ledgerrobert@ymail.com">ledgerrobert@ymail.com</a>   | 7/25/2022              |                     |                  |
| US Mail  | Picayune Rancheria of the Chukchansi Indians   | Heather Airey - Cultural Resources Director                          | PO Box 2226                          | Oakhurst, CA 93644         | <a href="mailto:hairey@chukchansi-nsn.gov">hairey@chukchansi-nsn.gov</a>   | 7/25/2022              |                     |                  |
| US Mail  | Santa Rosa Rancheria Tachi Yokut Tribe   | Ruben Barrios, Tribal Chairman, c/o Cultural Department              | PO Box 8                             | Lemoore, CA 93245          | <a href="mailto:SMcCarthy@tachi-yokut-nsn.gov">SMcCarthy@tachi-yokut-nsn.gov</a> , <a href="mailto:spowers@tachi-yokut-nsn.gov">spowers@tachi-yokut-nsn.gov</a>  | 7/25/2022              |                     |                  |
| US Mail  | Table Mountain Rancheria   | Robert Pennell, Tribal Cultural Resources Director                   | P.O. BOX 410                         | Friant, CA 93626           | <a href="mailto:rpennell@tmr.org">rpennell@tmr.org</a>   | 7/25/2022              |                     |                  |
| <b>Other agencies</b>  |  |  |                                      |                            |  |                        |                     |                  |
| US Mail  | Central Valley Flood Protection Board  | Leslie Gallagher   | 3310 El Camino, Room LL40            | Sacramento, CA 95821       |  |                        |                     |                  |
| US Mail  | City of Kerman, Community Development Department   | Jesus R. Orozco  | 850 S. Madera Avenue                 | Kerman, CA 93630-1741      | <a href="mailto:mcampos@cityofkerman.org">mcampos@cityofkerman.org</a>   |                        |                     |                  |
| US Mail  | City of Mendota, Planning and Community Development  | Cristian Gonzalez  | 643 Quince Street                    | Mendota, CA 93640          | <a href="mailto:cristian@cityofmendota.com">cristian@cityofmendota.com</a>   | 7/25/2022              |                     |                  |
| US Mail  | City of Huron  | John Kunkel, Interim City Manager                                    | 36311 S. Lassen Ave/P.O. Box 339     | Huron, CA 93234            | <a href="mailto:john@cityofhuron.com">john@cityofhuron.com</a>   | 7/25/2022              |                     |                  |
| US Mail  | City of San Joaquin  | Lupe Estrada   | 21900 W Colorado Avenue              | San Joaquin, CA 93660      |  | 7/25/2022              |                     |                  |
| US Mail  | Consolidated Mosquito Abatement District   | Steve Mulligan   | P.O. Box 784                         | Parlier, CA 93648          | <a href="mailto:smulligan@mosquitobuzz.net">smulligan@mosquitobuzz.net</a> ,<br><a href="mailto:jholeman@mosquitobuzz.net">jholeman@mosquitobuzz.net</a>   | 7/25/2022              |                     |                  |
| US Mail  | Fresno Council of Governments  | Tory Boren   | 2035 Tulare St Ste 201               | Fresno CA 93721            |  |                        |                     |                  |
| US Mail  | Fresno Metropolitan Flood Control District   | Frank Fowler   | 5469 E. Olive Avenue                 | Fresno, CA 93727           | <a href="mailto:developmentreview@fresnofloodcontrol.org">developmentreview@fresnofloodcontrol.org</a>   | 7/25/2022              |                     |                  |
| US Mail  | Golden Plains Unified School District  | Martin Macias, Superintendent  | 22000 Nevada Street                  | San Joaquin, CA 93660      | <a href="mailto:mmacias@gpsud.org">mmacias@gpsud.org</a>   | 7/25/2022              |                     |                  |
| US Mail  | James Irrigation District  | Manny Amorelli, Manager/ Donna Hanneman, Exc Assistant               | P.O. Box 757                         | San Joaquin, CA 93660      | <a href="mailto:manmorelli@jamesid.org">manmorelli@jamesid.org</a> ,<br><a href="mailto:dhanneman@jamesid.org">dhanneman@jamesid.org</a>   | 7/25/2022              |                     |                  |

|   |  |   |                                     |                                    |  |   |  |
|---|--|---|-------------------------------------|------------------------------------|--|---|--|
| US Mail   | Kings Basin Water Authority  |   | 4886 E. Jensen Avenue               | FRESNO, CA 93725                   |  |   |  |
| US Mail   | Kings River Conservation District  | Paul Peschel, General Manager                                   | 4886 E. Jensen Avenue               | Fresno, CA 93725                   |  | <a href="mailto:comments@krcd.org">comments@krcd.org</a>  | 7/25/2022                              |
| US Mail   | Mendota Unified School District  | Dr. Paul Lopez, Superintendent                                  | 115 McCabe Ave.                     | Mendota, CA 93640                  |  | <a href="mailto:plopez@mendotaschools.org">plopez@mendotaschools.org</a>  | 7/25/2022                              |
| US Mail   | NAVFACSW INTERGOVERNMENTAL BRANCH  |   | 1220 Pacific Highway                | SAN DIEGO, CA 92132                |  |   |  |
| US Mail   | State of California Reclamation Board  |   | P.O. Box 942836                     | Sacramento, CA 94236               |  |   | 7/25/2022                              |
| US Mail   | Tranquillity Irrigation District   | Liz Reeves  | Box 487                             | Tranquillity, CA 93668             |  | <a href="mailto:liz@trqid.com">liz@trqid.com</a>  | 7/25/2022                              |
| US Mail   | Tranquillity Resource Conservation District                                    | Danny Wade  | PO Box 487                          | Tranquillity, CA 93668-0487        |  | <a href="mailto:easyrider@netplc.net">easyrider@netplc.net</a>  | 7/25/2022                              |
| US Mail   | United State Department of Agriculture, Natural Resources Conservation Service | David Durham  | 4625 W. Jennifer, Suite 125         | Fresno, CA 93722                   |  |   |  |
| US Mail   | United States Army Corp of Engineers, Sacramento District                      | Kathy Norton  | 1325 J Street, Room 1350            | Sacramento CA 95814-2922           |  | <a href="mailto:kathy.norton@usace.army.mil">kathy.norton@usace.army.mil</a><br><a href="mailto:SPKRegulatoryMailbox@usace.army.mil">SPKRegulatoryMailbox@usace.army.mil</a>                            | 7/25/2022                              |
| US Mail   | United States Environmental Protection Agency Region 9                         | Dawn Richmond   | 75 Hawthorne Street (WTR-9)         | San Francisco, CA 94105            |  | <a href="mailto:richmond.dawn@epa.gov">richmond.dawn@epa.gov</a>  | 7/25/2022                              |
| US Mail   | Westlands Water District   | Russ Freeman, P.E., Deputy General Manager - Resources          | 286 W. Cromwell Ave (P.O. Box 5199) | Fresno, CA 93703-6056              |  | <a href="mailto:rffreeman@wwd.ca.gov">rffreeman@wwd.ca.gov</a> , <a href="mailto:jgutierrez@wwd.ca.gov">jgutierrez@wwd.ca.gov</a> ,<br><a href="mailto:pubaffairs@wwd.ca.gov">pubaffairs@wwd.ca.gov</a> | 7/25/2022                              |
|   |  |   |                                     |                                    |  |   | 11/6/2023                              |
| US Mail   | Westlands Water District (Westside Subbasin GSA)                               | Kiti Buelna Campbell  | PO Box 6056                         | Fresno, CA 93703                   |  | <a href="mailto:kcampbell@wwd.ca.gov">kcampbell@wwd.ca.gov</a>  | 7/25/2022                              |
| US Mail   | Westside Resources Conservation District                                       |   | P.O. Box 6079                       | Tranquility, California 93624-0038 |  |   |  |
| <b>Other stakeholders and special interests</b> |  |   |                                     |                                    |  |   |  |
| US Mail   | Adams Broadwell Joseph & Cardozo   | Aidan P. Marshall, Alex Stukan (Paralegal), Maya Smith          | 601 Gateway Blvd, Suite 1000        | South San Francisco, CA 94080-7037 |  | <a href="mailto:astukan@adamsbroadwell.com">astukan@adamsbroadwell.com</a>  | 11/6/2023, 10/30/2023<br>and 10/3/2023 |
| US Mail   | Laborers Intl Union of N. America, Local Union 294                             |   | 1939 Harrison St Suite 150          | Oakland, CA 94612                  |  |   |  |
| US Mail   | Lozeau Drury, LLP  | R. Drury, M. Lozeau, T. Rettinghouse, S. Osborne, H. Hughes, K. | 1939 Harrison St Suite 150          | Oakland, CA 94612                  |  | <a href="mailto:admin@lozeaudrury.com">admin@lozeaudrury.com</a>  | 7/25/2022                              |
| US Mail   | Downey Brand LLP   | C/O Nicole Bigley   | 621 Capitol Mall, 18th Floor        | Sacramento, CA 95814               |  | <a href="mailto:KingsRiverNotices@downeybrand.com">KingsRiverNotices@downeybrand.com</a>  | 7/25/2022                              |
| US Mail   | Ann Dresick Family Trust   |   | PO BOX 1260                         | Huron, CA 93234                    |  |   |  |
| US Mail   | Rebecca Avellar Turst  |   | 466 W FALLBROOK #107                | Fresno, CA 93711                   |  |   |  |
| US Mail   | Key Energy Storage, LLC  |   | 700 Universe Blvd.                  | June Beach, FI 33408               |  |   |  |
| US Mail   | John Dresick   |   | PO BOX 1260                         | Huron, CA 93234                    |  |   |  |
| US Mail   | Rebecca Kaser  |   | 466 W FALLBROOK #107                | Fresno, CA 93711                   |  |   |  |
| US Mail   | Defenders of Wildlife, California Program Office                               | Sophia Markowska, Senior California Representative              | P.O. Box 401                        | Folsom, CA 95763                   |  | <a href="mailto:Smarkowska@defenders.org">Smarkowska@defenders.org</a>  | 11/6/2023                              |
| US Mail   | Pacific Gas and Electric Company   | Danielle Wilson, Contract Senior Land Planner                   | 2730 Gateway Oaks Drive, Second Flo | Sacramento, CA 95833               |  | <a href="mailto:d1wz@pge.com">d1wz@pge.com</a>  | 11/6/2023                              |

# Appendix A

## Scoping Report



# KEY ENERGY STORAGE PROJECT

## Scoping Report

EIR No. 8189

CUP No. 3734

Prepared for  
County of Fresno Department of Public  
Works and Planning, Development  
Services and Capital Projects Division

October 2022



Cover Photograph: Aerial view of Assessor's Parcel Number (APN) 080-045-36S and APN 080-045-37S looking northeast toward APN 080-045-58S and PG&E's existing Gates Substation. Source: Key Energy Storage, LLC, 2021. Unclassified Conditional Use Permit Application for the Key Energy Storage Project in Fresno County. December 3, 2021.

# KEY ENERGY STORAGE PROJECT

## Scoping Report

EIR No. 8189

CUP No. 3734

Prepared for  
County of Fresno Department of  
Public Works and Planning,  
Development Services and Capital  
Projects Division

October 2022

787 The Alameda  
Suite 250  
San Francisco, CA 94126  
408.660.4000  
[www.esassoc.com](http://www.esassoc.com)



|              |               |              |
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| Delray Beach | Petaluma      | Sarasota     |
| Destin       | Portland      | Seattle      |
| Irvine       | Sacramento    | Tampa        |
| Los Angeles  | San Diego     |              |
| Oakland      | San Francisco |              |

202200028

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# SCOPING REPORT

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## Key Energy Storage Project

### 1. Introduction

This report provides an overview of the comments received by the Fresno County Department of Public Works and Planning, Development Services and Capital Projects Division (County) during the public scoping period for Environmental Impact Report (EIR) No. 8189, which the County is preparing for the Key Energy Storage Project (Project). The County is the lead agency pursuant to the California Environmental Quality Act (CEQA) and its implementing regulations (CEQA Guidelines).

CEQA Guidelines Section 15083 provides that a “Lead Agency may...consult directly with any person... it believes will be concerned with the environmental effects of the project.” Scoping is the process of early consultation with affected agencies and the public prior to completion of a Draft EIR. Section 15083(a) states that scoping can be “helpful to agencies in identifying the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in an EIR and in eliminating from detailed study issues found not to be important.” Scoping is an effective way to bring together and consider the concerns of affected State, regional, and local agencies, and other interested stakeholders (CEQA Guidelines §15083(b)). Scoping is not conducted to resolve differences concerning the merits of a project or to anticipate the ultimate decision on a proposal. Rather, the purpose of scoping is to determine the scope of information and analysis to be included in an EIR and, in this way, to ensure that an appropriately comprehensive and focused EIR will be prepared that provides an informed basis for decision-making. Comments not within the scope of CEQA will not be addressed through the CEQA process, but separately may be considered by the County as part of the decision-making process.

This report is intended for use by the County in preparing the EIR as formal documentation of initial input received regarding the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in the EIR. It also provides access for other agencies and stakeholders to comments received by the County during the scoping period.

### 2. Description of the Project

#### Project Summary

Key Energy Storage, LLC (Applicant) applied to the County for an Unclassified Conditional Use Permit (CUP No. 3734) to construct, operate, maintain, and decommission the Project. The Project could store 3 gigawatts of energy or more in modular enclosures. The specific storage

technology has not yet been selected. On-site project support facilities would include a collector substation, inverters with connection lines, heating ventilating and air conditioning (HVAC) units, fire suppression systems, transformers, fencing, access roads, a supervisory control and data acquisition system, and security lighting. Diesel generators may be needed for substation purposes or to power water pumps for the existing well on APN 085-040-58. The Project also includes an approximately 0.3-mile long, 500-kilovolt (kV) overhead generation tie line that would extend north to PG&E's existing Gates Substation. This line would be installed on new steel or concrete poles, each up to 150 feet tall and spaced at approximately 500-foot intervals. Project buildout would occur in four phases.

## Project Site

The Project would be developed on private property in unincorporated western Fresno County within the approximately 318-acre area that is comprised of APNs 085-040-58, 085-040-36, and 085-040-37. The site is located approximately 4 miles southwest of the City of Huron, 0.4 mile east of Interstate 5 (I-5), immediately south of W. Jayne Avenue, between I-5 and S. Lassen Avenue (State Route 269), and adjacent to the Gates Substation. The site is designated for Agriculture in the County's General Plan and included in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zoning District. It also is designated as Prime Farmland and enrolled in the Williamson Act program.

## 3. Pre-scoping Activities

On February 3, 2022, the County circulated Project application materials to 28 County entities, notifying them of its review of the application and for purposes of environmental effects as mandated by CEQA. The County Department of Public Works and Planning, Road Maintenance & Operations Division; other County agencies, and the Westlands Water District responded to this request for pre-scoping input.

Before initiating formal CEQA processes, the County consults with the four California Native American tribes that are traditionally and culturally affiliated with lands subject to the County's land use jurisdiction and that have requested in writing to be informed of CEQA projects to determine whether they may result in a significant impact to tribal cultural resources that may be undocumented or known only to the tribe and its members (Public Resources Code §21080.3.1(b)). The County initiated consultation with the Tribes for this Project by letter dated February 4, 2022. The Santa Rosa Rancheria Tachi-Yokut Tribe responded with a request to have tribal monitors on site for all ground disturbance related to the project and to have a curation agreement put into place, but did not request formal consultation. The other three Tribes did not provide a response to the County's February 4, 2022, letter.

## 4. Scoping Activities

### Notifications

On July 25, 2022, the County published and distributed a Notice of Preparation (NOP) to advise interested local, regional, state, and federal agencies, as well as the public, that an EIR would be prepared for the Project. The NOP was sent to a mailing list that included California Native American tribes; local, state, and federal agencies; the owners of property located within 1 mile of the Project site; and other stakeholders as well as the Governor’s Office of Planning and Research, State Clearinghouse. The NOP also was posted with the County Clerk and on the County’s website at: [www.co.fresno.ca.us/EIR](http://www.co.fresno.ca.us/EIR). The NOP and NOP mailing list are provided in **Exhibit A**, *Notice of Preparation and Mailing List*. The NOP solicited comments on the scope and content of the EIR. Agencies and members of the public were encouraged to submit their comments to the County by email or via U.S. post.

The NOP, including information about a public scoping meeting, also was emailed to all on the Project mailing list for whom the County had an email address, and published in a legal advertisement in *The Business Journal* on July 25, 2022. A copy of the email notification and legal notice are provided in **Exhibit B**, *Initial Email and Newspaper Notifications*. The notification provided basic Project information, the date, time, and participation information for a virtual public scoping meeting, and a brief explanation of the public scoping process.

On September 16, 2022, the County issued notification of a second meeting to accept additional input for the scoping process. The second notification was uploaded to the State Clearinghouse, and posted at the County Clerk’s Office and on the County’s website. It was sent via certified mail to potential responsible and trustee agencies, mailed via U.S. Post to others on the Project-specific mailing list, emailed to all on the mailing list for whom the County had an email address. The second notice also was published in *The Business Journal* on September 16, 2022. Copies of the legal notice and email notification for the second public scoping meeting are provided in **Exhibit C**, *Notification of Second Public Scoping Meeting*.

### Public Scoping Meetings

The County conducted the first of two virtual public scoping meetings on Tuesday, August 9, 2022, beginning at 2:30 p.m. The presentation included an overview of the Project, the County’s land use and permitting process, and the environmental review process. Meeting participants included: Jeremy Shaw and David Randall of Fresno County Department of Public Works and Planning, and Janna Scott and Steven Johnson of Environmental Science Associates. One member of the public called in to the scoping meeting; one other attended via the online meeting platform. No comments were received during the meeting. The County conducted a second virtual public scoping meeting on September 21, 2022, beginning at 10 a.m. A substantially similar presentation was given at both meetings. David Randall, Janna Scott, and Steven Johnson participated in the second meeting. Copies of both presentations and a transcript of the September 21, 2022, meeting are provided in **Exhibit D**, *Scoping Meeting Presentations and Transcript*.

## 5. Summary of Scoping Comments

The County received eight scoping letters between July 25 and September 30, 2022. All scoping comments received are documented in this Scoping Report and will be considered in the EIR. **Table 1** lists the names of commenting parties in the order in which the comments were received. The County has reviewed and relied upon the full text of the comment letters in preparing the EIR; summaries of the environmental issues raised are provided below for ease in review by other agencies and members of the public. The letters are provided in **Exhibit E, Scoping Letters**.

**TABLE 1  
PARTIES SUBMITTING COMMENTS DURING THE KEY ENERGY STORAGE PROJECT EIR SCOPING PROCESS**

| Name   | Organization/Affiliation  | Letter ID | Date              |
|--|---|-----------|-------------------|
| Cameron Vela, Cultural Resources Analyst                   | Native American Heritage Commission   | A         | July 22, 2022     |
| Jeff Kimber for William Long, Acting District Deputy       | California Department of Conservation Geologic Energy Management Division                 | B         | July 27, 2022     |
| Monique Wilber, Conservation Program Support Supervisor    | California Department of Conservation Division of Land Resource Protection                | C         | July 29, 2022     |
| David Padilla, Branch Chief Transportation Planning –North | California Department of Transportation   | D         | August 24, 2022   |
| Brian Clements, Director of Permit Services                | San Joaquin Valley Air Pollution Control District   | E         | August 24, 2022   |
| Matt Crow, Air Quality Specialist I                        | San Joaquin Valley Air Pollution Control District   | F         | August 24, 2022   |
| Annee Ferranti for Julie A. Vance, Regional Manager        | California Department of Fish and Wildlife  | G         | September 2, 2022 |
| Derek Chambers, MPA, Planner III                           | County of Fresno Development Services and Capital Projects Division, Policy Planning Unit | H         | September 7, 2022 |

Scoping input received by the County identifies potential impacts in the areas summarized below.

### Agriculture Resources

The California Department of Conservation Division of Land Resource Protection (the Department) and the County of Fresno Development Services and Capital Projects Division, Policy Planning Unit provided input regarding the Project’s potential impacts on agricultural resources. See Letter C and Letter H, respectively. The Department notes that the Project site is designated as Prime Farmland and subject to the Williamson Act program and suggests that the conversion of agricultural land represents a permanent reduction and thus a significant impact to California’s agricultural land resources. The Department recommends that the County consider agricultural conservation easements, among other measures, as potential mitigation. This can include restoration of some land not currently used as farmland, the outright purchase of easements, or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements. In addition to proposed mitigation measures, the Department recommends further discussion on the type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project. The Department further suggests that impacts to any

current or future agricultural operations in the vicinity that could lead to cumulative impacts should be discussed. The Project's compatibility with lands within an agricultural preserve and/or enrolled in a Williamson Act contract should be considered.

Both Letter C and Letter H specify the need for prior notice if the applicant wishes to submit a Williamson Act contract non-renewal and/or cancellation petition. Letter H also identifies Fresno County General Plan Policies from the Land Use Element that are applicable to the project.

## Air Quality

The San Joaquin Valley Air Pollution Control District (SJVAPCD) provided input regarding the Project's potential impact on air quality. See Letter E and Letter F, which provides a correction to Letter E. SJVAPCD requests that details be provided about activities that would result in the emission of pollutants relative to sensitive receptors and, more specifically, that emissions from construction and operation of the Project be identified, quantified, and compared to significance thresholds. If the Project is expected to have a significant impact, SJVAPCD recommends the EIR also include a discussion on the feasibility of implementing a Voluntary Emission Reduction Agreement (VERA) for the Project.

Letter E recommends that equipment exhaust as well as fugitive dust emissions be quantified, and that emissions analysis be performed using CalEEMod. The SJVAPCD recommends conducting a Health Risk Assessment to assess potential health impacts on surrounding receptors resulting from operational and multi-year construction toxic air contaminants (TACs) emissions, including from diesel exhaust. It is recommended that the Project should utilize the cleanest available off-road construction equipment, including the latest tier equipment to reduce emissions. Project related impacts on air quality should be reduced to levels of significance through incorporation of design elements such as the use of cleaner Heavy Heavy-Duty (HHD) trucks and vehicles, measures that reduce Vehicle Miles Traveled (VMTs), and measures that increase energy efficiency. SJVAPCD recommends the EIR also discuss whether the Project would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment.

Letter E also identifies SJVAPCD rules and regulations applicable to the Project, including: District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources, District Rule 9510 - Indirect Source Review (ISR), District Rule 4601 (Architectural Coatings), District Regulation VIII (Fugitive PM10 Prohibitions), District Rule 4102 (Nuisance), and District Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

## Biological Resources

Letter G, from the California Department of Fish and Wildlife (CDFW), states that special-status species have been documented in the study area per the California Natural Diversity Database (CNDDDB). These include, but are not limited to, the Federally endangered and State threatened San Joaquin kit fox, the State threatened Swainson's hawk, and the State species of special concern burrowing owl, and American badger. CDFW recommends that a qualified biologist conduct a habitat assessment during biological studies in support of the EIR in advance of Project

implementation to determine if the Project area or its immediate vicinity contains suitable habitat for any of the special-status species mentioned and what follow-up measures may be necessary. The Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes sections. CDFW also recommends the EIR address and fully analyze the use of pesticides, including the risk of secondary poisoning to native species caused by rodenticide use. The use of herbicides, rodenticides, or fertilizers on the Project area is restricted to those approved by the U.S. Environmental Protection Agency and the California Department of Pesticide Regulation.

## Cultural and Tribal and Cultural Resources

Letter A from the Native American Heritage Commission (NAHC) specifies the tribal consultation requirements set forth by Assembly Bill 52 and Senate Bill 18. This letter also includes the NAHC's recommendations for conducting cultural resource assessments. The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.

## Transportation

Letter D, from the California Department of Transportation (Caltrans), recommends that a Traffic Impact Study (TIS) be conducted. The scope of the study should include safety, operations, and queuing analysis for the intersection within the I-5 / Jayne Avenue interchange given the Project's proximity. Caltrans requests that a scope of work for the effort be prepared and submitted to Caltrans for review and approval. Caltrans may require that a Transportation Management Plan (TMP) be prepared to account for construction traffic. Letter D states that activity and work planned in the area must conform to State standards and specifications, at no cost to the State.

Transportation permits from Caltrans would be required for oversized and overweight trucks using the State highway. If the Project design proposes to encroach within, under, or over the State right-of-way, then approval of an Encroachment Permit also would be required. Encroachment permit requirements are specified in the letter.

# Exhibit A

## **Notice of Preparation and Mailing List**



# EIR 8189 Key Energy Storage Project

## Summary

|                             |  |
|-----------------------------|--|
| <b>SCH Number</b>           | 2022070414   |
| <b>Lead Agency</b>          | Fresno County  |
| <b>Document Title</b>       | EIR 8189 Key Energy Storage Project  |
| <b>Document Type</b>        | NOP - Notice of Preparation of a Draft EIR   |
| <b>Received</b>             | 7/22/2022  |
| <b>Present Land Use</b>     | AE-20/ Agricultural  |
| <b>Document Description</b> | The project proposes the construction, operation, maintenance and decommissioning of an energy storage facility on an approximately 208 acre portion of 318 acres of land comprised of three separate parcels. |

## Contact Information

|                      |   |
|----------------------|---|
| <b>Name</b>          | Jeremy Shaw                                   |
| <b>Agency Name</b>   | Fresno County                                 |
| <b>Job Title</b>     | Planner                                       |
| <b>Contact Types</b> | Lead/Public Agency                            |
| <b>Address</b>       | 2220 Tulare St. 6th Floor<br>Fresno, CA 93721 |
| <b>Phone</b>         | (559) 600-4207                                |
| <b>Email</b>         | jshaw@fresnocountyca.gov                      |

## Location

|                      |                                |
|----------------------|--------------------------------|
| <b>Cities</b>        | Unincorporated area            |
| <b>Counties</b>      | Fresno                         |
| <b>Regions</b>       | Countywide                     |
| <b>Cross Streets</b> | W. Jayne Avenue & Interstate 5 |
| <b>Total Acres</b>   | 318                            |

|                       |                                       |
|-----------------------|---------------------------------------|
| <b>Jobs</b>           | 75                                    |
| <b>Parcel #</b>       | 085-040-58S, 085-040-36S, 085-040-37S |
| <b>State Highways</b> | Interstate 5, State Route 269         |
| <b>Railways</b>       | None                                  |
| <b>Airports</b>       | None                                  |
| <b>Schools</b>        | None                                  |
| <b>Waterways</b>      | None                                  |
| <b>Township</b>       | 21S                                   |
| <b>Range</b>          | 17E                                   |
| <b>Section</b>        | 4                                     |
| <b>Base</b>           | MDBM                                  |

## Notice of Completion

|  |   |
|--|---|
| <b>State Review Period Start</b>       | 7/25/2022   |
| <b>State Review Period End</b>         | 8/24/2022   |
| <b>State Reviewing Agencies</b>        | California Air Resources Board (ARB), California Department of Conservation (DOC), California Department of Fish and Wildlife, Central Region 4 (CDFW), California Department of Forestry and Fire Protection (CAL FIRE), California Department of Parks and Recreation, California Department of Transportation, District 6 (DOT), California Department of Water Resources (DWR), California Energy Commission, California Highway Patrol (CHP), California Natural Resources Agency, California Public Utilities Commission (CPUC), California Regional Water Quality Control Board, Central Valley Fresno Region 5 (RWQCB), Central Valley Flood Protection Board, Department of Toxic Substances Control, Office of Historic Preservation, California Native American Heritage Commission (NAHC) |
| <b>State Reviewing Agency Comments</b> | California Native American Heritage Commission (NAHC)   |
| <b>Development Types</b>               | Commercial (Energy Storage)(Sq. Ft. 9060480, Acres 208, Employees 75)   |
| <b>Local Actions</b>                   | Use Permit  |
| <b>Project Issues</b>                  | Aesthetics, Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Cumulative Effects, Drainage/Absorption, Energy, Flood Plain/Flooding, Geology/Soils, Greenhouse Gas Emissions, Growth Inducement, Hazards & Hazardous Materials, Hydrology/Water Quality, Land Use/Planning, Mandatory Findings of Significance, Mineral Resources, Noise, Population/Housing, Public Services, Recreation, Septic System, Solid Waste, Transportation, Tribal Cultural Resources, Utilities/Service Systems, Vegetation, Wetland/Riparian, Wildfire  |
| <b>Local Review Period Start</b>       | 7/25/2022   |
| <b>Local Review Period End</b>         | 8/24/2022   |

# Attachments

**Draft Environmental Document [Draft IS, NOI\_NOA\_Public notices, OPR Summary Form, Appx,]**

8189\_Key\_NOP\_2022\_0720 PDF 1430 K

**Notice of Completion [NOC] Transmittal form**

8189\_Key\_NOC\_2022\_0721 PDF 237 K

**State Comment Letters [Comments from state reviewing agencies]**

2022070414\_NAHC Comment PDF 388 K

**Disclaimer:** The Governor’s Office of Planning and Research (OPR) accepts no responsibility for the content or accessibility of these documents. To obtain an attachment in a different format, please contact the lead agency at the contact information listed above. You may also contact the OPR via email at [state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov) or via phone at [\(916\) 445-0613](tel:916.445.0613). For more information, please visit [OPR’s Accessibility Site](#).

E202210000201

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND  
PUBLIC SCOPING MEETING FOR THE  
KEY ENERGY STORAGE PROJECT

**TO:** Responsible and Trustee Agencies, other interested agencies, and members of the public  
**FROM:** County of Fresno, Department of Public Works and Planning  
Development Services and Capital Projects Division  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721

FILED  
JUL 22 2022  
TIME 10:00am  
FRESNO COUNTY CLERK  
By [Signature] DEPUTY

**SUBJECT:** Notice of Preparation of an Environmental Impact Report for the Key Energy Storage Project

**Date:** July 25, 2022

**Action:** The County of Fresno (County) will be the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and will be responsible for preparing an Environmental Impact Report (EIR) pursuant to CEQA and the CEQA Guidelines for the Key Energy Storage Project.

**Project Title:** Key Energy Storage Project, Unclassified Conditional Use Permit Application No. 3734 & EIR No. 8189

**Project Applicant:** Key Energy Storage, LLC

**Project Location and Summary:**

The Applicant proposes to construct, operate, maintain, and decommission an energy storage facility on approximately 318-acres of private land comprised of APNs 085-040-58S, 085-040-36S, and 085-040-37S in western Fresno County. The site is located 4 miles southwest of the City of Huron, 0.4 mile east of Interstate 5 (I-5), immediately south of W. Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to PG&E's existing Gates Substation. See Figure 1, *Project Site*.

The project could store 3 gigawatts of energy or more in modular enclosures. The project would consist of a lithium ion, iron-flow, or other similar storage technology. A lithium-ion battery storage system would be comprised of battery cells assembled in a series of modules. An iron flow battery storage system would use containerized power conversion units combined with large volume storage tanks containing an electrolyte solution used to store and later discharge electrical energy. The electrolyte solution would consist primarily of water and include additives such as dissolved iron and salt. On-site project support facilities would include a collector substation, inverters with connection lines, heating ventilating and air conditioning (HVAC) units, transformers, fencing, access roads, a supervisory control and data acquisition system, and security lighting. Diesel generators may be needed for substation purposes or to power water pumps for the existing well on parcel 085-040-58S. The project also includes an approximately 0.3-mile long, 500-kilovolt (kV) overhead generation tie line that would extend north to the Gates Substation. This line would be installed on new steel or concrete poles, each up to 150 feet tall and spaced at approximately 500-foot intervals. Project buildout would occur in four phases.

A project description, maps, and figures are available for review at the following locations:

- Fresno County Public Works and Planning Department, 2220 Tulare Street, Suite A Street Level, Fresno, CA 93721
- Fresno County website: [www.co.fresno.ca.us/EIR](http://www.co.fresno.ca.us/EIR)

Written Comments: *E202210000201*

This Notice of Preparation (NOP) solicits comments from Responsible and Trustee Agencies and other public agencies so that project-related concerns relevant to each agency's statutory responsibilities can be addressed in the EIR. This NOP also solicits input from other interested parties, including Tribes and members of the public. The County requests that any potential Responsible or Trustee Agencies responding to this NOP reply in a manner consistent with CEQA Guidelines Section 15082(b), which allows for submittal of any comments in response to this notice no later than 30 days after receipt of the NOP. Comments in response to this NOP will be accepted through Wednesday, August 24, 2022.

Please send written scoping input to:

Attn: Jeremy Shaw  
Fresno County Department of Public Works and Planning  
Development Services and Capital Projects Division  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721  
Phone: (559) 600-4207 Fax: (559) 600-4200  
Email: [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)

Please reference EIR 8189, Key Energy Storage Project. Include your name, address, and phone number and/or email address so that we may contact you for clarification, if necessary.

Signature: *Jeremy Shaw* Date: 7/21/2022

**Public Scoping Meeting:**

CEQA encourages public input throughout the planning process. Consistent with CEQA and CEQA Guidelines Section 15083, oral and written comments may be presented at a scoping meeting where the County will solicit input on the scope and content of the EIR, including environmental impacts of concern and mitigation measures or alternatives that should be considered. The scoping meeting will be held online for 30 minutes or until all who wish to speak have had an opportunity to do so. Scoping meeting details are as follows:

Date: Tuesday, August 9, 2022

Time: 2:30 p.m.

If joining from a computer: <https://bit.ly/KeyEnergyScopingMeeting> (Webinar ID: 861 6426 3856)

If joining by phone: (888) 788-0099

**Physical Setting:**

The project site is designated as Prime Farmland and subject to Williamson Act contracts. It currently is in agricultural production (a citrus orchard on APN 085-040-58S) and fallow (085-040-36S and 085-040-37S). Dirt access roads traverse the eastern, western, and southern site boundaries and two cross east-west through the site. An existing well is located on APN 085-040-58S. An overhead generation tie line exists along the western boundary; high voltage transmission lines traverse north-south along the eastern boundary. Surrounding land uses include agricultural uses, two substations, and solar energy generation facilities.

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SOURCE: USGS 24K Topo Quad - Gujarral Hillz

NextEra - Key Energy Storage Project

Figure 1  
Project Site

ESA

**Land Use Designation:**

The project site is designated for Agriculture in the County General Plan and zoned AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) pursuant to the County's Zoning Map. The AE District is intended to be an exclusive district for agriculture and for those uses which are necessary and an integral part of the agricultural operation. This district is intended to protect the general welfare of the agricultural community from encroachments of non-related agricultural uses which by their nature, would be injurious to the physical and economic well-being of the agricultural district.

County Zoning Ordinance Section 816.2, which relates to the AE Zone District, permits electric transmission substations and electric distribution stations subject to a Director Review and Approval (DRA), which is a form

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of discretionary review; however, the proposed energy storage facility is not an electrical substation or electrical distribution station, and thus not an allowed use with a DRA, nor is it expressly allowed with a classified conditional use permit under Section 816.3; therefore, it is being processed as an Unclassified Conditional Use Permit application, as provided for under Section 853.B.14.

**Alternatives to be Analyzed in the EIR:**

In accordance with CEQA Guidelines Section 15126.6, the Draft EIR will assess a range of alternatives to the Project, including a No Project Alternative and one or more other alternatives that would attain most of the basic objectives of the Project while avoiding or reducing any of its significant environmental effects. Potential alternatives will be identified during the scoping process.

**Potential Environmental Impacts:**

Pursuant to CEQA Guidelines Section 15060(d), the County has determined that this Project could result in one or more significant impacts on the physical environment, thereby necessitating the preparation of an EIR, and so has not prepared an Initial Study. The EIR will analyze the environmental issues identified in the CEQA Guidelines Appendix G Environmental Checklist (listed below) after establishing the environmental setting, or baseline, for the analysis. The EIR will identify potential significant direct, indirect, and cumulative effects of the Project and alternatives related to:

- Aesthetic quality and views, particularly in the vicinity of existing communities;
- Agriculture and forestry resources, including the use of property currently subject to Williamson Act contracts to an energy storage use for the duration of the permit term;
- Air quality and noise in the vicinity of sensitive receptors, particularly from equipment;
- The intersection of air quality, energy use, transportation, and greenhouse gas (GHG) emissions;
- Biological resources, including species and habitats, based on database queries, field surveys, and agency consultations, if required;
- Cultural and tribal cultural resources that could be disturbed during construction, based on record searches, field surveys, and input that may be received from California Native American Tribes;
- Geology and soils, paleontological resources, hazards and hazardous materials, hydrology and water quality, and related considerations and constraints;
- The Project's relationship to land use and planning, as well as lands subject to special resources management activities, such as mineral resources and recreation;
- Population and housing, public services, and utilities and service systems;
- Wildfire, including the potential to exacerbate wildfire risks, and thereby expose people to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; and
- Growth inducement, particularly in relation to existing, adopted development plans for Fresno County.

# EIR 8189 KEY ENERGY STORAGE

## Unclassified Conditional Use Permit Application No. 3734

### Environmental Documents

#### Notice of Preparation (NOP)

Please send your written comments to:

Attn: Jeremy Shaw.

Fresno County Department of Public Works and Planning

Development Services and Capital Projects Division

2220 Tulare Street, Sixth Floor

Fresno, CA 93721

Phone: (559) 600-4204 Fax: (559) 600-4200

Email: [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)



Key Battery Storage Project-specific Distribution List

| Delivery Method  | Agencies, Tribes, Other Stakeholders  | Contact   | Address                          | City, State, ZIP                   | Email  | Alternate E-Mail | Questions/Notes        | Email NOP notification | Scoping | Comments on DEIR   |
|--|---|---|----------------------------------|------------------------------------|--|------------------|------------------------|------------------------|---------|--|
| <b>Project-specific recipients</b>   |   |   |                                  |                                    |  |                  |                        |                        |         |  |
| Email-only   | Fresno County   | Jeremy Shaw   | 2220 Tulare St. 6th Floor        | Fresno, CA 93721                   | <a href="mailto:jshaw@fresnocountyca.gov">jshaw@fresnocountyca.gov</a>                                 |                  |                        |                        |         |  |
| Email-only   | Fresno County   | David Randall   | 2220 Tulare St. 6th Floor        | Fresno, CA 93721                   | <a href="mailto:drandal@fresnocountyca.gov">drandal@fresnocountyca.gov</a>                             |                  |                        |                        |         |  |
| Email-only   | Environmental Science Associates  | Janina Scott  | 787 The Alameda, Suite 250       | San Jose, CA 95128                 | <a href="mailto:jscott@esassoc.com">jscott@esassoc.com</a>   |                  |                        |                        |         |  |
| Email-only   | Environmental Science Associates  | Olivia Silverstein  | 550 Kearny St, Suite 900         | San Francisco, CA 94108            | <a href="mailto:oliverstein@esassoc.com">oliverstein@esassoc.com</a>                                   |                  |                        |                        |         |  |
| Email-only   | NextEra   | Patti Murphy  |                                  |                                    | <a href="mailto:patti.murphy@nexteraenergy.com">patti.murphy@nexteraenergy.com</a>                     |                  |                        |                        |         |  |
| Email-only   | NextEra   | Kathryn Toebe   |                                  |                                    | <a href="mailto:kathryn.toebe@nexteraenergy.com">kathryn.toebe@nexteraenergy.com</a>                   |                  |                        |                        |         |  |
| Email-only   | NextEra   | Virginia Thompson   |                                  |                                    | <a href="mailto:virginia.thompson@nexteraenergy.com">virginia.thompson@nexteraenergy.com</a>           |                  |                        |                        |         |  |
| <b>Possible responsible agencies, trustee agencies, or potentially affected Federal agencies</b> |   |   |                                  |                                    |  |                  |                        |                        |         |  |
| Certified  | California Department of Conservation, Division of Land Resource Protection                             | Dennis O'Bryant   | 801 "K" Street - MS 13-71        | Sacramento, CA 95814-3514          | <a href="mailto:dobp@conservation.ca.gov">dobp@conservation.ca.gov</a>                                 |                  |                        |                        |         |  |
| Certified  | California Department of Conservation, Geologic Energy Management Division                              | Chris Jones, Acting District Deputy                                     | 801 "K" Street - MS 18-05        | Sacramento, CA 95814-3514          | <a href="mailto:victor.medrano@conservation.ca.gov">victor.medrano@conservation.ca.gov</a>             |                  |                        |                        |         |  |
| Certified  | California Department of Fish & Wildlife, Region 6  | Craig Bailey  | 1234 E. Shaw Avenue              | Fresno, CA 93710                   | <a href="mailto:craig.bailey@wildlife.ca.gov">craig.bailey@wildlife.ca.gov</a>                         |                  | R4CEQA@wildlife.ca.gov |                        |         |  |
| Certified  | California Department of Forestry and Fire Protection, Fresno-Kings Unit                                |   | 210 S. Academy Ave.              | Sanger, CA 93657-9306              | <a href="mailto:FKU.Prevention-Planning@fire.ca.gov">FKU.Prevention-Planning@fire.ca.gov</a>           |                  |                        |                        |         |  |
| Certified  | California Department of Transportation, District 6   | Dave Padilla, Branch Chief, Transportation Planning – North             | P.O. Box 12616                   | Fresno, CA 93778-2616              | <a href="mailto:dave.padilla@dot.ca.gov">dave.padilla@dot.ca.gov</a>                                   |                  |                        |                        |         | edgar.hernandez@dot.ca.gov   |
| Certified  | California Energy Commission  | Terry O'Brien   | 1516 Ninth Street, MS-29         | Sacramento, CA 95814-5512          | <a href="mailto:dave.kerezas@dtsc.ca.gov">dave.kerezas@dtsc.ca.gov</a>                                 |                  |                        |                        |         |  |
| Certified  | California Environmental Protection Agency, Department of Toxic Substance Control                       | Dave Kerezas  | 1515 Tolhouse Road               | Clovis, CA 93612                   | <a href="mailto:dave.kerezas@dtsc.ca.gov">dave.kerezas@dtsc.ca.gov</a>                                 |                  |                        |                        |         |  |
| Certified  | California Highway Patrol   | Eric Walker, Captain  | 1380 E. Fortune Ave              | Fresno, CA 93725                   |  |                  |                        |                        |         |  |
| Certified  | California Native American Heritage Commission  | Katy Sanchez  | 1550 Harbor Boulevard, Suite 100 | West Sacramento, CA 95691          | <a href="mailto:katy.sanchez@nahc.ca.gov">katy.sanchez@nahc.ca.gov</a>                                 |                  |                        |                        |         |  |
| Certified  | California Public Utilities Commission  | Mary Jo Borak   | 505 Van Ness Avenue              | San Francisco, CA 94102            | <a href="mailto:bo@cpuc.ca.gov">bo@cpuc.ca.gov</a>   |                  |                        |                        |         |  |
| Certified  | California Regional Water Quality Control Board, Region 5   | Lewis Lummen  | 1685 E. Street                   | Fresno, CA 93706-2020              | <a href="mailto:centralvalleyfresno@waterboards.ca.gov">centralvalleyfresno@waterboards.ca.gov</a>     |                  |                        |                        |         | <a href="mailto:Lewis.Lummen@waterboards.ca.gov">Lewis.Lummen@waterboards.ca.gov</a>       |
| Certified  | San Joaquin Valley Air Pollution Control District   | Arnaud Marjollet, Director of Permit Services                           | 1990 E. Gettysburg Avenue        | Fresno, CA 93726                   | <a href="mailto:ceqa@valleyair.org">ceqa@valleyair.org</a>   |                  |                        |                        |         | <a href="mailto:keanu.morin@valleyair.org">keanu.morin@valleyair.org</a>                   |
| Certified  | Southern San Joaquin Valley Archaeological Info Center  | Celeste Thompson  | 9001 Stockdale Ave.              | Bakersfield, CA 93311-1099         | <a href="mailto:stt@csjvab.edu">stt@csjvab.edu</a>   |                  |                        |                        |         |  |
| Certified  | State Office of Historic Preservation, Department of Parks & Recreation                                 | Lucinda Woodward  | 1725 23rd Street, Ste. 100       | Sacramento, CA 95816               | <a href="mailto:lwoodward@parks.ca.gov">lwoodward@parks.ca.gov</a>                                     |                  |                        |                        |         | <a href="mailto:rpowers@parks.ca.gov">rpowers@parks.ca.gov</a>                             |
| Certified  | United States Department of the Interior, Fish & Wildlife Services - Endangered Species Div. Supervisor | Matthew J. Nelson, Wildlife Biologist Patricia Cole Division Supervisor | 2800 Cottage Way                 | Sacramento, CA 95825-1888          | <a href="mailto:mattnew_nelson@fws.gov">mattnew_nelson@fws.gov</a>                                     |                  |                        |                        |         | <a href="mailto:patricia_cole@fws.gov">patricia_cole@fws.gov</a>                           |
| Certified  | State Water Resources Control Board, Division of Drinking Water   | Jose Robledo/Cynthia Reyes  | 265 W. Bullard, Suite 101        | Fresno, CA 93704                   | <a href="mailto:Jose.Robledo@Waterboards.ca.gov">Jose.Robledo@Waterboards.ca.gov</a>                   |                  |                        |                        |         | <a href="mailto:Cynthia.Reyes@Waterboards.ca.gov">Cynthia.Reyes@Waterboards.ca.gov</a>     |
| <b>Native American Tribes</b>  |   |   |                                  |                                    |  |                  |                        |                        |         |  |
| Post   | Dumna Wo Wah  | Chris Acree   | 262 N. Glenn Avenue              | Fresno, CA 93701                   | <a href="mailto:cacree@hotmail.com">cacree@hotmail.com</a>   |                  |                        |                        |         |  |
| Post   | Dumna Wo Wah Government   | Robert Ledger, Tribal Chairman  | 2191 W. Pico                     | Fresno, CA 93705                   | <a href="mailto:ledgerrobert@gmail.com">ledgerrobert@gmail.com</a>                                     |                  |                        |                        |         |  |
| Post   | Picayune Rancheria of the Chukchansi Indians  | Heather Airey - Cultural Resources Director                             | PO Box 2226                      | Oakhurst, CA 93644                 | <a href="mailto:hair@chukchansi-nsn.gov">hair@chukchansi-nsn.gov</a>                                   |                  |                        |                        |         |  |
| Post   | Santa Rosa Rancheria Tachi Yokut Tribe  | Ruben Barrios, Tribal Chairman, c/o Cultural Department                 | PO Box 8                         | Lemoore, CA 93245                  | <a href="mailto:SMCarty@tachi-yokut-nsn.gov">SMCarty@tachi-yokut-nsn.gov</a>                           |                  |                        |                        |         | <a href="mailto:spowers@tachi-yokut-nsn.gov">spowers@tachi-yokut-nsn.gov</a>               |
| Post   | Table Mountain Rancheria  | Robert Pennell, Tribal Cultural Resources Director                      | P.O. BOX 410                     | Friant, CA 93626                   | <a href="mailto:rpennell@tmr.org">rpennell@tmr.org</a>   |                  |                        |                        |         |  |
| <b>Other agencies</b>  |   |   |                                  |                                    |  |                  |                        |                        |         |  |
| Post   | Central Valley Flood Protection Board   | Leslie Gallagher  | 3310 El Camino, Room LL40        | Sacramento, CA 95821               |  |                  |                        |                        |         |  |
| Post   | City of Kerman, Planning Department   | Olivia G. Pimentel  | 850 S. Madera Avenue             | Kerman, CA 93630                   | <a href="mailto:Opimentel@cityofkerman.com">Opimentel@cityofkerman.com</a>                             |                  |                        |                        |         |  |
| Post   | City of Mendota, Planning and Community Development   | Cristian Gonzalez   | 643 Quince Street                | Mendota, CA 93640                  | <a href="mailto:cristian@cityofmendota.com">cristian@cityofmendota.com</a>                             |                  |                        |                        |         |  |
| Post   | City of Huron   | John Kunkel, Interim City Manager                                       | 36311 S. Lassen Ave/P.O. Box 339 | Huron, CA 93234                    | <a href="mailto:john@cityofhuron.com">john@cityofhuron.com</a>   |                  |                        |                        |         |  |
| Post   | City of San Joaquin   | Lupe Estrada  | 21900 W Colorado Avenue          | San Joaquin, CA 93360              | <a href="mailto:sab@cityofsj.net">sab@cityofsj.net</a>   |                  |                        |                        |         | <a href="mailto:Courramo@sebastiancpom.net">Courramo@sebastiancpom.net</a>                 |
| Post   | Consolidated Mosquito Abatement District  | Steve Mulligan  | P.O. Box 784                     | Parlier, CA 93648                  | <a href="mailto:smulligan@mosquitobuzz.net">smulligan@mosquitobuzz.net</a>                             |                  |                        |                        |         | <a href="mailto:joleman@mosquitobuzz.net">joleman@mosquitobuzz.net</a>                     |
| Post   | Fresno Council of Governments   | Tory Boren  | 2035 Tulare St Ste 201           | Fresno, CA 93721                   |  |                  |                        |                        |         |  |
| Post   | Fresno Metropolitan Flood Control District  | Frank Fowler  | 5469 E. Olive Avenue             | Fresno, CA 93727                   | <a href="mailto:developmentreview@fresnofloodcontrol.org">developmentreview@fresnofloodcontrol.org</a> |                  |                        |                        |         |  |
| Post   | Golden Plains Unified School District   | Marin Macias, Superintendent  | 22000 Nevada Street              | San Joaquin, CA 93660              | <a href="mailto:mmacias@gsd.net">mmacias@gsd.net</a>   |                  |                        |                        |         |  |
| Post   | James Irigation District  | Manny Amorelli, Manager/ Donna Hanneman, Exc Assistant                  | P.O. Box 757                     | San Joaquin, CA 93660              | <a href="mailto:manmorelli@jamesid.org">manmorelli@jamesid.org</a>                                     |                  |                        |                        |         | <a href="mailto:dhaneman@jamesid.org">dhaneman@jamesid.org</a>                             |
| Post   | Kings Basin Water Authority   |   | 4886 E. Jensen Avenue            | FRESNO, CA 93725                   |  |                  |                        |                        |         |  |
| Post   | Kings River Conservation District   | Paul Peschel, General Manager   | 4886 E. Jensen Avenue            | Fresno, CA 93725                   | <a href="mailto:ppeschel@krcd.org">ppeschel@krcd.org</a>   |                  |                        |                        |         | <a href="mailto:comments@krcd.org">comments@krcd.org</a>                                   |
| Post   | Mendota Unified School District   | Dr. Paul Lopez, Superintendent  | 115 McCabe Ave.                  | Mendota, CA 93640                  | <a href="mailto:plopez@mendotaschools.org">plopez@mendotaschools.org</a>                               |                  |                        |                        |         | <a href="mailto:comments@krcd.org">comments@krcd.org</a>                                   |
| Post   | NAVFACSW INTERGOVERNMENTAL BRANCH   |   | 1220 Pacific Highway             | San Diego, CA 92132                |  |                  |                        |                        |         |  |
| Post   | State of California Reclamation Board   |   | P.O. Box 942836                  | Sacramento, CA 94236               | <a href="mailto:lemnanno@water.ca.gov">lemnanno@water.ca.gov</a>                                       |                  |                        |                        |         |  |
| Post   | Tranquility Irrigation District   | Liz Reeves  | Box 487                          | Tranquility, CA 93668              | <a href="mailto:lrv@trid.com">lrv@trid.com</a>   |                  |                        |                        |         |  |
| Post   | Tranquility Resource Conservation District  | Danny Wade  | PO Box 487                       | Tranquility, CA 93668-0487         | <a href="mailto:esayrider@netpol.net">esayrider@netpol.net</a>   |                  |                        |                        |         |  |
| Post   | United State Department of Agriculture, Natural Resources Conservation Service                          | David Durham  | 4625 W. Jennifer, Suite 125      | Fresno, CA 93722                   |  |                  |                        |                        |         |  |
| Post   | United States Army Corp of Engineers, Sacramento District   | Kathy Norton  | 1325 J Street, Room 1350         | Sacramento, CA 95814-2922          | <a href="mailto:kathy.norton@usace.army.mil">kathy.norton@usace.army.mil</a>                           |                  |                        |                        |         | <a href="mailto:SPKRegulatorMailbox@usace.army.mil">SPKRegulatorMailbox@usace.army.mil</a> |
| Post   | United States Environmental Protection Agency Region 9  | Dawn Richmond   | 75 Hawthorne Street (WTR-9)      | San Francisco, CA 94105            | <a href="mailto:richmond.dawn@epa.gov">richmond.dawn@epa.gov</a>                                       |                  |                        |                        |         |  |
| Post   | Westlands Water District  | Russ Freeman/ Jose Gutierrez  | P.O. Box 6056                    | Fresno, CA 93703-6056              | <a href="mailto:rffreeman@wwd.ca.gov">rffreeman@wwd.ca.gov</a>   |                  |                        |                        |         | <a href="mailto:jgutierrez@wwd.ca.gov">jgutierrez@wwd.ca.gov</a>                           |
| Post   | Westlands Water District (Westside Subbasin GSA)  | Kib Buelna Campbell   | PO Box 6056                      | Fresno, CA 93703                   | <a href="mailto:kcampbell@wwd.ca.gov">kcampbell@wwd.ca.gov</a>   |                  |                        |                        |         |  |
| Post   | Westside Resources Conservation District  |   | P.O. Box 6079                    | Tranquility, California 93624-0038 |  |                  |                        |                        |         |  |
| <b>Other stakeholders and special interests</b>  |   |   |                                  |                                    |  |                  |                        |                        |         |  |
| Post   | Adams Bros/Well Joseph & Cardozo  | Maya Smith  | 601 Gateway Blvd. Suite 1000     | South San Francisco, CA 94080-7037 |  |                  |                        |                        |         |  |
| Post   | Laborers Int'l Union of N. America, Local Union 294   |   | 1939 Harrison St Suite 150       | Oakland, CA 94612                  |  |                  |                        |                        |         |  |
| Post   | Lozeau Drury, LLP   | R. Drury, M. Lozeau, T. Rettinghouse, S. Osborne, H. Hughes, K. Toot    | 1939 Harrison St Suite 150       | Oakland, CA 94612                  | <a href="mailto:admin@lozeaudrury.com">admin@lozeaudrury.com</a>                                       |                  |                        |                        |         |  |
| Post   | Downey Brand LLP  | C/O Nicole Bigley   | 621 Capitol Mall, 18th Floor     | Sacramento, CA 95814               | <a href="mailto:KingsRiverNotices@downeybrand.com">KingsRiverNotices@downeybrand.com</a>               |                  |                        |                        |         |  |

# Exhibit B

## Initial Newspaper and Email Notifications

## Janna Scott

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**From:** Janna Scott  
**Sent:** Monday, July 25, 2022 4:02 PM  
**Cc:** [jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)  
**Subject:** Notice of Preparation: Key Energy Storage Project (Fresno County EIR 8189)  
**Attachments:** 8189\_Key\_NOP\_2022\_0725\_signed.pdf

To Interested Parties [undisclosed recipient list],

On behalf of the Fresno County Department of Public Works and Planning, Development Services and Capital Projects Division (the County), please see the attached Notice of Preparation (NOP) for the Key Energy Storage Project (Fresno County EIR #8189; SCH #2022070414). The NOP includes information about the project, the project site, and the County's California Environmental Quality Act (CEQA) scoping process for the project. It also includes instructions for submitting scoping comments and information about a virtual public scoping meeting. If you have any questions about the attached NOP, please contact Jeremy Shaw, at (559) 600-4207, by email at [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov), or by mail using the contact information provided in the NOP.

Written scoping comments will be accepted at any time during the 30-day public scoping period, which begins July 25, 2022, and concludes at 5 p.m. on August 24, 2022.

A virtual scoping meeting will be held Tuesday, August 9, 2022, at 2:30 p.m. Information about how to participate in the meeting is included in the NOP.

You are receiving this email because you have been identified as someone who may be interested in receiving information relating to Fresno County's CEQA process for evaluating environmental impacts of the Key Energy Storage Project. If you would prefer not to receive email notifications like this one, please reply with the word "unsubscribe" as the body of the message. Otherwise, *please do not reply to this email*, which is not regularly monitored. Instead, please direct all communications about this project to the County using the contact information provided in the attached NOP.

Best regards,  
Key Energy Storage Project EIR Team

# THE BUSINESS JOURNAL

FRESNO | KINGS | MADERA | TULARE

P.O. Box 126  
Fresno, CA 93707  
Telephone (559) 490-3400

(Space Below for use of County Clerk only)

## IN THE COUNTY OF FRESNO, STATE OF CALIFORNIA

### NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND PUBLIC SCOPING MEETING FOR THE KEY ENERGY STORAGE PROJECT

Public Scoping Meeting:  
Tuesday, August 9, 2022 at 2:30 p.m.

### DECLARATION OF PUBLICATION (2015.5 C.C.P.)

#### MISC. NOTICE

#### STATE OF CALIFORNIA

#### COUNTY OF FRESNO

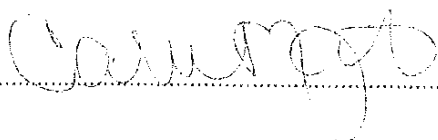
I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of **THE BUSINESS JOURNAL** published in the city of Fresno, County of Fresno, State of California, Monday, Wednesday, Friday, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Fresno, State of California, under the date of March 4, 1911, in Action No.14315; that the notice of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

JULY 25, 2022

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed at Fresno, California.

JULY 25, 2022

ON .....



**NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND PUBLIC SCOPING MEETING FOR THE KEY ENERGY STORAGE PROJECT**  
TO: Responsible and Trustee Agencies, other interested agencies, and members of the public  
FROM: County of Fresno, Department of Public Works and Planning Development Services and Capital Projects Division  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721  
SUBJECT: Notice of Preparation of an Environmental Impact Report for the Key Energy Storage Project  
Date: July 25, 2022  
Action: The County of Fresno (County) will be the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and will be responsible for preparing an Environmental Impact Report (EIR) pursuant to CEQA and the CEQA Guidelines for the Key Energy Storage Project.  
Project Title: Key Energy Storage Project, Unclassified Conditional Use Permit Application No. 3734 & EIR No. 8189  
Project Applicant: Key Energy Storage, LLC  
Project Location and Summary: The Applicant proposes to construct, operate, maintain, and decommission an energy storage facility on approximately 318-acres of private land comprised of APNs 085-040-58S, 085-040-36S, and 085-040-37S in western Fresno County. The site is located 4 miles southwest of the City of Huron, 0.4 mile east of Interstate 5 (I-5), immediately south of W. Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to PG&E's existing Gates Substation. See Figure 1, Project Site. The project could store 3 gigawatts of energy or more in modular enclosures. The project would consist of a lithium ion, iron-flow, or other similar storage technology. A lithium ion battery storage system would be comprised of battery cells assembled in a series of modules. An iron flow battery storage system would use containerized power conversion units combined with large volume storage tanks containing an electrolyte solution used to store and later discharge electrical energy. The electrolyte solution would consist primarily of water and include additives such as dissolved iron and salt. On-site project support facilities would include a collector substation, inverters with connection lines, heating ventilating and air conditioning (HVAC) units, transformers, fencing, access roads, a supervisory control and data acquisition system, and security lighting. Diesel generators may be needed for substation purposes or to power water pumps for the existing well on parcel 085-040-58S. The project also includes an approximately 0.3-mile long, 500-kilovolt (kV) overhead generation tie line that would extend north to the Gates Substation. This line would be installed on new steel or concrete poles, each up to 150 feet tall and spaced at approximately 500-foot intervals. Project buildout would occur in four phases.  
A project description, maps, and figures are available for review at the following locations:  
- Fresno County Public Works and Planning Department, 2220 Tulare Street, Suite A Street Level, Fresno, CA 93721  
- Fresno County website: [www.co.fresno.ca.us/EIR](http://www.co.fresno.ca.us/EIR)  
Written Comments: This Notice of Preparation (NOP) solicits comments from Responsible and Trustee Agencies and other public agencies so that project-related concerns relevant to each agency's statutory responsibilities can be addressed in the EIR. This NOP also solicits input from other interested parties, including Tribes and members of the public. The County requests that any potential Responsible or Trustee Agencies responding to this NOP reply in a manner consistent with CEQA Guidelines Section 15082(b), which allows for submittal of any comments in

response to this notice no later than 30 days after receipt of the NOP. Comments in response to this NOP will be accepted through Wednesday, August 24, 2022. Please send written scoping input to:

Attn: Jeremy Shaw  
Fresno County Department of Public Works and Planning  
Development Services and Capital Projects Division  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721  
Phone: (559) 600-4207 Fax: (559) 600-4200

Email: [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)  
Please reference EIR 8189, Key Energy Storage Project. Include your name, address, and phone number and/or email address so that we may contact you for clarification, if necessary.

**Public Scoping Meeting:**

CEQA encourages public input throughout the planning process. Consistent with CEQA and CEQA Guidelines Section 15083, oral and written comments may be presented at a scoping meeting where the County will solicit input on the scope and content of the EIR, including environmental impacts of concern and mitigation measures or alternatives that should be considered. The scoping meeting will be held online for 30 minutes or until all who wish to speak have had an opportunity to do so. Scoping meeting details are as follows:

Date: Tuesday, August 9, 2022

Time: 2:30 p.m.

If joining from a computer: <https://bit.ly/KeyEnergyScopingMeeting> (Webinar ID: 861 6426 3856)

If joining by phone: (888) 788-0099

**Physical Setting:**

The project site is designated as Prime Farmland and subject to Williamson Act contracts. It currently is in agricultural production (a citrus orchard on APN 085-040-58S) and fallow (085-040-36S and 085-040-37S). Dirt access roads traverse the eastern, western, and southern site boundaries and two cross east-west through the site. An existing well is located on APN 085-040-58S. An overhead generation tie line exists along the western boundary; high voltage transmission lines traverse north-south along the eastern boundary. Surrounding land uses include agricultural uses, two substations, and solar energy generation facilities.

**Land Use Designation:**

The project site is designated for Agriculture in the County General Plan and zoned AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) pursuant to the County's Zoning Map. The AE District is intended to be an exclusive district for agriculture and for those uses which are necessary and an integral part of the agricultural operation. This district is intended to protect the general welfare of the agricultural community from encroachments of non-related agricultural uses which by their nature, would be injurious to the physical and economic well-being of the agricultural district.

County Zoning Ordinance Section 816.2, which relates to the AE Zone District, permits electric transmission substations and electric distribution stations subject to a Director Review and Approval (DRA), which is a form of discretionary review; however, the proposed energy storage facility is not an electrical substation or electrical distribution station, and thus not an allowed use with a DRA, nor is it expressly allowed with a classified conditional use permit under Section 816.3; therefore, it is being processed as an Unclassified Conditional Use Permit application, as provided for under Section 853.B.14.

Alternatives to be Analyzed in the EIR: In accordance with CEQA Guidelines Section 15126.6, the Draft EIR will assess a range of alternatives to the Project, including a No Project Alternative and one or more other alternatives that would attain most of the basic objectives of the Project while avoiding or reducing any of its significant environmental effects. Potential alternatives will be identified during the scoping process.

**Potential Environmental Impacts:** Pursuant to CEQA Guidelines Section 15060(d), the County has determined that this Project could result in one or more significant impacts on the physical environment, thereby necessitating the preparation of an EIR, and so has not prepared an Initial Study. The EIR will analyze the environmental issues identified in the CEQA Guidelines Appendix G Environmental Checklist (listed below) after establishing the environmental setting, or baseline,

for the analysis. The EIR will identify potential significant direct, indirect, and cumulative effects of the Project and alternatives related to:

- Aesthetic quality and views, particularly in the vicinity of existing communities;
- Agriculture and forestry resources, including the use of property currently subject to Williamson Act contracts to an energy storage use for the duration of the permit term;
- Air quality and noise in the vicinity of sensitive receptors, particularly from equipment;
- The intersection of air quality, energy use, transportation, and greenhouse gas (GHG) emissions;
- Biological resources, including species and habitats, based on database queries, field surveys, and agency consultations, if required;
- Cultural and tribal cultural resources that could be disturbed during construction, based on record searches, field surveys, and input that may be received from California Native American Tribes;
- Geology and soils, paleontological resources, hazards and hazardous materials, hydrology and water quality, and related considerations and constraints;
- The Project's relationship to land use and planning, as well as lands subject to special resources management activities, such as mineral resources and recreation;
- Population and housing, public services, and utilities and service systems;
- Wildfire, including the potential to exacerbate wildfire risks, and thereby expose people to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; and
- Growth inducement, particularly in relation to existing, adopted development plans for Fresno County.

07/25/2022

# Exhibit C

## **Notification of Second Public Scoping Meeting**

P.O. Box 126  
Fresno, CA 93707  
Telephone (559) 490-3400

(Space Below for use of County Clerk only)

IN THE COUNTY OF FRESNO, STATE OF CALIFORNIA

NOTICE OF SECOND PUBLIC SCOPING MEETING FOR THE  
KEY ENERGY STORAGE PROJECT

Second Public Scoping Meeting:  
September 21, 2022 at 10:00 am

**DECLARATION OF PUBLICATION  
(2015.5 C.C.P.)**

MISC. NOTICE

STATE OF CALIFORNIA

COUNTY OF FRESNO

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of **THE BUSINESS JOURNAL** published in the city of Fresno, County of Fresno, State of California, Monday, Wednesday, Friday, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Fresno, State of California, under the date of March 4, 1911, in Action No. 14315; that the notice of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

SEPTEMBER 16, 2022

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed at Fresno, California,

SEPTEMBER 16, 2022

ON .....

NOTICE OF SECOND PUBLIC SCOPING MEETING FOR THE KEY ENERGY STORAGE PROJECT  
TO: Responsible and Trustee Agencies, other interested agencies, and members of the public  
FROM: County of Fresno, Department of Public Works and Planning Development Services and Capital Projects Division  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721  
SUBJECT: Notice of Second Public Scoping Meeting for the Key Energy Storage Project  
Notice Date: September 16, 2022  
Action: The County of Fresno will be the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and will be responsible for preparing an Environmental Impact Report (EIR) pursuant to CEQA and the CEQA Guidelines for the Key Energy Storage Project. To inform the identification and analysis of potential impacts, alternatives, and mitigation measures in the EIR, the County will be holding a second public scoping meeting.  
Project Title: Key Energy Storage Project, Unclassified Conditional Use Permit Application No. 3734 & EIR No. 8189  
Project Applicant: Key Energy Storage, LLC  
Second Public Scoping Meeting: CEQA encourages public input throughout the planning process. Consistent with CEQA and CEQA Guidelines Section 15083, oral and written comments may be presented at one or more scoping meetings where the County will solicit input on the scope and content of the EIR, including environmental impacts of concern and mitigation measures or alternatives that should be considered. The County held one scoping meeting on Tuesday, August 9, 2022, and will hold a second scoping meeting for 30 minutes or until all who wish to speak have had an opportunity to do so. Meeting details for the second public scoping meeting are as follows:  
Date: Wednesday, September 21, 2022  
Time: 10:00 a.m.  
If joining from a computer: <https://bit.ly/KeyEnergyStorageScopingMeeting>; Webinar ID: 816 6750 2078  
If joining by phone: (888) 788-0099  
Written Comments: Written scoping comments in will be accepted through 5 p.m. Friday, September 30, 2022. Please send written scoping input to: Attn: Jeremy Shaw  
Fresno County Department of Public Works and Planning Development Services and Capital Projects Division  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721  
Phone: (559) 600-4207 Fax: (559) 600-4200  
Email: [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)  
Please reference EIR 8189, Key Energy Storage Project. Include your name, address, and phone number and/or email address so that we may contact you for clarification, if necessary.  
Project Location and Summary: The Applicant proposes to construct, operate, maintain, and decommission an energy storage facility on approximately 318-acres of private land comprised of APNs 085-040-58S, 085-040-36S, and 085-040-37S in western Fresno County. The site is located 4 miles southwest of the City of Huron, 0.4 mile east of Interstate 5 (I-5), immediately south of W. Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to PG&E's existing Gates Substation.  
The project could store 3 gigawatts of energy or more in modular enclosures. The project would consist of a lithium-ion, iron-flow, or other similar storage technology. On-site project support facilities would include a collector substation, inverters with connection lines, heating ventilating and air conditioning units, transformers, fencing, access roads, a supervisory control and data acquisition system, and security lighting. Diesel generators may be needed for substation purposes or to power water pumps for the existing well on parcel 085-040-58S. The project also includes an approximately 0.3-mile-

long, 500-kilovolt (kV) overhead generation tie line that would extend north to the Gates Substation. This line would be installed on new steel or concrete poles, each up to 150 feet tall and spaced at approximately 500-foot intervals. Project buildout would occur in four phases.

Public notices, a project description, maps, and figures are available for review at the following locations:

§ Fresno County Public Works and Planning Department, 2220 Tulare Street, Suite A Street Level, Fresno, CA 93721

§ Fresno County website: [www.co.fresno.ca.us/EIR](http://www.co.fresno.ca.us/EIR)  
09/16/2022



## Janna Scott

---

**From:** Janna Scott  
**Sent:** Friday, September 16, 2022 11:48 AM  
**Subject:** Key Energy Storage Project (Fresno County EIR 8189): Notice of Second Scoping Meeting  
**Attachments:** 8189\_Key\_meeting\_notice2\_2022\_0913.pdf

To Interested Parties [undisclosed recipient list],

On behalf of the Fresno County Department of Public Works and Planning, Development Services and Capital Projects Division (the County), please see the attached Notice of Second Scoping Meeting for the Key Energy Storage Project (Fresno County EIR #8189; SCH #2022070414).

The California Environmental Quality Act (CEQA) encourages public input throughout the planning process. This second meeting is an additional opportunity to provide input to inform the County's identification and analysis of potential impacts, alternatives, and mitigation measures in the EIR. If you have already participated in the scoping process for this project (whether in writing or as part of the first scoping meeting) there is no need to resubmit your input.

Meeting details for the second public scoping meeting are provided below. Participants can join via computer or by calling in:

Date: Wednesday, September 21, 2022

Time: 10:00 a.m.

If joining from a computer: <https://bit.ly/KeyEnergyStorageScopingMeeting>; Webinar ID: 816 6750 2078

If joining by phone: (888) 788-0099; Meeting ID: 816 6750 2078

Additional written scoping comments in will be accepted through 5 p.m. Friday, September 30, 2022. Please send written scoping input to:

Attn: Jeremy Shaw  
Fresno County Department of Public Works and Planning  
Development Services and Capital Projects Division  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721  
Phone: (559) 600-4207 Fax: (559) 600-4200  
Email: [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)

Please reference EIR 8189, Key Energy Storage Project. Include your name, address, and phone number and/or email address so that we may contact you for clarification, if necessary.

You are receiving this email because you have been identified as someone who may be interested in receiving information relating to Fresno County's CEQA process for evaluating environmental impacts of the Key Energy Storage Project. If you would prefer not to receive email notifications like this one, please reply with the word "unsubscribe" as the body of the message. Otherwise, *please do not reply to this email*, which is not regularly monitored. Instead, please direct all communications about this project to the County using the contact information provided above.

Best regards,  
Key Energy Storage Project EIR Team

# Exhibit D

## **Scoping Meeting Presentations and Transcript**

# Key Energy Storage Project EIR

Public Scoping Meeting | Tuesday, August 9, 2022, 2:30 p.m.  
Agency Presentation and Public Input



# Agenda

- Introductions
- Purpose of the Meeting
- Project Overview
- County Permitting Process
- Environmental Review Process (CEQA)
- Scoping: Environmental Impacts and Alternatives
- Public Comments
- Next Steps

# Introductions

- Fresno County
  - Department of Public Works and Planning,  
Development Services and Capital Projects Division  
*Jeremy Shaw, Planner, [jshaw@FresnoCountyCA.gov](mailto:jshaw@FresnoCountyCA.gov)*
  - CEQA Lead Agency responsible for preparation of EIR 8189
  - Decision-maker for the requested Conditional Use Permit No. 3734
- Environmental Science Associates
  - Environmental Consultant to the County
- Key Energy Storage, LLC
  - Project Applicant

Key Energy Storage Project (EIR 8189)

# Purpose of the Meeting



For us to hear from YOU!  
Your questions and ideas are welcome and invited.

# Project Vicinity

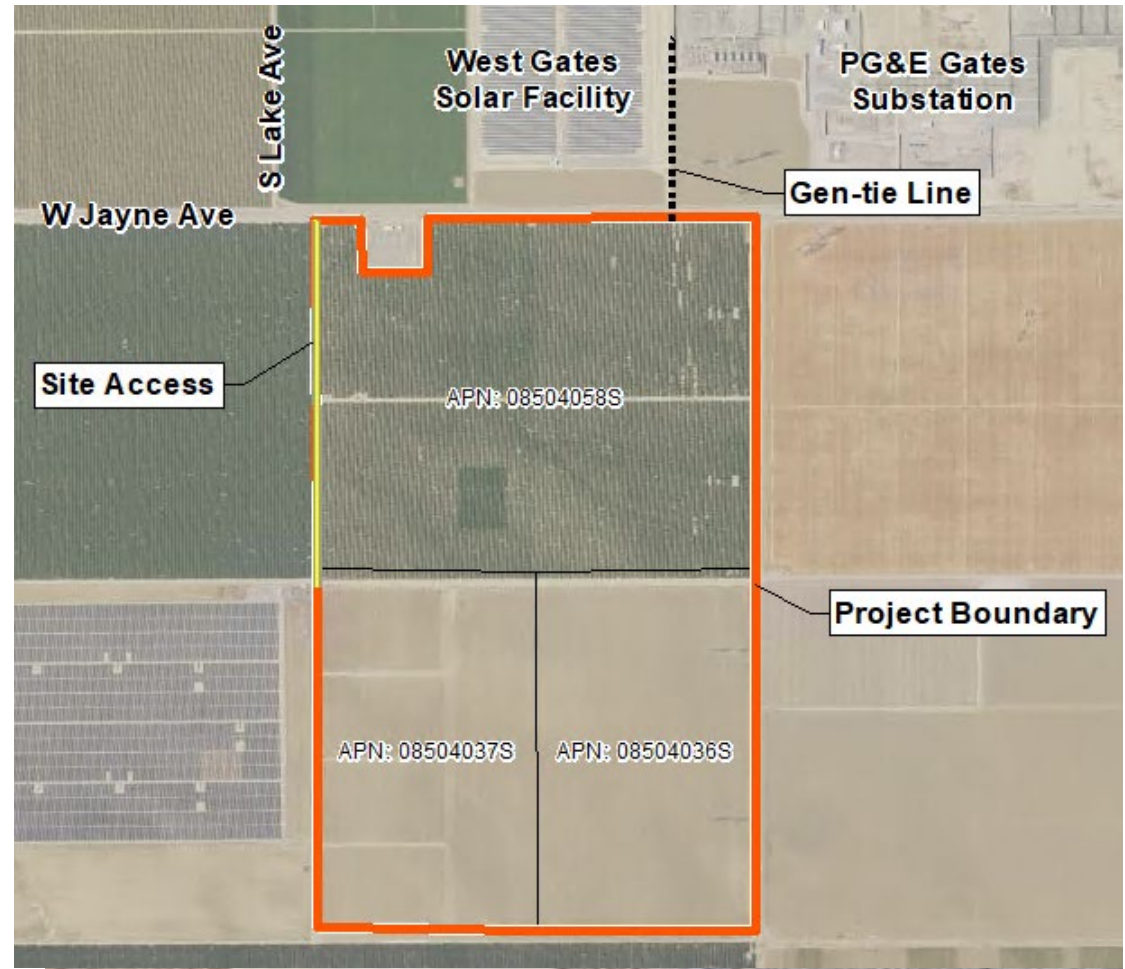
- Located in southwestern Fresno County near Interstate 5 and the cities of Huron and Coalinga.
- Area characterized by large scale irrigated agriculture and value-added agricultural (processing) operations



Key Energy Storage Project (EIR 8189)

# Project Site

- Approximately 208 acres to be developed out of 318 acres of both fallow land and land under agricultural production, comprised of 3 separate assessors parcels.
- Located on the south side of W. Jayne Avenue between Interstate 5 and State Route 269 (Lassen Avenue) and adjacent to PG&E's existing Gates Substation.



Key Energy Storage Project (EIR 8189)



# Project Details

- Anticipated energy storage capacity: approximately 3 gigawatts
- Onsite support facilities
- Overhead transmission line connecting to PG&E's Gates Substation.



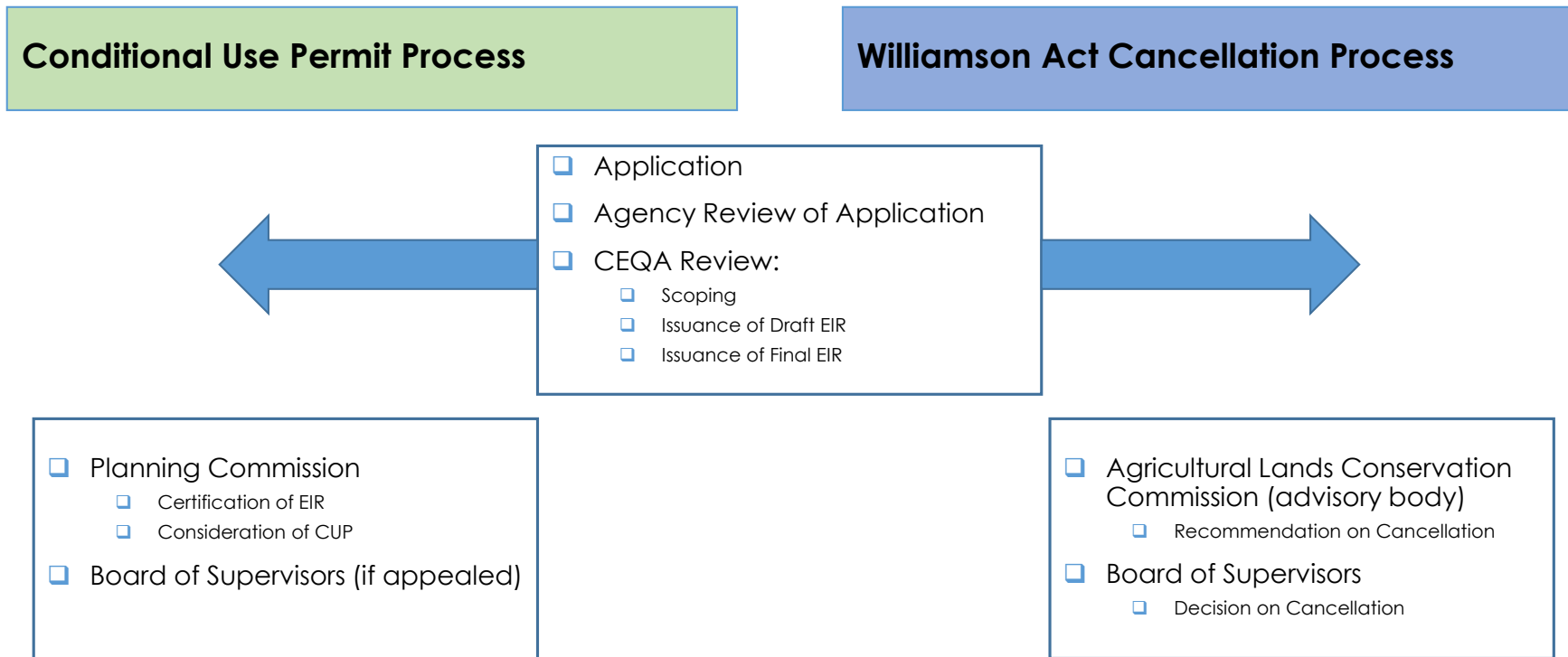
Key Energy Storage Project (EIR 8189)

# Project Details



Key Energy Storage Project (EIR 8189)

# Land Use and Permitting Processes



Key Energy Storage Project (EIR 8189)

# Use Permit Process

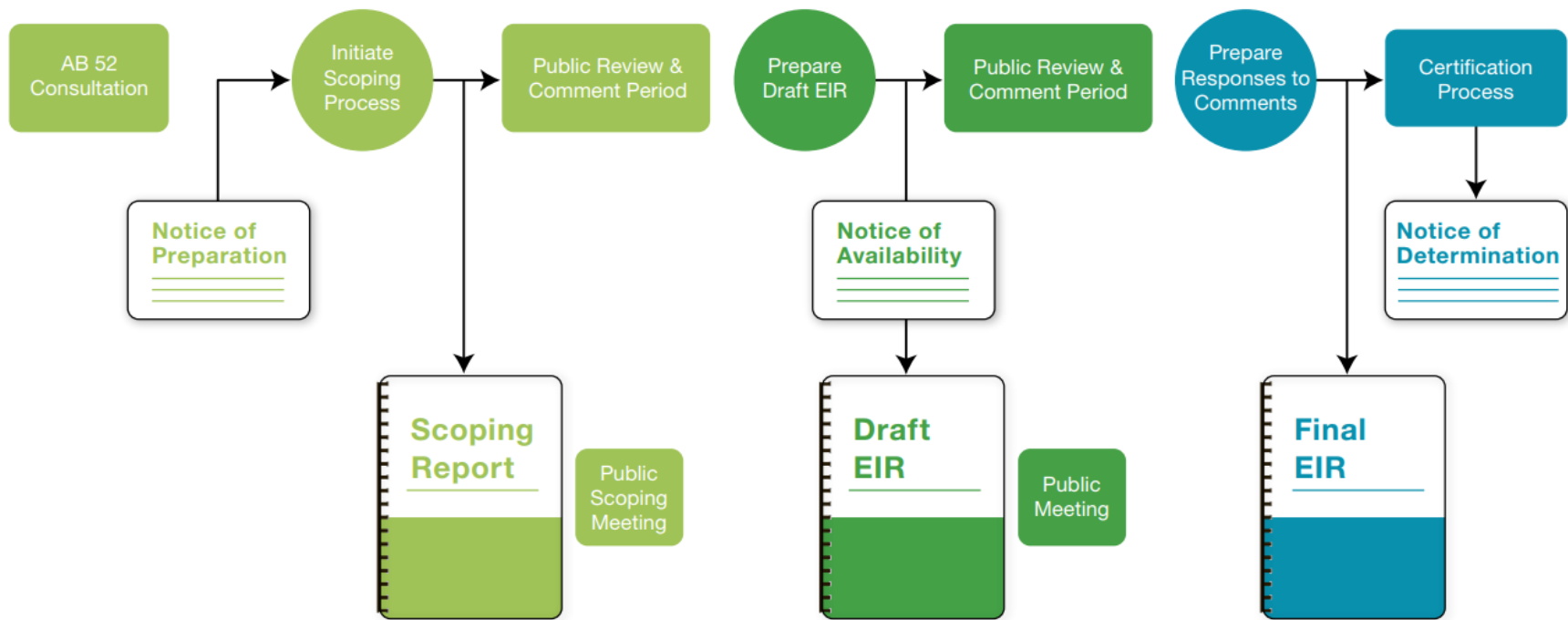
Before the Commission may approve a CUP, it must make five findings:

1. Adequate size and shape of parcel
2. Adequate roads serving the project site
3. There would be no adverse impacts on surrounding property
4. The project is consistent with the General Plan
5. Required conditions are necessary to ensure public safety and welfare

# Williamson Act Cancellation Process

- Applicant has submitted a petition for cancellation of the contract.
- Board of Supervisors has discretion over contract cancellation.
- The effect of the cancellation will be considered within the scope of the EIR under agricultural impacts.

# Environmental Review: The CEQA Process



Key Energy Storage Project (EIR 8189)

# Scoping

July 25 – August 24, 2022, at 5 p.m.

## Purpose of Scoping

- Solicit input as to the scope and content of the EIR, including potential impacts of concern and mitigation measures or alternatives that should be considered.
- Scoping tells us what we should study, not what the answers are.

## Agency Scoping

## Public Scoping



Key Energy Storage Project (EIR 8189)

# Scoping: Resources to be Evaluated

- ❖ Aesthetics
- ❖ Agriculture and Forestry Resources
- ❖ Air Quality and Greenhouse Gas Emissions
- ❖ Biological Resources
- ❖ Cultural and Tribal Cultural Resources
- ❖ Energy
- ❖ Geology, Soils, and Paleontology
- ❖ Hazards and Hazardous Materials
- ❖ Hydrology and Water Quality
- ❖ Land Use and Planning
- ❖ Mineral Resources
- ❖ Noise
- ❖ Population and Housing
- ❖ Public Services
- ❖ Recreation
- ❖ Transportation
- ❖ Utilities and Service Systems
- ❖ Wildfire



Key Energy Storage Project (EIR 8189)



# Scoping: Potential Alternatives

- Project Alternatives
  - Reasonable or feasible alternatives to the proposed project or its location
  - Capable of avoiding or substantially lessening any significant project impacts
  - Ok to impede to some degree the attainment of the objectives or be costlier
- No Project Alternative
  - What would be reasonably expected to occur in the foreseeable future if the proposed project were not approved
  - Based on current plans, consistent with available infrastructure and services

# Scoping: Potential Alternatives

## Reasonable

- The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.

## Feasible

- Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, and whether the proponent can reasonably acquire, control or otherwise have access to an alternative site (or the site is already owned by the proponent)

# Scoping: Potential Alternatives

| Proposed Project  | No Project Alternative   | Potential Alternatives  |
|---|--|---|
| <ul style="list-style-type: none"><li><input type="checkbox"/> Conditional Use Permit 3734</li><li><input type="checkbox"/> Williamson Act Cancellation</li><li><input type="checkbox"/> 3+ GW Energy Storage Capacity and related uses</li><li><input type="checkbox"/> Within 318 acres of private property</li></ul> | <ul style="list-style-type: none"><li><input type="checkbox"/> No Use Permit</li><li><input type="checkbox"/> Williamson Act contracts remain in place</li><li><input type="checkbox"/> No energy storage project or related uses would be developed on the proposed site</li><li><input type="checkbox"/> Continued farming or fallowing of the land would occur</li><li><input type="checkbox"/> Potential would remain for other uses consistent with the General Plan and Zoning Ordinance</li></ul> | <ul style="list-style-type: none"><li><input type="checkbox"/> Reasonable</li><li><input type="checkbox"/> Feasible</li><li><input type="checkbox"/> Capable of avoiding or substantially lessening significant project impacts</li></ul> |

Key Energy Storage Project (EIR 8189)

# The County's Next Steps



**Fall/Winter 2022:** Prepare the Draft EIR

**Winter 2022/ 2023:** Issue Draft EIR for Agency and Public Review

**Spring/ Summer 2023:** Prepare Responses to Comments

**Fall 2023:** Issue Final EIR, Hold Public Hearings

Key Energy Storage Project (EIR 8189)

# Public Participation Opportunities

Participate at this afternoon's meeting

Submit written comments before 5 p.m. August 24, 2022

Stay informed

Request to receive project notices (via US Post, email or both) from  
Jeremy Shaw: [jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)

Keep an eye on the project website: [www.co.fresno.ca.us/EIR](http://www.co.fresno.ca.us/EIR)

Provide comments on the Draft EIR

Participate in public hearings on the project

# Scoping Process Participation Guide

## Now

By telephone:

Dial \*9 to “Raise Hand”

Via the Zoom platform:

- Click the *Raise Hand* icon to be called on
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## Later

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Fresno, CA 93721



# During Today's Meeting

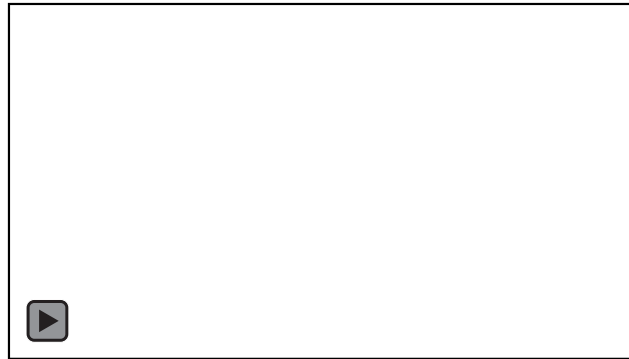
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3. Limit comments to 3 minutes
4. Respect others' opinions
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Key Energy Storage Project (EIR 8189)

# Break

**We are currently on a break until there are more comments or until we reach 3:30 PM.**

If you would like to provide a comment:

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# After Today's Meeting

Submit written comments before 5 p.m. August 24, 2022

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Key Energy Storage Project (EIR 8189)

# Thank you for participating



Key Energy Storage Project (EIR 8189)

# Key Energy Storage Project EIR

Public Scoping Meeting #2 | Wednesday, September 21, 2022, 10 a.m.  
Agency Presentation and Public Input



# Agenda

- Introductions
- Purpose of the Meeting
- Project Overview
- County Permitting Process
- Environmental Review Process (CEQA)
- Scoping: Environmental Impacts and Alternatives
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- Next Steps

# Introductions

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Key Energy Storage Project (EIR 8189)

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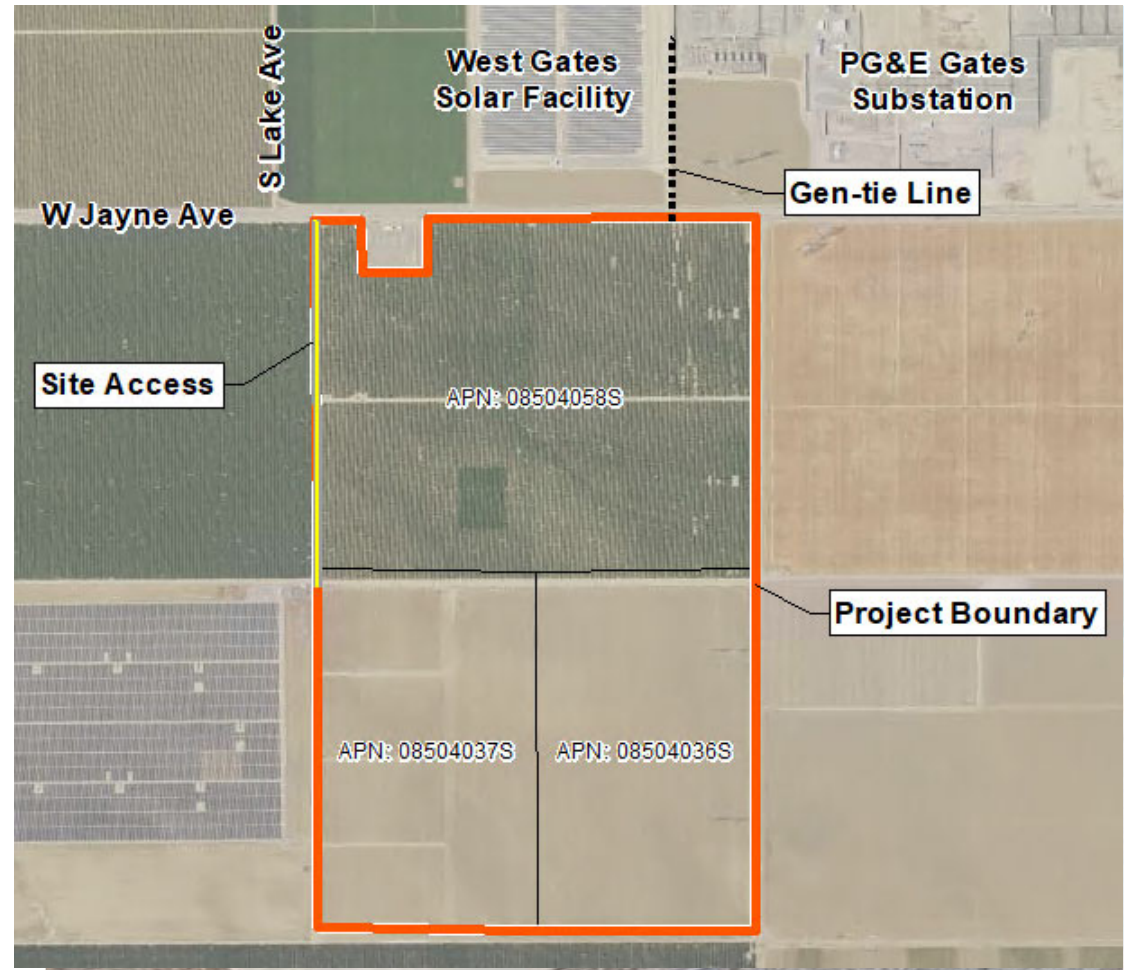
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Key Energy Storage Project (EIR 8189)

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Key Energy Storage Project (EIR 8189)



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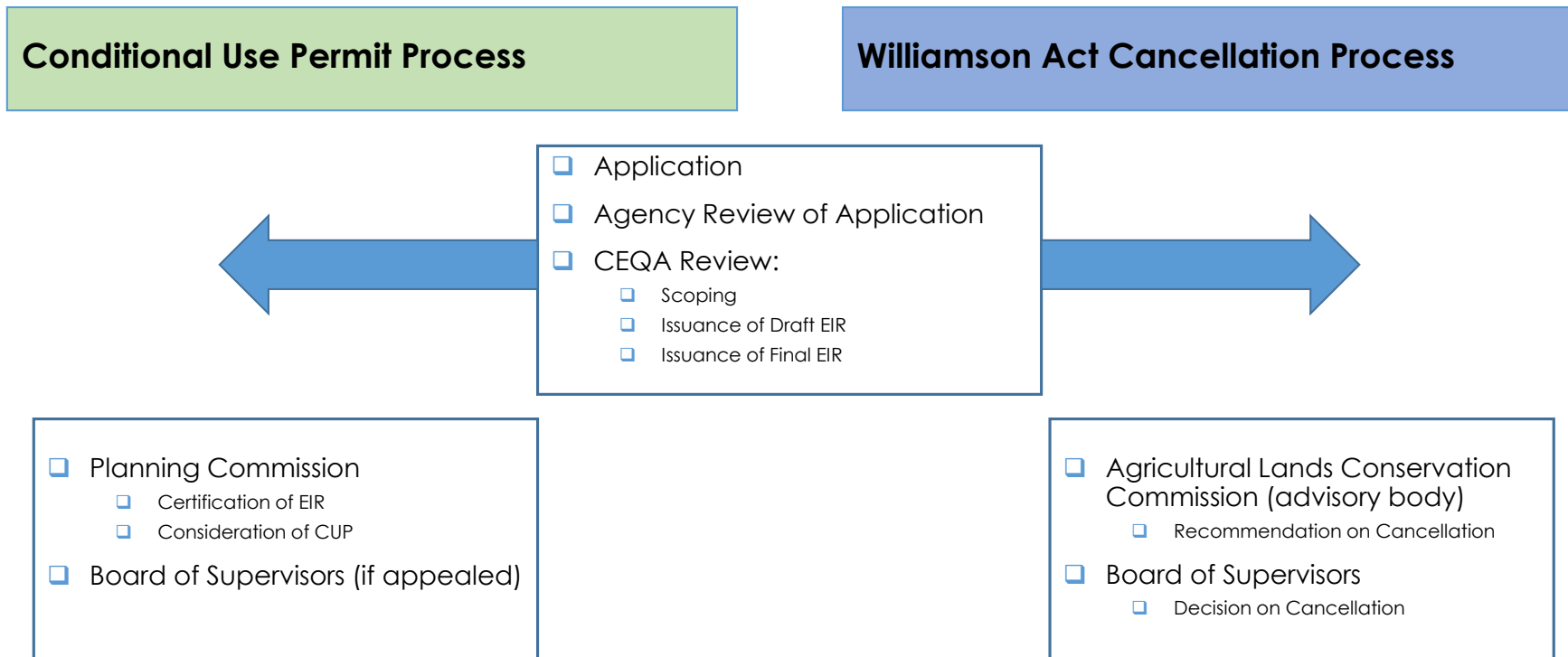
Key Energy Storage Project (EIR 8189)

# Project Details



Key Energy Storage Project (EIR 8189)

# Land Use and Permitting Processes



Key Energy Storage Project (EIR 8189)

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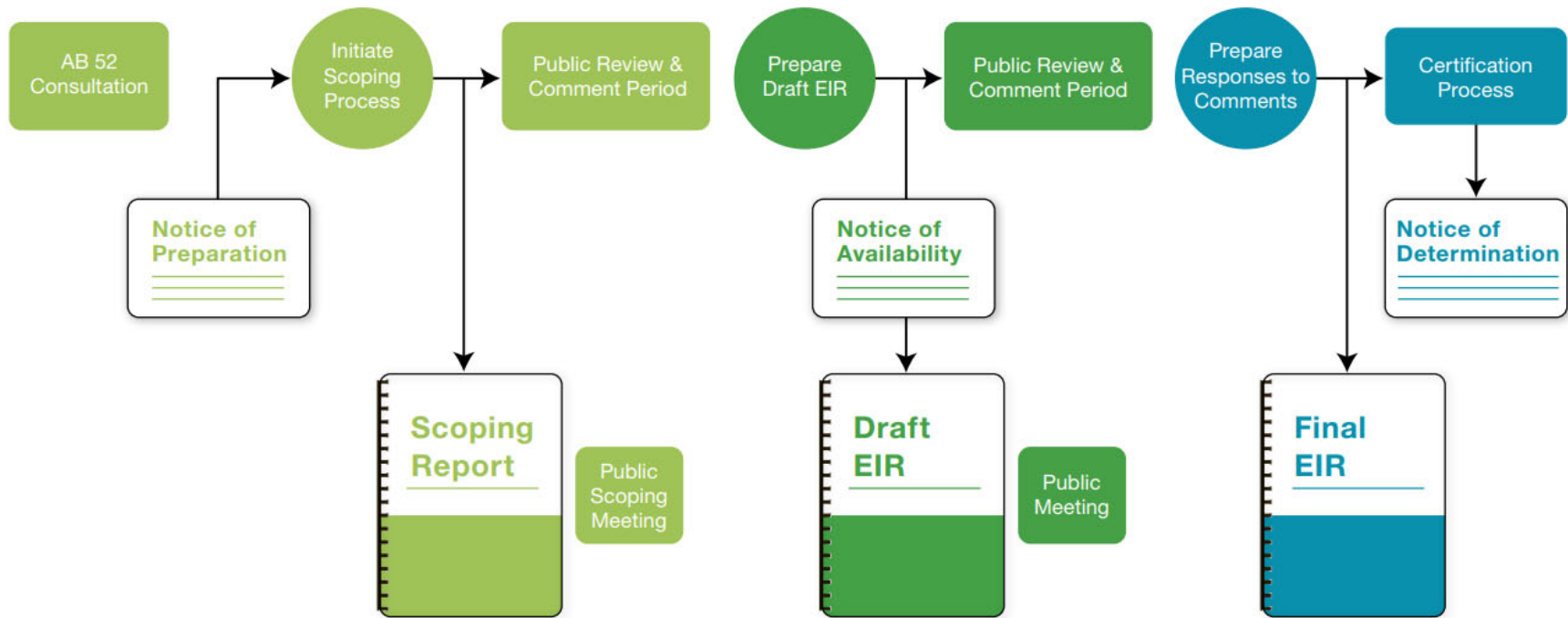
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Key Energy Storage Project (EIR 8189)

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July 25 – August 24, 2022; September 16-30, 2022, at 5 p.m.

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Key Energy Storage Project (EIR 8189)

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Key Energy Storage Project (EIR 8189)



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Key Energy Storage Project (EIR 8189)

# The County's Next Steps



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Key Energy Storage Project (EIR 8189)

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Key Energy Storage Project (EIR 8189)

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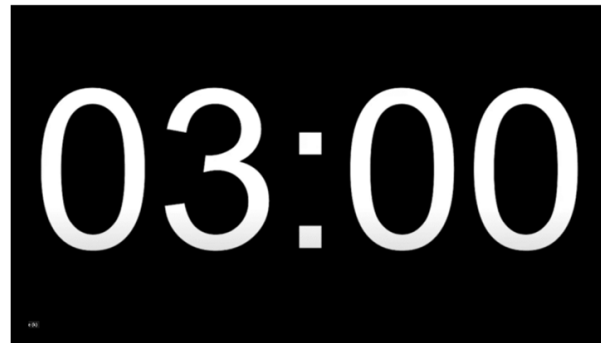
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# During Today's Meeting

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2. State and spell your name clearly
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If you would like to provide a comment:

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- If online using the Zoom platform, please press the “raise hand” icon or submit your comment in the question and answer (Q&A) box



# Scoping Input Due

Submit written comments before 5 p.m. September 30, 2022

By email:

[jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)

By mail:

Attn: Jeremy Shaw  
Fresno County Department of Public Works and Planning  
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Key Energy Storage Project (EIR 8189)

# Thank you for participating



Key Energy Storage Project (EIR 8189)

**Transcript**  
**Second Public Scoping Meeting**  
**Key Energy Storage Project**  
**September 21, 0222**

1  
2  
3  
4  
5  
6  
7 Janna Scott: Good morning. Welcome to the second public scoping meeting  
8 for the Key Energy Storage Project Environmental Impact Report. We are  
9 going to give people just a couple of minutes to join, and then we'll  
10 begin.

11  
12 For those of you who have already joined, thank you for being prompt. Our  
13 preference always is to start meetings on time, but we are going to give  
14 people just a minute two to join us.

15  
16 Janna Scott: Let's go ahead and get started. I want to respect  
17 everybody's time.

18  
19 Thank you for joining us for the second public scoping meeting for the  
20 Key Energy Storage Project. My name is Janna Scott. I'm a director with  
21 Environmental Science Associates, the County's environmental consultant  
22 for this project.

23  
24 We're glad you're here. Thanks for making time this morning.

25  
26 We'll make brief introductions, explain why we're here, provide  
27 information about the project and the county's permitting and  
28 environmental review processes, and then we'll open the meeting for your  
29 comments and questions.

30  
31 Any comments made in this meeting, including written comments using the  
32 question answer box, will become part of the public record.

33  
34 Jeremy Shaw, who will be the County's Leap planner for this project can't  
35 be with us this morning, but others of the County will be, including  
36 David Randall, Senior Planner. Tee County will be the lead agency for  
37 this environmental impact report. Environmental Science Associates is  
38 supporting the County's environmental review process. Key Energy Storage,  
39 LLC is the Project Applicant.

40  
41 The California Environmental Quality Act (CEQA) encourages public  
42 participation throughout the planning process. This second scoping  
43 meeting is an additional opportunity to provide input to inform the scope  
44 of the county's EIR. If you have already participated in the scoping  
45 process for this project, whether in writing or as part of the first  
46 public scoping meeting, there is no need to resubmit your input. We  
47 covered all of the information that we're going to cover this morning in  
48 the first meeting as well.

49  
50 The purpose of this meeting is for us to hear from you to help you decide  
51 what environmental considerations might be most important to you. We'll  
52 start with an overview of the project.

1 The project site is located in southwestern Fresno County, approximately  
2 four miles south-southwest of the city of Huron, and approximately 1.2  
3 miles east of the intersection of West Jayne Avenue and Interstate 5. The  
4 area is characterized by large-scale irrigated agriculture and  
5 agricultural processing operations.

6  
7 The site is located on the south side of West Jayne Avenue, and adjacent  
8 to the existing PG&E Gates electrical substation. The site consists of  
9 approximately 208 acres, within a 318-acre area comprised of three  
10 assessors parcels.

11  
12 The project proposes an energy storage facility to be comprised of  
13 batteries or another energy storage technology. The proposed facility has  
14 an estimated storage capacity of three or more gigawatts of energy, and  
15 would have an approximately 40-year lifespan. On-site project support  
16 facilities would include a collector substation, inverters with  
17 connection lines, heating ventilation and air conditioning units, fire  
18 suppression systems, transformers, access roads, a supervisory control  
19 and data acquisition system, and security lighting. Diesel generators may  
20 be needed.

21  
22 The project also includes an approximately 0.3-mile long, 500 kilovolts  
23 overhead generation tie line that would extend north from the site to the  
24 PG&E Gates substation. This line would be installed on new steel or  
25 concrete poles, each up to 150-foot tall, and spaced at approximately  
26 500-foot intervals.

27  
28 For those of you who can see the presentation. The energy storage units  
29 could look like the example shown on this slide. Alternatively, the  
30 energy storage units could look like the examples shown on this slide.  
31 The applicant has not yet selected the specific storage technology, so  
32 the county's EIR will analyze the potential environmental impacts of all  
33 of the options under consideration.

34  
35 The applicant has requested a conditional use permit. Williamson Act  
36 contract cancellation also is likely to be required. Each of these  
37 discretionary approvals would require the county to certify an  
38 environmental impact report before the project could be allowed to  
39 operate.

40  
41 A conditional use permit would be needed for permission to operate the  
42 energy storage facility. The conditional use permit process occurs in  
43 parallel to preparation of the environmental impact report: while the  
44 consultant prepares the EIR, County staff considers the project's  
45 consistency with five findings that must be made before a conditional use  
46 permit may be approved. Upon publication of the final EIR, the project  
47 will be scheduled for a hearing before the Planning Commission, where the  
48 Commission will consider Staff's recommendation and make a decision.

49  
50 The project is proposed on land that is enrolled in the Williamson Act  
51 program and subject to contract. The use of land subject to a Williamson  
52 Act contract is limited to specified, allowed, or compatible uses.  
53 Because the proposed energy storage facility is not considered a  
54 compatible use on Williamson Act contracted lands, the contract must be

1 canceled before the project may proceed. The Agricultural Lands  
2 Conservation Commission will make a recommendation about the requested  
3 contract cancellation, and a final decision on cancellation would be made  
4 by the County Board of Supervisors.

5  
6 The county is conducting its environmental evaluation in accordance with  
7 both the California Environmental Quality act and its own environmental  
8 rules for the consideration of energy projects.

9  
10 CEQA applies to most public agency decisions to authorize or approve  
11 activities that could have a significant adverse impact on the physical  
12 environment. The CEQA process consists of three stages. The first stage  
13 is the scoping process. This is where we are now: the very beginning.  
14 Information learned in the scoping process will be applied during the  
15 second stage: preparation of the draft EIR. In the third stage, the  
16 county will invite agency and public comments on the draft EIR, respond  
17 to comments and issue a final EIR for consideration by county decision  
18 makers.

19  
20 The initial scoping period for this project opened on July 25th and  
21 closed August 24th. The county has reopened the scoping period for an  
22 additional 14 days to invite additional input. The new deadline to  
23 provide scoping input is Friday, September 30th, at 5 p.m. All scoping  
24 input received between July 25th and September 30th will be considered in  
25 the development of the draft EIR.

26  
27 The EIR will evaluate whether the project could negatively affect any of  
28 the environmental resource areas identified in CEQA Guidelines Appendix  
29 G's Environmental Checklist. At this beginning stage of the CEQA process,  
30 the actual environmental impacts of the project are unknown. They will be  
31 determined during the development of the EIR. Again, we will be  
32 evaluating each of the resource areas listed here; however, part of our  
33 task during this scoping process is to hear from you about which specific  
34 impacts merit particular focus.

35  
36 The EIR also will consider whether alternatives to the project as  
37 proposed could accomplish most of the basic objectives of the project,  
38 while avoiding or substantially reducing potential significant impacts.  
39 CEQA also requires consideration of a no-project alternative, which  
40 generally describes what would be reasonably expected to occur in the  
41 future if the project were not approved.

42  
43 Two definitions are particularly important in the context of CEQA  
44 alternatives, reasonable and feasible. First, the range of alternatives  
45 required in an EIR is governed by a rule of reason that requires the EIR  
46 to set forth only those alternatives necessary to permit a reasoned  
47 choice. The alternatives are limited to ones that would be able to avoid  
48 or substantially lessen any of the potential significant impacts of the  
49 project. Regarding feasibility, multiple factors are considered when  
50 determining whether a potential alternative is feasible. They include  
51 site, suitability, economic viability, the availability of necessary  
52 infrastructure, general plan, consistency, other plans or regulatory  
53 limitations, and whether the project proponent reasonably can acquire  
54 access to an alternative site.

1 For those of you who can see the presentation, the graphic on this slide  
2 shows that the EIR will compare potential impacts of the project, a No  
3 Project Alternative, and one or more project alternatives that meet the  
4 criteria.  
5  
6 Under the proposed project, the requested conditional use permit would be  
7 issued, the Williamson Act Contract would be canceled, three or more  
8 gigawatts of energy storage capacity and related uses would be developed  
9 within the 318-acre, three parcel area.  
10  
11 Under the No Project alternative, no use permit would be issued, the  
12 Williamson Act contract would remain in place, no energy storage facility  
13 or related uses would be developed on the site, existing farming or  
14 following would continue, and the potential would remain for other uses  
15 or projects to be proposed consistent with the general plan and zoning  
16 ordinance.  
17  
18 After scoping, the county will prepare a draft EIR, release it for public  
19 review, consider and respond to comments, and then issue a final EIR for  
20 consideration as part of the decision-making process. At this initial  
21 stage we're anticipating that a draft EIR will be issued over the winter,  
22 and a final EIR would be issued next fall.  
23  
24 Members of the public can participate at each stage. You can participate  
25 in today's meeting, submit scoping comments until 5 pm on September 30th,  
26 submit comments on the draft EIR once it's released, and participate in  
27 public hearings on the process on the project. To stay informed about the  
28 project, you can request to receive project notices. You also can keep an  
29 eye on the county's website.  
30  
31 You can participate in the scoping process now or until 5 pm on  
32 September 30th. If you're participating by phone and would like to make a  
33 comment, please dial star nine to let us know that you'd like to make a  
34 comment. Steven can take you off mute and invite you to speak. If you're  
35 participating via the zoom platform, you can select the raise hand  
36 feature at the bottom of your screen to request to speak, or you can  
37 enter input directly into the question and answer (the Q&A) box.  
38  
39 To participate later, you can email Jeremy Shaw or submit your comments  
40 to Fresno County Department of Public Works and Planning in person or by  
41 mail. All comments will be included in the public record, and considered  
42 in the preparation of the EIR.  
43  
44 This meeting is our opportunity to hear from you about where you think  
45 the EIR should focus. All speakers will have up to 3 minutes. Please  
46 state and spell your name for the record so we can make sure to capture  
47 it accurately for the purposes of the record.  
48  
49 Would anyone on the phone or participating via zoom like to make  
50 comments? Hearing none...  
51  
52 We thank you for participating in the presentation portion, and we're  
53 going to go on a break, either until someone indicates that they would  
54 like to provide comments over the phone or in Q&A or until 10:30.

1 Again, for those of you who have joined us by phone, just wanted to  
2 circle back so you're not listening only to quiet. We are currently on a  
3 break until others elect to provide a comment, or until 10:30.  
4

5 Thanks for being with us on the line. And if you would like to make a  
6 comment, please dial star nine on your phone's keypad to request to speak  
7 or, using the zoom platform, you can press the raise hand icon, or submit  
8 comments directly into the Q&A box. Thanks, and we'll be back with you at  
9 10:30 or sooner if somebody indicates they'd like to speak.  
10

11 It's about 10:26 and, before we wrap for the day, I wanted to give people  
12 another opportunity to weigh in if they'd like to, and also to remind  
13 people to submit written comments before 5 pm on September 30th either by  
14 email or in person at the county or by US Post. Again, the deadline to  
15 submit scoping input is September 30th. All input, from the initiation of  
16 the initial scoping period through the 30th will be considered in the  
17 development of the EIR. We will hang on the line for another three  
18 minutes.  
19

20 We still have one person on the phone and a couple of people  
21 participating via the zoom platform, so I just want to make sure  
22 everybody has a chance.  
23

24 David and Stephen, we just have one person left on the phone line and  
25 it's Olivia, who is on our project team. So all agency participants and  
26 members of the public and applicant representatives have dropped off.

# Exhibit E

## Scoping Comment Letters





## NATIVE AMERICAN HERITAGE COMMISSION

July 22, 2022

Governor's Office of Planning &amp; Research

JUL 22 2022

Jeremy Shaw  
Fresno County Department of Public Works  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721

## STATE CLEARINGHOUSE

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**Laura Miranda**  
Luiseño

VICE CHAIRPERSON  
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COMMISSIONER  
**Isaac Bojorquez**  
Ohlone-Costanoan

COMMISSIONER  
**Buffy McQuillen**  
Yokayo Pomo, Yuki,  
Nomlaki

COMMISSIONER  
**Wayne Nelson**  
Luiseño

COMMISSIONER  
**Stanley Rodriguez**  
Kumeyaay

EXECUTIVE SECRETARY  
**Raymond C.  
Hitchcock**  
Miwok/Nisenan

**NAHC HEADQUARTERS**  
1550 Harbor Boulevard  
Suite 100  
West Sacramento,  
California 95691  
(916) 373-3710  
[nahc@nahc.ca.gov](mailto:nahc@nahc.ca.gov)  
[NAHC.ca.gov](http://NAHC.ca.gov)

**Re: 2022070414, Key Energy Storage Project, Fresno County**

Dear Mr. Shaw:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines § 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

**Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

- 1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project:** Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

  - a.** A brief description of the project.
  - b.** The lead agency contact information.
  - c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
  - d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).
- 2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report:** A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

  - a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).
- 3. Mandatory Topics of Consultation If Requested by a Tribe:** The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

  - a.** Alternatives to the project.
  - b.** Recommended mitigation measures.
  - c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).
- 4. Discretionary Topics of Consultation:** The following topics are discretionary topics of consultation:

  - a.** Type of environmental review necessary.
  - b.** Significance of the tribal cultural resources.
  - c.** Significance of the project's impacts on tribal cultural resources.
  - d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).
- 5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process:** With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).
- 6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document:** If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

  - a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
  - b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

- 7. Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:
- a.** The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
  - b.** A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).
- 8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).
- 9. Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).
- 10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
- a.** Avoidance and preservation of the resources in place, including, but not limited to:
    - i.** Planning and construction to avoid the resources and protect the cultural and natural context.
    - ii.** Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
  - b.** Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - i.** Protecting the cultural character and integrity of the resource.
    - ii.** Protecting the traditional use of the resource.
    - iii.** Protecting the confidentiality of the resource.
  - c.** Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
  - d.** Protecting the resource. (Pub. Resource Code §21084.3 (b)).
  - e.** Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
  - f.** Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).
- 11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
- a.** The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
  - b.** The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
  - c.** The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: [http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation\\_CalEPAPDF.pdf](http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf)

## SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: [https://www.opr.ca.gov/docs/09\\_14\\_05\\_Updated\\_Guidelines\\_922.pdf](https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf).

Some of SB 18's provisions include:

1. **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. **No Statutory Time Limit on SB 18 Tribal Consultation.** There is no statutory time limit on SB 18 tribal consultation.
3. **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. **Conclusion of SB 18 Tribal Consultation:** Consultation should be concluded at the point in which:
  - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
  - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>.

### NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center ([https://ohp.parks.ca.gov/?page\\_id=30331](https://ohp.parks.ca.gov/?page_id=30331)) for an archaeological records search. The records search will determine:
  - a. If part or all of the APE has been previously surveyed for cultural resources.
  - b. If any known cultural resources have already been recorded on or adjacent to the APE.
  - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
  - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
  - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
  - a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
  - b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
  
4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
  - a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
  - b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
  - c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address:  
[Cameron.Vela@nahc.ca.gov](mailto:Cameron.Vela@nahc.ca.gov).

Sincerely,

*Cameron Vela*

Cameron Vela  
Cultural Resources Analyst

cc: State Clearinghouse



07/27/2022

Jeremy Shaw  
2220 Tulare Street, Sixth Floor, Fresno, CA 93721, USA  
jshaw@FresnoCountyCA.gov

Construction Site Well Review (CSWR) ID: 1012539

Assessor Parcel Number(s): 08504058S, 08504036S, 08504037S

Property Owner(s): Key Energy Storage, LLC

Project Location Address: 4 miles SW City of Huron, 0.4 mile E of I-5 immediately south of W. Jayne Avenue, Huron, California 93234

Project Title: Key Energy Storage Project, Unclassified Conditional Use Permit Application No. 3734 & EIR No. 8189

Public Resources Code (PRC) § 3208.1 establishes well reabandonment responsibility when a previously plugged and abandoned well will be impacted by planned property development or construction activities. Local permitting agencies, property owners, and/or developers should be aware of, and fully understand, that significant and potentially dangerous issues may be associated with development near oil, gas, and geothermal wells.

The California Geologic Energy Management Division (CalGEM) has received and reviewed the above referenced project dated 7/27/2022. To assist local permitting agencies, property owners, and developers in making wise land use decisions regarding potential development near oil, gas, or geothermal wells, the Division provides the following well evaluation.

The project is located in Fresno County, within the boundaries of the following fields:

N/A

Our records indicate there are no known oil or gas wells located within the project boundary as identified in the application.

- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0
- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 0
- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0
- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 0

As indicated in PRC § 3106, the Division has statutory authority over the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells, and attendant facilities, to prevent, as far as possible, damage to life, health, property, and natural resources; damage to underground oil, gas, and geothermal deposits; and damage to underground and surface waters suitable for irrigation or domestic purposes. In addition to the Division's authority to order work on wells pursuant to PRC §§ 3208.1 and 3224, it has authority to issue civil and criminal penalties under PRC §§ 3236, 3236.5, and 3359 for violations within the Division's jurisdictional authority. The Division does not regulate grading, excavations, or other land use issues.

If during development activities, any wells are encountered that were not part of this review, the property owner is expected to immediately notify the Division's construction site well review engineer in the Inland district office, and file for Division review an amended site plan with well casing diagrams. The District office will send a follow-up well evaluation letter to the property owner and local permitting agency.

Should you have any questions, please contact me at (661) 326-6016 or via email at [Victor.Medrano@conservation.ca.gov](mailto:Victor.Medrano@conservation.ca.gov).

Sincerely,



Jeff Kimber for  
William Long  
Acting District Deputy

cc: Jeremy Shaw - Submitter



JULY 29, 2022

VIA EMAIL: [JSHAW@FRESNOCOUNTYCA.GOV](mailto:JSHAW@FRESNOCOUNTYCA.GOV)

Attn: Jeremy Shaw, Planner

Fresno County Department of Public Works and Planning

Development Services and Capital Projects Division

2220 Tulare Street, Sixth Floor

Fresno, CA 93721

Dear Mr. Shaw:

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE KEY ENERGY STORAGE PROJECT, SCH# 2022070414

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Notice of Preparation of an Environmental Impact Report for the Key Energy Storage Project (Project). The Division monitors farmland conversion on a statewide basis, provides technical assistance regarding the Williamson Act, and administers various agricultural land conservation programs. We offer the following comments and recommendations with respect to the project's potential impacts on agricultural land and resources.

#### Project Description

The applicant proposes to construct, operate, maintain, and decommission an energy storage facility on approximately 318-acres of private land comprised of APNs 085-040-58S, 085-040-36S, and 085-040-37S in western Fresno County. The site is located 4 miles southwest of the City of Huron, 0.4 mile east of Interstate 5 (I-5), immediately south of W. Jayne Avenue, between I-5 and South Lassen Avenue (State Route 269), and adjacent to PG&E's existing Gates Substation.

The project could store 3 gigawatts of energy or more in modular enclosures. The project would consist of a lithium ion, iron-flow, or other similar storage technology. On-site project support facilities would include a collector substation, inverters with connection lines, heating ventilating and air conditioning (HVAC) units, transformers, fencing, access roads, a supervisory control and data acquisition system, and security lighting. The project also includes an approximately 0.3-mile long, 500-kilovolt (kV) overhead generation tie line that would extend north to the Gates Substation. This line would be installed on new steel or concrete poles, each up to 150 feet tall and spaced at approximately 500-foot intervals. Project buildout would occur in four phases.



The project site is designated as Prime Farmland and subject to Williamson Act contracts. It currently is in agricultural production (a citrus orchard on APN 085-040-58S) and fallow (085-040-36S and 085-040-37S).

### Department Comments

The conversion of agricultural land represents a permanent reduction and significant impact to California's agricultural land resources. CEQA requires that all feasible and reasonable mitigation be reviewed and applied to projects. Under CEQA, a lead agency should not approve a project if there are feasible alternatives or feasible mitigation measures available that would lessen the significant effects of the project.

All mitigation measures that are potentially feasible should be included in the project's environmental review. A measure brought to the attention of the lead agency should not be left out unless it is infeasible based on its elements.

Consistent with CEQA Guidelines, the Department recommends the County consider agricultural conservation easements, among other measures, as potential mitigation. (See Cal. Code Regs., tit. 14, § 15370 [mitigation includes "compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements."])

Mitigation through agricultural easements can take at least two forms: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements. The conversion of agricultural land should be deemed an impact of at least regional significance. Hence, the search for replacement lands should not be limited strictly to lands within the project's surrounding area.

A helpful source for regional and statewide agricultural mitigation banks is the California Council of Land Trusts. They provide helpful insight into farmland mitigation policies and implementation strategies, including a guidebook with model policies and a model local ordinance. The guidebook can be found at:

[California Council of Land Trusts](#)

Of course, the use of conservation easements is only one form of mitigation that should be considered. Any other feasible mitigation measures should also be considered. Indeed, the recent judicial opinion in *King and Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814 ("KG Farms") holds that agricultural conservation easements on a 1 to 1 ratio are not alone sufficient to adequately mitigate a project's conversion of agricultural land. KG Farms does not stand for the proposition that agricultural conservation easements are irrelevant as mitigation. Rather, the holding suggests that to the extent they are considered, they may need to be applied at a greater than 1 to

1 ratio, or combined with other forms of mitigation (such as restoration of some land not currently used as farmland).

### Conclusion

The Department recommends further discussion of the following issues:

- Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project.
- Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.
- Incremental impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely future projects.
- Proposed mitigation measures for all impacted agricultural lands within the proposed project area.
- Projects compatibility with lands within an agricultural preserve and/or enrolled in a Williamson Act contract.
- If applicable, notification of Williamson Act contract non-renewal and/or cancellation.

Thank you for giving us the opportunity to comment on the Notice of Preparation of an Environmental Impact Report for the Key Energy Storage Project. Please provide this Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Associate Environmental Planner via email at [Farl.Grundy@conservation.ca.gov](mailto:Farl.Grundy@conservation.ca.gov).

Sincerely,



Monique Wilber  
Conservation Program Support Supervisor

## California Department of Transportation

DISTRICT 6 OFFICE  
1352 WEST OLIVE AVENUE | P.O. BOX 12616 | FRESNO, CA 93778-2616  
(559) 908-7064 | FAX (559) 488-4195 | TTY 711  
[www.dot.ca.gov](http://www.dot.ca.gov)



August 24, 2022

FRE-5-4.456  
NOP – Notice of Preparation of an EIR  
NOP – Key Energy Storage Project (EIR 8189)  
SCH # 2022070414  
<https://ld-igr-gts.dot.ca.gov/district/6/report/25490>

### **SENT VIA EMAIL**

Jeremy Shaw, Planner  
Development Services and Capital Projects Division  
County of Fresno – Department of Public Works and Planning  
2220 Tulare St., 6th Floor  
Fresno, CA 93721

Dear Mx. Shaw:

Thank you for the opportunity to review the Notice of Preparation (NOP) for the Key Energy Storage Project, which proposes to construct an energy storage system and appurtenant transmission infrastructure on an approximately 208-acre portion of three parcels (318-acres). The project includes a 500-kilovolt overhead generation tie line, which would extend north to the adjacent Pacific Gas and Electric Gates Substation. The facility, once constructed, would be operated remotely with periodic augmentation of batteries and weekly on-site maintenance requiring one or two workers in a light utility truck. The project site is located on the southeast corner of Lake Avenue and Jayne Avenue, approximately 1.5 miles east of the Interstate 5 (I-5) and Jayne Avenue interchange and 1.6 miles west of State Route (SR) 269 and Jayne Avenue intersection.

This project was previously reviewed as part of the Unclassified Conditional Use Permit (CUP) No. 3734 and Environmental Impact Report (EIR) No. 8189 applications with our office submitting a comment letter dated February 17, 2022. For reference, the previous comment letter is included as Attachment "A".

Caltrans provides the following comments consistent with the State's smart mobility goals that support a vibrant economy and sustainable communities:

1. It is expected that the proposed project, during construction, could potentially impact nearby state highway facilities and local roads.
2. Given that the project site is located near I-5 and SR 269 and the potential trip generation from construction, the proposed project may have a significant impact on the state highway facilities. **It is recommended that a Traffic Impact Study (TIS) be conducted. The scope of the study should include safety, operations, and queuing analysis for the intersection within the I-5 / Jayne Avenue interchange.**
3. As mentioned, it is recommended that a traffic study be conducted to properly assess the potential impacts of the project, **a Scope of Work should be prepared and submitted to Caltrans for review and approval, at minimum a Transportation Management Plan (TMP) may be required for construction traffic.**
4. Oversize and/or overweight trucks using the state highway will require Transportation Permits from Caltrans.
5. An encroachment permit must be obtained for all proposed activities for placement of encroachments within, under or over the State highway rights-of-way. Activity and work planned in the State right-of-way shall be performed to State standards and specifications, at no cost to the State. Engineering plans, calculations, specifications, and reports (documents) shall be stamped and signed by a licensed Engineer or Architect. Engineering documents for encroachment permit activity and work in the State right-of-way may be submitted using English Units. The Permit Department and the Environmental Planning Branch will review and approve the activity and work in the State right-of-way before an encroachment permit is issued. The Streets and Highways Code Section 670 provides Caltrans discretionary approval authority for projects that encroach on the State Highway System. Encroachment permits will be issued in accordance with Streets and Highway Codes, Section 671.5, "Time Limitations." Encroachment permits do not run with the land. A change of ownership requires a new permit application. Only the legal property owner or his/her authorized agent can pursue obtaining an encroachment permit.
6. Prior to an encroachment permit application submittal, the project proponent is required to schedule a "Pre-Submittal" meeting with District 6 Encroachment Permit Office. To schedule this meeting, please call the Caltrans Encroachment Permit Office - District 6: 1352 W. Olive, Fresno, CA 93778, at **(559) 488-4058**

Jeremy Shaw, NOP – Key Energy Storage Project (EIR 8189)

August 24, 2022

Page 3

**Please review the permit application - required document checklist at:**

<https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?fmid=TR0402&distpath=MAOTO&brapath=PERM>

**Please also review the permit application - processing checklist at:**

<https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/tr-0416-applicable-review-process-checklist.pdf>

If you have any other questions, please call or email Christopher Xiong at (559) 908-7064 or [Christopher.Xiong@dot.ca.gov](mailto:Christopher.Xiong@dot.ca.gov).

Sincerely,



DAVID PADILLA, Branch Chief  
Transportation Planning – North

C: State Clearinghouse

Attachment "A":

Comment letter dated February 17, 2022

## California Department of Transportation

DISTRICT 6 OFFICE  
1352 WEST OLIVE AVENUE | P.O. BOX 12616 | FRESNO, CA 93778-2616  
(559) 981-1041 | FAX (559) 488-4195 | TTY 711  
[www.dot.ca.gov](http://www.dot.ca.gov)



February 17, 2022

FRE-5-4.456

Application for CUP – Conditional Use Permit

EIR No. 8189 and CUP No. 3734

<https://ld-igr-gts.dot.ca.gov/district/6/report/25490>

### **SENT VIA EMAIL**

Jeremy Shaw, Planner  
Development Services and Capital Projects Division  
County of Fresno – Department of Public Works and Planning  
2220 Tulare St., 6th Floor  
Fresno, CA 93721

Dear Mr. Shaw,

Thank you for the opportunity to review the Conditional Use Permit (CUP) No. 3734 application and Project Description for the upcoming Environmental Impact Report (EIR) No. 8189, proposing to construct an energy storage system and appurtenant transmission infrastructure on an approximately 208-acre portion of three parcels (318-acres). The project includes a 500-kilovolt overhead generation tie line, which would extend north to the adjacent Pacific Gas and Electric Gates Substation. The facility, once constructed, would be operated remotely with periodic augmentation of batteries and weekly on-site maintenance requiring one or two workers in a light utility truck. The project site is located on the southeast corner of Lake Avenue and Jayne Avenue, approximately 1.5 miles east of the Interstate 5 (I-5) and Jayne Avenue interchange and 1.6 miles west of State Route (SR) 269 and Jayne Avenue intersection.

### **General Comments**

Construction would occur in four phases. Phase 1 is to begin in 2024 and take 12 months to complete in 2025. Phase 2 would follow with 12 months completing in 2026 with Phase 3 and 4 expected to take an additional 1-3 years. In total, the project anticipates being in construction for 3 to 5 years. Up to 300 worker trips and 80 vendor truck trips per day would be anticipated during the construction phases. Given that the project site is near I-5 and SR 269 and the potential trip generation from construction, the proposed project may have a significant impact on the state highway facilities. It is recommended that a Traffic Impact Study (TIS) be conducted. The scope of the study should include safety, operations, and queuing analysis for the intersection within the I-5 / Jayne Avenue interchange.

“Provide a safe and reliable transportation network that serves all people and respects the environment”

Caltrans provides the following comments to better support the State's smart mobility goals that support a vibrant economy and sustainable communities:

1. It is expected that the proposed project, during construction, could potentially impact nearby state highway facilities and local roads.
2. As noted above, Caltrans recommends that a traffic study be conducted to properly assess the potential impacts of the project, a Scope of Work should be prepared and submitted to Caltrans for review and approval, at minimum a Transportation Management Plan (TMP) may be required for construction traffic.
3. Oversize and/or overweight trucks using the state highway will require Transportation Permits from Caltrans.
4. An encroachment permit must be obtained for all proposed activities for placement of encroachments within, under or over the State highway rights-of-way. Activity and work planned in the State right-of-way shall be performed to State standards and specifications, at no cost to the State. Engineering plans, calculations, specifications, and reports (documents) shall be stamped and signed by a licensed Engineer or Architect. Engineering documents for encroachment permit activity and work in the State right-of-way may be submitted using English Units. The Permit Department and the Environmental Planning Branch will review and approve the activity and work in the State right-of-way before an encroachment permit is issued. The Streets and Highways Code Section 670 provides Caltrans discretionary approval authority for projects that encroach on the State Highway System. Encroachment permits will be issued in accordance with Streets and Highway Codes, Section 671.5, "Time Limitations." Encroachment permits do not run with the land. A change of ownership requires a new permit application. Only the legal property owner or his/her authorized agent can pursue obtaining an encroachment permit.
5. Prior to an encroachment permit application submittal, the project proponent is required to schedule a "Pre-Submittal" meeting with District 6 Encroachment Permit Office. To schedule this meeting, please call the Caltrans Encroachment Permit Office - District 6: 1352 W. Olive, Fresno, CA 93778, at **(559) 488-4058**

**Please review the permit application - required document checklist at:**

<https://forms.dot.ca.gov/v2Forms/servlet/FormRenderer?frmId=TR0402&distpath=M AOTO&brapath=PERM>

Jeremy Shaw, EIR No. 8189 and CUP No. 3734

February 17, 2022

Page 3

**Please also review the permit application - processing checklist at:**

<https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/encroachment-permits/tr-0416-applicable-review-process-checklist.pdf>

If you have any other questions, please call or email Christopher Xiong at (559) 908-7064 or [Christopher.Xiong@dot.ca.gov](mailto:Christopher.Xiong@dot.ca.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read 'David Padilla', with a long horizontal flourish extending to the right.

DAVID PADILLA, Branch Chief  
Transportation Planning – North



August 24, 2022

Jeremy Shaw  
County of Fresno  
Department of Public Works and Planning  
2220 Tulare Street, Sixth Floor  
Fresno, CA 93721

**Project: Notice of Preparation of a Draft Environmental Impact Report for the Key Energy Storage Project**

**District CEQA Reference No: 20221021**

Dear Mr. Shaw:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) from the County of Fresno (County) for the Key Energy Storage Project. Per the NOP, the project consists of the construction, operation, maintenance and decommissioning of an energy storage facility on approximately 318 acres of land (Project). The Project is located south of West Jayne Avenue, between I-5 and South Lassen Avenue, near Avenal, CA.

The District offers the following comments regarding the Project:

**1) Project Related Emissions**

At the federal level under the National Ambient Air Quality Standards (NAAQS), the District is designated as extreme nonattainment for the 8-hour ozone standards and serious nonattainment for the particulate matter less than 2.5 microns in size (PM<sub>2.5</sub>) standards. At the state level under California Ambient Air Quality Standards (CAAQS), the District is designated as nonattainment for the 8-hour ozone, PM<sub>10</sub>, PM<sub>2.5</sub> standards.

The documents submitted to the District do not provide sufficient information to allow the District to assess the Project's potential impact on air quality. As such, the environmental review should include a Project summary detailing, at a minimum, the land use designation, estimates of potential mobile and stationary emission sources. The District recommends that a more detailed preliminary review of the Project be conducted for the Project's construction and operational emissions.

**Samir Sheikh**

Executive Director/Air Pollution Control Officer

---

**Northern Region**  
4800 Enterprise Way  
Modesto, CA 95356-8718  
Tel: (209) 557-6400 FAX: (209) 557-6475

**Central Region (Main Office)**  
1990 E. Gattysburg Avenue  
Fresno, CA 93726-0244  
Tel: (559) 230-8000 FAX: (559) 230-8081

**Southern Region**  
34946 Flyover Court  
Bakersfield, CA 93308-9725  
Tel: (861) 392-5500 FAX: (861) 392-5585

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### **1a) Construction Emissions**

The District recommends, to reduce impacts from construction-related diesel exhaust emissions, the Project should utilize the cleanest available off-road construction equipment, including the latest tier equipment.

### **1b) Operational Emissions**

Operational (ongoing) air emissions from mobile sources and stationary sources should be analyzed separately. For reference, the District's significance thresholds are identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts:

<https://www.valleyair.org/transportation/GAMAQI.pdf>.

*Recommended Mitigation Measure:* At a minimum, project related impacts on air quality should be reduced to levels of significance through incorporation of design elements such as the use of cleaner Heavy Heavy-Duty (HHD) trucks and vehicles, measures that reduce Vehicle Miles Traveled (VMTs), and measures that increase energy efficiency. More information on transportation mitigation measures can be found at:

<http://www.valleyair.org/transportation/Mitigation-Measures.pdf>.

### **1c) Recommended Model for Quantifying Air Emissions**

Project-related criteria pollutant emissions from construction and operational sources should be identified and quantified. Emissions analysis should be performed using the California Emission Estimator Model (CalEEMod), which uses the most recent CARB-approved version of relevant emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: [www.caleemod.com](http://www.caleemod.com).

## **2) Health Risk Screening/Assessment**

The County should evaluate the risk associated with the Project for sensitive receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) in the area and mitigate any potentially significant risk to help limit exposure of sensitive receptors to emissions.

To determine potential health impacts on surrounding receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) a Prioritization and/or a Health Risk Assessment (HRA) should be performed for the Project. These health risk determinations should quantify and characterize potential Toxic Air Contaminants (TACs) identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) that pose a present or potential hazard to human health.

Health risk analyses should include all potential air emissions from the project, which include emissions from construction of the project, including multi-year construction, as well as ongoing operational activities of the project. Note, two common sources of TACs can be attributed to diesel exhaust emitted from heavy-duty off-road earth moving equipment during construction, and from ongoing operation of heavy-duty on-road trucks.

Prioritization (Screening Health Risk Assessment):

A “Prioritization” is the recommended method for a conservative screening-level health risk assessment. The Prioritization should be performed using the California Air Pollution Control Officers Association’s (CAPCOA) methodology.

The District recommends that a more refined analysis, in the form of an HRA, be performed for any project resulting in a Prioritization score of 10 or greater. This is because the prioritization results are a conservative health risk representation, while the detailed HRA provides a more accurate health risk evaluation.

To assist land use agencies and project proponents with Prioritization analyses, the District has created a prioritization calculator based on the aforementioned CAPCOA guidelines, which can be found here:

[http://www.valleyair.org/busind/pto/emission\\_factors/Criteria/Toxics/Utilities/PRIORITIZATION-CALCULATOR.xls](http://www.valleyair.org/busind/pto/emission_factors/Criteria/Toxics/Utilities/PRIORITIZATION-CALCULATOR.xls)

Health Risk Assessment:

Prior to performing an HRA, it is strongly recommended that land use agencies/ project proponents develop and submit for District review a health risk modeling protocol that outlines the sources and methodologies that will be used to perform the HRA. This step will ensure all components are addressed when performing the HRA.

A development project would be considered to have a potentially significant health risk if the HRA demonstrates that the project-related health impacts would exceed the District’s significance threshold of 20 in a million for carcinogenic risk, or 1.0 for either the Acute or Chronic Hazard Indices.

A project with a significant health risk would trigger all feasible mitigation measures. The District strongly recommends that development projects that result in a significant health risk not be approved by the land use agency.

The District is available to review HRA protocols and analyses. For HRA submittals please provide the following information electronically to the District for review:

- HRA (AERMOD) modeling files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodologies.

For assistance, please contact the District's Technical Services Department by:

- E-Mailing inquiries to: [hramodeler@valleyair.org](mailto:hramodeler@valleyair.org)
- Calling (559) 230-5900

*Recommended Measure:* Development projects resulting in TAC emissions should be located an adequate distance from residential areas and other sensitive receptors in accordance to CARB's Air Quality and Land Use Handbook: A Community Health Perspective located at <https://ww3.arb.ca.gov/ch/handbook.pdf>.

### **3) Ambient Air Quality Analysis**

An Ambient Air Quality Analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The District recommends an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.

An acceptable analysis would include emissions from both project-specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis.

Specific information for assessing significance, including screening tools and modeling guidance, is available online at the District's website: [www.valleyair.org/ceqa](http://www.valleyair.org/ceqa).

### **4) Voluntary Emission Reduction Agreement**

Criteria pollutant emissions may result in emissions exceeding the District's significance thresholds, potentially resulting in a significant impact on air quality. When a project is expected to have a significant impact, the District recommends the DEIR also include a discussion on the feasibility of implementing a Voluntary Emission Reduction Agreement (VERA) for this Project.

A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and

implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-related impacts on air quality can be mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors.

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the Lead Agency that the mitigation is completed, providing the Lead Agency with an enforceable mitigation measure demonstrating that project-related emissions have been mitigated. To assist the Lead Agency and project proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the environmental document includes an assessment of the feasibility of implementing a VERA.

#### **5) Additional Air Quality Evaluation and Discussion to Include in the DEIR**

- a. A discussion of the methodology, model assumptions, inputs and results used in characterizing the Project's impact on air quality. To comply with CEQA requirements for full disclosure, the District recommends that the modeling outputs be provided as appendices to the EIR. The District further recommends that the District be provided with an electronic copy of all input and output files for all modeling.
- b. A discussion of the components and phases of the Project and the associated air emissions projections, including ongoing emissions from each previous phase.
- c. A discussion of whether the Project would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment. For reference and guidance, more information can be found in the District's Guidance for Assessing and Mitigating Air Quality Impacts at:  
<https://www.valleyair.org/transportation/GAMAQI.pdf>

Therefore, the District recommends that the environmental document include a discussion of how a project will conform to the Court's holding.

## **6) District Rules and Regulations**

The District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. A project subject to District rules and regulations would reduce its impacts on air quality through compliance with the District's regulatory framework. In general, a regulation is a collection of individual rules, each of which deals with a specific topic. As an example, Regulation II (Permits) includes District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 2520 (Federally Mandated Operating Permits), and several other rules pertaining to District permitting requirements and processes.

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: [www.valleyair.org/rules/1ruleslist.htm](http://www.valleyair.org/rules/1ruleslist.htm). To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.

### **6a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources**

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 (Permits Required) requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 (New and Modified Stationary Source Review) requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology (BACT).

This Project may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and may require District permits. Prior to construction, the Project proponent should submit to the District an application for an ATC. For further information or assistance, the project proponent may contact the District's SBA Office at (559) 230-5888.

### **6b) District Rule 9510 - Indirect Source Review (ISR)**

The Project is subject to District Rule 9510 because it will receive a project-level discretionary approval from a public agency and will equal or exceed 9,000 square feet of space.

The purpose of District Rule 9510 is to reduce the growth in both NO<sub>x</sub> and PM emissions associated with development and transportation projects from mobile and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects. The ISR Rule requires

developers to mitigate their NO<sub>x</sub> and PM emissions by incorporating clean air design elements into their projects. Should the proposed development project clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that ultimately funds incentive projects to achieve off-site emissions reductions.

Per Section 5.0 of the ISR Rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency. As of the date of this letter, the District has not received an AIA application for this Project. Please inform the project proponent to immediately submit an AIA application to the District to comply with District Rule 9510. It is preferable for the applicant to submit an AIA application as early as possible in the County's approval process so that proper mitigation and clean air design under ISR can be incorporated into the County's analysis.

Information about how to comply with District Rule 9510 can be found online at: <http://www.valleyair.org/ISR/ISRHome.htm>.

The AIA application form can be found online at: <http://www.valleyair.org/ISR/ISRFormsAndApplications.htm>.

District staff is available to provide assistance, and can be reached by phone at (559) 230-5900 or by email at [ISR@valleyair.org](mailto:ISR@valleyair.org).

#### **6c) District Rule 4601 (Architectural Coatings)**

The Project may be subject to District Rule 4601 since it may utilize architectural coatings. Architectural coatings are paints, varnishes, sealers, or stains that are applied to structures, portable buildings, pavements or curbs. The purpose of this rule is to limit VOC emissions from architectural coatings. In addition, this rule specifies architectural coatings storage, cleanup and labeling requirements. Additional information on how to comply with District Rule 4601 requirements can be found online at: <http://www.valleyair.org/rules/currentrules/r4601.pdf>

#### **6d) District Regulation VIII (Fugitive PM<sub>10</sub> Prohibitions)**

The project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities*.

Should the project result in at least 1-acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the project

proponents intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). Also, should the project result in the disturbance of 5-acres or more, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials, the project proponent shall submit to the District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). For additional information regarding the written notification or Dust Control Plan requirements, please contact District Compliance staff at (559) 230-5950.

The application for both the Construction Notification and Dust Control Plan can be found online at:

<https://www.valleyair.org/busind/comply/PM10/forms/DCP-Form.docx>

Information about District Regulation VIII can be found online at:

[http://www.valleyair.org/busind/comply/pm10/compliance\\_pm10.htm](http://www.valleyair.org/busind/comply/pm10/compliance_pm10.htm)

#### **6e) Other District Rules and Regulations**

The Project may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

#### **7) District Comment Letter**

The District recommends that a copy of the District's comments be provided to the Project proponent.

If you have any questions or require further information, please contact Matt Crow by e-mail at [Matt.Crow@valleyair.org](mailto:Matt.Crow@valleyair.org) or by phone at (559) 230-5931.

Sincerely,

Brian Clements  
Director of Permit Services



For: Mark Montelongo  
Program Manager



## Janna Scott

---

**Subject:** FW: CEQA Comments: NOP for Key Energy Storage Project, 20221021  
**Importance:** High

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**From:** Matt Crow <[Matt.Crow@valleyair.org](mailto:Matt.Crow@valleyair.org)>  
**Sent:** Thursday, August 25, 2022 10:26 AM  
**To:** Shaw, Jeremy <[jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)>  
**Subject:** RE: CEQA Comments: NOP for Key Energy Storage Project, 20221021

Hi Jeremy,

Thank you for bringing this up. That sentence should not have been included in the letter. We can re-issue another letter if you'd like, just let me know!

Regards  
Matt Crow

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**From:** Shaw, Jeremy <[jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)>  
**Sent:** Thursday, August 25, 2022 8:08 AM  
**To:** Matt Crow <[Matt.Crow@valleyair.org](mailto:Matt.Crow@valleyair.org)>  
**Subject:** [SPAM] RE: CEQA Comments: NOP for Key Energy Storage Project, 20221021  
**Importance:** High

Hello Matt,

I actually do have one question; at the bottom of page 5 of 8 there is a sentence which reads "Therefore, the District recommends....how a project will conform to the Courts holding". Can you clarify that reference?

Thank you.

Sincerely,



**Jeremy Shaw** | **Planner**  
**Department of Public Works and Planning |**  
**Development Services and Capital Projects Division**  
2220 Tulare St. 6th Floor Fresno, CA 93721  
Main Office: (559) 600-4230 Direct: (559) 600-4207  
[Your input matters! Customer Service Survey](#)

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**From:** Matt Crow <[Matt.Crow@valleyair.org](mailto:Matt.Crow@valleyair.org)>  
**Sent:** Wednesday, August 24, 2022 5:32 PM  
**To:** Shaw, Jeremy <[jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)>  
**Subject:** CEQA Comments: NOP for Key Energy Storage Project, 20221021

**CAUTION!!! - EXTERNAL EMAIL - THINK BEFORE YOU CLICK**

Hi Jeremy,

Please see the attached comment letter for your project. Let me know if there are any questions.

Regards

**Matt Crow**

Air Quality Specialist I

San Joaquin Valley Air Pollution Control District

1990 E. Gettysburg Avenue Fresno, CA 93726

Phone: (559) 230.5931

[Matt.Crow@valleyair.org](mailto:Matt.Crow@valleyair.org)



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Central Region  
1234 East Shaw Avenue  
Fresno, California 93710  
(559) 243-4005  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

GAVIN NEWSOM, Governor  
CHARLTON H. BONHAM, Director



September 2, 2022

Jeremy Shaw, Planner  
Fresno County, Development Services and Capital Projects Division  
2220 Tulare Street, Sixth Floor  
Fresno, California 93721  
[jshaw@fresnocountyca.gov](mailto:jshaw@fresnocountyca.gov)  
(559) 600-4207

**Subject: Notice of Preparation (NOP) – Environmental Impact Report (EIR) No. 8189, CUP No. 3734, Key Energy Storage, LLC Project (Project) SCH No.: 2022070414**

Dear Mr. Shaw:

The California Department of Fish and Wildlife (CDFW) received a NOP from Fresno County for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.<sup>1</sup>

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under Fish and Game Code. While the comment period may have ended, CDFW would appreciate if you will still consider our comments.

**CDFW ROLE**

CDFW is California’s **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish and G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on

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<sup>1</sup> CEQA is codified in the California Public Resources Code in section 21000 et seq. The “CEQA Guidelines” are found in Title 14 of the California Code of Regulations, commencing with section 15000.

*Conserving California’s Wildlife Since 1870*

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projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

**Nesting Birds:** CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

## PROJECT DESCRIPTION SUMMARY

**Proponent:** Key Energy Storage, LLC

**Objective:** The Project proposes to construct and operate the Key Energy Storage Project (Project) on approximately 208 acres in unincorporated Fresno County. The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of lithium-ion batteries with the potential to store approximately three (3)- gigawatt (GW) of energy. The Project would also include a 500-kilovolt (kV), 0.3-mile long overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation on an approximately 208-acre portion of three parcels totaling approximately 318-acres AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District.

**Location:** The Project site is in unincorporated Fresno County, approximately 11.5-miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles west of Interstate 5. The Project site is located southwest of the PG&E Gates Substation along West Jayne Avenue. (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S).

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The Fresno County General Plan land use designation for the Project site is Agriculture. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts.

**Timeframe:** Buildout of the Project would occur in phases, with Phase 1 expected to come online in 2025, and Phase 2 expected to come online by 2026. After that, Phases 3 and 4 are expected to come online between 1 to 3 years after the previous phase, based on the region's increasing demand for energy storage. The timing of when phases would be online is approximate.

## COMMENTS AND RECOMMENDATIONS

The NOP indicates that the Environmental Impact Report (EIR) for the Project will consider potential environmental effects of the proposed Project to determine the level of significance of the environmental effect and will analyze these potential effects to the detail necessary to make a determination on the level of significance. The EIR will also identify and evaluate alternatives to the proposed project. When an EIR is prepared, the specifics of mitigation measures may be deferred, provided the lead agency commits to mitigation and establishes performance standards for implementation.

Special-status species have been documented in the Project area per the California Natural Diversity Database (CNDDDB), these include, but are not limited to, the Federally endangered and State threatened San Joaquin kit fox (*Vulpes macrotis mutica*), the State threatened Swainson's hawk (*Buteo swainsoni*), and the State species of special concern burrowing owl (*Athene cunicularia*), and American badger (*Taxidea taxus*).

### San Joaquin kit fox (SJKF)

SJKF occurrences have been documented within the Project area approximately 3.5-miles to the east, along the California Aqueduct (CDFW 2022). The Project has the potential to temporarily disturb and permanently alter suitable habitat for SJKF and directly impact individuals if present during construction, recharge, and other activities.

SJKF den in a variety of areas such as right-of-ways, agricultural and fallow/ruderal habitat, dry stream channels, and canal levees, and populations can fluctuate over time. SJKF are also capable of occupying urban environments (Cypher and Frost 1999). SJKF may be attracted to the Project area due to the type and level of ground-disturbing activities and the loose, friable soils resulting from intensive ground disturbance. SJKF will forage in fallow and agricultural fields, which are present in the Project area, and utilize streams and canals as dispersal corridors. Project information states that a swale and two ponding basins will be created within Project limits. As a result, there is potential for SJKF to occupy all suitable habitat within the area near West Jayne Avenue to the east of Interstate 5 and the surrounding area.

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Habitat loss resulting from land conversion to agricultural, urban, and industrial development is the primary threat to SJKF (Cypher et al. 2013). The proposed Project area has supported areas of high suitability habitat per CNDDDB records (CDFW 2022). The Project area is within this remaining highly suitable habitat, which is otherwise intensively managed for agriculture. Therefore, subsequent ground-disturbing activities have the potential to significantly impact local SJKF populations.

For all Project-specific components including construction and land conversion, CDFW recommends that a qualified biologist conduct a habitat assessment in advance of Project implementation, to determine if the Project area or its immediate vicinity contains suitable habitat for SJKF. CDFW recommends during the biological surveys and technical analysis in support of the projects CEQA document assessing presence/absence of SJKF by having qualified biologists conducting surveys of Project areas and a 500-foot buffer of Project areas to detect SJKF and their sign. CDFW also recommends following the USFWS "Standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance" (USFWS. 2011).

SJKF detection warrants consultation with CDFW to discuss how to avoid take or, if avoidance is not feasible, to acquire an Incidental Take Permit (ITP) prior to ground-disturbing activities, pursuant to Fish and Game Code section 2081 subdivision (b).

### **Swainson's Hawk (SWHA)**

Based on aerial photography and CNDDDB occurrences (CDFW 2022), SWHA have the potential to forage within the Project vicinity. SWHA have been observed near the California Aquaduct several miles to the northeast of the proposed Project site. Without appropriate avoidance and minimization measures for SWHA, potential significant impacts that may result from Project activities include loss of foraging habitat that would reduce nesting success (loss or reduced health or vigor of eggs or young), and direct mortality. Any take of SWHA without appropriate incidental take authorization would be a violation of Fish and Game Code.

SWHA exhibit high nest-site fidelity year after year and lack of suitable nesting habitat in the San Joaquin Valley limits their local distribution and abundance (CDFW 2016). Zapato Chino Creek is located approximately 2.8-miles west of the proposed Project site, and per Google arials this ephemeral creek appears to have large enough trees to support nesting activities, in addition, the surrounding agricultural crops near the Project site may provide foraging habitat. The Project as proposed will involve noise, groundwork, and movement of workers that could affect nests in the vicinity of the Project and has the potential to result in nest abandonment, significantly impacting local nesting SWHA. To evaluate potential impacts, CDFW recommends that a qualified wildlife biologist conduct surveys for nesting SWHA following the survey methods developed by the Swainson's Hawk Technical Advisory Committee (SWHA TAC, 2000)

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during biological studies conducted in support of the projects CEQA document. The survey protocol includes early season surveys to assist the project proponent in implementing necessary avoidance and minimization measures, and in identifying active nest sites prior to initiating ground-disturbing activities.

If ground-disturbing Project activities are to take place during the normal bird breeding season (March 1 through September 15), CDFW recommends that additional pre-activity surveys for active nests be conducted by a qualified biologist no more than 10 days prior to the start of Project implementation. CDFW recommends a minimum no-disturbance buffer of ½ mile be delineated around active nests until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.

CDFW recommends compensation for the loss of SWHA foraging habitat to reduce impacts to SWHA foraging habitat to less than significant based on CDFW's "Staff Report Regarding Mitigation for Impacts to Swainson's Hawks" (CDFG, 1994), which recommends that mitigation for habitat loss occur within a minimum distance of 10 miles from known nest sites with the amount of habitat compensation dependent on nest proximity. In addition to fee title acquisition or a conservation easement recorded on property with suitable grassland habitat features, mitigation may occur by the purchase of conservation or suitable agricultural easements. Suitable agricultural easements would include areas limited to production of crops such as alfalfa, dry land and irrigated pasture, and cereal grain crops. Vineyards, orchards, cotton fields, and other dense vegetation do not provide adequate foraging habitat.

In addition, CDFW recommends that in the event an active SWHA nest is detected during surveys and the ½-mile no-disturbance buffer around the nest cannot feasibly be implemented, consultation with CDFW is warranted to discuss how to implement the project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP, pursuant to Fish and Game Code section 2081 subdivision (b) is warranted to comply with CESA

### **Burrowing Owl (BUOW)**

BUOW have been observed approximately 4-miles from the Project site (CNDDDB 2022). BUOW inhabit open grassland or adjacent canal banks, rights-of-way, vacant lots, etc., containing small mammal burrows, a requisite habitat feature used by BUOW for nesting and cover. Review of Google aerial imagery and Google Streetview (2021) indicates that a portion of the Project site contains agriculture in the form of orchards/groves in the middle area of the Project site, but the northern-most portion of the Project area has been cleared and contains piles of previous orchard trees. The ground in this area appears to be tilled/disturbed at the time the Streetview images were taken. The southern-most property appears to be disturbed grassland per review of aerial photos.

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Potentially significant direct impacts associated with subsequent construction activities include burrow collapse, inadvertent entrapment, nest abandonment, reduced reproductive success, reduction in health and vigor of eggs and/or young, and direct mortality of individuals.

BUOW rely on burrow habitat year-round for their survival and reproduction. Habitat loss and degradation are considered the greatest threats to BUOW in California's Central Valley (Gervais et al. 2008). The Project site is bordered by agriculture and what appears to be disturbed habitat/grassland. There are solar panels to the north of the Project site (across W. Jayne Avenue), and to the southwest. Therefore, subsequent ground-disturbing activities associated with the Project have the potential to significantly impact local BUOW populations. In addition, and as described in CDFW's "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), excluding and/or evicting BUOW from their burrows is considered a potentially significant impact under CEQA.

CDFW recommends that a qualified biologist conduct a habitat assessment during biological studies in support of the projects CEQA document, to determine if the Project area or its vicinity contains suitable habitat for BUOW, along with assessing presence/absence of BUOW by having a qualified biologist conduct surveys following the California Burrowing Owl Consortium's "Burrowing Owl Survey Protocol and Mitigation Guidelines" (CBOC 1993) and CDFW's Staff Report on Burrowing Owl Mitigation" (CDFG 2012). Specifically, the California Burrowing Owl Consortium (CBOC) and CDFW's Staff Report suggest three or more surveillance surveys conducted during daylight with each visit occurring at least three weeks apart during the peak breeding season (April 15 to July 15), when BUOW are most detectable.

CDFW recommends no-disturbance buffers, as outlined in the "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), be implemented prior to and during any ground-disturbing activities. Specifically, CDFW's Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

| Location      | Time of Year   | Level of Disturbance |       |       |
|---------------|----------------|----------------------|-------|-------|
|               |                | Low                  | Med   | High  |
| Nesting sites | April 1-Aug 15 | 200 m*               | 500 m | 500 m |
| Nesting sites | Aug 16-Oct 15  | 200 m                | 200 m | 500 m |
| Nesting sites | Oct 16-Mar 31  | 50 m                 | 100 m | 500 m |

\* meters (m)



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If BUOW are found within these recommended buffers and avoidance is not possible, it is important to note that according to the Staff Report (CDFG 2012), exclusion is not a take avoidance, minimization, or mitigation method and is considered a potentially significant impact under CEQA. However, if necessary, CDFW recommends that burrow exclusion be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. CDFW recommends replacement of occupied burrows with artificial burrows at a ratio of 1 burrow collapsed to 1 artificial burrow constructed (1:1) as mitigation for the potentially significant impact of evicting BUOW. BUOW may attempt to colonize or re-colonize an area that will be impacted; thus, CDFW recommends ongoing surveillance, at a rate that is sufficient to detect BUOW if they return.

### **American Badger (AMBA)**

AMBA are known to occur in the vicinity of the Project site (CDFW 2022). Badgers occupy sparsely vegetated land cover with dry, friable soils to excavate dens, which they use for cover, and that support fossorial rodent prey populations (i.e. ground squirrels, pocket gophers, etc.) (Zeiner et. al 1990). The Project site may support these requisite habitat features. Therefore, the Project has the potential to impact AMBA. Without appropriate avoidance and minimization measures for AMBA, potentially significant impacts associated with ground disturbance from construction activities include direct mortality or natal den abandonment, which may result in reduced health or vigor of young.

Habitat loss is a primary threat to AMBA (Gittleman et al. 2001). The proposed Project would rezone a currently agricultural/open space area to an energy storage facility that would consist of lithium-ion batteries with the potential to store approximately three (3)-gigawatt (GW) of energy. The Project would also include a 500-kilovolt (kV), 0.3-mile long overhead generation tie line (gen-tie line), and thus would result in a high degree of land conversion and potential habitat fragmentation. As a result, ground-disturbing activities have the potential to significantly impact local populations of AMBA.

CDFW recommends that a qualified biologist determine if suitable habitat for AMBA is present within or immediately adjacent to the Project site. If suitable habitat is present, CDFW recommends that a qualified biologist conduct focused surveys for AMBA and their requisite habitat features (dens) to evaluate potential impacts resulting from ground- and vegetation-disturbance. Avoidance whenever possible is encouraged via delineation and observation of a 50-foot no-disturbance buffer around dens until it is determined through non-invasive means that individuals occupying the den have dispersed.

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## II. Editorial Comments and/or Suggestions

**Nesting Birds:** The Project site contains and is adjacent to habitat that provides nesting habitat for birds. CDFW encourages that Project implementation occur during the bird non-nesting season. However, if ground-disturbing or vegetation-disturbing activities must occur during the breeding season (February through mid-September), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes sections referenced above.

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct an assessment of nesting habitat during biological surveys in support of the project's CEQA document, and then repeated as pre-activity surveys for active nests no more than 10 days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the Project site to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. Prior to initiation of Project activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once Project activities begin, CDFW recommends having a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends halting the work causing that change and consulting with CDFW for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the Project site would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

**Pesticide and Rodenticide Use:** Project information includes potential use of rodenticides. The Project has the potential to temporarily and permanently impact biological resources through the use of pesticides. The United States Environmental Protection Agency (USEPA) regulates pesticides at the Federal level and the California Department of Pesticide Regulation (DPR) regulates pesticides at the State Level. The use of pesticides, including anticoagulants and their potential for secondary poisoning to

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native species, is a significant concern. According to Baker (2018), “pesticides can indirectly impact wildlife through reduction of food resources and refuges, starvation due to decreased prey availability, hypothermia, and secondary poisoning”. CDFW recommends the CEQA document address and fully analyze the use of pesticides, including the risk of secondary poisoning to native species caused by the use of rodenticides. CDFW recommends the CEQA document include a measure that requires the use of herbicides, rodenticides, or fertilizers on the Project area to be restricted to those approved by USEPA and DPR.

**Project Alternatives Analysis:** CDFW recommends that the information and results obtained from the biological technical surveys, studies, and analysis conducted in support of the project’s CEQA document be used to develop and modify the project’s alternatives to avoid and minimize impacts to biological resources to the maximum extent possible. When efforts to avoid and minimize have been exhausted, remaining impacts to sensitive biological resources should be mitigated to reduce impacts to a less than significant level, if feasible.

**Cumulative Impacts:** CDFW recommends that a cumulative impact analysis be conducted for all biological resources that will either be significantly or potentially significantly impacted by implementation of the Project, including those whose impacts are determined to be less than significant with mitigation incorporated or for those resources that are rare or in poor or declining health and will be impacted by the project, even if those impacts are relatively small (i.e. less than significant). CDFW recommends cumulative impacts be analyzed using an acceptable methodology to evaluate the impacts of past, present, and reasonably foreseeable future projects on resources and be focused specifically on the resource, not the Project. An appropriate resource study area identified and utilized for this analysis is advised. CDFW staff is available for consultation in support of cumulative impacts analyses as a trustee and responsible agency under CEQA.

## ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDDB. The CNDDDB field survey form can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be mailed electronically to CNDDDB at the following email address: [CNDDDB@wildlife.ca.gov](mailto:CNDDDB@wildlife.ca.gov). The types of information reported to CNDDDB can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

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## FILING FEES

If it is determined that the Project has the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

CDFW appreciates the opportunity to comment on the Project to assist Fresno County Department of Public Works and Planning in identifying and mitigating the Project's impacts on biological resources.

More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (<https://www.wildlife.ca.gov/Conservation/Survey-Protocols>). If you have any questions, please contact Kelley Nelson, Environmental Scientist, at the address provided on this letterhead, or by electronic mail at [Kelley.Nelson@wildlife.ca.gov](mailto:Kelley.Nelson@wildlife.ca.gov).

Sincerely,

DocuSigned by:

*Annee Ferranti*

041A77B10D78486...

Annee Ferranti for Julie A. Vance  
Regional Manager

ec: Patricia Cole ([patricia\\_cole@fws.gov](mailto:patricia_cole@fws.gov))  
United States Fish and Wildlife Service

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## LITERATURE CITED

CDFW. 2022. Biogeographic Information and Observation System (BIOS).  
<https://www.wildlife.ca.gov/Data/BIOS>. Accessed August 12, 2022.

### *SJKF Literature Citations*

Cypher and Frost 1999

Cypher, B. L., S. E. Phillips, P. A. Kelly, 2013. Quantity and distribution of suitable habitat for endangered San Joaquin kit foxes: conservation implications. *Canid Biology and Conservation* 16(7): 25–31.

USFWS. 2011. Standard recommendations for the protection of the San Joaquin kit fox prior to or during ground disturbance. United States Fish and Wildlife Service, January 2011.

### *SWHA Literature Citations*

CDFG. 1994 Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) November 8, 1994.

CDFW. 2016. Five Year Status Review for Swainson's Hawk (*Buteo swainsoni*). California Department of Fish and Wildlife. April 11, 2016.

Swainson's Hawk Technical Advisory Committee (SWHA TAC). 2000. Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley. Swainson's Hawk Technical Advisory Committee, May 31, 2000.

### *BUOW Literature Citations*

California Burrowing Owl Consortium. 1993. Burrowing owl survey protocol and mitigation guidelines. April 1993.

CDFG. 2012. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Game.

Gervais, J.A., D.D. Rosenberg, and L.A. Comrack. 2008. Burrowing Owl (*Athene cucularia*) in Shuford, W.D. and T. Gardali, editors.

### *AMBA Literature Citations*

Gittleman, J. L., S. M. Funk, D. MacDonald, and R. K. Wayne, 2001. Carnivore conservation. Cambridge University Press, Cambridge, United Kingdom.

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Page 12

Zeiner, D. C., W. F. Laudenslayer, Jr, K. E. Mayer, and M. White. 1990. California's Wildlife Volume I-III. California Department of Fish and Game, editor. Sacramento, CA, USA.

*Pesticides/Rodenticides Citations*

Baker, A. 2018. A review of the potential impacts of cannabis cultivation of fish and wildlife resources. California Department of Fish and Wildlife, Sacramento, California.



# Inter Office Memo

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DATE: September 7, 2022

TO: Jeremy Shaw, Planner  
Development Services and Capital Projects Division, Current Planning Unit

FROM: Derek Chambers, Planner *DC*  
Development Services and Capital Projects Division, Policy Planning Unit

SUBJECT: Environmental Impact Report (EIR) No. 8189 and Unclassified Conditional Use Permit (UCUP) Application No. 3734 (Key Energy Storage, LLC)

Environmental Impact Report (EIR) No. 8189 and associated Unclassified Conditional Use Permit (UCUP) Application No. 3734 proposes to allow construction of a 208-acre battery energy storage facility and a 5.14-acre substation on portions of an 80.34-acre parcel identified as APN 085-040-36s, another 80.34-acre parcel identified as APN 085-040-37s, and a 158.24-acre parcel identified as APN 085-040-58s.

Further, the project also proposes to construct a 0.3-mile-long Generation-Tie Line (Gen-Tie) to connect the proposed battery energy storage facility to PG&E's existing Gates Substation located at the northwest corner of Jayne Avenue and Trinity Avenue. The proposed Gen-Tie would traverse a 185.79-acre parcel identified as APN 075-060-45su, which is owned by PG&E.

The subject parcels are located in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District and are designated as Agricultural in the County General Plan.

#### Williamson Act:

The 80.34-acre parcel identified as APN 085-040-36s, the other 80.34-acre parcel identified as APN 085-040-37s, and the 158.24-acre parcel identified as APN 085-040-58s are enrolled in the Williamson Act Program under Contract No. 2068.

The 185.79-acre parcel identified as APN 075-060-45su that the Gen-Tie would traverse to carry the electricity between the Gates Substation and the subject site is not enrolled in the Williamson Act Program.

Pursuant to Fresno County Williamson Act Program Guidelines, the use of land enrolled in the Program is limited to commercial agricultural operations and certain compatible uses that have been adopted by the Board of Supervisors. The presence of commercial agricultural use is a precondition to compatible development on land restricted by a Williamson Act contract. The proposed battery energy storage facility, substation and Gen-Tie are neither permitted nor considered compatible uses on land enrolled in the Williamson Act Program. Therefore, all the acreage devoted to the battery energy storage facility, substation and Gen-Tie on the subject 318-acre site must be removed from the Williamson Act Program.

The applicant may submit a Notice of Nonrenewal to remove the area of the project site that will be devoted to the battery energy storage facility, substation and Gen-Tie from the Williamson Act Program. Land for which a Notice of Nonrenewal is recorded is subject to all Williamson Act restrictions until the expiration date of the contract, which is typically nine years from the date the Notice of Nonrenewal is recorded.

If the applicant wishes to pursue the proposed project without waiting for the area that will be utilized by the proposed project to be removed from the contract through the nonrenewal process, the applicant must submit a cancellation petition for removal of the area from the Williamson Act contract to be processed concurrently with the UCUP application No. 3734. The cancellation petition will be processed by County staff and will be presented to the Agricultural Land Conservation Committee and the Board of Supervisors for consideration.

**No action shall be taken on EIR No. 8189 and associated UCUP Application No. 3734 until the required Cancellation petition is submitted to the Policy Planning Unit for processing, the petition is accepted as complete, and the petition is presented to the Agricultural Land Conservation Committee.**

Enclosed is information regarding filing a Notice of Contract Nonrenewal and Cancellation of Williamson Act Contracts.

General Plan:

The Fresno County General Plan Policies relevant to the proposal are as follows:

***LU-A.3: The County may allow by discretionary permit in areas designated Agriculture, special agricultural uses and agriculturally-related activities, including value-added processing facilities and certain non-agricultural uses listed in Table LU-3. Approval of these and similar uses in areas designated Agriculture shall be subject to the following criteria:***

- a. The use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics;***
- b. The use should not be sited on productive agricultural lands if less productive land is available in the vicinity;***
- c. The operational or physical characteristics of the use shall not have a detrimental impact on water resources or the use or management of surrounding properties within at least one quarter (1/4) mile radius;***
- d. A probable workforce should be located nearby or be readily available;***
- e. For proposed agricultural commercial center uses the following additional criteria shall apply:***
  - 1. Commercial uses should be clustered in centers instead of single uses.***
  - 2. To minimize proliferation of commercial centers and overlapping of trade areas, commercial centers should be located a minimum of four (4) miles from any existing or approved agricultural or rural residential commercial center or designated commercial area of any city or unincorporated community.***



3. *New commercial uses should be located within or adjacent to existing centers.*
4. *Sites should be located on a major road serving the surrounding area.*
5. *Commercial centers should not encompass more than one quarter (1/4) mile of road frontage, or one eighth (1/8) mile if both sides of the road are involved, and should not provide potential for developments exceeding ten (10) separate business activities, exclusive of caretakers' residences;*
- f. *For proposed value-added agricultural processing facilities, the evaluation under criteria "a" above shall consider the service requirements of the use and the capability and capacity of cities and unincorporated communities to provide the required services; and*
- g. *For proposed churches and schools, the evaluation under criteria LU-A.3.a above shall include consideration of the size of the facility. Such facilities should be no larger than needed to serve the surrounding agricultural community.*
- h. *When approving a discretionary permit for an existing commercial use, the criteria listed above shall apply except for LU-A.3.b, e.2, e.4 and e.5.*

**LU-A.13:** *The County shall protect agricultural operations from conflicts with non-agricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.*

**LU-A.14:** *The County shall ensure that the review of discretionary permits includes an assessment of the conversion of productive agricultural land and that mitigation be required where appropriate.*

**PF-C.17:** *The County shall, prior to consideration of any discretionary project related to land use, undertake a water supply evaluation. The evaluation shall include the following:*

- a. *A determination that the water supply is adequate to meet the highest demand that could be permitted on the lands in question. If surface water is proposed, it must come from a reliable source and the supply must be made "firm" by water banking or other suitable arrangement. If groundwater is proposed, a hydrogeologic investigation may be required to confirm the availability of water in amounts necessary to meet project demand. If the lands in question lie in an area of limited groundwater, a hydrogeologic investigation shall be required.*
- b. *A determination of the impact that use of the proposed water supply will have on other water users in Fresno County. If use of surface water is proposed, its use must not have a significant negative impact on agriculture or other water users within Fresno County. If use of groundwater is proposed, a hydrogeologic investigation may be required. If the lands in question lie in an area of limited groundwater, a hydrogeologic investigation shall be required. Should the investigation determine that significant pumping-related physical impacts will extend beyond the boundary of the property in question, those impacts shall be mitigated.*
- c. *A determination that the proposed water supply is sustainable or that there is an acceptable plan to achieve sustainability. The plan must be structured*

EIR 8189, UCUP 3734 - Policy Planning Comments  
September 7, 2022

***such that it is economically, environmentally, and technically feasible. In addition, its implementation must occur prior to long-term and/or irreversible physical impacts, or significant economic hardship, to surrounding water users.***

If you have any questions, please email me at [dchambers@fresnocountyca.gov](mailto:dchambers@fresnocountyca.gov) or call me at (559) 600-4205.

Enclosure

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# County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING  
STEVEN E. WHITE, DIRECTOR

## CANCELLATION OF A WILLIAMSON ACT CONTRACT

The California Land Conservation Act (Williamson Act) was enacted in 1965. The purpose of the Williamson Act Program is to preserve agricultural and qualified open space lands by discouraging premature and unnecessary conversion to urban uses. The Williamson Act provides for private property owners to contract with Fresno County if they wish to voluntarily restrict their land to agricultural and qualified open space uses.

The preferred method of removing land from the Williamson Act program is through the Non-Renewal process. A landowner initiates a Notice of Non-Renewal for the entire contract or a portion of the contracted land, which begins a nine-year countdown to the expiration of the contract. The land is still subject to all the requirements and restrictions of the contract until it expires.

A Williamson Act contract cancellation is an option under limited circumstances and conditions set forth in [Government Code \(GC\) § 51280 et seq.](#) In such cases, landowners may petition the Board of Supervisors for Williamson Act contract cancellation. The Board may grant tentative cancellation only if it makes required statutory findings per GC § 51282(a)(1) and GC § 51282(b).

If the required five findings listed under GC § 51282(b) and listed below can be made by the Board of Supervisors, the landowner is required to pay a cancellation fee equal to 12.5% of the unrestricted fair market value of the property ([GC § 51283\(b\)](#)).

- (1) The cancellation is for land on which a Notice of Non-Renewal has been filed.
- (2) Cancellation is not likely to result in the removal of adjacent lands from agricultural use.
- (3) Cancellation is for an alternate use that is consistent with the adopted General Plan.
- (4) Cancellation will not result in discontinuous patterns of urban development.
- (5) That there is no proximate non-contracted land which is both available and suitable for the use to which it is proposed the contracted land be put or that development of the contracted land would provide more contiguous patterns of urban development than development of proximate non-contracted land.

In considering the above five Findings, the Board will consider comments offered by the California Department of Conservation (DOC) and the recommendation from the Fresno County Agricultural Land Conservation Committee (ALCC). The DOC advises local governments on the provisions and enforcement of Williamson Act restrictions and the ALCC is advisory to the Board on Contract cancellation matters.

The Cancellation Petition must include the following:

- A completed Williamson Act application form for Non-Renewal of the property (or portion thereof) that is petitioned to be removed from the Williamson Act Program (white form). Staff prepares the Notice of Non-Renewal and will provide it to the Petitioner. Staff will contact the Petitioner once the Notice has been prepared. The Notice must be signed by all property owners and must be notarized prior to submittal to County Staff for recordation;
- A completed application form for cancellation (or partial cancellation). Staff will provide the application form (green form);
- Written responses to the five Findings (must be typed);
- A copy of the recorded Grant Deed with clear legal description of the property that is subject to the Contract;
- The legal description of land subject to cancellation prepared, stamped, and signed by a licensed land surveyor. If the cancellation is for the whole parcel, the surveyor may use the legal description included in the deed and sign and stamp the legal description. The acreage of land and the Assessor Parcel Number of the parcel subject to cancellation must be included in the legal description;
- Information about current and the historical agricultural operation/usage of the parcel including specific crop type and yields for the last ten years (if no agricultural operation in the last ten years, specify when land was last in agricultural use);
- Information identifying the source of water for the subject parcel (surface water from irrigation district, individual well(s), and conjunctive system). If the source of water is via district delivery, the applicant shall submit information documenting the allocations received from the irrigation district and the actual disposition of the water (i.e. utilized on-site or moved to other locations) for the last ten years. If groundwater is used for irrigation, provide production capacity of each well, water quality data and data regarding the existing water table depth;
- Identify (with supporting data) the current soil type and mapping units of the parcel pursuant to the standards of the California State Department of Conservation and the Natural Resources Conservation Service;
- If the cancellation petition is to establish a solar facility on the subject land, information included in Form F406 (Supplemental Information for Solar Electrical Generation Facilities) that is included in this packet must be submitted;
- The Filing Fee, which is currently \$3,290.00 for each contract subject to cancellation petition.

The petition for cancellation of a contract on an entire contract or a portion of a contract must be for a specified alternative use of the land (GC § 51282.3). Therefore, the appropriate land use entitlement application must be submitted concurrently for review and processing.

In addition to the above application materials, per the California Environmental Quality Act (CEQA), your project must be reviewed to determine potential environmental impacts from the proposed Williamson Act cancellation. Prior to submitting an application, you should discuss your project with Policy Planning staff, who will then determine what level of environmental review will be required and what additional application materials and fees will be required.

Once the cancellation petition is determined to be complete, the appropriate processing fee will be collected and staff will begin processing the petition. The petition will be referred to the Department of Conservation (DOC) and the County Assessor's Office. The petition will then be presented to the Agricultural Land Conservation Committee (ALCC) for consideration at a public hearing. The recommendation of the ALCC will be forwarded to the Board of Supervisors who will make the final decision on the petition.

If the cancellation Petition is approved, a Certificate of Tentative Cancellation is issued by the Board of Supervisors and is recorded. The Certificate of Tentative Cancellation will cite all Conditions that must be satisfied in order for the Certificate of Cancellation to be issued and recorded. One Condition of Approval will require that the Cancellation Fee, determined by the County Assessor and equal to 12.5% of the fair market value of the property and certified by the Board, be paid in full before any permit is issued on the subject land. If the Cancellation Fee is not paid within one year from the date that the Certificate of Tentative Cancellation was recorded, the Fee shall be recomputed by the County Assessor, and certified by the Board of Supervisors at a public hearing. The Cancellation Fee shall be paid and a Certificate of Cancellation must be issued and recorded prior to commencement of any discretionary permit [e.g. Conditional Use Permit (CUP), Director Review and Approval (DRA)] or issuance of any grading or construction permits. The County Auditor forwards the full Cancellation Fee to the State of California.

The proposed alternative use on land subject to cancellation petition must be consistent with the policies of the County General Plan and the provisions of the Zoning Ordinance. The proposal must also adhere to all applicable codes, rules, ordinances, and requirements.

For Zoning Ordinance requirements, please contact the Department's Zoning and Permit Assistance at (559) 600-4540.

If you have any questions regarding any information in this handout, please contact the Policy Planning Unit at (559) 600-4230.

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# County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING  
STEVEN E. WHITE, DIRECTOR

## WILLIAMSON ACT CONTRACT CANCELLATION PETITION DISCLAIMER

I \_\_\_\_\_, the petitioner for cancellation of Williamson Act Contract No. \_\_\_\_\_ involving parcel(s) known as APN(s) \_\_\_\_\_ acknowledge that the Cancellation Petition is submitted to Policy Planning Unit staff for completeness review to ensure that all required information has been provided. If staff determines that additional information/data is required to complete the Petition, it is my responsibility to provide the required information by the date indicated in staff's letter. If I need additional time to furnish the information, I will notify staff in writing. I also acknowledge that the processing fee is to cover staff's time to review the Petition for determination of completeness, and processing the Petition once the application is determined complete. Acceptance of the Petition and the processing fee does not constitute that the Petition is determined complete.

Processing of a Cancellation Petition requires routing the Petition to appropriate County and State agencies for review and comment. The Petition will be presented to the Agricultural Land Conservation Committee (ALCC) at a public hearing. The ALCC will make a recommendation regarding the Petition to the Board of Supervisors. The Petition will be placed on a Board of Supervisors agenda for consideration.

\_\_\_\_\_  
PRINT NAME

\_\_\_\_\_  
PRINT NAME

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
DATE

\_\_\_\_\_  
DATE

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# County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING  
STEVEN E. WHITE, DIRECTOR

## WILLIAMSON ACT CONTRACT NOTICE OF NONRENEWAL

The California Land Conservation Act – commonly referred to as the Williamson Act – was enacted in 1965. The purpose of the Williamson Act Program is to preserve agricultural and qualified open space lands by discouraging premature and unnecessary conversion to urban uses.

The Williamson Act contract is a voluntary contract between the County of Fresno and landowners who wish to restrict their land to commercial agricultural and qualified open space uses. In return, the property owners receive property tax assessments that are lower than normal because the assessments are based on farming and qualified open space uses rather than full market value. The initial term of the contract is a minimum of ten years and is automatically renewed each year on January 1st unless a notice of non-renewal has been filed.

If a property owner wishes to not renew the Contract, an application for non-renewal of the Contract must be filed with Fresno County. The following information is provided to assist you in the non-renewal process:

### 1. When does the Non-Renewal period begin?

The non-renewal must be recorded a minimum of **90 days prior to the annual renewal date** which is January 1st. Therefore, a Notice must be **recorded prior to October 1st** of any given year in order for the Notice to be effective on January 1st of the upcoming calendar year. A Notice that is recorded after October 1st will **not** take effect until January 1st of the following year (12-15 months later depending on the date it is recorded).

**NOTE: Once recorded, an owner-initiated Notice of Non-Renewal cannot be withdrawn.**

### 2. When does the Notice of Non-Renewal need to be submitted?

A request for Notice of Non-Renewal (Notice) may be filed with Fresno County at any time. However, please be advised that in order to record the Notice by October 1st, the signed and notarized Notice should be submitted to County staff by the 2nd Friday in September. County staff will provide you with an application that must be completed. Along with the completed application form, you must also submit a copy of the grant deed clearly identifying the legal description of the property. If the Notice applies to a portion of a parcel, a legal description of the portion of the parcel subject to non-renewal prepared, stamped, and signed

by a licensed land surveyor must be provided. Staff will then prepare the Notice for you.

**3. Who must sign a Notice of Non-Renewal?**

A Notice must be signed by all owners of interest in the property. Signatures must be notarized **exactly** as printed in the Notice. Signature blocks for representatives of corporations/trusts/partnerships must include the name of the entity above each signature and the name and title of the signer below. In the case of a trust, staff will provide you with a certification that identifies who is authorized to sign on behalf of the trust. The certification must also be completed and notarized. This certification will be recorded.

**4. Must a Notice of Non-Renewal be filed on all property subject to a single contract?**

No. A **Notice of Partial Non-Renewal** may be filed on a portion of the property held under a Williamson Act Contract provided that the portion to remain under Contract complies with the minimum size requirement stated in the Williamson Act Interim Guidelines adopted by the Board of Supervisors on May 25, 2004. If the notice of partial non-renewal is to be filed, along with the application, the owner must also provide a legal description of the area that will be subject to non-renewal. As previously noted, the legal description must be prepared, stamped, and signed by a licensed land surveyor.

**5. Do restrictions remain after a Notice of Non-Renewal has been filed?**

All Agricultural Land Conservation Contract restrictions remain in full force and effect after a Notice is filed until the expiration of the Contract.

**6. When does the Contract expire after the Notice of Non-Renewal is recorded?**

If the Notice is recorded prior to October 1st, effective January 1st, there are nine years left on the Contract.

**7. Can a notice of non-renewal be withdrawn?**

**NOTE: Once recorded, an owner-initiated Notice of Non-Renewal cannot be withdrawn.**

If you have any questions regarding information in this handout, please contact the Policy Planning Unit of the Department of Public Works and Planning at (559) 600-4230.





**Fresno County Department of Public Works and Planning**

**Mailing Address:**  
Department of Public Works & Planning  
Development Services and Capital Project Division  
2220 Tulare Street, 6<sup>th</sup> Floor, Fresno, CA 93721

**Location:**  
Southwest corner of Tulare & "M" Street, Suite A  
Street Level  
Fresno Phone: (559) 600-4230

**WILLIAMSON ACT APPLICATION**

APN: \_\_\_\_\_

APN: \_\_\_\_\_

Ag Contract Number: \_\_\_\_\_

Ag Contract Number: \_\_\_\_\_

APN: \_\_\_\_\_

APN: \_\_\_\_\_

Ag Contract Number: \_\_\_\_\_

Ag Contract Number: \_\_\_\_\_

\_\_\_\_\_ Notice of Nonrenewal/Partial Nonrenewal

\_\_\_\_\_ Authorization for Issuance of Building Permit

\_\_\_\_\_ Cancellation of Contract

\_\_\_\_\_ Rescission and Reentry

**Location of Property:** Street Address \_\_\_\_\_  
\_\_\_\_\_ side of \_\_\_\_\_  
between \_\_\_\_\_ and \_\_\_\_\_

| <b>*Owner(s)/Applicant(s) (Print or Type)</b> | <b>Address</b> | <b>City</b> | <b>Zip</b> | <b>Phone</b> |
|---|----------------|-------------|------------|--------------|
|   |                |             |            |              |

| <b>Representative (Print or Type)</b> | <b>Address</b> | <b>City</b> | <b>Zip</b> | <b>Phone</b> |
|---------------------------------------|----------------|-------------|------------|--------------|
|                                       |                |             |            |              |

**The following must be included with your application:**

- A draft Statement of Intended Use if applying for a Building Permit or Rescission and Reentry.
- A copy of your grant deed or current ownership documentation. If owner(s) or applicant(s) is under partnership, trust, corporation, etc., documentation needs to be provided showing individual names and titles.
- A complete legal description with the areas which will be affected. Notice of Nonrenewal will require a legal description prepared by a licensed surveyor with surveyor's stamp and signature.

I/We, \_\_\_\_\_ (print), declare that I/we own, or represent the owner, of the above described property and that the application and attached documents are in all respects true and correct to the best of my knowledge.

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

**OFFICE USE ONLY**

Date Received: \_\_\_\_\_

Received by: \_\_\_\_\_

\_\_\_\_\_ Deed or current ownership information

\_\_\_\_\_ Legal Description (current)

\_\_\_\_\_ Statement of Intended Use



# County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING  
STEVEN E. WHITE, DIRECTOR

## AGENT AUTHORIZATION

### AUTHORIZATION OF AGENT TO ACT ON BEHALF OF PROPERTY OWNER

The Agent Authorization form is required whenever a property owner grants authority to an individual to submit and/or pursue a land use entitlement application on their behalf. This form must be completed by the property owner and submitted with the land use entitlement application to confirm that the property owner has granted authority to a representative to sign application forms on their behalf and represent them in matters related to a land use entitlement application.

***The below named person is hereby authorized to act on my behalf as agent in matters related to land use entitlement applications associated with the property listed below.***

\_\_\_\_\_  
Agent Name (Print or Type)

\_\_\_\_\_  
Company Name (Print or Type)

\_\_\_\_\_  
Mailing Address

\_\_\_\_\_  
City / State / Zip Code

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
Email Address

\_\_\_\_\_  
Project APN

\_\_\_\_\_  
Project Street Address

A list consisting of \_\_\_\_ additional properties is attached (include the APN for each property).

Project Description (Print or Type):  
\_\_\_\_\_  
\_\_\_\_\_

***The undersigned declares under penalty of perjury that they own, possess, control or manage the property referenced in this authorization and that they have the authority to designate an agent to act on behalf of all the owners of said property. The undersigned acknowledges delegation of authority to the designated agent and retains full responsibility for any and all actions this agent makes on behalf of the owner.***

\_\_\_\_\_  
Owner Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Owner Name (Print or Type)

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
Email Address

*\* If the legal owner of the property is a corporation, company, partnership or LLC, provide a copy of a legal document with this authorization form showing that the individual signing this authorization form is a duly authorized partner, officer or owner of said corporation, company, partnership or LLC.*

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**AGENT AUTHORIZATION  
ADDITIONAL PROPERTY LIST**

\_\_\_\_\_  
Project APN

\_\_\_\_\_  
Project Street Address

\_\_\_\_\_  
Project APN

\_\_\_\_\_  
Project Street Address

\_\_\_\_\_  
Project APN

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Project APN

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Project Street Address

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# Appendix B

## **Project Description**



# Appendix B1

## **Draft Reclamation Plan**



# Attachment 8

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Reclamation Plan



# Key Energy Storage Project

## Draft Reclamation Plan

*prepared for*

**County of Fresno**  
Department of Public Works and Planning  
2220 Tulare St. 6th Floor  
Fresno, CA 93721  
Attn: Jeremy Shaw, Planner

*prepared with the assistance of*

**Key Energy Storage, LLC**  
700 Universe Boulevard  
Juno Beach, Florida 33408  
Attn: Sean Wazlaw / Patti Murphy

**December 2021**



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# Reclamation Plan

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## 1.0 Introduction

Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) on approximately 208 acres in unincorporated Fresno County. The Project includes development of an energy storage system facility and associated on-site support facilities including a collector substation, inverters, collector lines, fencing, access roads, and supervisory control and data acquisition (SCADA) system. The Project would have the potential to store approximately 3 gigawatts (GW) of energy. The Project also includes a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation. The perimeter of the facility will be enclosed with a chain link fence built per county standards. The Project site is comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S). The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts.

## 2.0 Property Ownership

The northern parcel of the Project site (APN 085-040-58S) is presently owned by Michael Dresick, and the southern parcels (APNs 085-040-36S and -037S) are presently owned by Rebecca L. Kaser.

## 3.0 Soil Classifications

Table 1 describes the Project's soil classifications according to various systems used in California.

**Table 1 Project Site Soil Classifications**

| Area <sup>1</sup> | Soil Type <sup>1</sup>             | NRCS Prime Farmland Classification <sup>1</sup> | DOC FMMP Classification <sup>2</sup> | Land Capability Classification <sup>1</sup> |
|-------------------|------------------------------------|---|--------------------------------------|---|
| 196 acres         | Kimberlina sandy loam (0-2% slope) | Prime Farmland if Irrigated                     | Prime Farmland                       | Irrigated: 1<br>Non-irrigated: 7            |
| 109 acres         | Westhaven loam (0-2% slope)        | Prime Farmland if Irrigated                     | Prime Farmland                       | Irrigated: 1<br>Non-irrigated: 7            |
| 13 acres          | Wasco sandy loam (2-5% slope)      | Prime Farmland if Irrigated                     | Prime Farmland                       | Irrigated: 2<br>Non-irrigated: 7            |

Source<sup>1</sup>: USDA Web Soil Survey, 2021. <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

Source<sup>2</sup>: US Department of Conservation, 2016. <https://maps.conservation.ca.gov/DLRP/CIFF/>

The Project site is classified as Prime Farmland as designated by the State Department of Conservation’s (DOC) Farmland Mapping and Monitoring Program (FMMP). The property is classified as prime farmland, if irrigated, by the National Resources Conservation Services (NRCS).

Land Capability Classification (LCC) demonstrates the suitability of soils for growing field crops. Based on LCC, the site’s LCC non-irrigated soil rating is Class 7, and its irrigated soil rating is Class 1 and 2. Class 1 soils have few limitations that restrict their use, and Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices. Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

## 4.0 Historical Agricultural Use

The site has historically been used for irrigated farming, dry-farming, and/or left fallow over the past four years (Table 2). A 10-year historical agricultural use summary will be provided as part of the Agricultural Resources Technical Study being prepared for the Project.

**Table 2 Historic Agricultural Use**

| Assessor’s Parcel Number | Historical Agricultural Use         | Crop Types (2015-2019)          | Source of water for parcel (district, well(s), etc.) | Well Onsite? |
|--------------------------|-------------------------------------|---------------------------------|--|--------------|
| 085-040-58S              | Fallowed, irrigated farming         | Orchard, citrus, almonds, other | Well   | Yes          |
| 085-040-36S              | Fallowed, Dry farmed, non-irrigated | None                            | None   | No           |
| 085-040-37S              | Fallowed, Dry farmed, non-irrigated | Winter wheat, other             | None   | No           |

Source: *AcreValue Report*, November 12, 2021.

## 5.0 Decommissioning

A final Reclamation Plan will be prepared during the environmental review process. The plan will then be updated and finalized in coordination with the final design plans and will be submitted with the Project’s grading and building permit applications.

The Project is anticipated to have an operating life of up to 30 years. Decommissioning and site reclamation are anticipated to start in approximately 2055 and take up to 12 months. Decommissioning equipment and personnel would be similar to, or less than, that required for construction. Once the facility has been permanently shut down, the reclamation process will begin to return the site to its previous agricultural condition.

All decommissioning, reclamation, and restoration activities will adhere to the requirements of appropriate governing authorities, and will be in accordance with all applicable federal, state, and local permits. The reclamation and restoration process comprises removal of above ground structures; removal of below ground foundations and infrastructure; and restoration of topsoil, re-vegetation, and seeding. Electrical conduit and other materials that break off more than 4 feet below the ground surface would be decommissioned in place. Appropriate temporary (construction-related) erosion and sedimentation control best management practices (BMP) will be used during the reclamation phase of the Project. The BMPs will be inspected on a regular basis to ensure their function.

The Project components, including the energy storage system and on-site substation, would be recycled when the Project's operating life is over. Most parts of the proposed system are recyclable. Batteries include lithium-ion, which degrades but can be recycled or repurposed. Battery enclosures include steel or aluminum, with concrete foundations which can be recycled. Local recyclers are available, and metal and scrap equipment and parts that do not have free-flowing oil may be sent for salvage.

Fuel, hydraulic fluids, and oils would be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks and vessels would be rinsed and transferred to tanker trucks. Other items that are not feasible to remove at the point of generation, such as lubricants, paints, and solvents, would be kept in a locked utility structure with integral secondary containment that meets applicable requirements for hazardous waste storage until removal for proper disposal and recycling. It is anticipated that all oils and batteries would be recycled at an appropriate facility. Site personnel involved in handling these materials would be trained to properly handle them. Enclosures used to store hazardous materials would be inspected regularly for any signs of failure or leakage. Transportation of the removed hazardous materials would comply with applicable regulations for transporting hazardous materials, including those set by the U.S. Department of Transportation, U.S. Environmental Protection Agency, California Department of Toxic Substances Control, California Highway Patrol, and California State Fire Marshal.

Prior to completion of decommissioning, the Project site would be restored to its current agricultural condition. All roads and other areas compacted during original construction or by equipment used for decommissioning would be tilled in a manner adequate to restore the sub-grade material to the proper density and depth consistent with adjacent properties. Low areas would be filled with clean, compatible sub-grade material. After proper sub-grade depth is established, locally sourced (from the City of Fresno or other location within 50 miles of the Project site) topsoil would be placed to a depth and density consistent with adjacent properties. Locally sourced compost would be applied to the topsoil, and the entire site would be tilled to further loosen the soil and blend in the compost. An appropriate seed mixture would be broadcast or drilled across the site and weed-free mulch would be applied to stabilize the soil and retain moisture for seedling germination and establishment.

## 6.0 Financial Assurances

An estimated cost for all activities associated with returning this site to its original state shall be provided prior to Project approval. Prices will reflect a rough estimate of predicted market conditions and may be subject to change.

Agricultural land water, and utility pipes on site prior to energy storage facility construction may remain throughout the facility's use. These systems may once again be used to provide irrigation on

the property after the site has been decommissioned. Once the facility is completely removed, the property owner will be able to commence farming on this property if they so choose.

## 7.0 Record of Owner's Notice of Proposed Reclamation Plan

The northernmost parcel on the Project site (APN 085-040-58S) is currently owned by the Ann Dresick Family Trust, and the southern parcels (APNs 085-040-36S and -37S) are owned by Rebecca Kaser, Trustee of the Rebecca Avellar Trust. Key Energy Storage, LLC, will be purchasing the real property from the current property owners (Rebecca Kaser and Michael Dresick) prior to the start of construction. Therefore, Key Energy Storage, LLC is the future property owner and is thereby suitably notified.

## 8.0 References

AcreValue. 2021. AcreValue Report. November 21, 2021.

United States Department of Agriculture (USDA) Natural Resource Conservation Service. 2021. Web Soil Survey. Available at: <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed October 2021.

United States Department of Conservation (DOC). 2016. California Important Farmland Finder Webmap. Available at: <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed October 2021.

# Appendix B2

## **Draft Integrated Pest Management Plan**



# Attachment 12

---

Pest Management Plan



# Key Energy Storage Project

## Pest Management Plan

*prepared for*

**County of Fresno**  
Department of Public Works and Planning  
2220 Tulare St. 6th Floor  
Fresno, CA 93721  
Attn: Jeremy Shaw, Planner

*prepared with the assistance of*

**Key Energy Storage, LLC**  
700 Universe Boulevard  
Juno Beach, Florida 33408  
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**December 2021**



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# Pest Management Plan

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## 1.0 Introduction

### 1.1 Background and Purpose

Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, and approximately 0.4 mile west of Interstate 5 (Figure 1, Regional Location). The Project site is located southwest of the PG&E Gates Substation along West Jayne Avenue. The Project would be developed on up to 208 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2, Project Site and Project Parcel Map).

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. Within this zoning district, Fresno County permits utility-scale renewable energy uses with an Unclassified Conditional-Use Permit (UCUP). The Applicant selected the Project site based on its previously disturbed nature and close proximity to Gates Substation.

Upon approval, the UCUP is subject to the Conditions of Approval and Mitigation Measures set forth in the Fresno County Board of Supervisor's Resolution in accordance with the California Environmental Quality Act of 1970 (California Public Resources Code § 21000 et seq.) and the California Code of Regulations (Title 14 § 15000 et seq.).

This Pest Management Plan has been prepared to comply with the Project's anticipated Fresno County UCUP. The following pest-control measures were developed for the purpose of minimizing the likelihood of pests (including weeds and rodents) within the Project site and maximizing the ability to reduce the current (if present) pest population.

### 1.2 Site and Project Summary

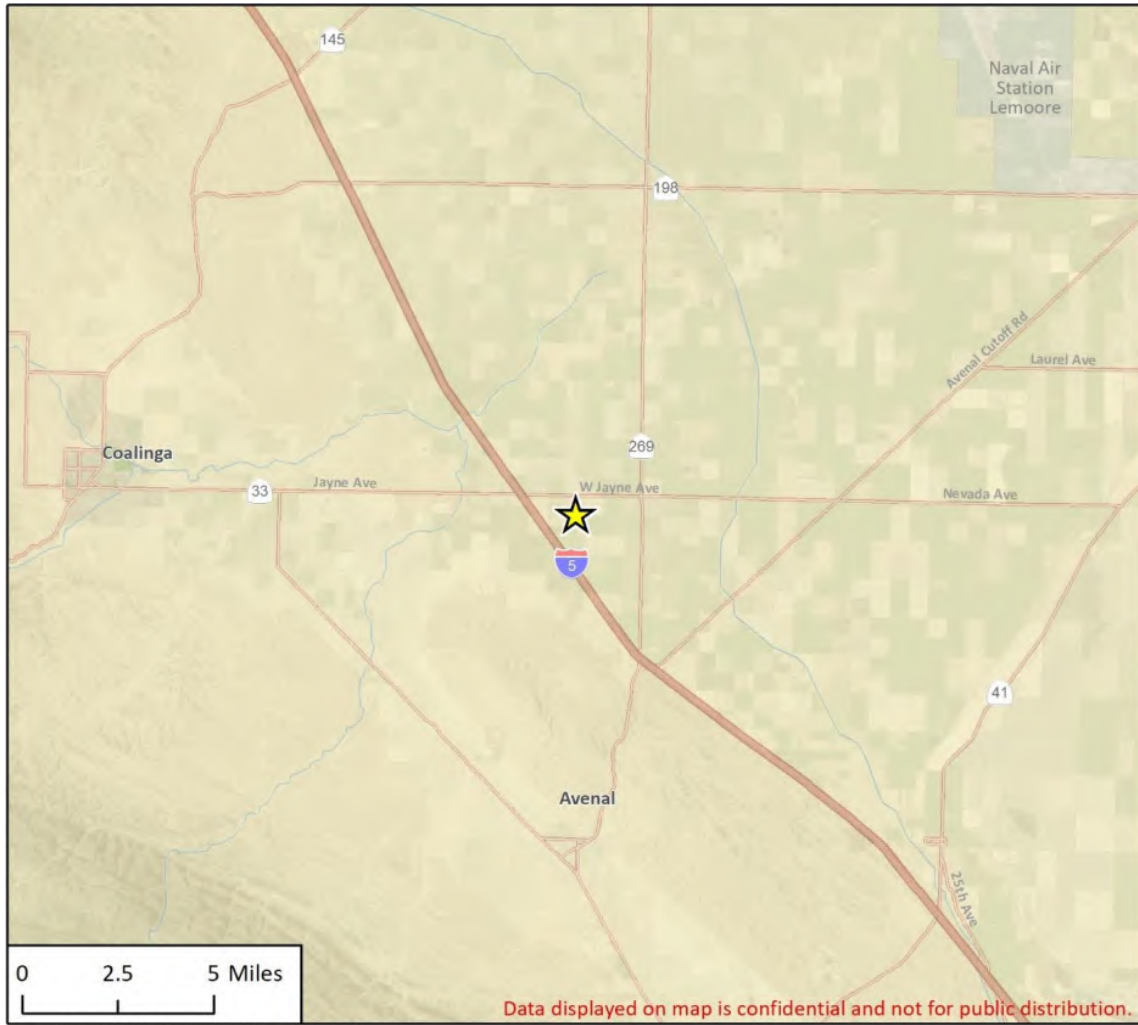
The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of lithium-ion batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.<sup>1</sup> The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation.

---

<sup>1</sup> The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the Project may change, the overall size of the Project (up to approximately 208 acres) would remain consistent.

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**Figure 1 Regional Location**

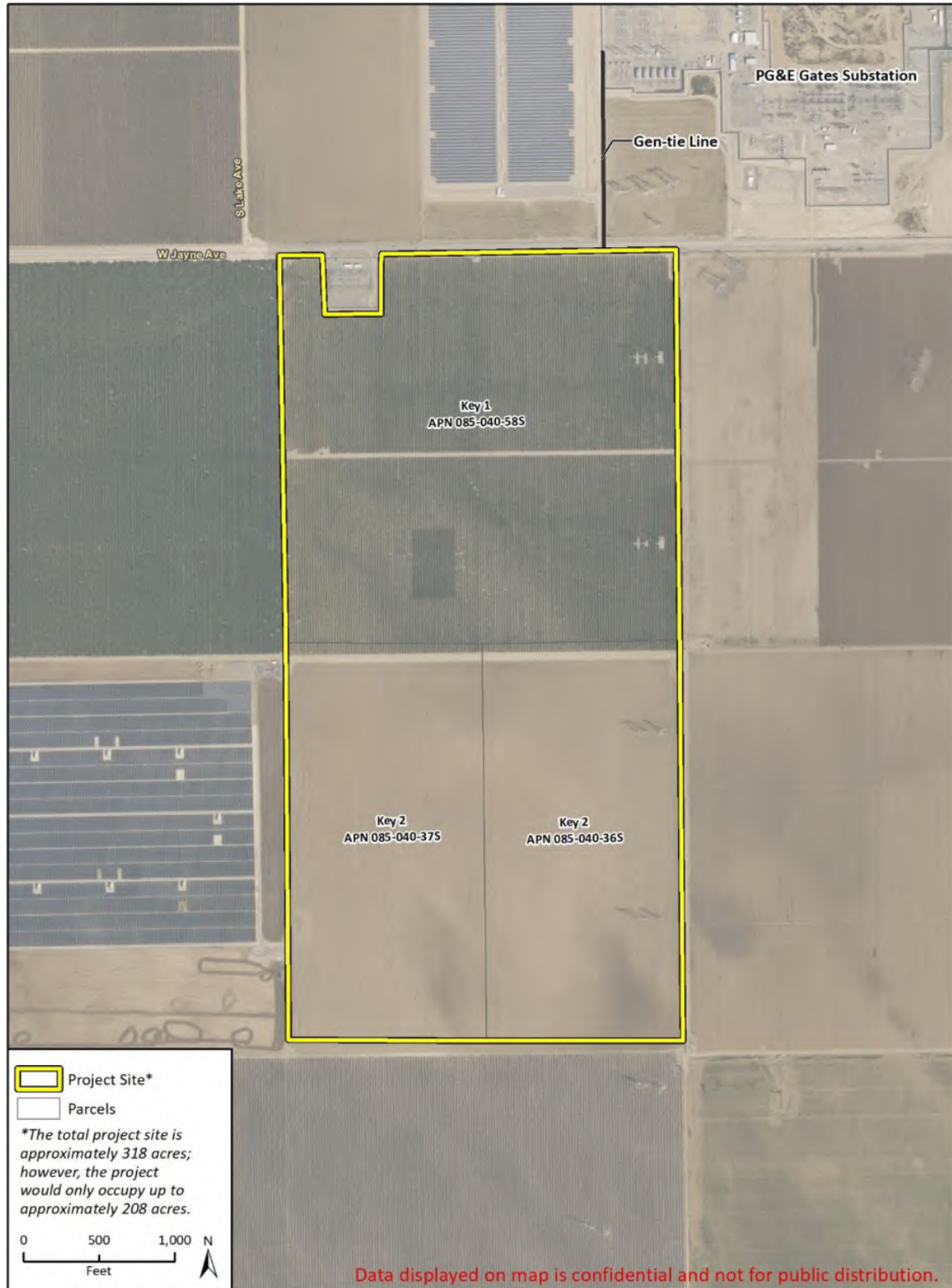


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 Project Location 



Figure 2 Project Site and Project Parcel Map



Imagery provided by Microsoft Bing and its licensors © 2021.  
Additional data provided by Fresno County, 2021.

Fig. 2 Project Location

The Key 1 portion of the site consists of land in agriculture production, an overhead gen-tie line along the western boundary, and high voltage transmission lines running north-to-south in the eastern portion of the site. The Key 2 portion of the site is currently fallow with high voltage transmission lines running north-to-south in the eastern portion of the site.

As shown in Figure 2, the Project site is bound by West Jayne Avenue to the north and unpaved agricultural access roads to the east, south, and west. The Project site is surrounded by agricultural uses to the west, south, and east. Solar facilities are located to the north and southwest and the PG&E Gates Substation is located to the northeast of the Project site. A small substation is also located immediately adjacent to the northwest Project site boundary.

Existing site access from West Jayne Avenue is provided via agricultural roads along the eastern and western Project site boundaries.

## 2.0 Pest Management Goals

This Pest Management Plan has been prepared to comply with the Project's anticipated Fresno County UCUP. The following pest-control measures are based on widely accepted pest management protocols and were developed for the purpose of minimizing the likelihood of pests (including weeds and rodents) within the Project site and maximizing the ability to reduce the current (if present) pest population.

## 3.0 Strategy

This Pest Management Plan promotes the use of a range of preventative and non-chemical approaches to control pest populations and stave off infestation. If preventative and non-chemical approaches fail to control the pest populations and an infestation warrants additional treatment, the Pest Management Plan protocol favors the use of least-toxic chemical control (i.e., herbicide or pesticide).

## 4.0 Practices

The following sections include general and specific preventative, mechanical, and chemical pest control strategies.

### 4.1 Weed Control Practices

#### **Preventative Controls**

Preventative strategies to control the spread of weed seed within the Project site include cleaning all vehicles inside and out at a commercial washing station to prevent weed seeds that are carried in tire treads, etc. from being carried onto the property.

#### **Mechanical Controls**

Mechanical strategies to remove existing and new weed populations include the following:

- Regular inspections of the property should be made to identify weeds before they go to seed.

- Remove weed species when identified. This can be done by pulling the entire plant out of the soil and disposing of it. It is especially important to remove weeds before the seed head matures.
- Handheld string trimmers (Weed Eaters) or mowers can be used in the larger open spaces if needed but those activities should be timed before the weeds develop seed heads.

### Chemical Controls

Chemical controls, which include use of herbicides, should only be utilized if the weed prevention and mechanical controls detailed above fail. Protocols for herbicide use are detailed in Section 4.3.

## 4.2 Pest Control Practices and Removal Methods

### Preventative Controls

Various small rodents are known to inhabit the general region. These include voles, moles, pocket gophers, rats, mice, and California ground squirrels. Preventive measures for each of these species are somewhat different; however, there are several measures common to all that can be implemented for the project as needed. These measures are summarized below:

- **Managing Vegetation:** Rodents typically occur in areas where vegetation (including weeds) is allowed to grow; therefore, the vegetative cover throughout the site should be controlled. This can be achieved through periodic mowing or weeding.
- **Tilling:** Plowing can be an effective measure in controlling rodents. Tilling must be performed on a regular basis to ensure control of rodent populations.
- **Specialized Fencing:** Specialized fencing designed to exclude small mammals can sometimes be an effective measure in controlling animals, particularly in dealing with larger mammals such as California ground squirrels. However, specialized fencing is most effective when utilized for relatively small projects. Installing specialized fencing would not be a cost-effective means in controlling small rodents for the proposed project.
- **Natural Control:** Natural predators such as hawks and falcons do occur in the area and prey on voles, rats, and ground squirrels on a regular basis. Raptors are expected to utilize the site during hunting activities.

### Mechanical Controls

Construction of the proposed Project would have the benefit of reducing the number of rodents which may presently occur on the site due to modification and removal of the existing crops and vegetation present on the site. As part of the construction process, the site would be graded, and all current vegetation will be removed. Some natural re-vegetation will occur over time and rodents will naturally be reintroduced; consequently, pests may need to be controlled through mechanical removal practices.

Trapping would be the preferred active management technique should the above preventative methods fail to provide sufficient management. Removal of various rodent species through trapping measures is an effective way to control populations of pests; however, trapping is labor intensive and can be relatively expensive. Trapping is most effective when dealing with small projects or when the rodents are confined to a relatively small portion of the site. Trapping may be an effective measure for the project if the rodent infestation problem is confined to a small area but if the

rodents are evenly dispersed throughout the site, baiting (see chemical controls below) may be a more effective measure. In the event an infestation problem does arise, the site operations manager should consult with a pest control expert to determine if trapping is suitable.

Trapping would be employed by a licensed contractor for about 3 to 6 months and evaluated for success before other management options are considered.

### **Chemical Controls**

Rodenticides are pesticides used to control rodents and can be used as bait in rodent traps. The use of rodenticides would be restricted and would only be implemented by a licensed contractor should other management techniques fail. If rodent control must be conducted, zinc phosphide will be used because of its proven lower risk to San Joaquin Kit Fox. Bait stations shall be enclosed so the opening is accessible for the target rodent (i.e., 2-inch diameter for ground squirrel), but the openings will be at an elevated angle so that bait remains inside the station under all conditions. Protocols for pesticides use are detailed in Section 4.3.

## **4.3 Chemical Application of Herbicides and Pesticides**

Chemical herbicides and pesticides (including rodenticides) are to be used only after non-chemical options have been exhausted, with a preference for use of a low-risk herbicides and pesticides. Low risk herbicides and pesticides are determined by hazard screening to be of “lowest concern,” because the product contains:

- No known, likely, or probable carcinogens
- No reproductive toxicants (CA Prop 65 list)
- No ingredients listed by the U.S. Environmental Protection Agency as known, probable, or suspect endocrine disrupters
- Active ingredients have a soil half-life of thirty days or less
- Labeled as not toxic to fish, birds, bees, wildlife, or domestic animals
- Pest control chemicals other than glyphosate (e.g., Roundup) and pelargonic acid (e.g., Scythe) shall only be applied by a credentialed applicator in the state of California and it is necessary to confirm that the applicator has all the necessary federal, state, and local agency permits.

All chemical application and advice on pest and weed management problems will be made by a licensed contractor, particularly in the creation of a customized treatment plan which may require detailed knowledge of the biology and ecology of a particular species. No pesticides or herbicides should be stored on the property and a specialist must prepare the chemicals off-site to limit the chances of a spill. Herbicides are not to be sprayed within the buffer zone (if any) of any sensitive resource areas without prior authorization from the appropriate regulatory agency.

### **Contractor Requirements**

All contractors responsible for pesticide and herbicide use, transport, application, and control at the site will hold the appropriate certifications. Such certifications shall be made available. Contractors transporting pesticides and herbicides to the site shall also have legible Safety Data Sheets and labels on site.

## Application Procedures

Chemical herbicide and pesticide applications on site will occur using the following general best management practices:

- Use of chemical compounds will observe label and other restrictions mandated by the United States Environmental Protection Agency, California Department of Food and Agriculture, and any other applicable state and federal legislation.
- Time the treatment to coincide with the presence of the pest or weed species.
- Use a selective chemical that has the least effect on non-target species and treat only the area affected.
- Spraying must not be carried out in unsuitable weather. Anyone operating sprayers must have access to a wind-speed meter and only spray when the wind speed is less than 10 miles per hour.
- Spray equipment must be frequently checked and properly maintained, both for health and safety reasons and to minimize spray drift.
- Users must wear protective clothing and Personal Protective Equipment (PPE) appropriate to the pest chemical application used.
- Ensure that anyone handling toxic chemicals never works alone and that the work area is well ventilated.
- Require respirators for outdoor spraying or dusting of organic phosphorus compounds.
- Eating, drinking and smoking must be prohibited when using or handling chemicals.
- Users must be familiar with the effects on the body of the chemicals they are likely to be using, and how the chemicals may enter the body.
- Users must be aware of the signs and symptoms of acute poisoning related to chemicals they are using. They must stop work if they are feeling ill and seek medical advice.

## Spill Control

Spill kits and PPE will be available on site and must be carried in contractor vehicles. If a spill or inadvertent release occurs the following protocol should be followed:

- Notify the Operations Manager and the appropriate regulatory agencies immediately.
- Secure the affected area barring pedestrian and vehicle traffic. All spill response personnel shall put on the appropriate PPE prior to entering the spill containment area.
- Personnel, while wearing the appropriate PPE and equipped with the necessary tools and equipment, shall stop the chemical leak or release.
- All materials associated with spill response, including the released herbicide, affected soils and plants, absorptive material, clothing, and PPE shall be removed and containerized according to appropriate regulations and procedures.

All generated spill response containers shall be transported, following appropriate regulations, and disposed legally at an approved disposal facility.

## 5.0 Conclusion

Pests and weeds are not expected to be an issue of major concern because the Project will not produce or maintain any crops or other plant materials that might propagate weeds or attract the various rodents known to occur in the area. In addition, food and trash will not be stored on site. Minimal weed management will be required to avoid interference with facility equipment, and will reduce the amount of useful habitat for pests on the site. In addition, preventative control methods would help reduce pests and weeds on site.



# Appendix B3

## **Preliminary Site Plan and General Arrangement**



PRELIMINARY - NOT FOR CONSTRUCTION



KEY BESS

PRELIMINARY - NOT FOR CONSTRUCTION

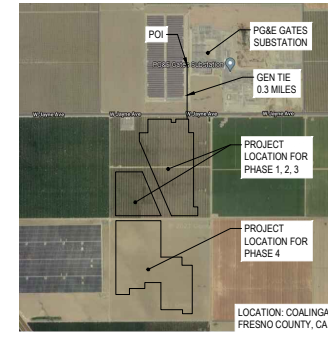
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| CHECKED                  | LJB     |
| DATE                     | 09/2022 |
| © COFFMAN ENGINEERS INC. |         |

SHEET TITLE:  
**KEY BESS PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT**

SHEET NO:

**C-100**



VICINITY MAP

| PHASE        | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | ACRES PER PHASE |
|--------------|--------------------------|--|-----------------|
| 1            | 300 MW                   | 96   | 27.6 (NOTE A)   |
| 2            | 500 MW                   | 160  | 22.2            |
| 3            | 1000 MW                  | 320  | 60.8            |
| 4            | 1200 MW                  | 384  | 97.4 (NOTE B)   |
| <b>TOTAL</b> | <b>3000 MW</b>           | <b>960</b>                                 | <b>208</b>      |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-100.  
 NOTE B: INCLUDES RETENTION BASINS ON C-101.

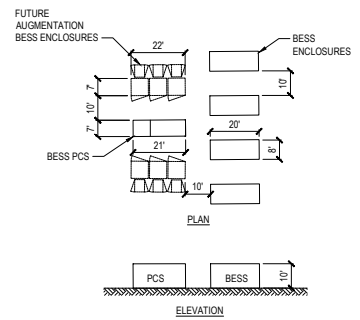
**SYSTEM SUMMARY**

**NOTES:**

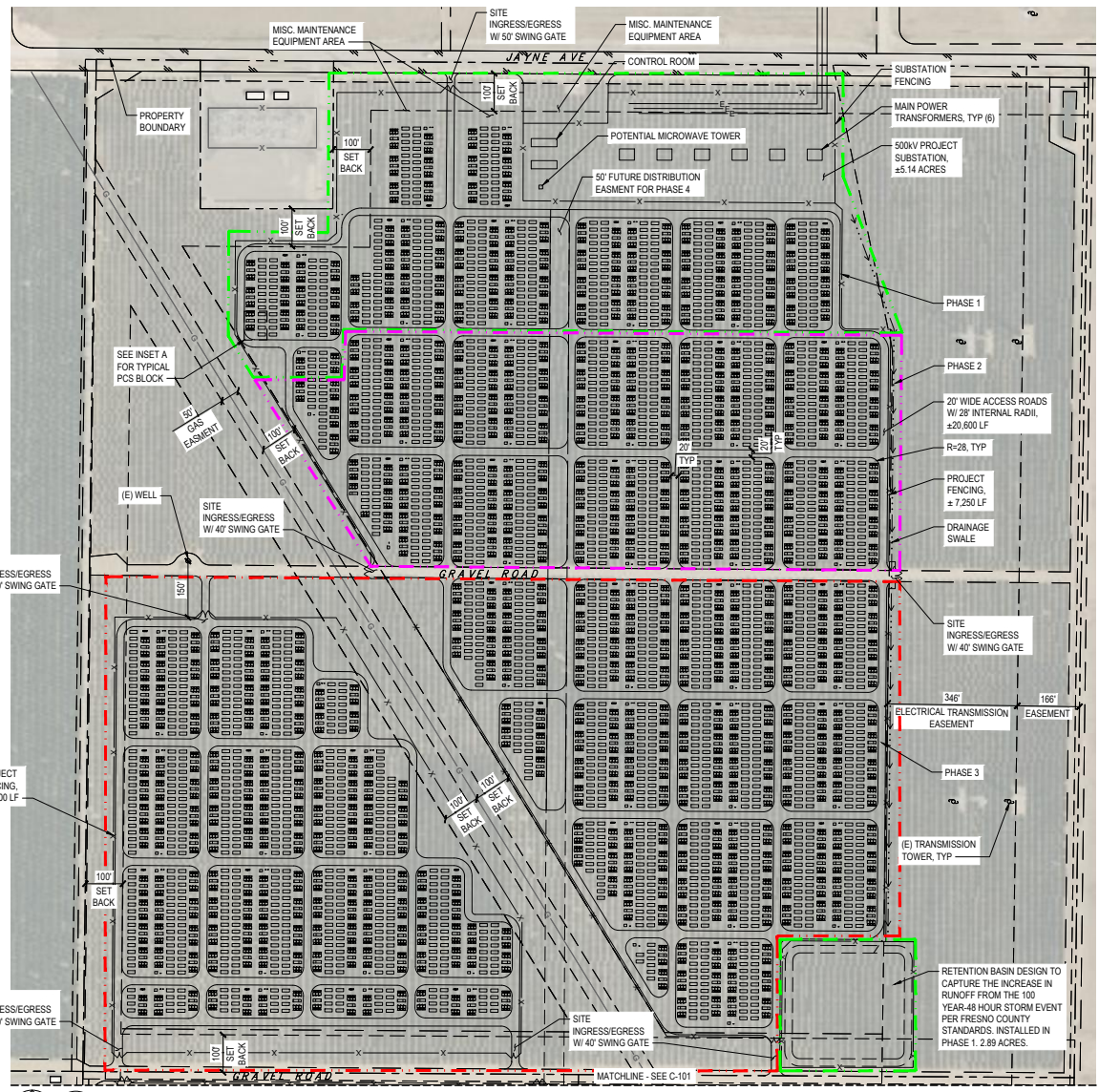
- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY (FOR EACH PHASE). ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

**ABBREVIATIONS:**

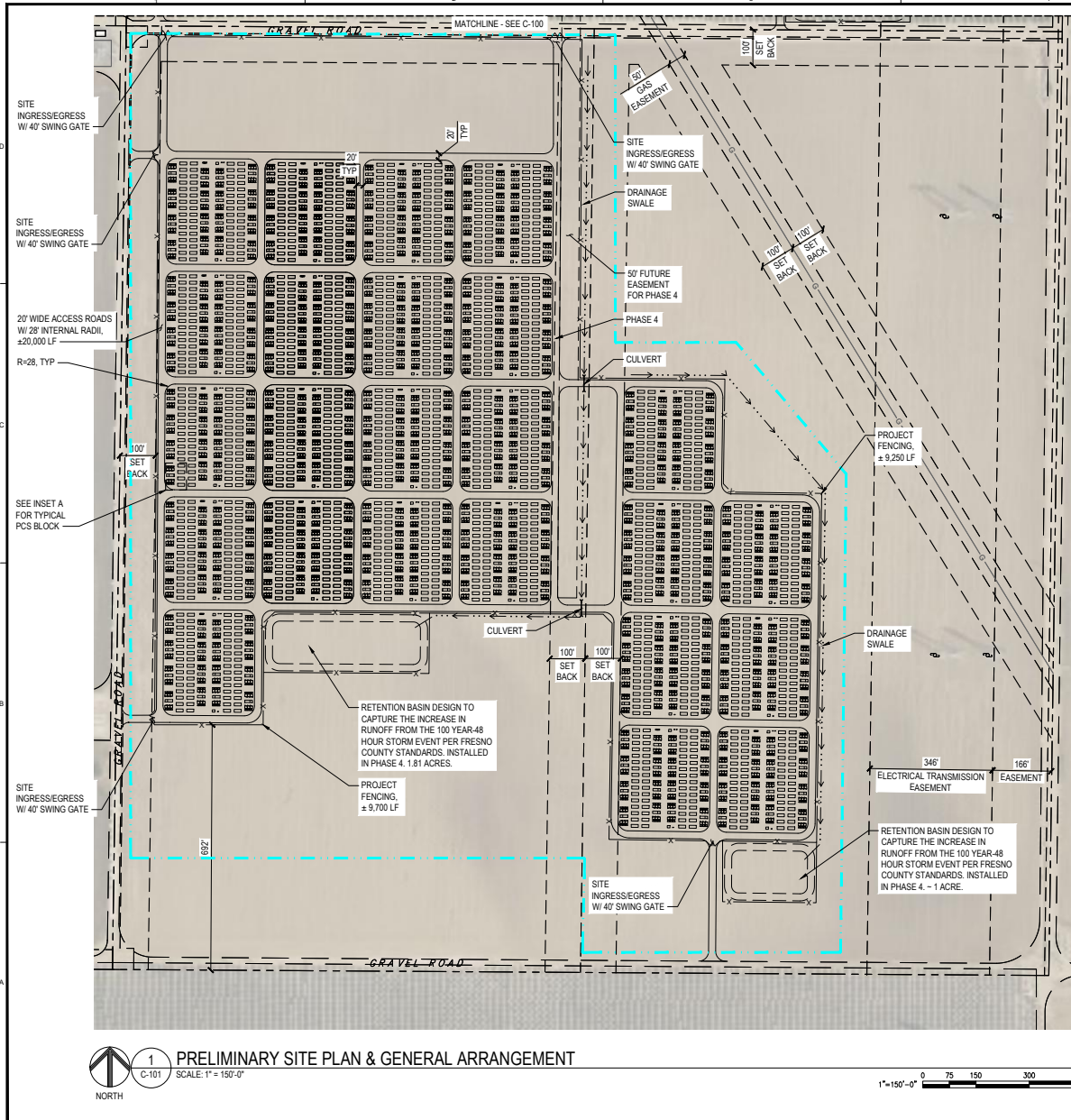
- BESS BATTERY ENERGY STORAGE SYSTEM  
 PCS POWER CONVERSION SYSTEM  
 POI POINT OF INTERCONNECTION



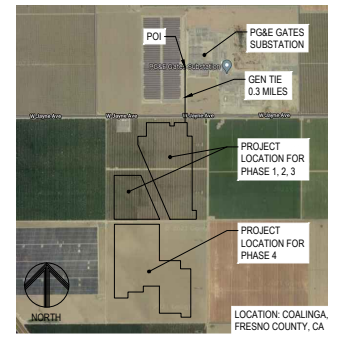
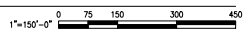
INSET A - TYPICAL PCS BLOCK



**1 PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT**  
 SCALE: 1" = 150'-0"  
 NORTH  
 1" = 150'-0" 0 75 150 300 450



**1** PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT  
 C-101 SCALE: 1" = 150'-0"



VICINITY MAP

| PHASE | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | ACRES PER PHASE |
|-------|--------------------------|--|-----------------|
| 1     | 300 MW                   | 96   | 27.6 (NOTE A)   |
| 2     | 500 MW                   | 160  | 22.2            |
| 3     | 1000 MW                  | 320  | 60.8            |
| 4     | 1200 MW                  | 384  | 97.4 (NOTE B)   |
| TOTAL | 3000 MW                  | 960  | 208             |

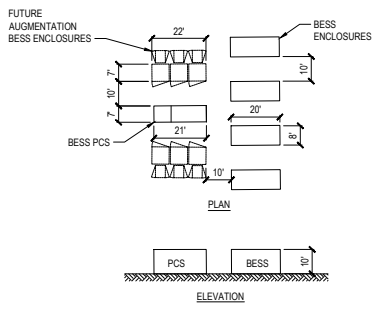
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 NOTE B: INCLUDES RETENTION BASINS ON C-101.

**SYSTEM SUMMARY**

- NOTES:**
- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
  - SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY (FOR EACH PHASE). ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

**ABBREVIATIONS:**

BESS BATTERY ENERGY STORAGE SYSTEM  
 PCS POWER CONVERSION SYSTEM  
 POI POINT OF INTERCONNECTION



INSET A - TYPICAL PCS BLOCK

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 Oakland, CA 94612  
 ph 510.251.9578  
 www.coffman.com

PRELIMINARY - NOT FOR CONSTRUCTION

NEXTERA  
 NEXTERA ENERGY RESOURCES

KEY BESS

PRELIMINARY - NOT FOR CONSTRUCTION

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 DATE 09/2022  
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SHEET TITLE:  
 KEY BESS  
 PRELIMINARY  
 SITE PLAN &  
 GENERAL  
 ARRANGEMENT

SHEET NO.  
**C-101**

PRELIMINARY - NOT FOR CONSTRUCTION

NEXTERA  
**NEXTERA ENERGY**  
RESOURCES

KEY BESS

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REV DATE DESCRIPTION

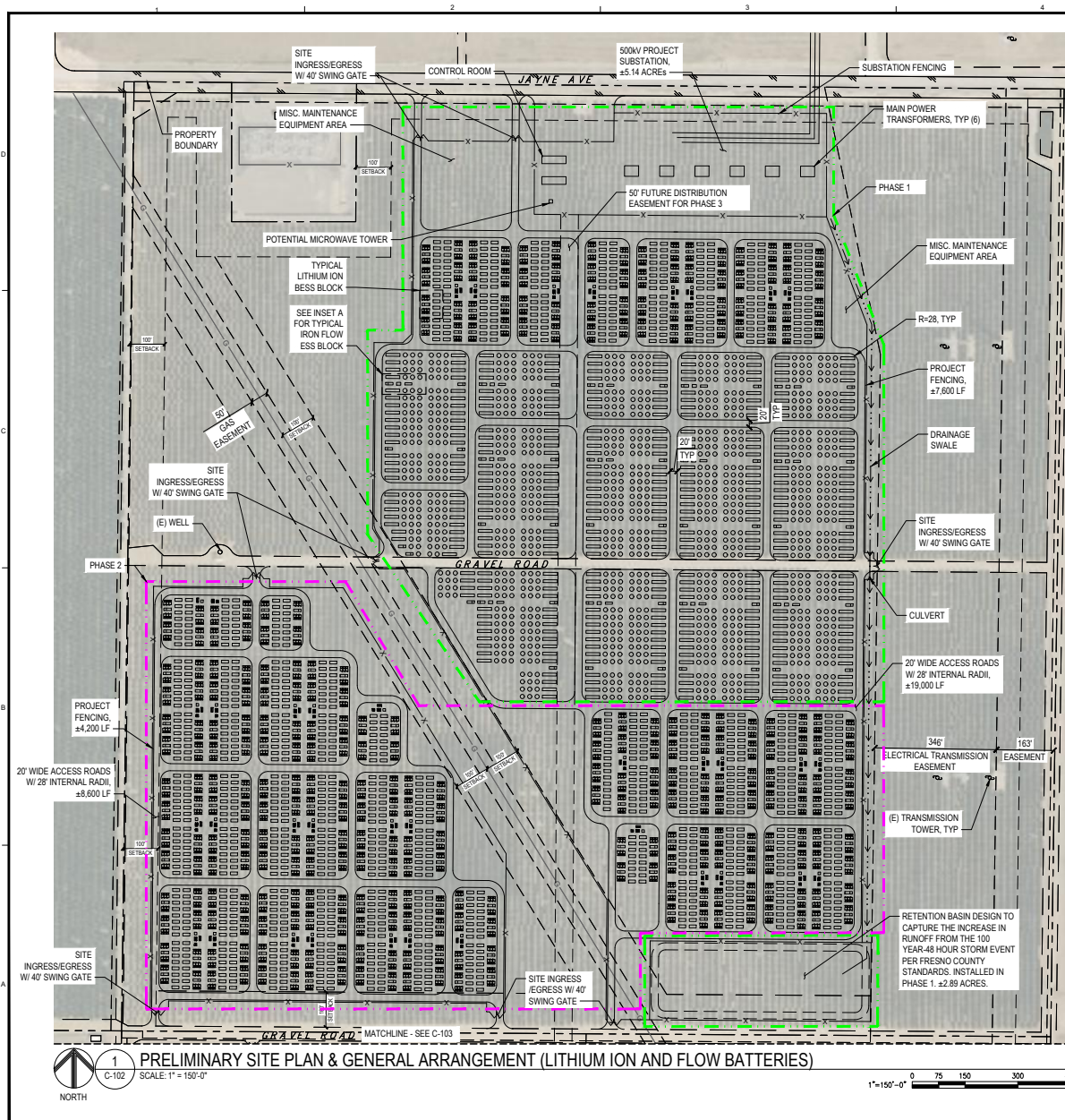
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COFFMAN ENGINEERS INC.

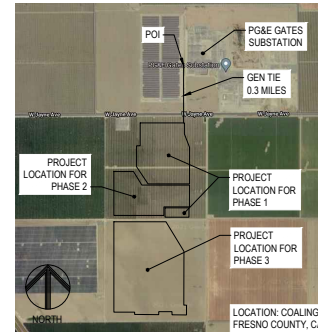
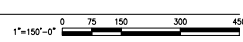
SHEET TITLE:

PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT (LITHIUM ION AND FLOW BATTERIES)

C-102



1 C-102 PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT (LITHIUM ION AND FLOW BATTERIES)  
SCALE: 1" = 150'-0"



| PHASE | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | BESS TECHNOLOGY | ACRES PER PHASE |
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| 1     | 300 MW                   | 46   | FE FLOW         | 56.0 (NOTE A)   |
| 2     | 700 MW                   | 232  | LI-ION          | 43.4            |
| 3     | 2000 MW                  | 640  | LI-ION          | 108.6 (NOTE B)  |
| TOTAL | 3000 MW                  | 982  |                 | 208             |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-102.  
NOTE B: INCLUDES RETENTION BASINS ON C-103.

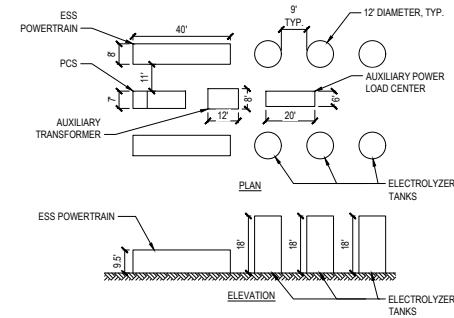
SYSTEM SUMMARY

NOTES:

- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY. ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

ABBREVIATIONS:

- BESS BATTERY ENERGY STORAGE SYSTEM
- ESS ENERGY STORAGE SYSTEM
- PCS POWER CONVERSION SYSTEM
- POI POINT OF INTERCONNECTION



PRELIMINARY - NOT FOR CONSTRUCTION



KEY BESS

PRELIMINARY - NOT FOR CONSTRUCTION

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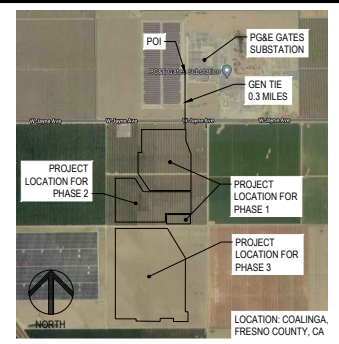
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| CHECKED   | LJB     |
| DATE      | 09/2022 |

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SHEET TITLE:  
**PRELIMINARY SITE PLAN & GENERAL ARRANGEMENT (LITHIUM ION AND FLOW BATTERIES)**

SHEET NO.:

**C-103**



VICINITY MAP

| PHASE | POWER @ POI (SEE NOTE 2) | PCS (BESS INVERTER & TRANSFORMER) QUANTITY | BESS TECHNOLOGY | ACRES PER PHASE |
|-------|--------------------------|--|-----------------|-----------------|
| 1     | 300 MW                   | 46   | FE FLOW         | 56.0 (NOTE A)   |
| 2     | 700 MW                   | 232  | LI - ION        | 43.4            |
| 3     | 2000 MW                  | 640  | LI - ION        | 108.6 (NOTE B)  |
| TOTAL | 3000 MW                  | 962  |                 | 208             |

NOTE A: INCLUDES RETENTION BASIN AND SUBSTATION ON C-102.  
 NOTE B: INCLUDES RETENTION BASINS ON C-103.

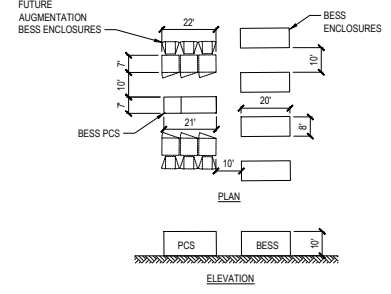
SYSTEM SUMMARY

NOTES:

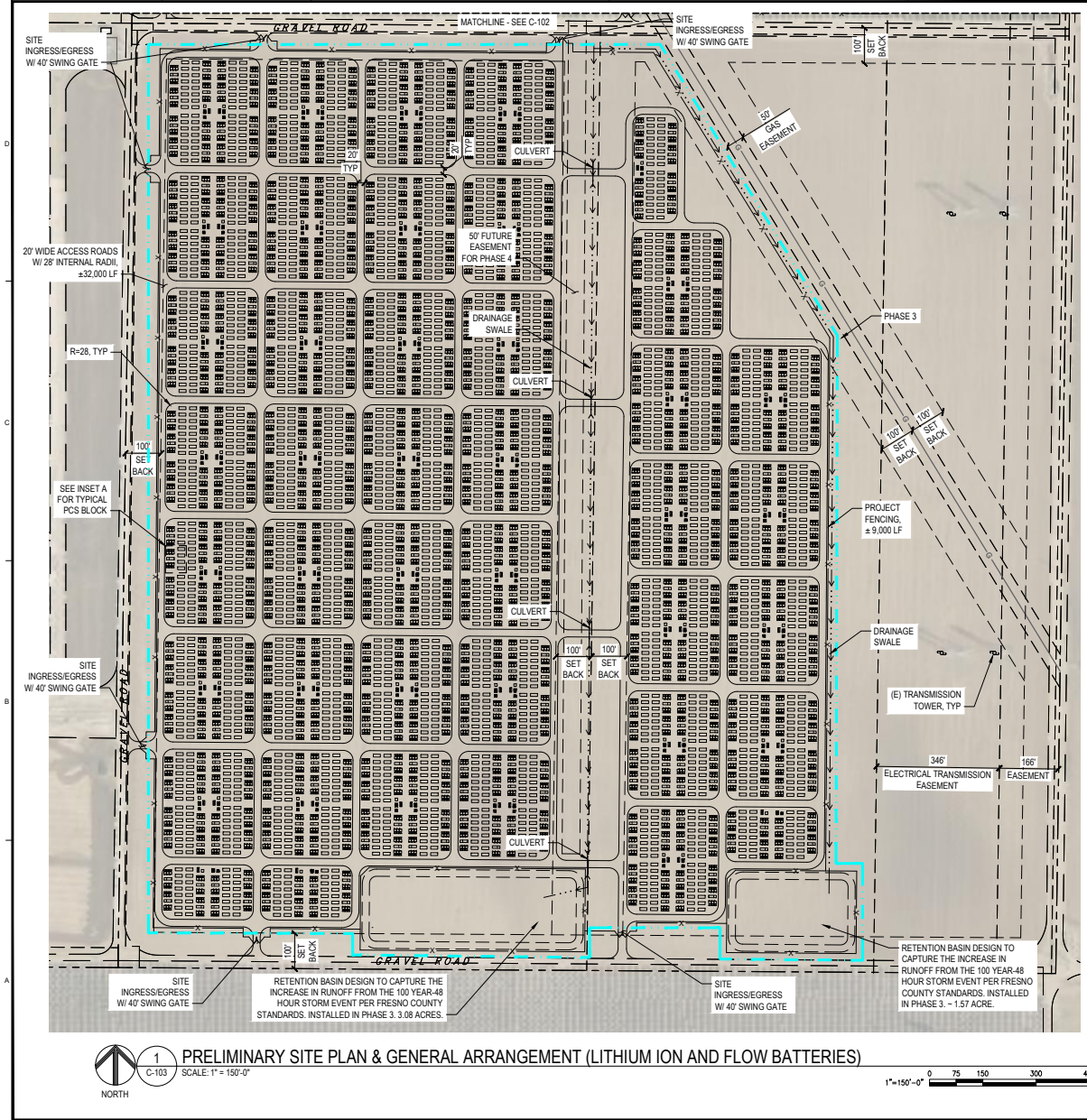
- DIMENSIONS ARE APPROXIMATE AND MAY VARY BASED ON FINAL DESIGN.
- SCADA SYSTEM HAS ACTIVE POWER CONTROL CAPABILITY TO LIMIT TOTAL PLANT INPUT AND OUTPUT TO PREVENT EXCEEDING THE MAXIMUM INTERCONNECTION CAPACITY FOR EACH PHASE. ADDITIONAL BESS EQUIPMENT IS SHOWN TO ACCOUNT FOR POTENTIAL CHANGES IN OPERATIONAL STRATEGY.

ABBREVIATIONS:

- BESS BATTERY ENERGY STORAGE SYSTEM  
 PCS POWER CONVERSION SYSTEM  
 POI POINT OF INTERCONNECTION



INSET A - TYPICAL PCS BLOCK



1 C-103 SCALE: 1" = 150'-0"



# Appendix C

## **Agricultural Resources: Land Evaluation and Site Assessment (LESA)**





# Key Energy Storage Project

## Land Evaluation and Site Assessment

*prepared for*

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**October 2022**



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# 1 Introduction

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This Land Evaluation and Site Assessment (LESA) has been prepared for the Key Energy Storage Project (Project). The purpose of this report is to provide agencies and decision makers with a method for quantitatively considering potential impacts on agricultural lands in the environmental review process (Public Resources Code Section 21095). Appendix G of the State California Environmental Quality Act (CEQA) Guidelines identifies the California Department of Conversation's (DOC) California Agricultural LESA Model (LESA Model) as an optional model to use in assessing potential impacts to agriculture and farmland.

## 2 Project Description

---

### 2.1 Project Location

The Project site is in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles east of Interstate 5 (Figure 1). The Project site is located southwest of the Pacific Gas and Electric (PG&E) Gates Substation along West Jayne Avenue. The Project would be developed on up to 260 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2).

### 2.2 Project Description

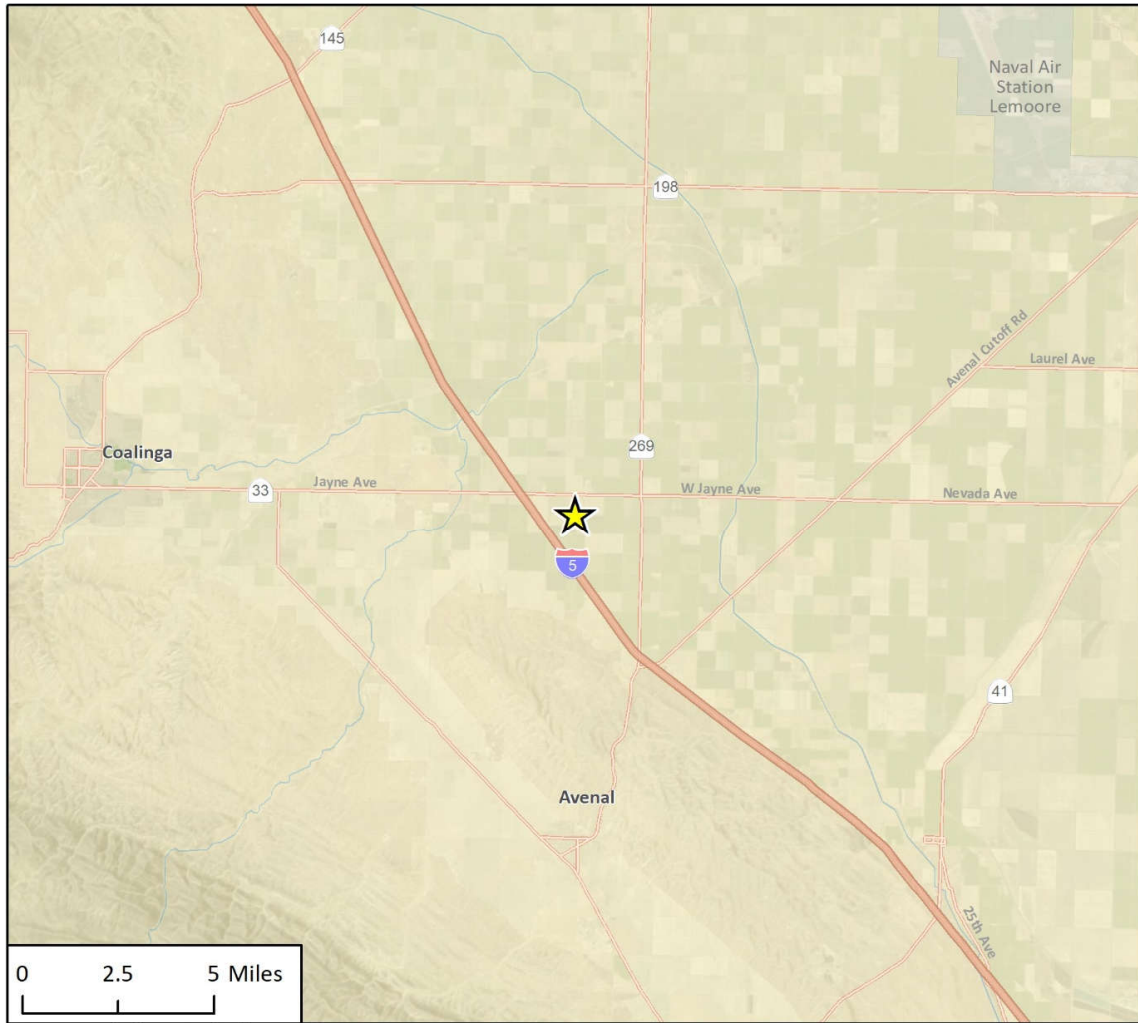
Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) on up to 260 acres within a 318-acre site in unincorporated Fresno County. The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.<sup>1</sup> The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent PG&E Gates Substation.

The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

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<sup>1</sup> The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the Project may change, the overall size of the Project (up to 260 acres) would remain consistent.

Figure 1 Regional Location



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 Project Location 

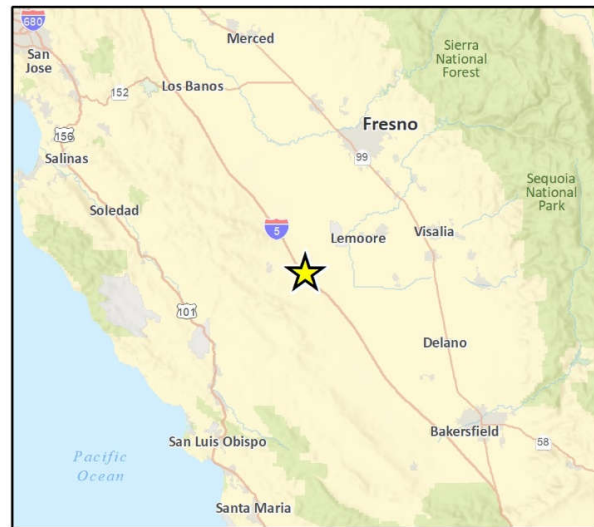
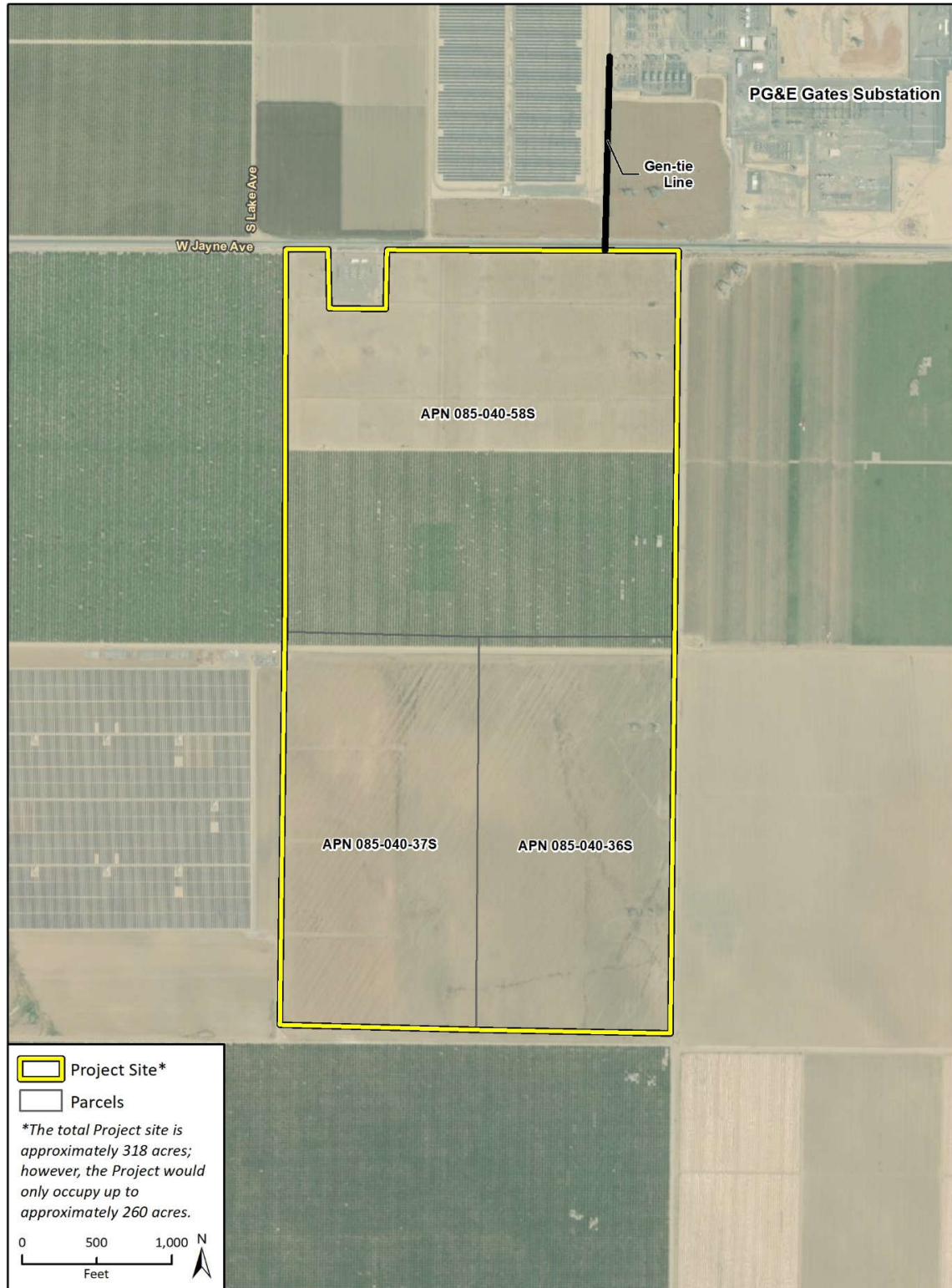


Fig 1 Regional Location

Figure 2 Project Location



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Additional data provided by Fresno County, 2021.

## 3 Methodology

---

The DOC's LESA Model is a point-based approach that is generally used for rating the relative value of agricultural land resources. A given LESA Model is created by defining and measuring two separate sets of factors: Land Evaluation (LE) and Site Assessment (SA).

LE includes two factors that measure the inherent soil-based qualities of land as they relate to agricultural suitability (DOC 1997):

1. **Land Capability Classification Rating:** The Land Capability Classification (LCC) Rating indicates the suitability of soils for most kinds of crops. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest ratings.
2. **Storie Index Rating:** The Storie Index provides a numeric rating of the relative degree of suitability or value of a given soil for intensive agriculture use. The rating is based upon soil characteristics only.

SA includes four factors which are intended to measure social, economic, and geographic attributes that also contribute to the overall value of agricultural land (DOC 1997):

1. **Project Size Rating:** The Project Size Rating is based on the acreage of three soil classifications on a project site. The Project Size Rating recognizes the role that farm size and soil quality plays in the viability of an agricultural operation.
2. **Water Resource Availability Rating:** The Water Resources Availability Rating is based on the available water supplies for a project site, taking into consideration whether physical or economic restrictions in supply are likely to take place in drought and non-drought years.
3. **Surrounding Agricultural Land Rating:** The Surrounding Agricultural Land Rating measures the proportion of agricultural land surrounding a project site.
4. **Surrounding Protected Resource Land Rating:** The Surrounding Protected Resource Land Rating takes into account the amount of Protected Resource Land, defined as lands with long term use restrictions that are compatible with or supportive of agricultural land, surrounding a project site. This includes Williamson Act contracted lands; publicly owned lands maintained as park, forest, or watershed resources; and lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

Each of the six total LESA factors are separately rated on a 100-point scale. After individual scores are calculated, the factors are weighted relative to each other. The specific breakdown of factor weighting is as follows (DOC 1997):

1. **Land Capability Classification Rating:** 25 percent of total LESA score
2. **Storie Index Rating:** 25 percent of total LESA score
3. **Project Size Rating:** 15 percent of total LESA score
4. **Water Resource Availability Rating:** 15 percent of total LESA score
5. **Surrounding Agricultural Land Rating:** 15 percent of total LESA score
6. **Surrounding Protected Resource Land Rating:** 5 percent of total LESA score

A single LESA score is generated for a given project after all of the individual LE and SA factors have been scored and weighted. The final project scoring is based on a 100-point scale with 50 percent of the total LESA derived from the LE factors, and 50 percent derived from the SA factors.

The LESA Model is designed to make determinations of the potential significance of a project's conversion of agricultural lands as part of the CEQA review process (DOC 1997). Scoring thresholds are based upon both the total LESA score as well as the scores calculated for LE and SA individually. Table 1 presents the LESA significance thresholds.

**Table 1 Land Evaluation Site Assessment Model Significance Thresholds**

| Total LESA Score | Scoring Decision   |
|------------------|--|
| 0 to 39 points   | Not considered significant   |
| 40 to 59 points  | Considered significant only if LE and SA sub-scores are greater than or equal to 20 points |
| 60 to 79 points  | Considered significant unless either LE or SA sub-scores is less than 20 points            |
| 80 to 100 points | Considered significant   |

LE = Land Evaluation; SA = Site Assessment  
Source: DOC 1997

For the purposes of this LESA Model, the entire 318-acre Project site is analyzed rather than the 260-acre development because implementation of the Project would preclude agricultural use within the entirety of the 318-acre site. Additional details of the methodology for the LESA modeling conducted for the Project is discussed in Section 4, *Land Evaluation and Site Assessment Results*. All tables provided in Section 4 align with the LESA worksheets published by the DOC for the purposes of creating a LESA model.

## 4 Land Evaluation and Site Assessment Results

---

### 4.1 Land Evaluation

In order to rate the LCC and Storie Index factors, the relative proportion of soils on a project site are identified. Soils on the Project site consist of loam and sandy loams in three soils series (United States Department of Agriculture-Natural Resources Conservation Service [USDA-NRCS] 2022). These include Westhaven loam, Kimberlina sandy loam, and Wasco sandy loam. The majority of the Project site contains Westhaven loam and Kimberlina sandy loam as only approximately 13 acres of Wasco sandy loam is present in the southwest corner of the 318-acre site. The locations of these soils are depicted in Figure 3.

#### Land Capability Classification Rating

LCCs for specific soils are identified as part of soil surveys, conducted by the USDA-NRCS (DOC 1997). Soils are categorized at three levels: capability class, subclass, and unit (USDA-NRCS 2000). The LESA model utilizes capability class and subclass to determine the LCC Rating Value (DOC 1997). Capability classes are designated by the numbers I through VIII. The numbers indicate progressively greater limitations and narrower choices for crop cultivation, with Class I soils having the fewest limitations and Class VIII soils having the greatest limitations. Capability subclasses are soil groups within a capability class, and indicate specific risks associated the soil. These subclasses are designated by adding a small letter *e* (erosion), *w* (water that interferes with plant growth), *s* (shallow, droughty or stony), or *c* (cold or dry), to the end of the capability class number (USDA-NRCS 2000). The LCC Point Ratings that are assigned to each capability class and subclass for the LESA model are listed in Table 2.

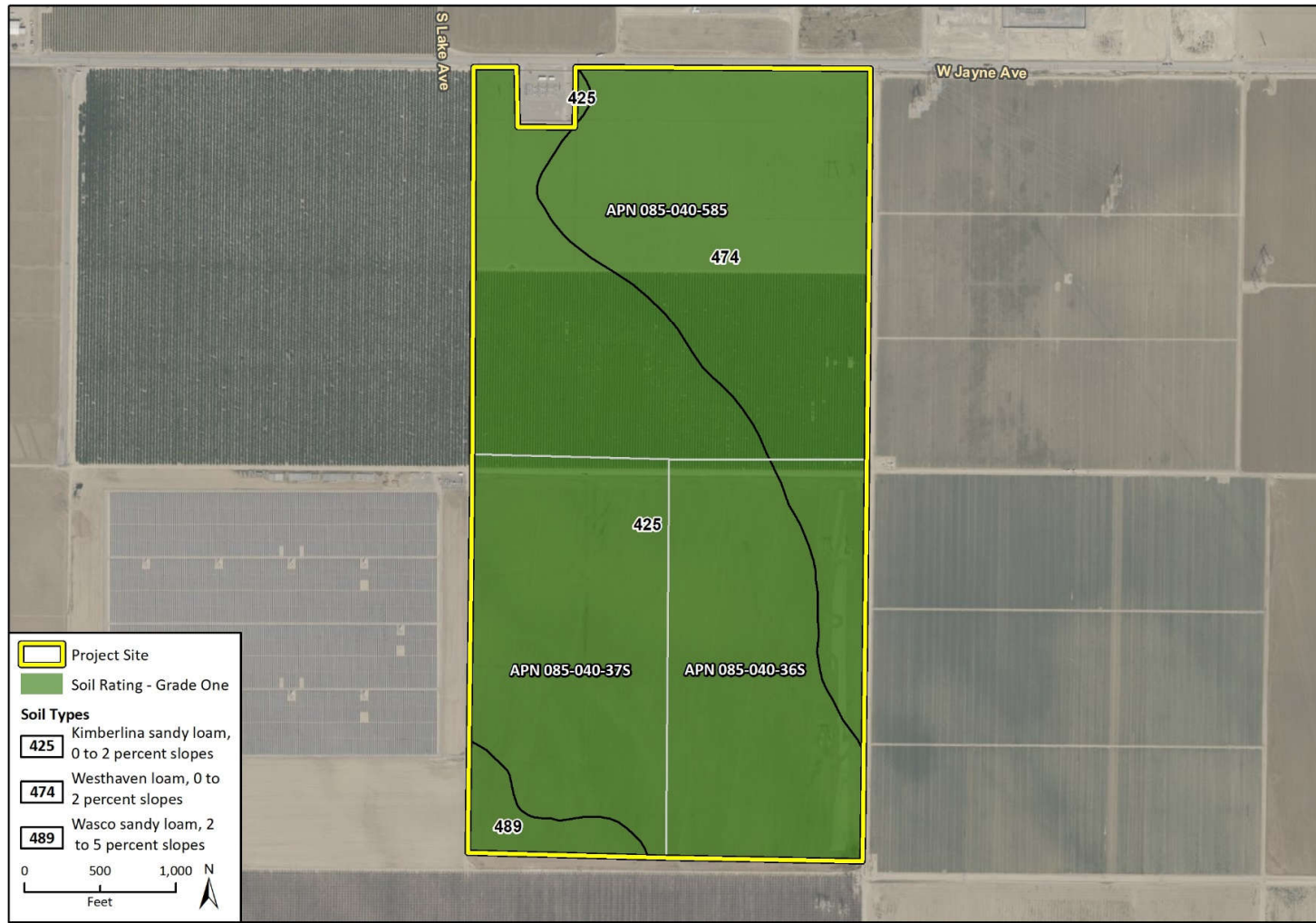
**Table 2 LESA Land Capability Classification Ratings**

| Land Capability Classification | Point Rating |
|--------------------------------|--------------|
| I                              | 100          |
| Ile                            | 90           |
| IIs,w                          | 80           |
| IIIe                           | 70           |
| IIIs, w                        | 60           |
| IVe                            | 50           |
| IVs, w                         | 40           |
| V                              | 30           |
| VI                             | 20           |
| VII                            | 10           |
| VIII                           | 0            |

Source: DOC 1997

---

**Figure 3 Project Site Soils**



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Additional data provided by USDA and Fresno County, 2021.

Fig 1 Storie Index Rating 20221011



The LCC Classification for irrigated Westhaven loam and Kimberlina sandy loam is I, which are assigned an LCC Rating Value of 100. The LCC Classification for non-irrigated Westhaven loam and Kimberlina sandy loam is VIIc and for non-irrigated Wasco sandy loam is VIIe, which are assigned an LCC Rating Value of 10. The LCC Classification and LCC Rating Value for the soils on the Project site are shown in Table 4 at the end of this section.

The LCC Score for each soil type on the Project site is derived by multiplying the LCC Rating Value by the percentage the Project site comprised of the soil type. The LCC Score for the on-site soils is calculated in Table 4 at the end of this section.

### **Storie Index Rating**

The Storie Index Rating Class and Rating Value for specific soils are identified as part of soil surveys, conducted by the USDA-NRCS (DOC 1997). The Storie Index Rating based on surface and subsurface chemical and physical soil properties and surface landscape features of the soil. Four general factors are used to determine the Storie Index Rating of a particular soil: (A) permeability, available water capacity, and depth of the soil; (B) the texture of the surface soil; (C) the dominant slope of the soil body; and (X) other conditions more readily subject to management or modification by the land user. Soils are assigned to a Storie Index Rating Class from Grade 1 to Grade 6, based upon the Storie Index Rating Value. Grade 1 soils are representative of soils that are well suited for agriculture, while Grade 6 soils are not suited to agriculture (USDA-NRCS 2000). The Storie Index Rating Values for each Storie Index Rating Class are shown in Table 3 below.

**Table 3 Storie Index Ratings**

| <b>Storie Index Rating Class</b> | <b>Storie Index Rating Value</b> |
|----------------------------------|----------------------------------|
| Grade 1                          | 80 to 100                        |
| Grade 2                          | 60 to 79                         |
| Grade 3                          | 40 to 59                         |
| Grade 4                          | 20 to 39                         |
| Grade 5                          | 10 to 19                         |
| Grade 6                          | Less than 10                     |

Source: USDA-NRCS 2000

The Storie Index Rating Value is 95 for Westhaven loam, 90 for Kimberlina sandy loam, and 81 for Wasco sandy loam. The Storie Index Rating Class for the soils on the Project site is Grade 1, indicating the soils are well suited for agriculture (USDA-NRCS 2000). The Storie Index Rating Value and Storie Index Rating Class for the soils on the Project site are shown in Table 4 at the end of this section.

The Storie Index Score for each soil type on the Project site is derived by multiplying the Storie Index Rating Value by the percentage the Project site comprised of the soil type. The Storie Index Score Rating Value for the on-site soils is calculated in Table 4 at the end of this section.

### **Land Evaluation Results**

The results for the LE analysis of the LESA Model are presented in Table 4 below. The LCC and Storie Index Ratings and Scores are provided in Table 4. The project receives an LCC Score of 54.7 and a Storie Index Rating of 91.4.

**Table 4 Soils Land Capability Classification and Storie Index Scores**

| Map Number   | Soil Type                             | Acreage    | Percentage of Project Site | LCC Classification | LCC Rating Value | LCC Score   | Storie Index Rating Class | Storie Index Rating Value | Storie Index Score |
|--------------|---------------------------------------|------------|----------------------------|--------------------|------------------|-------------|---------------------------|---------------------------|--------------------|
| 474          | Westhaven loam (irrigated)            | 61.6       | 19.4%                      | I                  | 100              | 19.4        | Grade 1                   | 95                        | 32.7               |
|              | Westhaven loam (non-irrigated)        | 47.4       | 15.0%                      | VIIc               | 10               | 1.5         |                           |                           |                    |
| 425          | Kimberlina sandy loam (irrigated)     | 96.6       | 30.3%                      | I                  | 100              | 30.3        | Grade 1                   | 90                        | 55.4               |
|              | Kimberlina sandy loam (non-irrigated) | 99.4       | 31.2%                      | VIIc               | 10               | 3.1         |                           |                           |                    |
| 489          | Wasco sandy loam (non-irrigated)      | 13         | 4.1%                       | VIIe               | 10               | 0.4         | Grade 1                   | 81                        | 3.3                |
| <b>Total</b> |                                       | <b>318</b> | <b>100%</b>                |                    |                  | <b>54.7</b> |                           |                           | <b>91.4</b>        |

The Project site's soils LCC Score and Storie Index Score were derived from the USDA-NRCS Web Soil Survey accessed April 18, 2022. The LCC Score is derived by multiplying the percentage of the Project site by the LCC Rating Value for each soil type. The Storie Index Score is derived by multiplying the percentage of the Project site by the Storie Index Rating Value for each soil type. The Storie Index does not take into account irrigated vs non-irrigated land, so the Percentage Total Study Area multiplied is representative of the entirety of a particular soil.

Source: USDA-NRCS 2022; USDA-NRCS 2000

## 4.2 Site Assessment

### Project Size Rating

The Project Size Rating recognizes the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions. Larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon supporting industries and food processing industries (DOC 1997).

In terms of agricultural productivity, the size of the farming operation can be considered, not only from its total acreage, but the acreage of different quality lands that comprise the operation. Lands with higher quality soils lend themselves to greater management and cropping flexibility and have the potential to provide greater economic return per acre unit.

The Project Size Rating is based on Project Size Scores that are assigned to each LCC soil class on the Project site (DOC 1997). The highest Project Size Score for the soils classes on the Project site is identified as used as the Project Size Rating. Relatively fewer acres of high-quality soils to low-quality soils are required to achieve a maximum Project Size Rating of 100. Alternatively, larger acreage of lesser quality soils could also achieve a maximum Project Size Rating of 100. Table 5 provides the Project Size Scoring used for the LESA model (DOC 1997).

The Project site includes approximately 160 acres of Class I soils which are assigned a Project Size Score of 100 and approximately 160 acres of Class VII soils which are assigned a Project Size Score of 60. The Project Size Score for each soil class on the Project site are listed in Table 6. As shows in Table 6, the Project site receives a Project Size Rating of 100, which is the highest of the two individual Project Size Scores.

**Table 5 Project Size Scoring**

| LCC Class I-II Soils |       | LCC Class III Soils |       | LCC Class IV or Lower Soils |       |
|----------------------|-------|---------------------|-------|-----------------------------|-------|
| Acres                | Score | Acres               | Score | Acres                       | Score |
| 80 or above          | 100   | 160 or above        | 100   | 320 or above                | 100   |
| 60-79                | 90    | 120-159             | 90    | 240-319                     | 80    |
| 40-59                | 80    | 80-119              | 80    | 160-239                     | 60    |
| 20-39                | 50    | 60-79               | 70    | 100-159                     | 40    |
| 10-39                | 30    | 40-59               | 60    | 40-99                       | 20    |
| Fewer than 10        | 0     | 20-39               | 30    | Fewer than 40               | 0     |
| --                   | --    | 10-19               | 10    | --                          | --    |
| --                   | --    | Fewer than 10       | 0     | --                          | --    |

Source: DOC 1997

**Table 6 Project Size Rating**

|   | LCC Class I-II | LCC Class III | LCC Class IV-VIII |
|---|----------------|---------------|-------------------|
| Total Acres   | 158            | 0             | 160               |
| Project Size Score  | 100            | 0             | 60                |
| <b>Project Size Rating<br/>(Highest Project Size<br/>Score)</b> |                | <b>100</b>    |                   |

Source: DOC 1997, Appendix B

## Water Resources Availability Rating

The Water Resources Availability Rating is based upon the various water sources available for a project site, and considers irrigation feasibility and whether physical or economic restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought. Physical and economic restrictions are defined by the DOC as follows:

- **Physical Restriction:** A physical restriction is an occasional or regular interruption or reduction in a water supply, or a shortened irrigation season, that forces a change in agricultural practices, such as planting a crop that uses less water, or leaving land fallow. This could be from cutbacks in supply by irrigation and water districts, or by ground or surface water becoming depleted or unusable. Poor water quality can also result in a physical restriction, for example by requiring the planting of salt-tolerant plans, or by effectively reducing the amount of available water.
- **Economic Restriction:** An economic restriction is a rise in the cost of water to a level that forces a reduction in consumption. (This could be from surcharge increases from water suppliers as they pass along the cost of finding new water supplies, the extra cost of pumping more ground

water to make up for losses in surface water supplies, or the extra energy costs of pumping the same amount of groundwater from deeper within an aquifer).

Table 7 presents the Water Resources Availability Scoring used for the LESA Model (DOC 1997).

**Table 7 Water Resource Availability Scoring**

| Option | Non-Drought Years   |                        |                        | Drought Years                  |                        |                        | Water Resource Score |
|--------|---|------------------------|------------------------|--------------------------------|------------------------|------------------------|----------------------|
|        | Restrictions  |                        |                        | Restrictions                   |                        |                        |                      |
|        | Irrigated Production Feasible?  | Physical Restrictions? | Economic Restrictions? | Irrigated Production Feasible? | Physical Restrictions? | Economic Restrictions? |                      |
| 1      | Yes   | No                     | No                     | Yes                            | No                     | No                     | 100                  |
| 2      | Yes   | No                     | No                     | Yes                            | No                     | Yes                    | 95                   |
| 3      | Yes   | No                     | Yes                    | Yes                            | No                     | Yes                    | 90                   |
| 4      | Yes   | No                     | No                     | Yes                            | Yes                    | No                     | 85                   |
| 5      | Yes   | No                     | No                     | Yes                            | Yes                    | Yes                    | 80                   |
| 6      | Yes   | Yes                    | No                     | Yes                            | Yes                    | No                     | 75                   |
| 7      | Yes   | Yes                    | Yes                    | Yes                            | Yes                    | Yes                    | 65                   |
| 8      | Yes   | No                     | No                     | No                             | --                     | --                     | 50                   |
| 9      | Yes   | No                     | Yes                    | No                             | --                     | --                     | 45                   |
| 10     | Yes   | Yes                    | No                     | No                             | --                     | --                     | 35                   |
| 11     | Yes   | Yes                    | Yes                    | No                             | --                     | --                     | 30                   |
| 12     | Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years           |                        |                        |                                |                        |                        | 25                   |
| 13     | Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years) |                        |                        |                                |                        |                        | 20                   |
| 14     | Neither irrigated nor dryland production feasible   |                        |                        |                                |                        |                        | 0                    |

Source: DOC 1997

The Project site is located within the jurisdiction of the Westlands Water District (WWD) which delivers water to agricultural users primarily from groundwater and surface water from the Central Valley Project (CVP). The Project site receives water from WWD and an on-site groundwater well located on APN 085-040-58S. Specifically, the northern half of the Project site (APN 085-040-58S) is currently irrigated with water from WWD and the on-site well. The southern half of the Project site (APNs 085-040-36S and 085-040-37S) is currently fallow and requires irrigation infrastructure to provide water to this portion of the Project site. However, water allocations from WWD are available for APNs 085-040-36S and 085-040-37S. Groundwater from on-site wells is not available to the southern two parcels. Water allocation from WWD is varied year to year. Additionally, groundwater pumping restrictions are put in place in accordance with the Sustainable Groundwater Management Act. Due to the low storage currently available in CVP reservoirs it was determined that the projected 2022-2023 CVP contract allocation would be 0 percent (WWD 2022). The WWD also acquires supplemental water from multiple sources for the 2021-2022 contract year, and it was estimated the WWD can acquire up to 153,500 acre-feet of supplemental water. As of February 18, 2022, the WWD made 144,265 acre-feet of supplemental water available for allocation (WWD

2022). When supplemental water is made available for allocation, the quantity allocated to a water user’s account is a prorated based upon the water available at the time and the number of irrigable acres associated with accounts that have outstanding requests. When an account’s request has been fulfilled, it will no longer receive allocations (WWD 2022). Thus, the amount that can be allocated to the site is variable, dependant on the timing of the request.

Water data for the Project site was collected from parcel owners and then cross-referenced with DOC definitions of physical restrictions and economic restrictions in order to determine appropriate scoring. Consistent with DOC guidance, scoring is determined based upon the proportions of land that receive water from specific sources (i.e., irrigation, groundwater, etc.). Since the northern half of the Project site (APN 085-040-58S) can be supplied water via irrigation district supplies and an on-site well and the southern half (APNs 085-040-36S and 085-040-37S) can be supplied solely by irrigation district supplies, the water resource availability score is analyzed for each half of the Project site, and the respective scores are then summed to determine a total score.

For this analysis, it was determined the southern portion of the Project site supplied water via irrigation only is most representative of Option 7. This option best represents the southern portion of the Project site in both drought and non-drought years because it is fallow and relies solely on allocation from WWD, of which 0 percent will be allocated during the 2022-2023 year. As such, while irrigated crop production could be feasible, there exists both a physical restriction (lack of water) and economic restriction (cost of sourcing water from elsewhere) for this portion of the Project site during both drought and non-drought years. For the northern portion of the Project site supplied water via irrigation and an on-site well, Option 5 best represents this land. Information from the parcel owner confirmed there would not be physical or economic restrictions during non-drought years. However, during drought years irrigation allocation by WWD is likely to be 0 percent, as previously described. This imposes a physical restriction during drought years, which could thereby require excess groundwater to be pumped to make up for losses in surface water supplies, thus imposing an economic restriction. The Project site receives a weighted score of 72.5 for the Water Resources Availability Rating (Table 8).

**Table 8 Water Resource Availability Rating**

| Option   | Water Source                       | Proportion of Project Site | Water Availability Score | Weighted Availability Score |
|----------|------------------------------------|----------------------------|--------------------------|-----------------------------|
| Option 5 | Irrigation District + On-site Well | .50                        | 80                       | 40                          |
| Option 7 | Irrigation District Only           | .50                        | 65                       | 32.5                        |
|          | <b>Total</b>                       | <b>1.00</b>                | <b>--</b>                | <b>72.5</b>                 |

The Weighted Availability Score is calculated by multiplying the Proportion of Project Site value by the Water Availability Score for the respective Option.

Source: DOC 1997

### Surrounding Agricultural and Protected Resource Land Ratings

The evaluation of surrounding agricultural and protected resource lands includes assigning a rating to surrounding and protected resource lands within the zone of influence (ZOI) of the Project site. The ratings provide a measurement of the level of agricultural use for lands within the ZOI of the Project site. The ZOI includes the Project site and surrounding lands within a 0.25-mile buffer from the Project boundary. Parcels that are intersected by the 0.25-mile buffer are evaluated in their

entirety and, based upon the percentage of agricultural lands in the ZOI, the Project site is assigned a Surrounding Agricultural Land Rating. The LESA Model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has a relatively small percentage of surrounding land in agricultural production (DOC 1997).

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating and is scored in a similar manner. Protected resource lands are those lands with long-term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

- Williamson Act contracted land;
- Publicly owned lands maintained as park, forest, or watershed resources; and
- Land with agricultural, wildlife habitat, open space, or other natural easements that restrict the conversion of such land to urban or industrial uses.

The ratings for surrounding agricultural and protected resource lands are based on the scoring chart developed by the DOC. Table 9 presents the scoring used for both the Surrounding Agricultural Use and the Surrounding Protected Resource Land Scoring (DOC 1997).

**Table 9 Surrounding and Protected Agricultural Use Scoring**

| Percent of Project's Zone of Influence in Agricultural Use | Surrounding and Protected Agricultural Land Score |
|--|---|
| 90-100   | 100   |
| 80-89  | 90  |
| 75-79  | 80  |
| 70-74  | 70  |
| 65-69  | 60  |
| 60-64  | 50  |
| 55-59  | 40  |
| 50-54  | 30  |
| 45-49  | 20  |
| 40-44  | 10  |
| 40 or less   | 0   |

Source: DOC 1997

To determine the extent of surrounding agricultural and protected resource lands in the Project's ZOI, land use data was obtained from the County of Fresno's Parcel Map Lookup page (County of Fresno 2022). Aerial imagery from Google Earth and photos from a site reconnaissance conducted February 11, 2022 was also reviewed to confirm the land use data. Current Williamson Act contract status obtained from the County of Fresno confirmed that all parcels on the Project site are currently under Williamson Act contracts. Adjacent parcels to the north (APNs 075-060-19S, 075-060-66S), east (APN 085-050-01S) south (APN 085-040-024) and west (APN 085-040-05S) within 0.25-mile of the Project site are also under Williamson Act contract (County of Fresno 2022). Table 10 provides the acres per parcel, and whether or not the parcel is in agricultural land use and

considered to be a protected resource land. Figure 4 displays the ZOI for the Project site. The ZOI for the Project site totals 2,006 acres.

**Table 10 Surrounding Agricultural Land Use and Protected Resource Land**

| Assessor's Parcel Number | Acres  | Agricultural Land | Protected Resource Land? |
|--------------------------|--------|-------------------|--------------------------|
| 075-060-19S              | 157.13 | Yes               | Williamson Act           |
| 075-060-66S              | 144.45 | Yes               | Williamson Act           |
| 075-060-45SU             | 181.47 | No                | No                       |
| 075-060-18SU             | 80.20  | No                | No                       |
| 085-050-01S              | 632.88 | Yes               | Williamson Act           |
| 085-050-49S              | 156.77 | Yes               | No                       |
| 085-040-024              | 339.46 | Yes               | Williamson Act           |
| 085-040-60S              | 64.50  | Yes               | No                       |
| 085-040-59S              | 92.26  | No                | No                       |
| 085-040-05S              | 154.08 | Yes               | Williamson Act           |
| 085-040-57SU             | 3.06   | No                | No                       |

Source: DOC 1997; DOC 2018; County of Fresno 2022

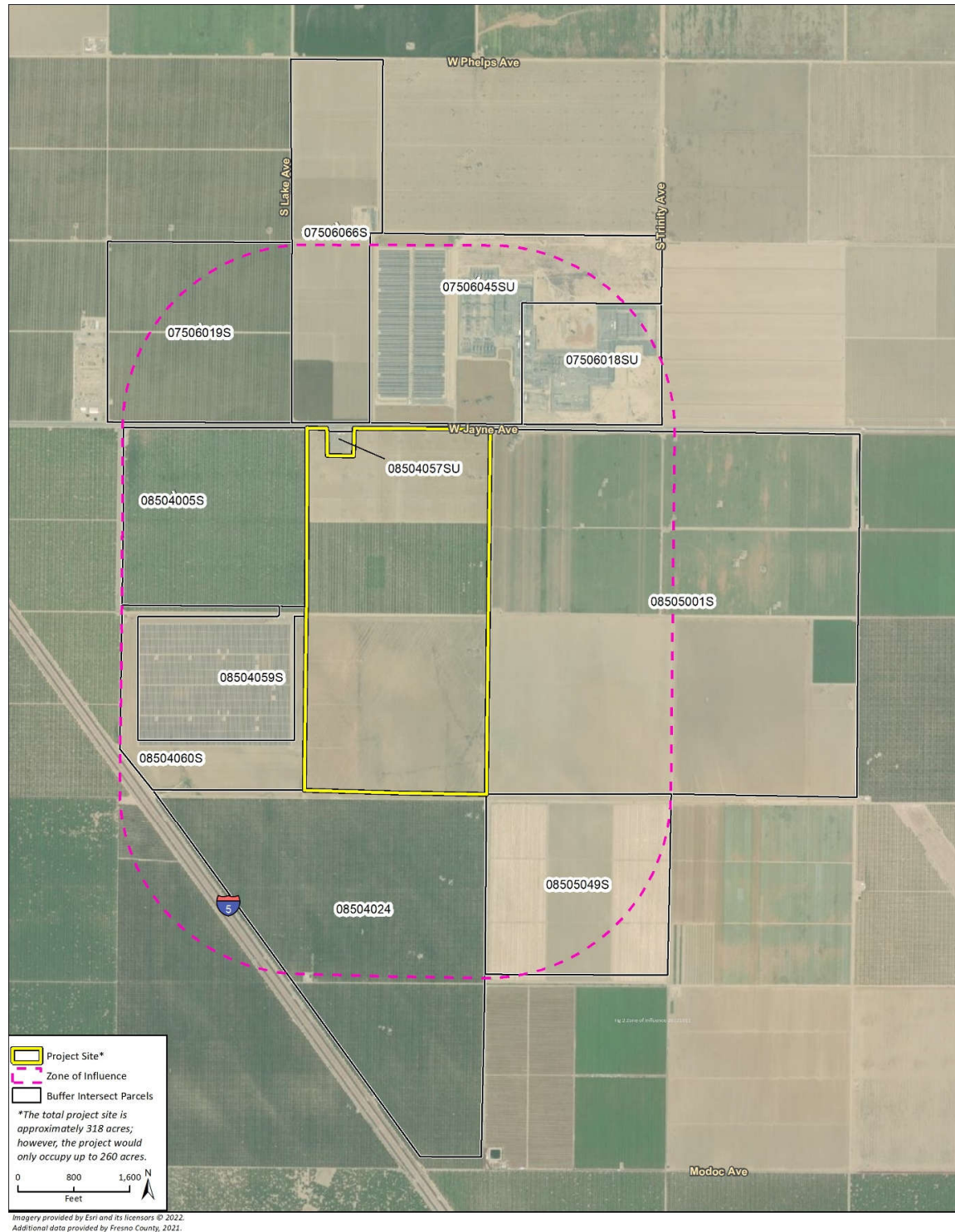
As presented in Table 10, seven parcels located within the ZOI for the Project are actively used for agriculture and five parcels are located on Williamson Act contracted land. Table 11 summarizes the acreage and percentage of the ZOI in agricultural land use and protected resource lands and provides the score for each based on the DOC scoring (Table 9). As shown in Table 11, the ZOI receives a 90 score for Agricultural Land Use Rating and a 70 score for the Protected Resource Land Rating.

**Table 11 Surrounding Agricultural Land and Protected Resource Land Site Assessment Ratings**

|                         | Total Acreage within Zone of Influence | Percentage Acreage Within Zone of Influence | Corresponding Score |
|-------------------------|--|---|---------------------|
| Agricultural Land       | 1,649.27                               | 82%   | 90                  |
| Protected Resource Land | 1,428.00                               | 71%   | 70                  |

Source: DOC 1997

**Figure 4 Zone of Influence**





## 5 Final LESA Score Results

---

As described in Section 3, *Methodology*, the Final LESA Score is calculated by multiplying the individual score for each of the six factors by their respective weighting factor, and then summing the weighted factor ratings to determine a Final LESA Score. The Final LESA Score is then compared against the LESA Model significance thresholds assigned by the DOC to determine if the Project would result in a potentially significant impact.

As shown in Table 12, the weighted LE sub-score for the Project site is 36.53, while the weighted SA sub-score for the Project site is 42.88. The final LESA Model score for the Project site is 79.41. As previously shown in Table 1, a final LESA score of 60 to 79 points is considered significant unless either the LE or SA subscore is less than 20. However, both the LE and SA scores exceed a 20-point threshold. Therefore, the Project would have a potentially significant impact on agricultural resources based on the LESA.

**Table 12 Final Land Evaluation Site Assessment Score Sheet Summary**

|   | Factor Score<br>(0-100 points) | Factor Weighting<br>(Total = 1.00) | Weighted Factor<br>Rating |
|---|--------------------------------|------------------------------------|---------------------------|
| <b>Land Evaluation</b>                      |                                |                                    |                           |
| LCC Rating                                  | 54.7                           | 0.25                               | 13.68                     |
| Storie Index Rating                         | 91.4                           | 0.25                               | 22.85                     |
| <i>Land Evaluation Sub-score</i>            |                                | <i>0.50</i>                        | <i>36.53</i>              |
| <b>Site Assessment</b>                      |                                |                                    |                           |
| Project Size Rating                         | 100                            | 0.15                               | 15.00                     |
| Water Resource Availability Rating          | 72.5                           | 0.15                               | 10.88                     |
| Surrounding Agricultural Land Rating        | 90                             | 0.15                               | 13.50                     |
| Surrounding Protected Resource Lands Rating | 70                             | 0.05                               | 3.50                      |
| <i>Site Assessment Sub-score</i>            |                                | <i>0.50</i>                        | <i>42.88</i>              |
|   |                                | <b>Total</b>                       | <b>79.41</b>              |

---

Weighted factor rating is determined by multiplying the factor score by the factor weighting.

## 6 List of Preparers

---

### 6.1 List of Preparers

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(accessed May 2022).

# Appendix D

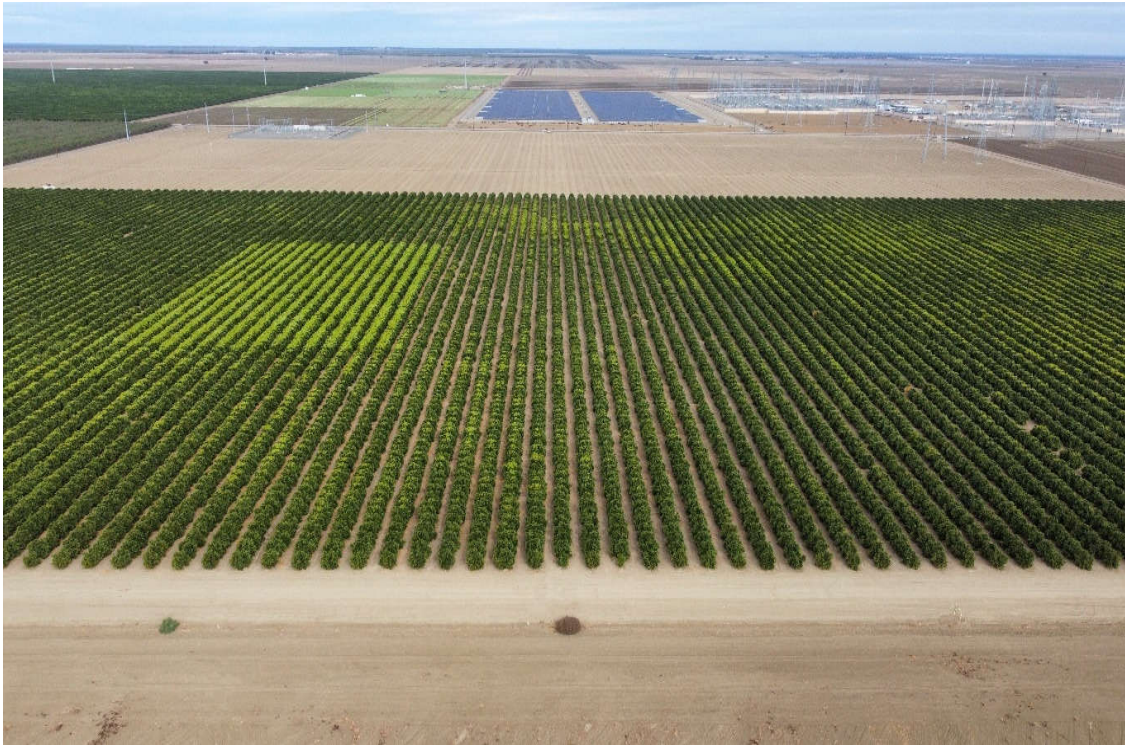
## **Air Quality, Greenhouse Gas Emissions, and Fuel Use**



# Appendix D1

## **Air Quality and Greenhouse Gas Study**





# Key Energy Storage Project

## Air Quality and Greenhouse Gas Study

*prepared for*

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# 1 Introduction

---

Rincon Consultants, Inc. (Rincon) prepared this Air Quality and Greenhouse Gas Study for the Key Energy Storage Project (Project) in Fresno County, California to analyze the potential air quality, greenhouse gas (GHG) emissions, and health risk impacts related to construction, operation, and decommissioning of the Project.

## 1.1 Project Summary

### Project Location

The Project site is located in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, 7.5 miles north of the City of Avenal, and 0.4 mile east of Interstate 5. Figure 1 depicts the regional location of the Project site. The Project site is located southwest of the Pacific Gas and Electric (PG&E) Gates Substation along West Jayne Avenue. The Project would develop up to 260 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2).

The Project site consists of land that is either in agriculture production or fallow. The Project site is bound by West Jayne Avenue to the north and unpaved agricultural access roads to the east, south, and west. The Project site is surrounded by agricultural uses to the west, south, and east. Solar facilities are located to the north and southwest and the PG&E Gates Substation is located to the northeast of the Project site. A small substation is also located immediately adjacent to the northwest Project site boundary.

### Project Description

The Project involves the construction and operation of an energy storage system facility and associated on-site support facilities, including a substation, inverters, collector lines, fencing, access roads, supervisory control, data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility would consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.<sup>1</sup> The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent PG&E Gates Substation.

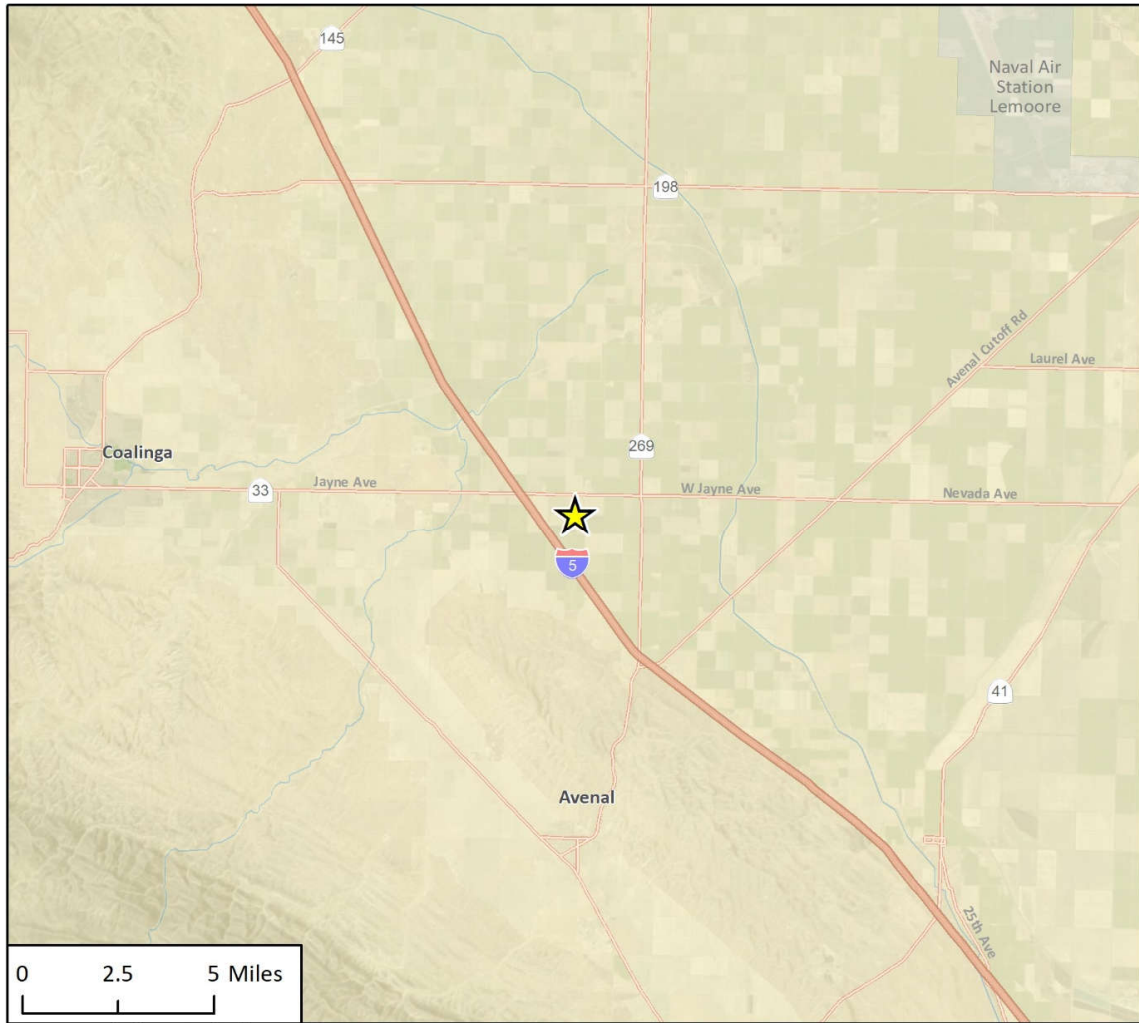
The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

---

<sup>1</sup> The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the project may change, the overall size of the project (up to 260 acres) would remain consistent.

# Key Energy Storage Project

## Figure 1 Regional Location



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 Project Location 

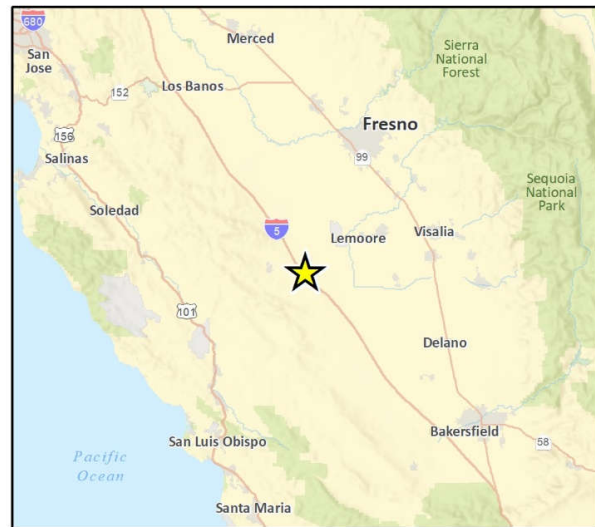
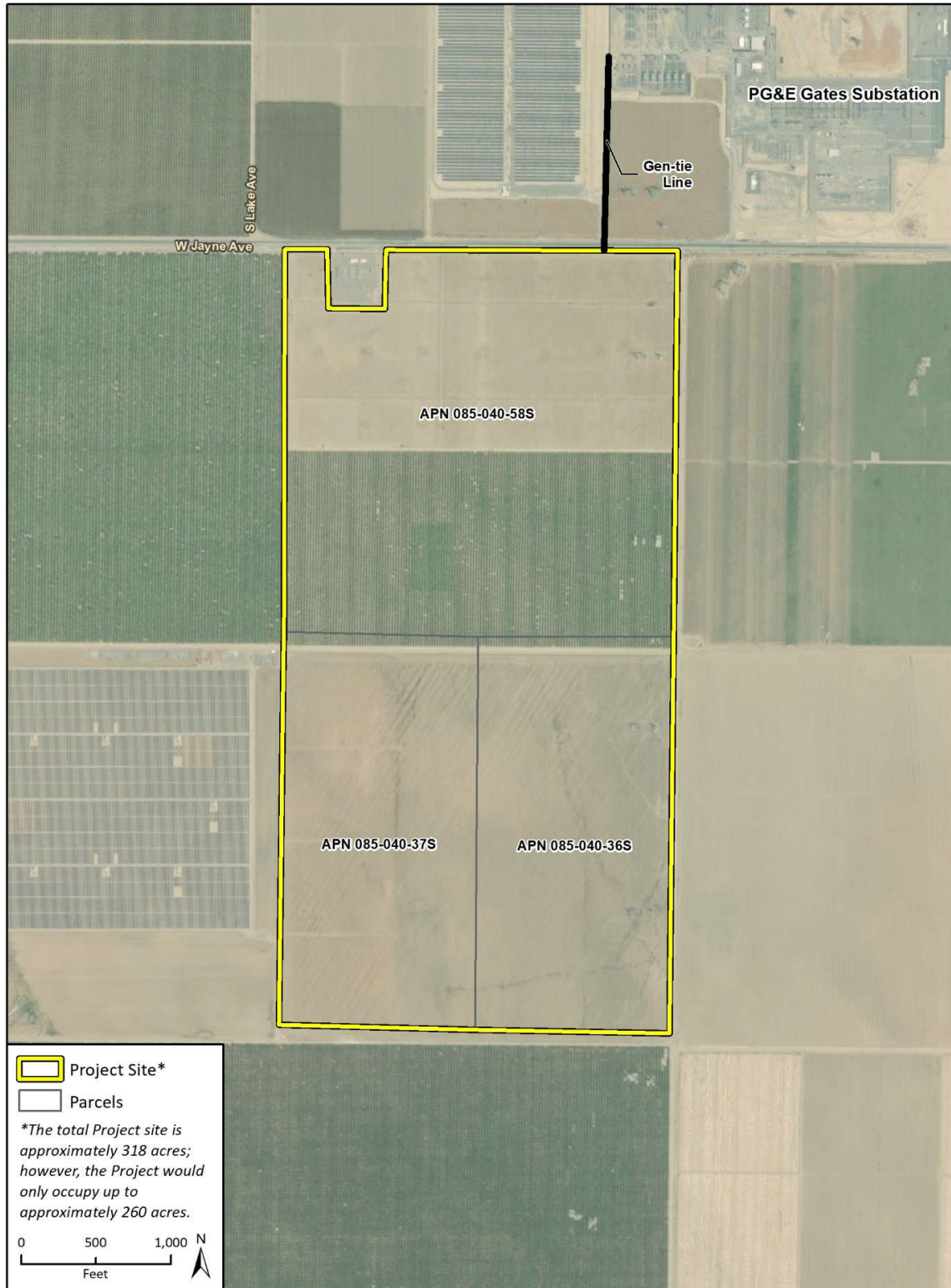


Fig 1 Regional Location

Figure 2 Project Site Location



## Key Energy Storage Project

The proposed Project could use any commercially available battery technology or similar technology; however, lithium ion and/or iron flow are the two options being considered at this time. Regardless of the battery type, battery cells form the core of the energy storage system. Multiple self-contained storage system enclosures would house the batteries and/or electrolyzer tanks, as well as the battery storage system controller. The storage system enclosure would also house required heating, ventilation, and air conditioning (HVAC) and fire protection systems. Enclosure height would not exceed 25 feet.

The Project substation would be the termination point of the collection system of 34.5 kV AC electricity. The open-air substation is anticipated to be constructed adjacent to the energy storage facility in the northern portion of the Project site. The footprint of the on-site Project substation would be approximately 5.14 acres.

The energy would be transported to and from the Project substation to/from the existing PG&E Gates Substation through a proposed approximately 0.5-mile-long gen-tie line. The gen-tie line would extend from the northwest corner of the Project site to the PG&E Gates Substation to the north, as shown in Figure 2. The 500 kV gen-tie transmission line would include concrete or steel pole structures up to 150 feet tall and spaced approximately every 500 feet. The poles would carry one conductor per phase and allow the line to maintain a minimum 30-foot vertical clearance to the ground.

### *Construction*

Construction activities would include site preparation, fencing, and electrical work. Although the Project site is fairly level, grading would be required throughout most of the site, especially for the construction of roads, on-site substation, the energy storage enclosures, and inverter pads. This would be accomplished with scrapers, graders, water trucks, dozers, and compaction equipment. The enclosure modules would be off-loaded and installed using cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment, as needed. Staging and laydown areas would all be located on the Project site, and specific locations would be determined by the construction contractor.

Construction is anticipated to begin in 2024. As there are two different battery options (Lithium Ion and Lithium Ion with Iron Flow), two different construction scenarios were modeled to account for the acreage, phasing, and duration differences between the two scenarios. Regardless of the scenario, delivery of material and supplies would reach the Project site by on-road truck delivery through Interstate 5 to West Jayne Avenue. The majority of the truck deliveries would be for the energy storage enclosures and power conversion system installation, as well as any aggregate material that may be required for foundations. These loads would typically be limited to 40 tons, or 80,000 pounds, with a typical cargo load of approximately 25 tons, or 50,000 pounds. Low-bed transport trucks would transport the construction equipment to the site as needed. The size of the low-bed trucks (axles for weight distribution) would depend on the equipment transported. The heaviest delivery loads to the site would be for the step-up transformer, which may weigh up to 160,000 pounds.

### *Operations and Maintenance*

Regardless of the battery option chosen, the Project would operate 7 days per week, 365 days per year. The facility would be operated remotely. Only occasional, on-site maintenance is expected to be required following commissioning, including replacement of inverter power modules, filters, and miscellaneous electrical repairs on an as-needed basis. During operation of the Project substation, operation and maintenance staff would visit the substation periodically for switching and other operation activities. The project would include an Operations and Maintenance (O&M) building, which

would include kitchen and lavatory facilities. Maintenance trucks would be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance. Routine operations would require one or two workers in a light utility truck to visit the facility on a weekly basis. Typically, one major maintenance inspection would take place annually.

### *Decommissioning*

The Project is anticipated to have an operating life of up to 30 years. Decommissioning is anticipated to start in approximately 2055 and take up to 24 months. Decommissioning equipment and personnel would be similar to or less than that required for construction. The Project components, including the energy storage system and on-site substation, would be recycled when the Project's operating life is over. Most parts of the proposed system are recyclable.

## 2 Setting

---

### 2.1 Environmental Setting

#### 2.1.1 Air Basin and Meteorological Conditions

The Project site is located in the San Joaquin Valley Air Basin (SJVAB) and is within the jurisdictional boundaries of the San Joaquin Valley Air Pollution Control District (SJVAPCD), which has jurisdiction over Fresno County. The SJVAB is approximately 250 miles long and 35 miles in width (on average) and is bordered by the Coast Range Mountains on the west, the Sierra Nevada mountains on the east, and the Tehachapi Mountains to the south. On the valley floor, the SJVAB is open only to the north, which heavily influences prevailing winds (SJVAPCD 2015a).

Although marine air generally flows into the SJVAB from the San Francisco Bay Area through the Carquinez Strait (a gap in the Coast Range Mountains) and low mountain passes such as Altamont Pass and Pacheco Pass (low mountain passes in the Diablo Range), the mountain ranges restrict air movement through the SJVAB. Additionally, most of the surrounding mountains are above the normal height of summer inversion layers (1,500 to 3,000 feet). These topographic features result in weak airflow and poor dispersion of pollutants and, as a result, the SJVAB is highly susceptible to pollutant accumulation.

#### 2.1.2 Pollutants of Concern

##### Criteria Air Pollutants

The U.S. Environmental Protection Agency (USEPA) has identified criteria air pollutants that are a threat to public health and welfare. These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare standards. Criteria pollutants that are a concern in the SJVAB are described below.

##### Ozone

Ozone (O<sub>3</sub>) is a highly oxidative unstable gas produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO<sub>x</sub>) and reactive organic gases (ROG)/volatile organic compounds (VOC).<sup>2</sup> ROG is composed of non-methane hydrocarbons (with specific exclusions), and NO<sub>x</sub> is composed of different chemical combinations of nitrogen and oxygen, mainly nitric oxide and NO<sub>2</sub>. NO<sub>x</sub> is formed during the combustion of fuels, while ROG is formed during the combustion and evaporation of organic solvents. As a highly reactive molecule, O<sub>3</sub> readily combines with many different atmosphere components. Consequently, high O<sub>3</sub> levels tend to exist only while high ROG and NO<sub>x</sub> levels are present to sustain the O<sub>3</sub> formation process. Once the precursors have been depleted, O<sub>3</sub> levels rapidly decline. Because these reactions occur on a regional rather than local scale, O<sub>3</sub> is considered a regional pollutant. In addition, because O<sub>3</sub> requires sunlight to form, it mainly occurs in concentrations considered serious between April and October. Groups most sensitive to O<sub>3</sub> include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors (United

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<sup>2</sup> The California Air Resources Board defines VOC and ROG similarly as, “any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this document.

States Environmental Protection Agency [USEPA] 2021). Depending on the level of exposure, O<sub>3</sub> can cause coughing and a sore or scratch throat; make it more difficult to breathe deeply and vigorously and cause pain when taking a deep breath; inflame and damage the airways; make the lungs more susceptible to infection; and aggravate lung diseases such as asthma, emphysema, and chronic bronchitis.

### *Nitrogen Dioxide*

Nitrogen dioxide (NO<sub>2</sub>) is a by-product of fuel combustion. The primary sources are motor vehicles and industrial boilers, and furnaces. The principal form of NO<sub>x</sub> produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO<sub>2</sub>, creating the mixture of NO and NO<sub>2</sub>, commonly called NO<sub>x</sub>. NO<sub>2</sub> is a reactive, oxidizing gas and an acute irritant capable of damaging cell linings in the respiratory tract. Breathing air with a high concentration of NO<sub>2</sub> can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms. Longer exposures to elevated concentrations of NO<sub>2</sub> may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma and children and the elderly are generally at greater risk for the health effects of NO<sub>2</sub> (USEPA 2021). NO<sub>2</sub> absorbs blue light and causes a reddish-brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of O<sub>3</sub>/smog and acid rain.

### *Carbon Monoxide*

Carbon monoxide (CO) is a localized pollutant found in high concentrations only near its source. The primary source of CO, a colorless, odorless, poisonous gas, is automobile traffic's incomplete combustion of petroleum fuels. Therefore, elevated concentrations are usually only found near areas of high traffic volumes. Other sources of CO include the incomplete combustion of petroleum fuels at power plants and fuel combustion from wood stoves and fireplaces during the winter. When CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability to get oxygenated blood to their hearts in situations where they need more oxygen than usual. As a result, they are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain, also known as angina (USEPA 2021).

### *Particulate Matter*

Particulates less than 10 microns in diameter (PM<sub>10</sub>) and less than 2.5 microns in diameter (PM<sub>2.5</sub>) are comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. Both PM<sub>10</sub> and PM<sub>2.5</sub> are emitted into the atmosphere as by-products of fuel combustion and wind erosion of soil and unpaved roads. The atmosphere, through chemical reactions, can form particulate matter. The characteristics, sources, and potential health effects of PM<sub>10</sub> and PM<sub>2.5</sub> can be very different. PM<sub>10</sub> is generally associated with dust mobilized by wind and vehicles. In contrast, PM<sub>2.5</sub> is generally associated with combustion processes and formation in the atmosphere as a secondary pollutant through chemical reactions. PM<sub>10</sub> can cause increased respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling. For PM<sub>2.5</sub>, short-term exposures (up to 24-hours duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases (California Air Resources Board [CARB] 2022).

## Key Energy Storage Project

### *Sulfur Dioxide*

Sulfur dioxide (SO<sub>2</sub>) is included in a group of highly reactive gases known as “oxides of sulfur.” The largest sources of SO<sub>2</sub> emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of SO<sub>2</sub> emissions include industrial processes such as extracting metal from ore and burning fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Short-term exposures to SO<sub>2</sub> can harm the human respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to these effects of SO<sub>2</sub> (USEPA 2021).

### *Lead*

Lead (Pb) is a metal found naturally in the environment, as well as in manufacturing products. The major sources of Pb emissions historically have been mobile and industrial. However, due to the USEPA’s regulatory efforts to remove lead from gasoline, atmospheric Pb concentrations have declined substantially over the past several decades. The most dramatic reductions in Pb emissions occurred before 1990 due to the removal of Pb from gasoline sold for most highway vehicles. Pb emissions were further reduced substantially between 1990 and 2008, with reductions occurring in the metals industries at least partly due to national emissions standards for hazardous air pollutants (USEPA 2013). As a result of phasing out leaded gasoline, metal processing is currently the primary source of Pb emissions. The highest Pb level in the air is generally found near Pb smelters. Other stationary sources include waste incinerators, utilities, and Pb-acid battery manufacturers. Pb can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and cardiovascular system depending on exposure. Pb exposure also affects the oxygen-carrying capacity of the blood. The Pb effects most likely encountered in current populations are neurological in children. Infants and young children are susceptible to Pb exposures, contributing to behavioral problems, learning deficits, and lowered intelligence quotient (USEPA 2021).

## **Toxic Air Contaminants**

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TAC) are airborne substances diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). More than 90 percent of DPM is less than one micron in diameter (about 1/70<sup>th</sup> the diameter of a human hair) and thus is a subset of PM<sub>2.5</sub>. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2022a). TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health. People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (USEPA 2020).



## Dust-related Concerns

### Valley Fever

Valley Fever or coccidioidomycosis is caused locally by the microscopic fungus *Coccidioides immitis* (*C. immitis*). The *Coccidioides* fungus resides in the soil in southwestern United States, northern Mexico, and parts of Central and South America. A majority of Fresno County is in the endemic area for Valley Fever with approximately 130 cases reported in the County in by April of 2022 (California Department of Public Health 2022). Infection occurs when the spores of the fungus become airborne and are inhaled. The fungal spores become airborne when contaminated soil is disturbed by human activities, such as construction and agricultural activities, and natural phenomena, such as windstorms, dust storms, and earthquakes. About 60 percent of infected persons have no symptoms. The remainder develop flu-like symptoms that can last for a month and tiredness that can sometimes last for longer than a few weeks. A small percentage of infected persons (<1 percent) can develop disseminated disease that spreads outside the lungs to the brain, bone, and skin. Without proper treatment, this small percentage of persons infected with disseminated disease of Valley Fever can lead to severe pneumonia, meningitis, and even death. Symptoms may appear between one to four weeks after exposure (Los Angeles County Health Department 2013).

Diagnosis of Valley Fever is conducted through a sample of blood, other body fluid, or biopsy of affected tissue. Valley Fever is treatable with anti-fungal medicines and is not contagious. Once recovered from the disease, the individual is protected against further infection. Persons at highest risk from exposure are those with compromised immune systems, such as those with human immunodeficiency virus (HIV) and those with chronic pulmonary disease. Farmers, construction workers, and others who engage in activities that disturb the soil are at highest risk for Valley Fever. Infants, pregnant women, diabetics, people of African, Asian, Latino, or Filipino descent, and the elderly may be at increased risk for disseminated disease. Historically, people at risk for infection are individuals not already immune to the disease and whose jobs involve extensive contact with soil dust, such as construction or agricultural workers and archeologists (Los Angeles County Health Department 2013).

During drought years, the number of organisms competing with *C. immitis* decreases, and the remainder of alive *C. immitis* becomes dormant. When rain finally occurs, the arthroconidia germinate and multiply more than usual because of a decrease in competing organisms. Later, the soil dries out in the summer and fall, and the fungi can become airborne and potentially infectious (Kirkland and Fiery 1996).

## Greenhouse Gases

Gases that trap heat in the atmosphere are known as GHGs. GHGs allow sunlight to enter the atmosphere but trap a portion of the outward-bound infrared radiation that warms the air. The process is similar to the effect greenhouses have in raising the internal temperature of the structure. Both natural processes and human activities emit GHGs. The accumulation of GHGs in the atmosphere regulates the Earth's temperature, but emissions from human activities (such as fossil fuel-based electricity production and the use of motor vehicles) have elevated the concentration of GHGs in the atmosphere. Scientists agree that this accumulation of GHGs has contributed to an increase in the temperature of the Earth's atmosphere and to global climate change. Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the rate of global climate change and the extent of

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the impacts attributable to human activities, most scientists agree there is a direct link between increased emissions of GHGs and long-term global temperature increases.

The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxides (N<sub>2</sub>O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere, and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Of these gases, CO<sub>2</sub> and CH<sub>4</sub> are emitted in the greatest quantities from human activities. Emissions of CO<sub>2</sub> are usually by-products of fossil fuel combustion, and CH<sub>4</sub> results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO<sub>2</sub>, include fluorinated gases and SF<sub>6</sub>.

The use of SF<sub>6</sub> in electric utility systems and switchgear, including circuit breakers, poses a concern, because this pollutant has an extremely high global warming potential (one pound of SF<sub>6</sub> is the equivalent warming potential of approximately 23,900 pounds of CO<sub>2</sub>).<sup>3</sup> SF<sub>6</sub> is inert and non-toxic, and is encapsulated in circuit breaker assemblies. SF<sub>6</sub> is a GHG with substantial global warming potential because of its chemical nature and long residency time within the atmosphere. However, under normal conditions, it would be completely contained in the equipment and SF<sub>6</sub> would only be released in the unlikely event of a failure, leak, or crack in the circuit breaker housing. New circuit breaker designs have been developed over the past several years to minimize the potential for leakage, compared to that of past designs.

Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO<sub>2</sub>) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as “carbon dioxide equivalent” (CO<sub>2</sub>e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO<sub>2</sub> on a molecule per molecule basis (IPCC 2021).<sup>4</sup>

### 2.1.3 Sensitive Receptors

Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. The SJVAPCD considers schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling units sensitive receptors (SJVAPCD 2015a). The Project site is not directly adjacent to sensitive receptors. For the purposes of this analysis, the closest sensitive receptors identified include agricultural housing 3,300 feet to the west on West Jayne Avenue, agricultural housing 11,500 feet to the southeast

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<sup>3</sup> A global warming potential of 23,900 was used to convert emissions to CO<sub>2</sub>e. This value is based on the global warming potential in the USEPA Mandatory Reporting Program Regulations (40 C.F.R. Part 98, Subpart A), and deviates from the use of GWPs from the IPCC 4<sup>th</sup> Assessment Report which was used for the conversion of CH<sub>4</sub> and N<sub>2</sub>O, however it is more accurate for the analysis at hand and more conservative as the GWP for SF<sub>6</sub> in the 4<sup>th</sup> Assessment report is 22,800.

<sup>4</sup> The Intergovernmental Panel on Climate Change's (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change's (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes the GWPs from the Fourth Assessment Report.

at the intersection of Modoc Avenue and West Goodrich Avenue, and a small row of houses 17,000 feet to the east on West Jayne Avenue.

## 2.2 Regulatory Setting

### 2.2.1 Air Quality

#### **Federal and State Regulations**

##### *Criteria Air Pollutants*

The federal Clean Air Act (CAA) and the California Clean Air Act (CCAA) establish ambient air quality standards and establish regulatory authorities designed to attain those standards. As required by the CAA, the United States Environmental Protection Agency (USEPA) has identified criteria pollutants and has established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for O<sub>3</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and Pb.

Under the CCAA, California has adopted the California Ambient Air Quality Standards (CAAQS), which are more stringent than the NAAQS for certain pollutants and averaging periods. Table 1 presents the current federal and state standards for regulated pollutants and the SJVAB's attainment status for each standard. California also has established state ambient air quality standards for sulfates, hydrogen sulfide, and vinyl chloride.

As required by the federal CAA and the CCAA, air basins or portions thereof have been classified as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether the standards have been achieved. The air quality in an attainment area meets or is better than the NAAQS or CAAQS. A non-attainment area has air quality that is worse than the NAAQS or CAAQS. States are required to adopt enforceable plans, known as a State Implementation Plan (SIP), to achieve and maintain air quality meeting the NAAQS.

As shown in Table 1, the SJVAB currently is classified as nonattainment for the one-hour state O<sub>3</sub> standard as well as for the federal and state eight-hour O<sub>3</sub> standards. The SJVAB also is designated as nonattainment for the state annual arithmetic mean and national 24-hour PM<sub>2.5</sub> standards. Additionally, the SJVAB is classified as nonattainment for the state 24-hour and annual arithmetic mean PM<sub>10</sub> standards. The SJVAB is unclassified or classified as attainment for all other pollutant standards (SJVAPCD 2022).

**Table 1 Federal and State Ambient Air Quality Standards**

| Pollutant   | Averaging Time | State Standard        |  | National Standard     |                                   |
|---|----------------|-----------------------|--|-----------------------|-----------------------------------|
|   |                | Concentration         | SJVAB Attainment Status                    | Concentration         | SJVAB Attainment Status           |
| Ozone (O <sub>3</sub> )                           | 8-Hour         | 0.070 ppm             | Nonattainment/<br>Severe<br>Nonattainment* | 0.070 ppm             | Nonattainment/<br>Extreme*        |
|   | 1-Hour         | 0.090 ppm             |  | –                     |                                   |
| Carbon Monoxide (CO)                              | 1-Hour         | 9.0 ppm               | Attainment/<br>Unclassified                | 9.0 ppm               | Attainment/<br>Unclassified       |
|   | 8-Hour         | 20 ppm                |  | 35 ppm                |                                   |
| Nitrogen Dioxide (NO <sub>2</sub> )               | 1-Hour         | 0.180 ppm             | Attainment                                 | 0.100 ppm             | Attainment/<br>Unclassified       |
|   | Annual         | 0.030 ppm             |  | 0.053 ppm             |                                   |
| Sulfur Dioxide (SO <sub>2</sub> )                 | 1-Hour         | 0.25 ppm              | Attainment                                 | 0.075 ppm             | Attainment/<br>Unclassified       |
|   | 3-Hour         | –                     |  | 0.5 ppm*              |                                   |
|   | 24-Hour        | 0.04 ppm              |  | 0.14 ppm              |                                   |
|   | Annual         | –                     |  | 0.03 ppm              |                                   |
| Respirable Particulate Matter (PM <sub>10</sub> ) | 24-Hour        | 50 µg/m <sup>3</sup>  | Nonattainment                              | 150 µg/m <sup>3</sup> | Attainment                        |
|   | Annual         | 20 µg/m <sup>3</sup>  |  | –                     |                                   |
| Fine Particulate Matter (PM <sub>2.5</sub> )      | 24-Hour        | –                     | Nonattainment                              | 35 µg/m <sup>3</sup>  | Nonattainment                     |
|   | Annual         | 12 µg/m <sup>3</sup>  |  | 12 µg/m <sup>3</sup>  |                                   |
| Lead (Pb)   | 30-Day         | 1.5 µg/m <sup>3</sup> | Attainment                                 | –                     | No Designation/<br>Classification |
|   | Quarterly      | –                     |  | 1.5 µg/m <sup>3</sup> |                                   |

ppm = parts per million, ppb = parts per billion, µg/m<sup>3</sup> = micrograms per cubic meter  
 \* Secondary National Standard  
 Source: SJVAPCD 2022

### Existing Air Quality and Pollutant Monitoring Data

The SJVAPCD operates a regional monitoring network that measures the ambient concentrations of criteria pollutants. Existing and probable future general levels of air quality in the SJVAB can normally be inferred from ambient air quality measurements conducted by SJVAPCD at its monitoring stations. The major criteria pollutants of concern in the Central Valley (i.e., O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>) are monitored at several locations.

Background ambient concentrations of pollutants are determined by pollutant emissions in a given area, as well as wind patterns and meteorological conditions for that area. As a result, background concentrations can vary among different locations within the SJVAB. However, areas located close together and exposed to similar wind conditions can be expected to have similar background pollutant concentrations.

The closest monitoring station to the Project site is the Tranquility station at 32650 West Adams Avenue in Fresno County, which is approximately 37 miles northwest of the Project site. This station monitors O<sub>3</sub> and PM<sub>2.5</sub>. For NO<sub>x</sub> and PM<sub>10</sub>, measurements from the Fresno-Drummond Street station at 4706 E. Drummond Street in Fresno, which is located approximately 35 miles east, were used. Table 2 shows a three-year summary of data collected at the Tranquility and Hanford-South Irwin Street monitoring stations and compared to the NAAQS and the CAAQS.

**Table 2 Ambient Air Quality at the Nearest Monitoring Station**

| Pollutant  | 2019  | 2020  | 2021  |
|--|-------|-------|-------|
| Ozone (ppm), 8-Hr Average <sup>1</sup>   | 0.071 | 0.079 | 0.080 |
| Number of Days of state exceedances (>0.070 ppm)                                 | 3     | 3     | 6     |
| Number of days of federal exceedances (>0.070 ppm)                               | 3     | 3     | 5     |
| Ozone (ppm), Worst Hour <sup>1</sup>   | 0.079 | 0.087 | 0.088 |
| Number of days of state exceedances (>0.09 ppm)                                  | 0     | 0     | 0     |
| Number of days of federal exceedances (>0.112 ppm)                               | 0     | 0     | 0     |
| Nitrogen Dioxide (ppm), Worst Hour <sup>2</sup>                                  | 42    | 66    | 64    |
| Number of days of state exceedances (>0.18 ppm)                                  | 0     | 0     | 0     |
| Number of days of federal exceedances (>0.10 ppm)                                | 0     | 0     | 0     |
| Particulate Matter 10 microns, µg/m <sup>3</sup> , Worst 24 Hours <sup>2</sup>   | 175.6 | 350.4 | 151.8 |
| Number of days of state exceedances (>50 µg/m <sup>3</sup> )                     | 13    | 25    | 20    |
| Number of days above federal standard (>150 µg/m <sup>3</sup> )                  | 1     | 1     | 0     |
| Particulate Matter <2.5 microns, µg/m <sup>3</sup> , Worst 24 Hours <sup>1</sup> | 20    | 146   | 65.3  |
| Number of days above federal standard (>35 µg/m <sup>3</sup> )                   | 0     | 21    | 7     |

<sup>1</sup>Measurements taken from the Tranquility station at 32650 West Adams Avenue in Fresno County.

<sup>2</sup>Measurements taken from the Fresno-Drummond Street station at 4706 E. Drummond Street in Fresno.

Source: CARB 2022b

At the Tranquility station, the 8-hour O<sub>3</sub> NAAQS and CAAQS were exceeded in 2019, 2020, and 2021. The PM<sub>2.5</sub> NAAQS were exceeded in 2020 and 2021. At the Fresno-Drummond Street station, the PM<sub>10</sub> NAAQS and CAAQS were exceeded in 2019 and 2020, and the CAAQS was also exceeded in 2021. No other state or federal standards were exceeded at this monitoring station over this time period.

## Local Regulations

### *San Joaquin Valley Air Pollution Control District*

The Project site is located within the jurisdiction of the SJVAPCD, which regulates air pollutant emissions for all sources throughout the SJVAB other than motor vehicles. The SJVAPCD enforces regulations and administers permits governing stationary sources. The following regional rules and regulations would apply to the Project:

- **Regulation VIII (Fugitive PM<sub>10</sub> Prohibitions)** contains rules developed pursuant to USEPA guidance for “serious” PM<sub>10</sub> nonattainment areas. Rules included under this regulation limit fugitive PM<sub>10</sub> emissions from the following sources: construction, demolition, excavation, extraction, and other earth moving activities, bulk materials handling, carryout and track-out, open areas, paved and unpaved roads, unpaved vehicle/equipment traffic areas, and agricultural sources. Table 3 contains applicable control measures to implement during construction activities for the project pursuant to *Rule 8021 Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities*.
- **Rule 2201 (New and Modified Stationary Source Review Rule)** applies to all new stationary sources or modified existing stationary sources that are subject to the SJVAPCD permit

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requirements. The rule requires review of the new or modified stationary source to ensure that the source does not interfere with the attainment or maintenance of ambient air quality standards.

- **Rule 4101 (Visibility)** limits the visible plume from any source to 20 percent opacity.
- **Rule 4102 (Nuisance)** prohibits the discharge of air contaminants or other materials in quantities that may cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public.
- **Rule 9510 (Indirect Source Review)** requires certain development projects to mitigate exhaust emissions from construction equipment greater than 50 horsepower to 20 percent below statewide average NO<sub>x</sub> emissions and 45 percent below statewide average PM<sub>10</sub> exhaust emissions. This rule also requires applicants to reduce baseline emissions of NO<sub>x</sub> and PM<sub>10</sub> emissions associated with operations by 33.3 percent and 50 percent respectively over a period of 10 years.

**Table 3 SJVAPCD Rule 8021 Measures Applicable to the Project**

| No.   | Measure  |
|-------|--|
| A.1   | Pre-water site sufficient to limit visible dust emissions (VDE) to 20 percent opacity.   |
| A.2   | Phase work to reduce the amount of disturbed surface area at any one time.   |
| B.1   | Apply water or chemical/organic stabilizers/suppressants sufficient to limit VDE to 20 percent opacity; or   |
| B.2   | Construct and maintain wind barriers sufficient to limit VDE to 20 percent opacity. If using wind barriers, control measure B1 above shall also be implemented.  |
| B.3   | Apply water or chemical/organic stabilizers/suppressants to unpaved haul/access roads and unpaved vehicle/equipment traffic areas sufficient to limit VDE to 20 percent opacity and meet the conditions of a stabilized unpaved road surface.  |
| C.1   | Restrict vehicular access to the area.   |
| C.2   | Apply water or chemical/organic stabilizers/suppressants, sufficient to comply with the conditions of a stabilized surface. If an area having 0.5 acre or more of disturbed surface area remains unused for seven or more days, the area must comply with the conditions for a stabilized surface area as defined in section 3.58 of Rule 8011.  |
| 5.3.1 | An owner/operator shall limit the speed of vehicles traveling on uncontrolled unpaved access/haul roads within construction sites to a maximum of 15 miles per hour.   |
| 5.3.2 | An owner/operator shall post speed limit signs that meet state and federal Department of Transportation standards at each construction site's uncontrolled unpaved access/haul road entrance. At a minimum, speed limit signs shall also be posted at least every 500 feet and shall be readable in both directions of travel along uncontrolled unpaved access/haul roads.  |
| 5.4.1 | Cease outdoor construction, excavation, extraction, and other earthmoving activities that disturb the soil whenever VDE exceeds 20 percent opacity. Indoor activities such as electrical, plumbing, dry wall installation, painting, and any other activity that does not cause any disturbances to the soil are not subject to this requirement.  |
| 5.4.2 | Continue operation of water trucks/devices when outdoor construction excavation, extraction, and other earthmoving activities cease, unless unsafe to do so.   |
| 6.3.1 | An owner/operator shall submit a Dust Control Plan to the Air Pollution Control Officer (APCO) prior to the start of any construction activity on any site that will include ten acres or more of disturbed surface area for residential developments, or five acres or more of disturbed surface area for non-residential development, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials on at least three days. Construction activities shall not commence until the APCO has approved or conditionally approved the Dust Control Plan. An owner/operator shall provide written notification to the APCO within 10 days prior to the commencement of earthmoving activities via fax or mail. The |

| No.   | Measure  |
|-------|--|
|       | requirement to submit a dust control plan shall apply to all such activities conducted for residential and non-residential (e.g., commercial, industrial, or institutional) purposes or conducted by any governmental entity.  |
| 6.3.3 | The Dust Control Plan shall describe all fugitive dust control measures to be implemented before, during, and after any dust generating activity.  |
| 6.3.4 | A Dust Control Plan shall contain all the [administrative] information described in Section 6.3.6 of this rule. The APCO shall approve, disapprove, or conditionally approve the Dust Control Plan within 30 days of plan submittal. A Dust Control Plan is deemed automatically approved if, after 30 days following receipt by the District, the District does not provide any comments to the owner/operator regarding the Dust Control Plan. |

Source: SJVAPCD 2004

### Air Quality Management Plans

As required by the federal CAA and the California CAA, air basins or portions thereof have been classified as either “attainment” or “nonattainment” for each criteria air pollutant, based on if the standards have been achieved. Jurisdictions of nonattainment areas also are required to prepare an air quality management plan that includes strategies for achieving attainment. The SJVAPCD has approved management plans demonstrating how the SJVAB will reach attainment with the federal one-hour and eight-hour O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>.

### OZONE ATTAINMENT PLANS

The *Extreme Ozone Attainment Demonstration Plan*, adopted by the SJVAPCD Governing Board October 8, 2004, sets forth measures and emission-reduction strategies designed to attain the federal one-hour O<sub>3</sub> standard by November 15, 2010, as well as an emissions inventory, outreach, and rate of progress demonstration. This plan was approved by the USEPA on March 8, 2010; however, the USEPA’s approval was subsequently withdrawn effective November 26, 2012, in response to a decision issued by the U.S. Court of Appeals for the Ninth Circuit (*Sierra Club v. EPA*, 671 F.3d 955) remanding USEPA’s approval of these SIP revisions. Concurrent with the USEPA’s final rule, CARB withdrew the 2004 Plan. The SJVAPCD developed a new plan for the one-hour ozone standard, the *2013 Plan for the Revoked 1-Hour Ozone Standard*, which it adopted in September 2013.

The *2007 Ozone Plan*, approved by CARB on June 14, 2007, demonstrates how the SJVAB would meet the federal eight-hour O<sub>3</sub> standard. The *2007 Ozone Plan* includes a comprehensive list of regulatory and incentive-based measures to reduce emissions of ozone and particulate matter precursors throughout the SJVAB. Additionally, this plan calls for major advancements in pollution control technologies for mobile and stationary sources of air pollution, and an increase in state and federal funding for incentive-based measures to create adequate reductions in emissions to bring the entire SJVAB into attainment with the federal eight-hour O<sub>3</sub> standard (SJVAPCD 2007a).

On April 16, 2009, the SJVAPCD Governing Board adopted the *Reasonably Available Control Technology (RACT) Demonstration for Ozone State Implementation Plans (2009 RACT SIP)* (SJVAPCD 2009a). In part, the *2009 RACT SIP* satisfied the commitment by the SJVAPCD for a new reasonably available control technology analysis for the one-hour O<sub>3</sub> plan (see discussion of the USEPA withdrawal of approval in the *Extreme 1-Hour Ozone Attainment Demonstration Plan* summary above) and was intended to prevent all sanctions that could be imposed by USEPA for failure to submit a required SIP revision for the one-hour O<sub>3</sub> standard. With respect to the eight-hour standard, the plan also assesses the SJVAPCD’s rules based on the adjusted major source definition of 10 tons per year (due to the SJVAB’s designation as an

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extreme subsequently nonattainment area), evaluates SJVAPCD rules against new *Control Techniques Guidelines* promulgated since August 2006, and reviews additional rules and amendments that had been adopted by the Governing Board since August 17, 2006, for reasonably available control technology consistency.

The *2013 Plan for the Revoked 1-Hour Ozone Standard* was approved by the Governing Board on September 19, 2013 (SJVAPCD 2013). Based on implementation of the ongoing control measures, preliminary modeling indicates that the SJVAB will attain the one-hour standard before the final attainment year of 2022 and without relying on long-term measures under the federal CAA Section 182(e)(5) (SJVAPCD 2013).

On June 19, 2014, the Governing Board adopted the *2014 Reasonably Available Control Technology Demonstration for the 8-Hour Ozone State Implementation Plan* (SJVAPCD 2014) that includes a demonstration that the SJVAPCD rules implement RACT. The plan reviews each of the NO<sub>x</sub> reduction rules and concludes that they satisfy requirements for stringency, applicability, and enforceability, and meet or exceed RACT. The plan's analysis of further ROG reductions through modeling and technical analyses demonstrates that added ROG reductions will not advance the SJVAB's ozone attainment. Each ROG rule evaluated in the 2009 RACT SIP has been subsequently approved by the USEPA as meeting RACT within the last two years. The subsequent attainment strategy, therefore, focuses on further NO<sub>x</sub> reductions.

SJVAPCD adopted the *2020 Reasonably Available Control Technology (RACT) Demonstration for the 2015 8-Hour Ozone Standard* in June 2020. This plan satisfies CAA requirements and ensures expeditious attainment of the 70 parts per billion eight-hour standard (SJVAPCD 2020).

### **PARTICULATE MATTER ATTAINMENT PLANS**

In June 2007, the SJVAPCD Board adopted the *2007 PM<sub>10</sub> Maintenance Plan and Request for Redesignation* (SJVAPCD 2007b). This plan demonstrates how PM<sub>10</sub> attainment in the SJVAB will be maintained in the future. Effective November 12, 2008, USEPA redesignated the SJVAB to attainment for the PM<sub>10</sub> NAAQS and approved the 2007 PM<sub>10</sub> Maintenance Plan (USEPA 2008).

In April 2008, the SJVAB Board adopted the *2008 PM<sub>2.5</sub> Plan* and approved amendments to Chapter 6 of the *2008 PM<sub>2.5</sub> Plan* on June 17, 2010 (SJVAPCD 2008a). This plan was designed to address USEPA's annual PM<sub>2.5</sub> standard of 15 µg/m<sup>3</sup>, which was established by USEPA in 1997. In December of 2012, the SJVAPCD adopted the *2012 PM<sub>2.5</sub> Attainment Plan*, which addresses USEPA's 24-hour PM<sub>2.5</sub> standard of 35 µg/m<sup>3</sup>, which was established by USEPA in 2006 (SJVAPCD 2012). In April 2015, the SJVAPCD Board adopted the *2015 Plan for the 1997 PM<sub>2.5</sub> Standard* that addresses the USEPA's annual and 24-hour PM<sub>2.5</sub> standards established in 1997 after the SJVAB experienced higher PM<sub>2.5</sub> levels in winter 2013–2014 due to the extreme drought, stagnation, strong inversions, and historically dry conditions, and the SJVAPCD was unable to meet the initial attainment date of December 31, 2015 (SJVAPCD 2015b).

SJVAPCD adopted the *2016 Moderate Area Plan for the 2012 PM<sub>2.5</sub> Standard* on September 15, 2016. This plan addresses the USEPA federal annual PM<sub>2.5</sub> standard of 12 µg/m<sup>3</sup>, established in 2012. This plan includes an attainment impracticability demonstration and request for reclassification of the Valley from Moderate nonattainment to Serious nonattainment (SJVAPCD 2016).

SJVAPCD adopted the *2018 Plan for the 1997, 2006, and 2012 PM<sub>2.5</sub> Standards* in November 2018. This plan addresses the USEPA federal 1997 annual PM<sub>2.5</sub> standard of 15 µg/m<sup>3</sup> and the 24-hour PM<sub>2.5</sub> standard of 65 µg/m<sup>3</sup>; the 2006 24-hour PM<sub>2.5</sub> standard of 35 µg/m<sup>3</sup>; and the 2012 annual PM<sub>2.5</sub> standard of 12 µg/m<sup>3</sup>. The plan demonstrates attainment of the federal PM<sub>2.5</sub> standards as expeditiously as practicable as required under the federal CAA (SJVAPCD 2018).



## Fresno County

The Fresno County General Plan was adopted in October 2000. There is no specific Air Quality Element in the General Plan, but the Open Space Element contains air quality policies to reduce emissions from new developments (County of Fresno 2000). The following policies would be applicable to the Project:

- **Policy OS-G.13:** The County shall include fugitive dust control measures as a requirement for subdivision maps, site plans, and grading permits. This will assist in implementing the SJVAPCD's PM<sub>10</sub> regulation (Regulation VIII). Enforcement actions can be coordinated with the Air District's Compliance Division.
- **Policy OS-G.14.** The County shall require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.

## 2.2.2 Greenhouse Gases

### Federal Regulations

#### *Federal Clean Air Act*

The U.S. Supreme Court determined in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) that the USEPA has the authority to regulate motor vehicle GHG emissions under the federal CAA. The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the USEPA issued a Final Rule that established the GHG permitting thresholds that determine when CAA permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities.

In *Utility Air Regulatory Group v. Environmental Protection Agency* (134 Supreme Court 2427 [2014]), the U.S. Supreme Court held the USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source can be considered a major source required to obtain a Prevention of Significant Deterioration or Title V permit. The Court also held that Prevention of Significant Deterioration permits otherwise required based on emissions of other pollutants may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

#### *Final Rule to Revise Existing National GHG Emissions Standards for Passenger Cars and Light Trucks Through Model Year 2026.*

The USEPA finalized the federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026 in February 2022. These standards will leverage current and future technologies to result in the avoidance of more than 3 billion tons of GHGs through 2050.

### State Regulations

CARB is responsible for the coordination and oversight of state and local air pollution control programs in California. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

## Key Energy Storage Project

### *California Advanced Clean Cars Program*

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, the USEPA granted the waiver of CAA preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allows California to implement more stringent vehicle emission standards than those promulgated by the USEPA. Pavley I regulates model years from 2009 to 2016 and Pavley II, now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, the rules will be fully implemented, and new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (CARB 2011).

### *California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Senate Bill 32)*

The "California Global Warming Solutions Act of 2006," (AB 32), outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 million metric tons (MMT) of CO<sub>2</sub>e, which was achieved in 2016. CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Scoping Plan's approval.

The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB's climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the state's longer term GHG reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100. The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six metric tons (MT) of CO<sub>2</sub>e by 2030 and two MT of CO<sub>2</sub>e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level

analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state.

CARB has prepared a Draft 2022 Scoping Plan Update to assess the progress towards the 2030 target as well as to outline a plan to achieve carbon neutrality no later than 2045. The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State’s long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities (CARB 2022c). As of June 2022, the Draft 2022 Scoping Plan Update has not been approved by CARB.

### *Senate Bill 375*

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the state’s ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPO) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO’s Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy (categorized as “transit priority projects”) can receive incentives to streamline California Environmental Quality Act (CEQA) processing.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Fresno Council of Governments (FCOG) was assigned targets of a 6 percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a 13 percent reduction in per capita GHG emissions from passenger vehicles by 2035 (CARB 2018a). The FCOG is the regional planning agency for Fresno County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. FCOG most recently prepared the *2018 Regional Transportation Plan and Sustainable Communities Strategy* (2018 RTP/SCS) for the region. The plan quantified a 5 percent reduction by 2020 and a 10 percent reduction by 2035 (FCOG 2018). In 2018, CARB accepted FCOG’s quantification of GHG reductions and its determination the SCS, if implemented, would achieve FCOG targets. Project consistency with the 2018 RTP/SCS would therefore support AB 32 and SB 32 GHG reduction goals.

A Final Draft 2022-2046 RTP (2022 RTP) is currently being prepared and was circulated for a 55-day public review period on April 15, 2022. The 2022 RTP comprehensively assess all forms of transportation available in Fresno County as well as travel and goods movement needed through 2046. Implementation of the goals set forth in the 2022 RTP will help achieve the state health standards and climate goals associated with transportation impacts.

### *Senate Bill 1383*

Adopted in September 2016, SB 1383 (Lara, Chapter 395, Statutes of 2016) requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

## Key Energy Storage Project

SB 1383 also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

### *Senate Bill 100*

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard (RPS) Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

### *Executive Order B-55-18*

On September 10, 2018, former Governor Brown issued Executive Order (EO) B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

### *17 California Code of Regulations Section 95350 et seq.*

In 2010, CARB adopted the *Regulation For Reducing Sulfur Hexafluoride Emissions From Gas Insulated Switchgear* (Section 17 California Code of Regulations Section 95350 et seq.). The purpose of this regulation is to achieve GHG emission reductions by reducing SF<sub>6</sub> emissions from gas-insulated switchgear. Owners of such switchgear must not exceed maximum allowable annual emissions rates, reduced each year until 2020, after which annual emissions must not exceed 1.0 percent. Owners must regularly inventory gas-insulated switchgear equipment, measure quantities of SF<sub>6</sub>, and maintain records of these for at least three years. Additionally, by June 1 each year, owners also must submit an annual report to CARB's Executive Officer for emissions that occurred during the previous calendar year.

In December 2021, CARB adopted amendments to the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear, to update the phase out of SF<sub>6</sub> in gas-insulated switchgear. The new phase out schedule begins in January 2025 with all switchgear needing to be SF<sub>6</sub> free by January 2033. Under this resolution, CARB has developed a timeline for phasing out SF<sub>6</sub> equipment in California and created incentives to encourage owners to replace SF<sub>6</sub> equipment. The California Office of Administrative Law approved this rulemaking in December 2021 and the Resolution went into effect January 1, 2022.

## Local Regulations

### *Fresno Council of Governments*

As discussed above, the FCOG developed the 2018 RTP/SCS as the region's strategy to fulfill the requirements of SB 375. The 2018 RTP/SCS establishes a development pattern for the region that, when integrated with the transportation network and other policies and measures, would reduce GHG emissions from transportation (excluding goods movement). Specifically, the 2018 RTP/SCS links the goals of sustaining mobility with the goals of fostering economic development; enhancing the environment; reducing energy consumption; promoting transportation-friendly development patterns; and encouraging all residents affected by socioeconomic, geographic, and commercial limitations to be provided with fair access. The 2018 RTP/SCS does not require local general plans, specific plans, or

zoning be consistent with it but provides incentives for consistency for governments and developers. As discussed above under Senate Bill 375, FCOG circulated a Final Draft version of the 2022-2045 RTP for a 55-day public review period on April 15, 2022.

#### *San Joaquin Valley Air Pollution Control District*

In August 2008, the SJVAPCD's Governing Board adopted the *Climate Change Action Plan* (SJVAPCD 2008b). The *Climate Change Action Plan* directed the SJVAPCD Air Pollution Control Officer to develop guidance to assist lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project-specific GHG emissions on global climate change.

In 2009, the SJVAPCD adopted the *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA* and the *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The guidance and policy rely on the use of performance-based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project-specific GHG emissions on global climate change during the environmental review process, as required by CEQA (SJVAPCD 2009b; 2009c).

Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions from business-as-usual is required to determine that a project would have a less than cumulatively significant impact and be consistent with AB 32 2020 targets. The guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project-related impacts on global climate change (SJVAPCD 2009c). However, as SJVAPCD's adopted BPS are designed to help the district meet the 2020 targets and still provide measures that can be used to reduce GHG emissions from projects, compliance with these BPS are not applicable to determining significance for projects developed subsequent to 2020.

#### *Fresno County General Plan*

There are no specific policies related to greenhouse gas emissions or climate change in the 2000 General Plan.

## 3 Methodology

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This section presents the methodology for the analysis of construction, operational, and decommissioning emissions for the Project. Criteria pollutant and GHG emissions for Project construction and operation were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, D, and E (CAPCOA 2022). The input data and subsequent construction and operation emission estimates for the proposed Project is discussed below and provided in Appendix A. CalEEMod output files for the Project is included in Appendix B. The estimated emissions were then compared to applicable significance criteria.

### 3.1 Methodology

#### Construction Emissions

Construction emissions of criteria air pollutants and greenhouse gases include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker and vendor trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors.

As there are two battery options (Lithium Ion and Lithium Ion with Iron Flow), construction emissions were analyzed for both scenarios to account for the differences in installation phasing, acreages by phase, and duration of construction phasing. Construction of the proposed Project was analyzed based on the applicant-provided construction schedule for each scenario. Construction under the Lithium Ion Battery option is anticipated to occur over four installation phases with total construction lasting 76 months. Construction under the Lithium Ion Battery with Iron Flow option is anticipated to occur over three installation phases lasting a total of 68 months.

Construction equipment lists and construction related vehicle trips were based on previous construction of similar projects. As a conservative analysis, construction of the entire project was anticipated to be completed by 2030. The earlier construction years results in slightly higher emissions as standard construction fleets are anticipated to be cleaner/more efficient in the future years therefore resulting in slightly lower emission factors for the construction equipment. Construction equipment was estimated to operate 8 hours per day and used the CalEEMod defaults for horsepower and load factor. Vendor trips were modeled as exclusively heavy heavy-duty truck trips, except for construction of the energy storage enclosure and substation construction phases which assumed the standard default building construction fleet mix of heavy heavy-duty trucks and medium duty trucks. The analysis conservatively assumed a one-way distance of 60 miles to accommodate sourcing materials from California ports. Soils excavated during construction are assumed to be balanced onsite. This analysis assumes that the Project would comply with all applicable regulatory standards. In particular, the Project would comply with SJVACPD Rule 8021. Rule 8021 control measures for

construction, demolition, excavation, extraction, and other earthmoving activities were included in the model with the assumption that watering would occur twice a day and the vehicle speed on unpaved roads onsite would be 15 miles per hour.

## Operational Emissions

In CalEEMod, operational sources of criteria pollutant and greenhouse gas emissions include area, energy, and mobile sources. The first year of operation was assumed to be 2025 for the Lithium Ion Battery option and 2026 for the Lithium Ion Battery with Iron Flow option based on the provided construction schedules. The facilities were modeled as refrigerated warehouses ranging from 750 square feet to 5,000 square feet depending on the MW of the system to be installed during each phase of battery installation. The refrigerated warehouse land use was used to account for the energy requirements for maintaining a stable temperature for optimum battery effectiveness. There would be negligible area, annual water consumption, or solid waste generation source emissions associated with the Project since the Project would be typically unmanned and would require only limited maintenance equipment.<sup>5</sup> The facilities would be unmanned except during periodic maintenance visits where one or two workers would perform routine maintenance on the facilities. Additionally, once a year annual maintenance would occur. The trip rate was conservatively adjusted to reflect four trips per day to represent the maximum potential number of daily trips to the Project site for ease of modeling. Emissions were then scaled to account for the actual maintenance activity of 2 workers per week for periodic maintenance and one week of annual maintenance activities with 8 workers per day. A commute distance of 60 miles was assumed as well as the use of a light utility vehicle (modeled as a medium duty vehicle weighing up to 8,500 pounds).

### *SF<sub>6</sub> Emissions*

The proposed substation would have 17 circuit breakers that contain SF<sub>6</sub>. However, new circuit breaker designs have been developed over the past several years to minimize the potential for leakage, compared to that of past designs (CARB 2018b). In addition, the equipment would comply with CARB's *Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear* regulations. CARB's current regulations require that switchgear not exceed a maximum allowable annual SF<sub>6</sub> emissions rate of 1.0 percent. The only equipment within the substations that would have SF<sub>6</sub> gas would be the seventeen 500 kV circuit breakers. Each breaker would contain up to 482 pounds (lbs) of SF<sub>6</sub>, for a total of 8,194 lbs of SF<sub>6</sub> gas. As a conservative analysis, the maximum amount of SF<sub>6</sub> for circuit breakers greater than 245 KV was used since the type of circuit breakers to be used for the Project is unknown. However, depending on the circuit breaker actually used SF<sub>6</sub> content per circuit breaker could range from 108 to 482 lbs (CARB 2020b). Assuming SF<sub>6</sub> leakage would not exceed 1 percent annually, total maximum annual SF<sub>6</sub> leakage would be up to 82 lbs (0.04 MT). The GWP of SF<sub>6</sub> is 23,900, therefore the 82 lbs per year of annual leakage would result in annual emissions of approximately 888 MT CO<sub>2</sub>e.

## Project Decommissioning

As stated in Section 1.1, *Project Summary*, at the end of the project's useful life (anticipated to be 30 years), the project would be decommissioned. Any other activities required for deconstruction of the on-site facilities would require similar types and levels of equipment as those used during the construction phase. Therefore, decommissioning emissions were modeled based on the 2-year

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<sup>5</sup> Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. With respect to this project, area sources refer to consumer products (such as aerosol cleaners), and architectural coating (maintenance re-coating activities for battery storage).

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usage of the same equipment used to install the energy storage enclosures with the addition of graders to return the land to the previous flat landscape.

### Methodology for Determining Health Risks

Health impacts associated with TACs are generally associated with long-term exposure. Due to the minimal emissions expected on-site from routine maintenance and off-site from employees commuting to the Project site each day, there are no meaningful sources of TACs for the operating phase of the Project and therefore no reason to expect health impacts related to TACs. As such, the greatest potential for TAC emissions would be during construction and decommissioning which may result in a short-term increase of TAC emissions.

CARB's Air Quality and Land Use Handbook: A Community Health Perspective (April 2005) recommends against siting sensitive receptors within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day, and within 1,000 feet of warehouse land uses with more than 100 trucks per day. While these siting distances are not particular to construction activities, the fact that the primary source of TAC emissions from both freeways and warehouses as well as construction equipment is DPM, and emissions from warehouses and freeways is continual over the 30-year exposure period where construction emissions from this project are up to six years exposure. Therefore, for projects within 1,000 feet of sensitive receptors, a refined health risk should be conducted.

The closest sensitive receptors identified include agricultural housing 3,300 feet to the west on West Jayne Avenue, agricultural housing 11,500 feet to the southeast at the intersection of Modoc Avenue and West Goodrich Avenue, and a small row of houses 17,000 feet to the east on West Jayne Avenue. However, as the nearest receptors are over 3,000 feet away, are upwind of the project site, the onsite activity would have a negligible impact. Therefore, risk from construction and operational activities are discussed qualitatively.

## 3.2 Significance Criteria

### Air Quality

The significance criteria used to evaluate the Project impacts to air quality are based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). For the purposes of this air quality analysis, a significant impact would occur if the Project would:

1. Conflict with or obstruct implementation of the applicable air quality plan;
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard;
3. Expose sensitive receptors to substantial pollutant concentrations; and/or
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to determine whether a project would have a significant impact on air quality. The SJVAPCD recommends the use of quantitative thresholds to determine the significance of temporary construction-related pollutant emissions and long-term operational-related pollutant emissions. These thresholds are shown in Table 4.



**Table 4 SJVAPCD Air Quality Significance Thresholds**

| Pollutant         | Operation Thresholds (tpy) | Construction Thresholds (tpy) |
|-------------------|----------------------------|-------------------------------|
| NO <sub>x</sub>   | 10                         | 10                            |
| ROG <sup>1</sup>  | 10                         | 10                            |
| PM <sub>10</sub>  | 15                         | 15                            |
| PM <sub>2.5</sub> | 15                         | 15                            |
| SO <sub>x</sub>   | 27                         | 27                            |
| CO                | 100                        | 100                           |

tpy = tons per year

<sup>1</sup> ROG are formed during combustion and evaporation of organic solvents. ROG are also referred to as VOC.

Source: SJVAPCD 2015a

In addition to the annual SJVAPCD thresholds outlined above, SJVAPCD has published the *Ambient Air Quality Analysis Project Daily Emissions Assessment* guidance, which is summarized in Section 8.4.2, *Ambient Air Quality Screening Tools*, of the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI)*, adopted in March 2015. The *Ambient Air Quality Screening Tools* guidance provides a screening threshold of 100 pounds per day of any of the following pollutants: NO<sub>x</sub>, ROG, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, and CO. The screening threshold was used to evaluate construction activities and operational activities separately. Per SJVAPCD's GAMAQI, when assessing the significance of project-related impacts on local air quality, the impacts *may* be significant if on-site emissions from construction or operational activities exceed the 100 pounds per day screening level after implementation of all enforceable mitigation measures. If the screening threshold is exceeded for any pollutant, an ambient air quality assessment (AAQA) is conducted following District Rule 2201 *AAQA Modeling* for any phase that has an exceedance. An AAQA uses air dispersion modeling to determine if emission increases from a project's construction or operational activities would cause or contribute to a violation of the ambient air quality. The results of the construction and operational AAQA for the Project are summarized in Section 4, *Analysis of Project Impacts*.

SJVAPCD recommends comparing project's attributes with the following screening criteria as a first step to evaluating whether the project would result in the generation of CO concentrations that would substantially contribute to an exceedance of the *Thresholds of Significance*. The project would result in a less than significant impact to localized CO concentrations if (SJVAPCD 2015a):

1. A traffic study for the project indicates that the Level of Service (LOS) on one or more streets or at one or more intersections in the project vicinity will be reduced to LOS E or F; or
2. A traffic study indicates that the project will substantially worsen an already existing LOS F on one or more streets at more one or more intersections in the project vicinity.

## Greenhouse Gases

The significance criteria used to evaluate the Project impacts to GHG emissions are based on the recommendations provided in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.). For the purposes of the GHG analysis, a significant impact would occur if the Project would:

## Key Energy Storage Project

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*CEQA Guidelines*, Section 15064[h][1]).

### *Project-Level Significance Threshold*

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, consistency with a regional GHG reduction plan, or consistency with statewide regulations adopted to reduce GHG emissions. A project may be found to have a less-than-significant impact related to GHG emissions if it complies with an adopted plan that includes specific measures to sufficiently reduce GHG emissions (14 Cal. Code Regs. Section 15064[h][3]). According to the CEQA Guidelines, projects can tier from a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in that plan. The Association of Environmental Professionals considers this approach in its white paper, "Beyond Newhall and 2020," to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions (Association of Environmental Professionals 2016). However, the SJVAPCD's current GHG reduction strategy presented in the 2008 *Climate Change Action Plan* only aligns with the AB 32 2020 emissions target and does not address the SB 32 2030 emissions target. Because the GHG reduction plan does not specifically address the 2030 target and the project would become operational post-2020, tiering from the regional 2008 *Climate Change Action Plan* is not applicable.

Instead, the potential for the Project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHG was assessed by examining the Project's consistency with the GHG reduction measures detailed in CARB's 2017 Climate Change Scoping Plan. Under the SJVAPCD's CEQA guidance for GHG, a project would not have a significant GHG impact if it is consistent with an applicable plan to reduce GHG emissions, and a CEQA compliant analysis was completed for the GHG reduction plan (SJVAPCD 2009b, SJVAPCD 2015a). Project GHG emissions are quantified for informational purposes.

## 4 Analysis of Project Impacts

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### 4.1 Project-Level Air Quality Impacts

|   |
|---|
| <p><b>Threshold 1:</b> Would the Project conflict with or obstruct implementation of the applicable air quality plan?</p> |
|---|

**Impact AQ-1** THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE 2020 REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT) DEMONSTRATION FOR THE 2015 8-HOUR OZONE STANDARD NOR THE 2013 PLAN FOR THE REVOKED 1-HOUR OZONE STANDARD, 2007 PM<sub>10</sub> MAINTENANCE PLAN AND REQUEST FOR RE-DESIGNATION, 2012 PM<sub>2.5</sub> PLAN, AND 2015 PLAN FOR THE 1997 PM<sub>2.5</sub> STANDARD. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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Construction, operation, and decommissioning of the Project would result in emissions of criteria pollutants including O<sub>3</sub> precursors (such as ROG and NO<sub>x</sub>) and PM. The SJVAPCD has prepared several air quality attainment plans to achieve ozone and particulate matter standards, the most recent of which include the *2020 Reasonably Available Control Technology (RACT) Demonstration for the 2015 8-Hour Ozone Standard* and the *2013 Plan for the Revoked 1-Hour Ozone Standard, 2007 PM<sub>10</sub> Maintenance Plan and Request for Re-designation, 2012 PM<sub>2.5</sub> Plan, and 2015 Plan for the 1997 PM<sub>2.5</sub> Standard*. The SJVAB is in attainment for CO, SO<sub>2</sub>, and Pb, and there are no attainment plans for those pollutants.

Per Section 7.12 of the *GAMAQI*, the SJVAPCD has determined that projects with emissions above the thresholds of significance for criteria pollutants would conflict with/obstruct implementation of the SJVAPCD's air quality plans (SJVAPCD 2015a). As discussed under Impact AQ-2, neither project construction, operation, nor decommissioning would exceed the SJVAPCD threshold for criteria pollutants. Therefore, the Project would not conflict with the implementation of existing air quality plans and impacts would be less than significant.

|  |
|--|
| <p><b>Threshold 2:</b> Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?</p> |
|--|

**Impact AQ-2** PROJECT CONSTRUCTION, OPERATION, AND DECOMMISSIONING WOULD NOT RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF A CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS IN NON-ATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARD. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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### Construction and Decommissioning Emissions

Construction of the Project would require between 14 and 24 months per phase depending on the battery option chosen with total construction duration of approximately 6 years for either battery option. Specifically, construction of the Lithium Ion Battery option is anticipated to take a total of approximately 76 weeks and construction of the Lithium Ion Battery with Iron Flow Battery option is anticipated to take a total of 104 weeks. Project construction would generate air pollutant emissions from on-site equipment, entrained dust, off-road equipment uses, and vehicle emissions. Off-site emissions would be generated by construction worker daily commute trips and vendor truck trips.

## Key Energy Storage Project

Construction of each phase would occur subsequent to the completion of the previous Phase. As shown in Table 5, construction emissions would be below the SJVAPCD annual threshold for all years of construction for both battery options, including a 12 month rolling average of emissions. Therefore, Project construction activities would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. Construction impacts would be less than significant.

**Table 5 Estimated Annual Construction Emissions**

| Year   | Annual Emissions (tons per year) <sup>1</sup> |                 |          |                 |                  |                   |
|--|---|-----------------|----------|-----------------|------------------|-------------------|
|  | ROG   | NO <sub>x</sub> | CO       | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| <i>Lithium Ion Battery Option</i>                |   |                 |          |                 |                  |                   |
| 2024   | 1   | 6               | 7        | <1              | <1               | <1                |
| 2025   | <1  | 4               | 5        | <1              | <1               | <1                |
| 2026   | 1   | 4               | 5        | <1              | <1               | <1                |
| 2027   | 1   | 5               | 5        | <1              | <1               | <1                |
| 2028   | <1  | 4               | 5        | <1              | <1               | <1                |
| 2029   | <1  | 4               | 4        | <1              | <1               | <1                |
| Decommissioning                                  | <1  | 4               | 6        | <1              | <1               | <1                |
| <b>Maximum Annual</b>                            | <b>1</b>                                      | <b>6</b>        | <b>7</b> | <b>&lt;1</b>    | <b>&lt;1</b>     | <b>&lt;1</b>      |
| <b>Maximum Revolving 12 Month Period</b>         | <b>1</b>                                      | <b>6</b>        | <b>7</b> | <b>&lt;1</b>    | <b>&lt;1</b>     | <b>&lt;1</b>      |
| Threshold (tons per year)                        | 10  | 10              | 100      | 27              | 15               | 15                |
| Exceed Threshold?                                | No  | No              | No       | No              | No               | No                |
| <i>Lithium Ion Battery with Iron Flow Option</i> |   |                 |          |                 |                  |                   |
| 2024   | 1   | 5               | 6        | <1              | <1               | <1                |
| 2025   | 1   | 5               | 6        | <1              | <1               | <1                |
| 2026   | <1  | 4               | 5        | <1              | <1               | <1                |
| 2027   | <1  | 4               | 5        | <1              | <1               | <1                |
| 2028   | <1  | 5               | 5        | <1              | <1               | <1                |
| 2029   | <1  | 2               | 2        | <1              | <1               | <1                |
| Decommissioning                                  | <1  | 4               | 6        | <1              | <1               | <1                |
| <b>Maximum Annual</b>                            | <b>1</b>                                      | <b>5</b>        | <b>6</b> | <b>&lt;1</b>    | <b>&lt;1</b>     | <b>&lt;1</b>      |
| <b>Maximum Revolving 12 Month Period</b>         | <b>1</b>                                      | <b>5</b>        | <b>6</b> | <b>&lt;1</b>    | <b>&lt;1</b>     | <b>&lt;1</b>      |
| Threshold (tons per year)                        | 10  | 10              | 100      | 27              | 15               | 15                |
| Exceed Threshold?                                | No  | No              | No       | No              | No               | No                |

<sup>1</sup> Emissions by construction year include measures from Rule 8021 to control fugitive dust.

Source: Appendix A.

The annual decommissioning equipment and activities would be similar to those modeled for construction. As shown in Table 5, decommissioning emissions would be below the SJVAPCD annual threshold for both battery options. As equipment becomes more efficient in the future, it is anticipated that the emissions from the equipment used during decommissioning would be reduced beyond what was estimated in Table 5. All decommissioning activities would adhere to the requirements of the appropriate governing authorities and be conducted in accordance with all

applicable federal, state, and county regulations. Decommissioning impacts would be less than significant.

## Operational Emissions

Long-term emissions associated with operation of the Project would be primarily generated by periodic operational and maintenance visits that would occur weekly and an extended maintenance program that would occur annually. Additionally, minimal emissions from energy use is anticipated from temperature control and maintenance for the batteries. Emissions associated with project operation are summarized in Table 6 by source. Emissions would not exceed SJVAPCD annual thresholds for criteria pollutants regardless of the battery option chosen. As a result, the project would not violate any air quality standards or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment.

**Table 6 Estimated Annual Operational Emissions**

| Source   | Annual Emissions (tons per year) |                 |              |                 |                  |                   |
|--|----------------------------------|-----------------|--------------|-----------------|------------------|-------------------|
|  | ROG                              | NO <sub>x</sub> | CO           | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| <i>Lithium Ion Battery Option</i>                |                                  |                 |              |                 |                  |                   |
| Mobile   | <1                               | <1              | <1           | <1              | <1               | <1                |
| Area   | <1                               | <1              | <1           | <1              | <1               | <1                |
| Energy   | <1                               | <1              | <1           | <1              | <1               | <1                |
| <b>Total Operational Emissions</b>               | <b>&lt;1</b>                     | <b>&lt;1</b>    | <b>&lt;1</b> | <b>&lt;1</b>    | <b>&lt;1</b>     | <b>&lt;1</b>      |
| Threshold (tons per year)                        | 10                               | 10              | 27           | 100             | 15               | 15                |
| Exceed Threshold?                                | No                               | No              | No           | No              | No               | No                |
| <i>Lithium Ion Battery with Iron Flow Option</i> |                                  |                 |              |                 |                  |                   |
| Mobile   | <1                               | <1              | <1           | <1              | <1               | <1                |
| Area   | <1                               | <1              | <1           | <1              | <1               | <1                |
| Energy   | <1                               | <1              | <1           | <1              | <1               | <1                |
| <b>Total Operational Emissions</b>               | <b>&lt;1</b>                     | <b>&lt;1</b>    | <b>&lt;1</b> | <b>&lt;1</b>    | <b>&lt;1</b>     | <b>&lt;1</b>      |
| Threshold (tons per year)                        | 10                               | 10              | 27           | 100             | 15               | 15                |
| Exceed Threshold?                                | No                               | No              | No           | No              | No               | No                |

Source: Appendix A.

Furthermore, energy storage systems assist utilities like PG&E in achieving criteria air pollutant emission reductions by providing the means of storing excess electricity generated during off-peak hours for use during peak hours. By expanding PG&E's access to energy storage systems, the project would increase the stability and reliability of the existing electrical grid, thereby reducing the need for additional electricity to be generated by fossil fuel power plants during peak hours. The energy conservation achieved by the project would reduce the need for additional fossil fuel consumption, thereby eliminating new criteria air pollutant emissions from the electricity sector. It is unknown how much growth in future demand would require the continuation of the use of the existing fossil fuel generation system even with the operation of energy storage systems. Unless a specific fossil fuel generation system is taken offline completely, there is no guarantee of an annual offset, therefore conservatively no reductions were quantified. Operational impacts would be less than significant.

**Threshold 3:** Would the Project expose sensitive receptors to substantial pollutant concentrations?

**Impact AQ-3** LOCALIZED CONSTRUCTION, OPERATION, AND EMISSIONS WOULD NOT EXCEED DAILY SCREENING THRESHOLD. THE PROJECT WOULD NOT INCREASE CARBON MONOXIDE CONCENTRATIONS SUCH THAT IT WOULD CREATE CARBON MONOXIDE HOTSPOTS. CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF THE PROJECT WOULD ALSO NOT RESULT IN EMISSIONS OF TOXIC AIR CONTAMINANTS (TACs) SUFFICIENT TO EXCEED APPLICABLE HEALTH RISK CRITERIA. THEREFORE, IMPACTS RELATED TO LOCALIZED EMISSIONS, CARBON MONOXIDE HOTSPOTS, AND TACs WOULD BE LESS THAN SIGNIFICANT. HOWEVER, PROJECT CONSTRUCTION AND DECOMMISSIONING WOULD RESULT IN SOIL DISTURBANCE THAT COULD EXPOSE CONSTRUCTION WORKERS TO COCCIDIOIDES IMMITIS SPORES (VALLEY FEVER). IMPACTS RELATED TO VALLEY FEVER WOULD BE POTENTIALLY SIGNIFICANT AND MITIGATION WILL BE REQUIRED.

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### Local Air Quality Emissions

#### *Construction and Decommissioning Emissions*

Construction of the Project would require approximately 6 years of activity. Decommissioning is anticipated to require approximately 24 months. Project construction and decommissioning would generate air pollutant emissions from on-site equipment, entrained dust, off-road equipment uses, and vehicle emissions. Off-site emissions would be generated by worker daily commute trips and heavy-duty diesel haul and vendor truck trips. Construction or decommissioning of each Phase would occur subsequent to the completion of the previous Phase. As shown in Table 7, localized construction emissions would be below the SJVAPCD daily screening threshold of 100 pounds per day for all construction activities and decommissioning activities regardless of the battery option chosen. Therefore, Project construction and decommissioning activities would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant for both construction and decommissioning activities.

**Table 7 Estimated Daily Construction Emissions**

| Year                                      | Daily Emissions (lbs/day) <sup>1</sup> |                 |           |                 |                  |                   |
|---|--|-----------------|-----------|-----------------|------------------|-------------------|
|   | ROG                                    | NO <sub>x</sub> | CO        | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| <i>Lithium Ion Battery</i>                |  |                 |           |                 |                  |                   |
| Phase 1                                   | 10                                     | 87              | 97        | <1              | 12               | 7                 |
| Phase 2                                   | 5                                      | 33              | 46        | <1              | 2                | 1                 |
| Phase 3                                   | 4                                      | 39              | 46        | <1              | 2                | 1                 |
| Phase 4                                   | 4                                      | 36              | 50        | <1              | 2                | 1                 |
| Decommissioning                           | 3                                      | 28              | 49        | <1              | 4                | 1                 |
| <b>Maximum Daily Emissions</b>            | <b>10</b>                              | <b>87</b>       | <b>97</b> | <b>&lt;1</b>    | <b>12</b>        | <b>7</b>          |
| Threshold (pounds per day)                | 100                                    | 100             | 100       | 100             | 100              | 100               |
| Exceed Threshold?                         | No                                     | No              | No        | No              | No               | No                |
| <i>Lithium Ion Battery with Iron Flow</i> |  |                 |           |                 |                  |                   |
| Phase 1                                   | 10                                     | 86              | 96        | <1              | 12               | 7                 |
| Phase 2                                   | 4                                      | 32              | 48        | <1              | 2                | 1                 |
| Phase 3                                   | 5                                      | 45              | 58        | <1              | 4                | 2                 |
| Decommissioning                           | 3                                      | 28              | 49        | <1              | 4                | 1                 |
| <b>Maximum Daily Emissions</b>            | <b>10</b>                              | <b>86</b>       | <b>96</b> | <b>&lt;1</b>    | <b>12</b>        | <b>7</b>          |
| Threshold (pounds per day)                | 100                                    | 100             | 100       | 100             | 100              | 100               |
| Exceed Threshold?                         | No                                     | No              | No        | No              | No               | No                |

<sup>1</sup> Emissions by construction year include measures from Rule 8021 to control fugitive dust.

Source: Appendix A.

### Operational Emissions

Long-term emissions associated with operation of the Project would be primarily generated by periodic operational and maintenance visits that would occur weekly and an extended maintenance program that would occur annually. Additionally, minimal emissions from energy use is anticipated from temperature control and maintenance for the batteries. Daily emissions associated with project operation are summarized in Table 8. As shown, emissions would not exceed the SJVAPCD daily screening threshold of 100 pounds per day and therefore would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.

**Table 8 Estimated Daily Operational Emissions**

| Source                                    | Daily Emissions (lbs/day) |                 |              |                 |                  |                   |
|---|---------------------------|-----------------|--------------|-----------------|------------------|-------------------|
|   | ROG                       | NO <sub>x</sub> | CO           | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| <i>Lithium Ion Battery</i>                |                           |                 |              |                 |                  |                   |
| Phase 1                                   | <1                        | <1              | <1           | <1              | <1               | <1                |
| Phase 2                                   | <1                        | <1              | <1           | <1              | <1               | <1                |
| Phase 3                                   | <1                        | <1              | <1           | <1              | <1               | <1                |
| Phase 4                                   | <1                        | <1              | <1           | <1              | <1               | <1                |
| Worker Commute                            | <1                        | <1              | <1           | <1              | <1               | <1                |
| <b>Total Operational Emissions</b>        | <b>&lt;1</b>              | <b>&lt;1</b>    | <b>&lt;1</b> | <b>&lt;1</b>    | <b>&lt;1</b>     | <b>&lt;1</b>      |
| Threshold (pounds per day)                | 100                       | 100             | 100          | 100             | 100              | 100               |
| Exceed Threshold?                         | No                        | No              | No           | No              | No               | No                |
| <i>Lithium Ion with Iron Flow Battery</i> |                           |                 |              |                 |                  |                   |
| Phase 1                                   | <1                        | <1              | <1           | <1              | <1               | <1                |
| Phase 2                                   | <1                        | <1              | <1           | <1              | <1               | <1                |
| Phase 3                                   | <1                        | <1              | <1           | <1              | <1               | <1                |
| Worker Commute                            | <1                        | <1              | <1           | <1              | <1               | <1                |
| <b>Total Operational Emissions</b>        | <b>&lt;1</b>              | <b>&lt;1</b>    | <b>&lt;1</b> | <b>&lt;1</b>    | <b>&lt;1</b>     | <b>&lt;1</b>      |
| Threshold (pounds per day)                | 100                       | 100             | 100          | 100             | 100              | 100               |
| Exceed Threshold?                         | No                        | No              | No           | No              | No               | No                |

Source: Appendix A.

## Carbon Monoxide Hotspots

A CO hotspot is a localized concentration of CO that is above a CO ambient air quality standard. Localized CO hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal one-hour standard of 35.0 parts per million (ppm) or the federal and state eight-hour standard of 9.0 ppm (SJVAPCD 2022).

The entire SJVAB is in conformance with state and federal carbon monoxide standards and no air quality monitoring stations report carbon monoxide levels in the SJVAPCD jurisdiction. Additionally, CARB no longer reports carbon monoxide concentrations anywhere in California. Based on the low background level of carbon monoxide in the SJVAB (indicated by the lack of monitoring at state or local levels), the low and the ever-improving emissions standards for new sources in accordance with state and federal regulations, and the fact that the project would result in a maximum of 16 trips per day during annual maintenance, the project would not create new carbon monoxide hotspots. Therefore, the project would not expose sensitive receptors to substantial carbon monoxide concentrations, and localized air quality impacts related to carbon monoxide hot spots would be less than significant.

## Toxic Air Contaminants

### *Construction and Decommissioning Impacts*

The greatest potential for TAC emissions during construction and decommissioning would be DPM emissions associated with heavy-duty equipment during construction and decommissioning activities.



Activities associated with construction and decommissioning of the proposed Project would be sporadic, transitory, and short term in nature. In addition, incidental amounts of toxic substances such as oils, solvents, and paints would be used. Project construction and decommissioning would comply with all applicable SJVAPCD rules for handling and use and toxic substances.

As discussed in *Section 3 Methodology*, a project that would result in construction and decommissioning activities within 1,000 feet of sensitive receptors could have the potential to result in substantial health risk to those receptors. As the Project site is greater than 3,000 feet from the nearest receptor, construction, and decommissioning of proposed Project it is not anticipated to result in increased risk to those receptors. Therefore, the potential cancer and non-cancer risk from construction and decommissioning activities would be less than significant.

### *Operational Impacts*

Sources of operational TAC's typically include, but are not limited to, land uses such as freeways and high-volume roadways, truck distribution centers, ports, rail yards, refineries, chrome plating facilities, dry cleaners using perchloroethylene, and gasoline dispensing facilities. The proposed Project is not one of these uses, although use of consumer products, such as aerosol cleaning products, may result in minimal emissions of TACs. Additionally, the nearest sensitive receptor is greater than 3,000 feet from the Project site. As such, operations of the Project would not be a substantial source of TACs. Therefore, impacts would be less than significant.

### **Valley Fever**

Construction activities, including site preparation and grading, would have the potential to release *Coccidioides immitis* spores. Decommissioning activities could also release spores when the first twelve inches of soil is disturbed during removal of the facilities. However, the population of Fresno County has been and will continue to be exposed to Valley Fever from agricultural and construction activities occurring throughout the region. Compliance with SJVAPCD Rule 8021 would limit spore release during soil disturbance activities. The SJVAPCD does not have a recommended threshold for Valley Fever impacts, but instead recommends consideration of the following factors that may indicate a project's potential to result in significant impacts related to Valley Fever:

- Disturbance of the topsoil of undeveloped land (to a depth of about 12 inches)
- Dry, alkaline, sandy soils
- Virgin, undisturbed, non-urban areas
- Windy areas
- Archaeological resources probable or known to exist in the area (Native American midden sites)
- Special events (fairs, concerts) and motorized activities (motocross track, All Terrain Vehicle activities) on unvegetated soil (non-grass)
- Non-native population (i.e., out-of-area construction workers)

Project construction would involve light grading of agricultural soils, disturbing soils within the first twelve inches. Decommissioning activities could also include disturbance of topsoil. The northern parcel is currently an active agricultural site, therefore the potential for exposure is predominantly from soil disturbance of the southern two parcels which have been fallow for a number of years. Fresno County reported over 95 cases between January and March of 2022 with 82 reported in 2021 and 126 in 2020 (California Department of Public Health 2022). While the Project site is not intended for special events or all-terrain vehicle use and the nearest residences are over 3,000 feet away, there is the potential for

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construction and decommissioning workers to be from out of the area, therefore, construction and decommissioning of the project has the potential to release spores that could impact workers. Implementation of typical dust control measures would reduce airborne spores, however mitigation will be required to reduce impacts from exposure of workers to *coccidioides immitis* spores to less than significant.

|  |
|--|
| <b>Threshold 4:</b> Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? |
|--|

**Impact AQ-4 THE PROJECT WOULD NOT GENERATE ODORS ADVERSELY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE DURING CONSTRUCTION, DECOMMISSIONING, OR OPERATION. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

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The project would generate oil and diesel fuel odors during construction and decommissioning from equipment and trucks. However, these odors would be intermittent and localized to the Project site. Construction and decommissioning-related odors would also dissipate rapidly and would cease upon completion of construction and decommissioning activities. With respect to operation, the SJVAPCD's GAMAQI (2015a) identifies land uses associated with odor complaints. Common land uses associated with odors include wastewater treatment facilities, sanitary landfills, food processing facilities, and feed lot/dairy facilities. Battery energy storage systems and utility infrastructure are not included on this list, and the proposed Project would not contain uses that would generate other emissions or odors. Therefore, the proposed Project would not generate other emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

## 4.2 Cumulative Air Quality Impacts

The geographic scope for the cumulative air quality impact analysis is the SJVAB. Because the SJVAB is designated as non-attainment for the O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> NAAQS and CAAQS, there is an existing adverse cumulative effect in the SJVAB relative to these pollutants.

Based on SJVAPCD thresholds in the GAMAQI, a project would have a significant cumulative impact if it is inconsistent with the applicable adopted federal and state air quality plans. As discussed under Impact AQ-2, the project would be consistent with the SJVAPCD thresholds since the Projects' emissions are below the SJVAPCD thresholds. Additionally, as discussed above under Impact AQ-1, the Project would not conflict with or obstruct implementation of the SJVAPCD's air quality plan. Therefore, the Project's contribution to cumulative air quality impacts related to criteria air pollutant emissions would be less than significant.

The SJVAPCD considers TAC emissions to be a localized issue. In general, TAC concentrations are typically highest near the emissions sources and decline with increased distance. CARB recommends distances that should be incorporated when siting new sources or sensitive receptors near a source of TACs. This generally ranges from 500 to 1,000 feet depending on the source category (CARB 2005). Therefore, in the absence of any specific guidance from the SJVAPCD, the potential cumulative impacts from TACs was analyzed based on a radius of 1,000 feet measured from the Project site boundary. The Project is not located within 1,000 feet of any existing or planned projects that would generate TACs affecting a substantial number of people; therefore, there is no risk that the combined emissions would result in a cumulatively considerable impact to health risk (County of Fresno 2022).

As discussed under Impact AQ-3, construction, operation and decommissioning-related traffic is not anticipated to create a CO hotspot, as construction and decommissioning would be short-term and the

impacted intersection is more than one mile from any sensitive receptor. Therefore, the Project's contribution to cumulative impacts to sensitive receptors related to CO hotspots would be less than significant.

### 4.3 Project-Level Greenhouse Gas Impacts

**Threshold 1:** Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

**Impact GHG-1 CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF THE PROJECTS WOULD DIRECTLY AND INDIRECTLY GENERATE GHG EMISSIONS. HOWEVER, SUCH EMISSIONS WOULD BE OFFSET BY THE LONG-TERM STORAGE OF RENEWABLE ENERGY. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

#### Construction and Decommissioning Emissions

Project-related construction and decommissioning emissions are confined to a relatively short period in relation to the overall life of the Project. Construction-related and decommissioning-related GHG emissions were quantified for informational purposes. Table 9 shows that Project construction would result in a total of approximately 12,290 MT CO<sub>2</sub>e for the Lithium Ion Battery option and 10,928 MT CO<sub>2</sub>e for the Lithium Ion with Iron Flow Battery option. As shown in Table 9, decommissioning would result in a total of 8,919 MT CO<sub>2</sub>e for both battery options, assuming 4 years of decommissioning activities. Emissions were then amortized over the lifetime of the Project (i.e., 30 years). As shown in Table 9, amortized construction emissions would be 410 MT CO<sub>2</sub>e per year for the Lithium Ion Battery option and 364 MT CO<sub>2</sub>e per year for the Lithium Ion Battery option. As shown in Table 9, amortized decommissioning emissions would be 297 MT CO<sub>2</sub>e for both battery options.

**Table 9 Estimated Construction GHG Emissions**

|  | Lithium Ion Battery Option | Lithium Ion with Iron Flow Battery Option |
|--|----------------------------|---|
| Project Emissions MT CO <sub>2</sub> e |                            |   |
| <b>Construction</b>                    |                            |   |
| Phase 1                                | 2,109                      | 3,680                                     |
| Phase 2                                | 2,282                      | 2,518                                     |
| Phase 3                                | 3,988                      | 4,729                                     |
| Phase 4                                | 3,912                      | N/A                                       |
| <b>Total</b>                           | <b>12,290</b>              | <b>10,928</b>                             |
| <b>Amortized (30 years)</b>            | <b>410</b>                 | <b>364</b>                                |
| <b>Decommissioning</b>                 |                            |   |
| <b>Total</b>                           | <b>8,919</b>               | <b>8,919</b>                              |
| <b>Amortized (30 years)</b>            | <b>297</b>                 | <b>297</b>                                |

NA = Not applicable. The Lithium Ion with Iron Flow Battery option only has three construction phases.

Source: Appendix A.

## Operational Emissions

The proposed Project would generate GHG emissions during operation from minimal area source, energy consumption and mobile emissions<sup>6</sup>. Operation-related GHG emissions were quantified for informational purposes and are shown in Table 10. As shown in Table 10, the Project would generate approximately 896 MT of CO<sub>2</sub>e per year for both battery options. With the inclusion of amortized construction and decommissioning emissions, the Lithium Ion Battery Option would result in approximately 1,603 MT of CO<sub>2</sub>e per year and the Lithium Ion with Iron Flow Battery Option would result in approximately 1,558 MT of CO<sub>2</sub>e per year.

<sup>6</sup> Area sources for this project refer to consumer products (such as aerosol cleaners), and architectural coating (maintenance re-coating activities for battery storage).

**Table 10 Annual GHG Emissions**

| Emission Source                            | Lithium Ion Battery                     | Lithium Ion with Iron Flow Battery |
|--|---|------------------------------------|
|  | Annual Emissions (MT CO <sub>2</sub> e) |                                    |
| <b>Operational</b>                         |   |                                    |
| Mobile                                     | 2                                       | 2                                  |
| Area                                       | 0                                       | 0                                  |
| Energy                                     | 6                                       | 6                                  |
| Water                                      | <1                                      | <1                                 |
| Wastewater                                 | 0                                       | 0                                  |
| O&M refrigerant                            | <1                                      | <1                                 |
| SF <sub>6</sub>                            | 888                                     | 888                                |
| <b>Total Project Operational Emissions</b> | <b>896</b>                              | <b>896</b>                         |
| Amortized Construction Emissions           | 410                                     | 364                                |
| Amortized Decommissioning Emissions        | 297                                     | 297                                |
| <b>Total Project Emissions</b>             | <b>1,603</b>                            | <b>1,558</b>                       |

MT of CO<sub>2</sub>e = metric tons of carbon dioxide equivalent. Numbers may not add up due to rounding.

NA = Not applicable. The Lithium Ion with Iron Flow Battery option only has three installation phases.

Source: Appendix A.

Approximately 55 to 57 percent of total operational emissions are associated with the emissions of SF<sub>6</sub>, which is a component in the circuit breakers of the project. The Project would include 17 high voltage circuit breakers to support the substation which would be implemented as the project is implemented. As detailed in the methodology section (Section 3.1), the use of SF<sub>6</sub> in electric utility systems and switchgear, including circuit breakers, poses a concern, because this pollutant has an extremely high global warming potential (one pound of SF<sub>6</sub> is the equivalent warming potential of approximately 23,900 pounds of CO<sub>2</sub>). As detailed in the methodology Section (Section 3.1), seventeen 500 kV circuit breakers used at the Project site would contain up to 482 pounds (lbs) of SF<sub>6</sub> each, for a total of 8,194 lbs of SF<sub>6</sub> gas. Assuming SF<sub>6</sub> leakage would not exceed 1 percent annually, total annual SF<sub>6</sub> leakage would be up to 82 lbs (0.04 MT). Based on the global warming potential of SF<sub>6</sub>, the circuit breakers would result in up to 888 MT of CO<sub>2</sub>e emissions, annually.

In compliance with CARB regulations, the applicant would be required to regularly inventory gas-insulated switchgear equipment, measure quantities of SF<sub>6</sub> and submit an annual report to CARB. In addition, the analysis assumed that all 17 circuit breakers would contain SF<sub>6</sub> as a conservative analysis. As discussed in the regulatory section, CARB has implemented phasing requirements for the elimination of SF<sub>6</sub> from electrical equipment, including circuit breakers. While the analysis assumes that all circuit breakers will contain SF<sub>6</sub>, it is possible that circuit breakers in the later phases may not contain SF<sub>6</sub> and/or as circuit breakers are replaced they would be replaced with non-SF<sub>6</sub> technology. Additionally, as

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discussed in the methodology section, the analysis assumed the maximum amount of SF<sub>6</sub> per circuit breaker and depending on the circuit breaker actually used, SF<sub>6</sub> content may be substantially less than assumed in the analysis.<sup>7</sup> Therefore, GHG emissions reported for the Project are conservative.

The Project would address the limitations of the electric grid and the increasing demand for renewable energy by increasing storage capability which improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. As the use of renewable energy increases, the need for battery storage to maintain electrical supply during both peak demand and when the renewable systems are not generating electricity also increases. It is anticipated that the reduction in GHG emissions from non-renewable electricity generating facilities would more than offset the annual GHG emissions anticipated from the project. It is unknown how much growth in future demand would require the continuation of the use of the existing fossil fuel generation system even with the operation of energy storage systems. Unless a specific fossil fuel generation system is taken offline completely, there is no guarantee of an annual offset, therefore conservatively no reductions were quantified. However, the project would eliminate the need to create new non-renewable energy generation sources to accommodate future demand equal to the energy storage capabilities during peak hours. Therefore, the project is anticipated to result in a net benefit with respect to GHG emissions generation.

**Threshold 2:** Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

**Impact GHG-2 CONSTRUCTION, OPERATION, AND DECOMMISSIONING OF THE PROJECTS WOULD BE CONSISTENT WITH APPLICABLE PLANS, POLICIES, AND REGULATIONS ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

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## Senate Bill 32 and 2017 Scoping Plan

There are numerous state plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall state plans and policies is SB 32. The goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. CARB's 2017 Scoping Plan, which outlines a framework to achieve SB 32's 2030 target, emphasizes innovation, adoption of existing technology, and strategic investment to support its strategies for GHG emissions reductions.

Approximately 15 percent of GHG emissions in 2018 were generated by the electricity sector with 9 percent from in-state electricity generation and 6 percent from imported electricity generation (CARB 2020a). One of the goals of the 2017 Scoping Plan is to "encourage development of additional energy storage capacity on the transmission and distribution system." An energy storage facility is used to reduce GHG emissions associated with gas- and coal-fired power generation facilities by storing energy during off-peak hours (lower energy usage/demand times) and dispatching this energy on an as-needed basis during peak demand hours. This technology reduces the amount of fossil fuels consumed during peak hours and maximizes usage of energy from renewable sources such as wind and solar facilities that may not be able to produce energy during times of peak demand. Therefore, the proposed Project would help to reduce GHG emissions from the energy sector and would be consistent with the goals of the 2017 Scoping Plan.

In addition, statewide plans and regulations in support of these strategies, such as GHG emissions standards for vehicles (AB 1493), the Low Carbon Fuel Standard, and regulations requiring an

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<sup>7</sup> For reference, the average capacity of circuit breakers greater than 245 KV is 228.4 lbs per breaker. This would result in 3,883 lbs of SF<sub>6</sub> for the entire project with leakage anticipated at 421 MT CO<sub>2</sub>e annually, less than half of what was used in the analysis.

increasing fraction of electricity to be generated from renewable sources, are being implemented at the statewide level; as such, compliance at a project-level would occur as implementation continues statewide. Therefore, the Project would be consistent with SB 32, and the 2017 Scoping Plan. The Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs and impacts would be less than significant.

## 4.4 Cumulative Greenhouse Gas Impacts

The geographic scope for related projects considered in the cumulative impact analysis for GHG emissions is global because impacts of climate change are experienced on a global scale regardless of the location of GHG emission sources. As discussed in Section 8.9.1 of the *GAMAQI*, GHG emissions and climate change are, by definition, cumulative impacts. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed under Impact GHG-1, Project impacts related to GHG emissions would be less than significant since the Project would be consistent with the state plans for reducing GHG emissions. Therefore, the Project's contribution to cumulative GHG impacts would be less than significant and the Project would have a net benefit in the long-term.

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# Appendix A

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Assumptions and Calculations

## Key Energy General Assumptions

Date: 1/13/2022

### Project Characteristics

|                             |                       |                   |              |
|-----------------------------|-----------------------|-------------------|--------------|
| Project Location            | County                | Version: 2020.4.0 |              |
|                             | Fresno                |                   |              |
| Climate Zone                |                       | 3                 |              |
| Urbanization                | Urban                 |                   |              |
| Operational Year (Buildout) |                       | Construction Year |              |
|                             | Lithium Ion           | 2025 Phase 1      | 2024 Phase 1 |
|                             |                       | 2026 Phase 2      | 2025 Phase 2 |
|                             |                       | 2028 Phase 3      | 2026 Phase 3 |
|                             |                       | 2030 Phase 4      | 2027 Phase 4 |
|                             | Lithium Ion Iron Flow | 2024 Phase 1      | 2026 Phase 1 |
|                             |                       | 2028 Phase 2      | 2025 Phase 2 |
|                             |                       | 2030 Phase 3      | 2027 Phase 3 |
| Utility Company             | PG&E                  |                   |              |

| Project Land Use                                       | MW System | # sf <sup>1,2</sup> | KSF  | Acres <sup>2</sup> | CalEEMod Designation                  |
|--|-----------|---------------------|------|--------------------|---------------------------------------|
| <b><i>Lithium Ion Battery Option</i></b>               |           |                     |      |                    |                                       |
| Phase 1  | 300       | 750                 | 0.75 | 34.50              | Refrigerated warehouse <sup>3</sup>   |
| Phase 2  | 500       | 1,250               | 1.25 | 27.75              | Refrigerated warehouse <sup>3</sup>   |
| Phase 3  | 1,000     | 2,500               | 2.50 | 76.00              | Refrigerated warehouse <sup>3</sup>   |
| Phase 4  | 1,200     | 3,000               | 3.00 | 121.75             | Refrigerated warehouse <sup>3</sup>   |
| Total  | 3,000     | 7,500               | 7.5  | 260.00             |                                       |
| <b><i>Lithium Ion and Iron Flow Battery Option</i></b> |           |                     |      |                    |                                       |
| Phase 1  | 300       | 750                 | 0.75 | 70.00              | Refrigerated warehouse <sup>3</sup>   |
| Phase 2  | 700       | 1,750               | 1.75 | 54.25              | Refrigerated warehouse <sup>3</sup>   |
| Phase 3  | 2,000     | 5,000               | 5.00 | 135.75             | Refrigerated warehouse <sup>3</sup>   |
| Total  | 3,000     | 7,500               | 7.5  | 260.00             |                                       |
| <b><i>O&amp;M building</i></b>                         |           |                     |      |                    |                                       |
| Office portion <sup>5</sup>                            | NA        | 1,000               | 1    | 0.25/0.5           | General Office <sup>4</sup>           |
| Warehouse portion <sup>5</sup>                         | NA        | 2,000               | 2    | 0.25/0.5           | Unrefrigerated warehouse <sup>4</sup> |

## Key Energy General Assumptions

Date:

1/13/2022

Go-by for facility size<sup>1</sup>      400                      1000

Notes:

<sup>1</sup> The size of the containers for the battery systems is unknown at this time. Therefore, container size was estimated based on a previous report using system MW to determine container square footage.

Source:                      Dudek 2021. *Desert Peak Energy Center Project - Phase 1 Air Quality and Greenhouse Gas Emissions Study* - August 16.

<sup>2</sup> CalEEMod does not allow decimal places for ksf above 1,000 ksf therefore land use was rounded up conservatively. CalEEMod also does not allow fractional acreages greater than 1 acre so acreages were also rounded up. Acreage for O&M building represent Lithium Ion / Lithium Ion and Iron Flow respectively to accommodate P1 site acreages.

<sup>3</sup> Refrigerated warehouse used to capture energy required to keep the batteries cool.

<sup>4</sup> Acres for O&M are assumed to be graded as part of the phase grading in which it will be built. Therefore, acreage is only assumed to be equal to the squarefootage of the building.

<sup>5</sup> 2022 CalEEMod does not allow for partial square footages over 1,000 square feet for general office or unrefrigerated warehouse useage.

## Key Energy Construction Assumptions - Lithium Ion Battery Option

*CalEEMod Defaults are assumed for modeling purposes unless specifically discussed in the Construction Assumptions below.*

**Project Schedule:** Hours: 7 am to 7 pm Construction January 2024  
 8 hrs per day equipment usage November 2029  
 Monday thru Friday

| Phase Name                            | Start Date | End Date  | Days/Week | Total Days | Weeks |                      |
|---------------------------------------|------------|-----------|-----------|------------|-------|----------------------|
| <b>Phase 1</b>                        |            |           |           |            |       |                      |
| Site Preparation                      | 1/1/2024   | 1/12/24   | 5         | 10         | 2     |                      |
| Project Substation Site Prep          | 1/1/2024   | 1/26/24   | 5         | 20         | 4     |                      |
| Grading                               | 1/13/2024  | 2/9/24    | 5         | 20         | 4     |                      |
| Project Substation Site Grading       | 1/27/2024  | 2/9/24    | 5         | 10         | 2     |                      |
| Energy Storage Enclosure Installation | 2/10/2024  | 8/2/24    | 5         | 125        | 25    |                      |
| Project substation installation       | 8/15/2024  | 12/4/24   | 5         | 80         | 16    |                      |
| Gen-Tie Foundation and Tower Erection | 12/5/2024  | 12/11/24  | 5         | 5          | 1     |                      |
| Gen-Tie Stringing and Pulling         | 12/12/2024 | 12/25/24  | 5         | 10         | 2     |                      |
| Architectural Coating (O&M Building)  | 7/1/2024   | 8/15/24   | 5         | 34         | 3.5   |                      |
| <b>Phase 2</b>                        |            |           |           |            |       |                      |
| Site Preparation                      | 2/1/2025   | 2/14/2025 | 5         | 10         | 2     |                      |
| Grading                               | 2/15/2025  | 3/14/2025 | 5         | 20         | 4     |                      |
| Energy Storage Enclosure Installation | 3/15/2025  | 6/19/2026 | 5         | 330        | 66    |                      |
| <b>Phase 3</b>                        |            |           |           |            |       |                      |
| Site Preparation                      | 6/22/2026  | 7/17/26   | 5         | 20         | 4     |                      |
| Grading                               | 7/19/2026  | 9/11/26   | 5         | 40         | 8     |                      |
| Energy Storage Enclosure Installation | 9/12/2026  | 2/25/28   | 5         | 380        | 76    |                      |
| <b>Phase 4</b>                        |            |           |           |            |       |                      |
| Site Preparation                      | 2/28/2028  | 3/24/28   | 5         | 20         | 4     |                      |
| Grading                               | 3/25/2028  | 5/19/28   | 5         | 40         | 8     |                      |
| Energy Storage Enclosure Installation | 5/20/2028  | 11/2/29   | 5         | 380        | 76    |                      |
| <b>Decommissioning<sup>1</sup></b>    |            |           |           |            |       |                      |
| Removing energy Storage Enclosures    | 1/1/2055   | 12/28/55  | 5         | 260        | 104   | *12 months per phase |

## Key Energy Construction Assumptions - Lithium Ion Battery Option

<sup>1</sup> Decommissioning is anticipated to begin in 2055 and last 12 months per phase, but CalEEMod only allows construction start date up to 12/2050. Therefore, Decommissioning was modeled for one year beginning January 1, 2050.

### *Trips and VMT*

| Phase Name                            | # Workers | Worker Trips/ day | Vendor Trips / day | Haul trips/day |                   |
|---------------------------------------|-----------|-------------------|--------------------|----------------|-------------------|
| <b>Phase 1</b>                        |           |                   |                    |                |                   |
| Site Preparation                      | 40        | 80                | 4                  | 0              |                   |
| Project Substation Site Prep          | 20        | 40                | 8                  | 0              |                   |
| Grading                               | 40        | 80                | 4                  | 0              |                   |
| Project Substation Site Grading       | 20        | 40                | 8                  | 0              |                   |
| Energy Storage Enclosure Installation | 120       | 240               | 40                 | 0              |                   |
| Project substation installation       | 60        | 120               | 80                 | 0              |                   |
| Gen-Tie Foundation and Tower Erection | 40        | 80                | 8                  | 0              |                   |
| Gen-Tie Stringing and Pulling         | 40        | 80                | 8                  | 0              |                   |
| Architectural Coating                 | 1         | 2                 | 0                  | 0              | additional worker |
| <b>Phase 2</b>                        |           |                   |                    |                |                   |
| Site Preparation                      | 40        | 80                | 4                  | 0              |                   |
| Grading                               | 40        | 80                | 4                  | 0              |                   |
| Energy Storage Enclosure Installation | 120       | 240               | 40                 | 0              |                   |
| <b>Phase 3</b>                        |           |                   |                    |                |                   |
| Site Preparation                      | 40        | 80                | 6                  | 0              |                   |
| Grading                               | 40        | 80                | 6                  | 0              |                   |
| Energy Storage Enclosure Installation | 150       | 300               | 80                 | 0              |                   |
| <b>Phase 4</b>                        |           |                   |                    |                |                   |
| Site Preparation                      | 60        | 120               | 8                  | 0              |                   |
| Grading                               | 60        | 120               | 8                  | 0              |                   |
| Energy Storage Enclosure Installation | 150       | 300               | 80                 | 0              |                   |
| <b>Decommissioning</b>                |           |                   |                    |                |                   |
| Removing energy Storage Enclosures    | 210       | 420               | 80                 | 0              |                   |

Note:

Vendor trips modeled as all HHDT trips conservatively with a 60 mile distance for everything but Energy Storage Enclosure and Project Substation, then used HHDT and MHDT.



## Key Energy Construction Assumptions - Lithium Ion Battery Option

### Offroad Equipment

Based on equipment used in similar project. Detailed below. Note: where there are 0's in the equipment list, this represents default equipment in the model that was not used in this analysis.

Source: Dudek 2021. Desert Peak Energy Center Project - Phase 1 Air Quality and Greenhouse Gas Emissions Study - August 16.

#### Site Preparation

| Equipment                 | Number | Hours/day |
|---------------------------|--------|-----------|
| Grader                    | 4      | 8         |
| Rubber Tired Dozers       | 0      | 8         |
| Rubber Tired Loaders      | 4      | 8         |
| Skid Steer Loaders        | 4      | 8         |
| Tractors/Loaders/Backhoes | 4      | 8         |

#### Project Substation Site Prep

| Equipment                 | Number | Hours/day |
|---------------------------|--------|-----------|
| Rubber Tiered Dozers      | 4      | 8         |
| Tractors/Loaders/Backhoes | 4      | 8         |

#### Grading

| Equipment                 | Number | Hours/day |
|---------------------------|--------|-----------|
| Excavators                | 0      | 8         |
| Graders                   | 4      | 8         |
| Plate Compactors          | 4      | 8         |
| Rollers                   | 4      | 8         |
| Rubber Tired Dozers       | 0      | 8         |
| Rubber Tired Loaders      | 4      | 8         |
| Scrapers                  | 0      | 8         |
| Skid Steer Loaders        | 4      | 8         |
| Tractors/Loaders/Backhoes | 4      | 8         |

**Key Energy  
Construction Assumptions - Lithium Ion Battery Option**

| Project Substation Site Grading | Equipment                 | Number | Hours/day |
|---------------------------------|---------------------------|--------|-----------|
|                                 | Excavators                | 0      | 8         |
|                                 | Graders                   | 0      | 8         |
|                                 | Rollers                   | 4      | 8         |
|                                 | Rubber Tired Dozers       | 4      | 8         |
|                                 | Scrapers                  | 0      | 8         |
|                                 | Tractors/Loaders/Backhoes | 4      | 8         |

| Energy Storage Enclosure Installation | Equipment                 | Number | Hours/day |
|---------------------------------------|---------------------------|--------|-----------|
|                                       | Air Compressors           | 4      | 8         |
|                                       | Cranes                    | 2      | 8         |
|                                       | Excavators                | 2      | 8         |
|                                       | Forklifts                 | 0      | 8         |
|                                       | Generator Sets            | 4      | 8         |
|                                       | Plate Compactors          | 2      | 8         |
|                                       | Rollers                   | 2      | 8         |
|                                       | Rough Terrain Forklifts   | 2      | 8         |
|                                       | Skid Steel Loaders        | 2      | 8         |
|                                       | Tractors/Loaders/Backhoes | 2      | 8         |
|                                       | Welders                   | 0      | 8         |

**Key Energy**  
**Construction Assumptions - Lithium Ion Battery Option**

| Project substation installation       | Equipment                 | Number | Hours/day |
|---------------------------------------|---------------------------|--------|-----------|
|                                       | Aerial Lift               | 6      | 8         |
|                                       | Air Compressor            | 2      | 8         |
|                                       | Bore/Drill Rigs           | 2      | 8         |
|                                       | Cranes                    | 2      | 8         |
|                                       | Excavators                | 2      | 8         |
|                                       | Forklifts                 | 0      | 8         |
|                                       | Generator Sets            | 2      | 8         |
|                                       | Rollers                   | 2      | 8         |
|                                       | Rough Terrain Forklifts   | 2      | 8         |
|                                       | Rubber Tired Dozers       | 2      | 8         |
|                                       | Skid Steel Loaders        | 2      | 8         |
|                                       | Tractors/Loaders/Backhoes | 4      | 8         |
|                                       | Trenchers                 | 4      | 8         |
|                                       | Welders                   | 0      | 8         |
| <br>                                  |                           |        |           |
| Gen-Tie Foundation and Tower Erection | Equipment                 | Number | Hours/day |
|                                       | Air Compressors           | 1      | 8         |
|                                       | Cranes                    | 1      | 8         |
|                                       | Forklifts                 | 1      | 8         |
|                                       | Generator Sets            | 1      | 8         |
|                                       | Pumps                     | 1      | 8         |
|                                       | Tractors/Loaders/Backhoes | 0      | 8         |
|                                       | Welders                   | 1      | 8         |

**Key Energy  
Construction Assumptions - Lithium Ion Battery Option**

| Gen-Tie Stringing and Pulling | Equipment                 | Number | Hours/day |
|-------------------------------|---------------------------|--------|-----------|
|                               | Cranes                    | 0      | 8         |
|                               | Forklifts                 | 1      | 8         |
|                               | Generator Sets            | 1      | 8         |
|                               | Tractors/loaders/backhoes | 1      | 8         |
|                               | welder                    | 0      | 8         |

| Architectural Coating | Equipment       | Number | Hours/day |
|-----------------------|-----------------|--------|-----------|
|                       | Air Compressors | 1      | 6         |

| Decommissioning | Equipment                 | Number | Hours/day |
|-----------------|---------------------------|--------|-----------|
|                 | Air Compressors           | 4      | 8         |
|                 | Cranes                    | 2      | 8         |
|                 | Excavators                | 2      | 8         |
|                 | Rubber Tired Dozers       | 0      | 8         |
|                 | Generator Sets            | 4      | 8         |
|                 | Plate Compactors          | 2      | 8         |
|                 | Rollers                   | 2      | 8         |
|                 | Rough Terrain Forklifts   | 2      | 8         |
|                 | Skid Steel Loaders        | 2      | 8         |
|                 | Tractors/Loaders/Backhoes | 2      | 8         |
|                 | Scrapers                  | 0      | 8         |
|                 | Graders                   | 4      | 8         |

***Dust from Material Movement***                      No Cut and/or fill anticipated.

**Key Energy**  
**Construction Assumptions - Lithium Ion Battery Option**

**Water Use**

|                 | Annual                    | Total |           | Annual     | Total      |              |
|-----------------|---------------------------|-------|-----------|------------|------------|--------------|
| Phase 1 Total   | 44                        | 51    | acre/feet | 14,174,519 | 16,520,646 | gallons/year |
| Phase 2 Total   | 35                        | 52    | acre/feet | 11,404,785 | 17,074,592 | gallons/year |
| Phase 3 Total   | 95.8                      | 175.6 | acre/feet | 31,216,526 | 57,219,436 | gallons/year |
| Phase 4 Total   | 153.4                     | 281.2 | acre/feet | 49,985,543 | 91,629,301 | gallons/year |
| Decommissioning | Same as Phase 4           |       |           |            |            |              |
|                 | 325,851 gallons/acre foot |       |           |            |            |              |

Note: Water usage modeled under operational activities for ease of modeling.

Models total water usage for construction of LIB- Phase 2

No new solid waste generating activities

182,443,975

## Key Energy Construction Assumptions - Lithium Ion and Iron Flow Battery Option

*CalEEMod Defaults are assumed for modeling purposes unless specifically discussed in the Construction Assumptions below.*

**Project Schedule:** Hours: 7 am to 7 pm Construction January 2024  
8 hrs per day equipment usage May 2029  
Monday thru Friday

| Phase Name                            | Start Date | End Date   | Days/Week | Total Days | Weeks |
|---------------------------------------|------------|------------|-----------|------------|-------|
| <b>Phase 1</b>                        |            |            |           |            |       |
| Site Preparation                      | 1/1/2024   | 1/26/24    | 5         | 20         | 4     |
| Project Substation Site Prep          | 1/1/2024   | 1/24/24    | 5         | 20         | 4     |
| Grading                               | 1/27/2024  | 3/22/24    | 5         | 40         | 8     |
| Project Substation Site Grading       | 1/27/2024  | 2/9/24     | 5         | 10         | 2     |
| Energy Storage Enclosure Installation | 3/23/2024  | 7/4/25     | 5         | 335        | 67    |
| Project substation installation       | 7/5/2025   | 10/24/25   | 5         | 80         | 16    |
| Gen-Tie Foundation and Tower Erection | 10/25/2025 | 10/31/25   | 5         | 5          | 1     |
| Gen-Tie Stringing and Pulling         | 11/1/2025  | 11/14/25   | 5         | 10         | 2     |
| Architectural Coating (O&M Building)  | 5/20/2025  | 7/4/25     | 5         | 34         | 3.5   |
| <b>Phase 2</b>                        |            |            |           |            |       |
| Site Preparation                      | 12/1/2025  | 12/12/2025 | 5         | 10         | 2     |
| Grading                               | 12/13/2025 | 1/9/2026   | 5         | 20         | 4     |
| Energy Storage Enclosure Installation | 1/10/2026  | 6/11/2027  | 5         | 370        | 74    |
| <b>Phase 3</b>                        |            |            |           |            |       |
| Site Preparation                      | 6/12/2027  | 7/9/27     | 5         | 20         | 4     |
| Grading                               | 7/10/2027  | 9/3/27     | 5         | 40         | 8     |
| Energy Storage Enclosure Installation | 9/4/2027   | 6/8/29     | 5         | 460        | 92    |
| <b>Decommissioning<sup>1</sup></b>    |            |            |           |            |       |
| Removing energy Storage Enclosures    | 1/1/2055   | 12/31/57   | 5         | 260        | 104   |

<sup>1</sup> Decommissioning is anticipated to begin in 2055 and last 12 months per phase, but CalEEMod only allows construction start date up to 12/2050. Therefore, Decommissioning was modeled for one year beginning January 1, 2050. Decommissioning was modeled under the Lithium Ion Scenario and would occur over 4 years.

## Key Energy Construction Assumptions - Lithium Ion and Iron Flow Battery Option

### *Trips and VMT*

| Phase Name                            | # Workers | Trips/ day | Trips / day | trips/day |                   |
|---------------------------------------|-----------|------------|-------------|-----------|-------------------|
| <b>Phase 1</b>                        |           |            |             |           |                   |
| Site Preparation                      | 40        | 80         | 4           | 0         |                   |
| Project Substation Site Prep          | 20        | 40         | 8           | 0         |                   |
|                                       |           |            |             | 0         |                   |
| Grading                               | 40        | 80         | 4           | 0         |                   |
| Project Substation Site Grading       | 20        | 40         | 4           | 0         |                   |
| Energy Storage Enclosure Installation | 120       | 240        | 40          | 0         |                   |
| Project substation installation       | 60        | 120        | 80          | 0         |                   |
| Gen-Tie Foundation and Tower Erection | 40        | 80         | 8           | 0         |                   |
| Gen-Tie Strininging and Pulling       | 40        | 80         | 8           | 0         |                   |
| Architectural Coating                 | 1         | 2          | 0           | 0         | additional worker |
| <b>Phase 2</b>                        |           |            |             |           |                   |
| Site Preparation                      | 40        | 80         | 4           | 0         |                   |
| Grading                               | 40        | 80         | 4           | 0         |                   |
| Energy Storage Enclosure Installation | 120       | 240        | 40          | 0         |                   |
| <b>Phase 3</b>                        |           |            |             |           |                   |
| Site Preparation                      | 60        | 120        | 8           | 0         |                   |
| Grading                               | 60        | 120        | 8           | 0         |                   |
| Energy Storage Enclosure Installation | 150       | 300        | 80          | 0         |                   |
| <b>Decommissioning</b>                |           |            |             |           |                   |
| Removing energy Storage Enclosures    | 210       | 420        | 80          | 0         |                   |

Note:

Vendor trips modeled as all HHDT trips conservatively with a 60 mile distance for everything but Energy Storage Enclosure and Project Substation, then used HHDT and MHDT.

### *Offroad Equipment*

Phase 1, 2, and 3 equipment for Lithium Ion and Iron Flow Batter option are respectively the same as Phase 1, 2 and 4 for Lithium Ion Batter Option as the activities are basically the same and number of worker trips are identical.

## Key Energy Construction Assumptions - Lithium Ion and Iron Flow Battery Option

***Dust from Material Movement***

Soil assumed to be balanced onsite

***Water Use***

|               | Annual | Total |           | Annual     | Total       |              |
|---------------|--------|-------|-----------|------------|-------------|--------------|
| Phase 1 Total | 88     | 176.2 | acre/feet | 28,740,058 | 57,414,946  | gallons/year |
| Phase 2 Total | 68     | 113.9 | acre/feet | 22,288,208 | 37,114,429  | gallons/year |
| Phase 3 Total | 171    | 342   | acre/feet | 55,720,521 | 111,441,042 | gallons/year |

325,851 gallons/acre foot

Note: Water usage modeled under operational activities for ease of modeling.



## Key Energy Operational Emissions Assumptions - Both Options

*CalEEMod Defaults are assumed for modeling purposes unless specifically discussed in the Operational Assumptions below.*

**Mobile Sources**

2 workers, 1 day per month.

Typical: 1 vehicle (2 workers) per week

4 one-way trips per vehicle/day

4 one-way trips per day

5.333333 trips/day/ksf

284 Total Trips/year

204 one-way trips per year

Annual Maintenance: 8 vehicles (8 workers) 2 days per year

16 one-way trips per vehicle/day

16 one-way trips per day

21.33333

80 one-way trips per year

**Notes:**

- <sup>1</sup> All trips assumed to be Non-Res, commercial work (ie coming from their place of employment to the job site)
- <sup>2</sup> All trips are assumed to be primary trips
- <sup>3</sup> Only modeled annual maintenance; Emissions for GHGs determined outside CalEEMod
- <sup>4</sup> Fleet Mix Assumes 100% Light Utility Vehicles (vehicles weighing less than 8,500 lbs) which is MDV in EMFAC

**Area Sources**

AC only    Landscaping is not included as part of the project.

**Energy Use**

Default CalEEMod, No Natural Gas

**Water/Wastewater**

Fire water or landscaping. Negligible annual use. No Wastewater generation

1008 gal/yr    Water usage for O&M building<sup>1</sup>

**Note:**    Construction water modeled in Operational phase to determine GHG emissions from water use.

- <sup>1</sup> Rincon 2023. Water Supply Assessment

**Key Energy**  
**Operational Emissions Assumptions - Both Options**

**Solid Waste**

No new solid waste generation activities.

Notes:

Facility is operated remotely

## Key Energy Air Quality Emissions - Lithium Ion Battery - Annual Unmitigated

### Estimated Construction Air Pollutant Emissions

|                                      | Estimated Construction Emissions (tons/year) |                 |            |                 |                  |                   |
|--------------------------------------|--|-----------------|------------|-----------------|------------------|-------------------|
|                                      | ROG  | NO <sub>x</sub> | CO         | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| 2024                                 | 1  | 6               | 7          | <1              | <1               | <1                |
| 2025                                 | <1   | 4               | 5          | <1              | <1               | <1                |
| 2026                                 | 1  | 4               | 5          | <1              | <1               | <1                |
| 2027                                 | 1  | 5               | 5          | <1              | <1               | <1                |
| 2028                                 | <1   | 4               | 5          | <1              | <1               | <1                |
| 2029                                 | <1   | 4               | 4          | <1              | <1               | <1                |
| Decommissioning                      | <1   | 4               | 6          | <1              | <1               | <1                |
| <b>Max Annual</b>                    | <b>1</b>                                     | <b>6</b>        | <b>7</b>   | <b>&lt;1</b>    | <b>&lt;1</b>     | <b>&lt;1</b>      |
| <b>Max Revolving 12 Month Period</b> | <b>1</b>                                     | <b>6</b>        | <b>7</b>   | <b>&lt;1</b>    | <b>&lt;1</b>     | <b>&lt;1</b>      |
| <i>SJVAPCD thresholds</i>            | <i>10</i>                                    | <i>10</i>       | <i>100</i> | <i>27</i>       | <i>15</i>        | <i>15</i>         |
| <b>Threshold Exceeded?</b>           | <b>No</b>                                    | <b>No</b>       | <b>No</b>  | <b>No</b>       | <b>No</b>        | <b>No</b>         |

### Estimated Operational Air Pollutant Emissions

|                            | Estimated Operational Emissions (tons/year) |                 |                |                 |                  |                   |
|----------------------------|---|-----------------|----------------|-----------------|------------------|-------------------|
|                            | ROG   | NO <sub>x</sub> | CO             | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| Mobile                     | 1.15E-03                                    | 1.15E-03        | 5.45E-03       | 1.05E-03        | 1.15E-03         | 1.05E-03          |
| Area Source                | 2.00E-02                                    | 0.00E+00        | 0.00E+00       | 0.00E+00        | 0.00E+00         | 0.00E+00          |
| Energy                     | 0.00E+00                                    | 0.00E+00        | 0.00E+00       | 0.00E+00        | 0.00E+00         | 0.00E+00          |
| <b>Total</b>               | <b>0.02115</b>                              | <b>0.00115</b>  | <b>0.00545</b> | <b>0.00105</b>  | <b>0.00115</b>   | <b>0.00105</b>    |
| <i>VCAPCD</i>              | <i>10</i>                                   | <i>10</i>       | <i>100</i>     | <i>27</i>       | <i>15</i>        | <i>15</i>         |
| <b>Threshold Exceeded?</b> | <b>No</b>                                   | <b>No</b>       | <b>No</b>      | <b>No</b>       | <b>No</b>        | <b>No</b>         |

**Key Energy**  
**Air Quality Emissions - Lithium Ion Battery - Daily Unmitigated**

**Estimated Construction Air Pollutant Emissions**

| Estimated Construction Emissions (lbs/day) |            |                 |            |                 |                  |                   |
|--|------------|-----------------|------------|-----------------|------------------|-------------------|
|  | ROG        | NO <sub>x</sub> | CO         | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| Phase 1                                    | 10         | 87              | 97         | <1              | 12               | 7                 |
| Phase 2                                    | 5          | 33              | 46         | <1              | 2                | 1                 |
| Phase 3                                    | 4          | 39              | 46         | <1              | 2                | 1                 |
| Phase 4                                    | 4          | 36              | 50         | <1              | 2                | 1                 |
| -  |            |                 |            |                 |                  |                   |
| -  |            |                 |            |                 |                  |                   |
| Decommissioning                            | 3          | 28              | 49         | <1              | 4                | 1                 |
| <b>Max Daily</b>                           | <b>10</b>  | <b>87</b>       | <b>97</b>  | <b>0</b>        | <b>12</b>        | <b>7</b>          |
| <i>SJVAPCD thresholds</i>                  | <i>100</i> | <i>100</i>      | <i>100</i> | <i>100</i>      | <i>100</i>       | <i>100</i>        |
| <b>Threshold Exceeded?</b>                 | <b>No</b>  | <b>No</b>       | <b>No</b>  | <b>No</b>       | <b>No</b>        | <b>No</b>         |

**Estimated Operational Air Pollutant Emissions**

| Estimated Operational Emissions (lbs/day) |              |                 |              |                 |                  |                   |
|---|--------------|-----------------|--------------|-----------------|------------------|-------------------|
|   | ROG          | NO <sub>x</sub> | CO           | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| Mobile                                    | 8.00E-02     | 9.00E-02        | 1.03E+00     | 0.00E+00        | 8.00E-02         | 1.00E-02          |
| Area Source                               | 9.00E-02     | 0.00E+00        | 0.00E+00     | 0.00E+00        | 0.00E+00         | 0.00E+00          |
| Energy                                    | 0.00E+00     | 0.00E+00        | 0.00E+00     | 0.00E+00        | 0.00E+00         | 0.00E+00          |
| <b>Total</b>                              | <b>0.170</b> | <b>0.090</b>    | <b>1.030</b> | <b>0.000</b>    | <b>0.080</b>     | <b>0.010</b>      |
| <i>VCAPCD</i>                             | <i>100</i>   | <i>100</i>      | <i>100</i>   | <i>100</i>      | <i>100</i>       | <i>100</i>        |
| <b>Threshold Exceeded?</b>                | <b>No</b>    | <b>No</b>       | <b>No</b>    | <b>No</b>       | <b>No</b>        | <b>No</b>         |

## Key Energy Air Quality Emissions - Lithium Ion Battery with Iron Flow- Annual Unmitigated

### Estimated Construction Air Pollutant Emissions

|                                      | Estimated Construction Emissions (tons/year) |                 |            |                 |                  |                   |
|--------------------------------------|--|-----------------|------------|-----------------|------------------|-------------------|
|                                      | ROG  | NO <sub>x</sub> | CO         | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| 2024                                 | 1  | 5               | 6          | <1              | <1               | <1                |
| 2025                                 | 1  | 5               | 6          | <1              | <1               | <1                |
| 2026                                 | <1   | 4               | 5          | <1              | <1               | <1                |
| 2027                                 | <1   | 4               | 5          | <1              | <1               | <1                |
| 2028                                 | <1   | 5               | 5          | <1              | <1               | <1                |
| 2029                                 | <1   | 2               | 2          | <1              | <1               | <1                |
| Decommissioning                      | <1   | 4               | 6          | <1              | <1               | <1                |
| <b>Max Annual</b>                    | <b>1</b>                                     | <b>5</b>        | <b>6</b>   | <b>&lt;1</b>    | <b>&lt;1</b>     | <b>&lt;1</b>      |
| <b>Max Revolving 12 Month Period</b> | <b>1</b>                                     | <b>5</b>        | <b>6</b>   | <b>&lt;1</b>    | <b>&lt;1</b>     | <b>&lt;1</b>      |
| <i>SJVAPCD thresholds</i>            | <i>10</i>                                    | <i>10</i>       | <i>100</i> | <i>27</i>       | <i>15</i>        | <i>15</i>         |
| <b>Threshold Exceeded?</b>           | <b>No</b>                                    | <b>No</b>       | <b>No</b>  | <b>No</b>       | <b>No</b>        | <b>No</b>         |

### Estimated Operational Air Pollutant Emissions

|                            | Estimated Operational Emissions (tons/year) |                 |                |                 |                  |                   |
|----------------------------|---|-----------------|----------------|-----------------|------------------|-------------------|
|                            | ROG   | NO <sub>x</sub> | CO             | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| Phase 1                    | 1.15E-03                                    | 1.15E-03        | 5.45E-03       | 1.05E-03        | 1.15E-03         | 1.05E-03          |
| Phase 2                    | 2.00E-02                                    | 0.00E+00        | 0.00E+00       | 0.00E+00        | 0.00E+00         | 0.00E+00          |
| Phase 3                    | 0.00E+00                                    | 0.00E+00        | 0.00E+00       | 0.00E+00        | 0.00E+00         | 0.00E+00          |
| <b>Total</b>               | <b>0.02115</b>                              | <b>0.00115</b>  | <b>0.00545</b> | <b>0.00105</b>  | <b>0.00115</b>   | <b>0.00105</b>    |
| <i>VCAPCD</i>              | <i>10</i>                                   | <i>10</i>       | <i>100</i>     | <i>27</i>       | <i>15</i>        | <i>15</i>         |
| <b>Threshold Exceeded?</b> | <b>No</b>                                   | <b>No</b>       | <b>No</b>      | <b>No</b>       | <b>No</b>        | <b>No</b>         |

**Key Energy**  
**Air Quality Emissions - Lithium Ion Battery with Iron Flow - Daily Unmitigated**

**Estimated Construction Air Pollutant Emissions**

| Estimated Construction Emissions (lbs/day) |            |                 |            |                 |                  |                   |
|--|------------|-----------------|------------|-----------------|------------------|-------------------|
|  | ROG        | NO <sub>x</sub> | CO         | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| Phase 1                                    | 10         | 86              | 96         | <1              | 12               | 7                 |
| Phase 2                                    | 4          | 32              | 48         | <1              | 2                | 1                 |
| Phase 3                                    | 4          | 38              | 50         | <1              | 2                | 1                 |
| -  |            |                 |            |                 |                  |                   |
| -  |            |                 |            |                 |                  |                   |
| -  |            |                 |            |                 |                  |                   |
| Decommissioning                            | 3          | 28              | 49         | <1              | 4                | 1                 |
| <b>Max Daily</b>                           | <b>10</b>  | <b>86</b>       | <b>96</b>  | <b>&lt;1</b>    | <b>12</b>        | <b>7</b>          |
| <i>SJVAPCD thresholds</i>                  | <i>100</i> | <i>100</i>      | <i>100</i> | <i>100</i>      | <i>100</i>       | <i>100</i>        |
| <b>Threshold Exceeded?</b>                 | <b>No</b>  | <b>No</b>       | <b>No</b>  | <b>No</b>       | <b>No</b>        | <b>No</b>         |

**Estimated Operational Air Pollutant Emissions**

| Estimated Operational Emissions (lbs/day) |              |                 |              |                 |                  |                   |
|---|--------------|-----------------|--------------|-----------------|------------------|-------------------|
|   | ROG          | NO <sub>x</sub> | CO           | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> |
| Phase 1                                   | 8.00E-02     | 9.00E-02        | 1.03E+00     | 0.00E+00        | 8.00E-02         | 1.00E-02          |
| Phase 2                                   | 9.00E-02     | 0.00E+00        | 0.00E+00     | 0.00E+00        | 0.00E+00         | 0.00E+00          |
| Phase 3                                   | 0.00E+00     | 0.00E+00        | 0.00E+00     | 0.00E+00        | 0.00E+00         | 0.00E+00          |
| <b>Total</b>                              | <b>0.170</b> | <b>0.090</b>    | <b>1.030</b> | <b>0.000</b>    | <b>0.080</b>     | <b>0.010</b>      |
| <i>VCAPCD</i>                             | <i>100</i>   | <i>100</i>      | <i>100</i>   | <i>100</i>      | <i>100</i>       | <i>100</i>        |
| <b>Threshold Exceeded?</b>                | <b>No</b>    | <b>No</b>       | <b>No</b>    | <b>No</b>       | <b>No</b>        | <b>No</b>         |

**Key Energy**  
**Litium Ion Battery Option - Construction AQ Summary**

**Maximum Daily Construction Emissions (lbs/day)**

| Phase              | Year                                  | ROG  | NOx  | CO    | SO <sub>2</sub> | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T |      |
|--------------------|---------------------------------------|------|------|-------|-----------------|-------|-------|-------|--------|--------|--------|------|
| <b>Phase 1</b>     |                                       |      |      |       |                 |       |       |       |        |        |        |      |
|                    | Site Preparation                      | 2024 | 3.57 | 30.52 | 44.33           | 0.07  | 1.48  | 0.65  | 2.13   | 1.36   | 0.08   | 1.44 |
|                    | Project Substation Site Prep          | 2024 | 4.9  | 48.42 | 43.3            | 0.07  | 2.09  | 6.96  | 9.05   | 1.93   | 3.54   | 5.47 |
|                    | Grading                               | 2024 | 4.29 | 35.22 | 49.23           | 0.08  | 1.71  | 0.65  | 2.36   | 1.57   | 0.08   | 1.65 |
|                    | Project Substation Site Grading       | 2024 | 5.5  | 52.12 | 47.4            | 0.08  | 2.28  | 6.96  | 9.24   | 2.1    | 3.54   | 5.64 |
|                    | Energy Storage Enclosure Installation | 2024 | 4.19 | 34.51 | 44.58           | 0.1   | 1.08  | 0.54  | 1.62   | 1      | 0.16   | 1.15 |
|                    | Project substation installation       | 2024 | 6.89 | 74.01 | 72.04           | 0.21  | 2.5   | 0.91  | 3.41   | 2.32   | 0.32   | 2.64 |
|                    | Gen-Tie Foundation and Tower Erection | 2024 | 1.04 | 8.81  | 8.35            | 0.02  | 0.36  | 0.17  | 0.36   | 0.33   | 0.04   | 0.33 |
|                    | Gen-Tie Stringing and Pulling         | 2024 | 0.36 | 2.8   | 3.69            | 0.01  | 0.13  | 0.17  | 0.2    | 0.12   | 0.04   | 0.12 |
|                    | Architectural Coating (O&M Building)  | 2024 | 0.65 | 0.91  | 1.15            | 0     | 0.03  | 0     | 0.03   | 0.03   | 0      | 0.03 |
| <b>Max Phase 1</b> |                                       |      | 9.79 | 87.34 | 96.63           | 0.21  | 3.99  | 7.61  | 11.6   | 3.67   | 3.62   | 7.29 |
| <b>Phase 2</b>     |                                       |      |      |       |                 |       |       |       |        |        |        |      |
|                    | Site Preparation                      | 2025 | 3    | 26.2  | 40.8            | 0.06  | 1.28  | 0.55  | 1.83   | 1.18   | 0.06   | 1.24 |
|                    | Grading                               | 2025 | 3.68 | 30.8  | 45.6            | 0.07  | 1.48  | 0.55  | 2.03   | 1.36   | 0.06   | 1.42 |
|                    | Energy Storage Enclosure Installation | 2025 | 4.03 | 33.43 | 40.49           | 0.11  | 1.02  | 0.5   | 1.52   | 0.95   | 0.16   | 1.1  |
|                    |                                       | 2026 | 3.86 | 32.11 | 39.57           | 0.11  | 0.95  | 0.5   | 1.45   | 0.88   | 0.16   | 1.03 |
|                    | Architectural Coating (O&M Building)  | 2026 | 0.65 | 0.91  | 1.15            | 0     | 0.03  | 0     | 0.03   | 0.03   | 0      | 0.03 |
| <b>Max Phase 2</b> |                                       |      | 4.51 | 33.43 | 45.6            | 0.11  | 1.48  | 0.55  | 2.03   | 1.36   | 0.16   | 1.42 |
| <b>Phase 3</b>     |                                       |      |      |       |                 |       |       |       |        |        |        |      |
|                    | Site Preparation                      | 2026 | 1.99 | 18.3  | 28.2            | 0.04  | 0.84  | 0.55  | 1.39   | 0.77   | 0.06   | 0.83 |
|                    | Grading                               | 2026 | 3.45 | 28.1  | 45.5            | 0.07  | 1.3   | 0.55  | 1.85   | 1.2    | 0.06   | 1.26 |
|                    | Energy Storage Enclosure Installation | 2026 | 4.22 | 39.26 | 43.1            | 0.17  | 1.05  | 0.95  | 2      | 0.98   | 0.32   | 1.3  |
|                    |                                       | 2027 | 4.08 | 37.69 | 41.99           | 0.17  | 0.99  | 0.95  | 1.94   | 0.92   | 0.32   | 1.24 |
|                    |                                       | 2028 | 2.61 | 22.9  | 29.8            | 0.11  | 0.71  | 0.95  | 1.16   | 0.65   | 0.32   | 0.65 |
|                    | Architectural Coating (O&M Building)  | 2028 | 0.65 | 0.91  | 1.15            | 0     | 0.03  | 0     | 0.03   | 0.03   | 0      | 0.03 |
| <b>Max Phase 3</b> |                                       |      | 4.22 | 39.26 | 45.5            | 0.17  | 1.3   | 0.95  | 2      | 1.2    | 0.32   | 1.3  |
| <b>Phase 4</b>     |                                       |      |      |       |                 |       |       |       |        |        |        |      |
|                    | Site Preparation                      | 2028 | 2.54 | 20.1  | 40.9            | 0.06  | 0.89  | 0.55  | 1.44   | 0.82   | 0.06   | 0.88 |
|                    | Grading                               | 2028 | 3.59 | 26.46 | 49.53           | 0.08  | 1.08  | 0.72  | 1.8    | 1      | 0.1    | 1.1  |
|                    | Energy Storage Enclosure Installation | 2028 | 3.89 | 36.13 | 41.11           | 0.17  | 0.92  | 0.95  | 1.87   | 0.86   | 0.32   | 1.18 |
|                    |                                       | 2029 | 3.64 | 34.77 | 40.21           | 0.17  | 0.87  | 0.95  | 1.82   | 0.82   | 0.32   | 1.14 |
|                    | Architectural Coating (O&M Building)  | 2029 | 0.65 | 0.91  | 1.15            | 0     | 0.03  | 0     | 0.03   | 0.03   | 0      | 0.03 |
| <b>Max Phase 4</b> |                                       |      | 4.29 | 36.13 | 49.53           | 0.17  | 1.08  | 0.95  | 1.87   | 1      | 0.32   | 1.18 |

**Key Energy**  
**Litium Ion Battery Option - Construction AQ Summary**

**Maximum Annual Construction Emissions (tons/yr - AQ; MT/yr - GHG)**

| Phase 1                               | Year | ROG         | NOx         | CO          | SO <sub>2</sub> | PM10E       | PM10D       | PM10T       | PM2.5E      | PM2.5D      | PM2.5T      |
|---------------------------------------|------|-------------|-------------|-------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Site Preparation                      | 2024 | 0.02        | 0.15        | 0.22        | 0               | 0.01        | 0           | 0.01        | 0.01        | 0           | 0.01        |
| Project Substation Site Prep          | 2024 | 0.05        | 0.48        | 0.43        | 0               | 0.02        | 0.07        | 0.09        | 0.02        | 0.04        | 0.06        |
| Grading                               | 2024 | 0.04        | 0.35        | 0.5         | 0               | 0.02        | 0.01        | 0.03        | 0.02        | 0           | 0.02        |
| Project Substation Site Grading       | 2024 | 0.03        | 0.26        | 0.24        | 0               | 0.01        | 0.03        | 0.04        | 0.01        | 0.02        | 0.03        |
| Energy Storage Enclosure Installation | 2024 | 0.25        | 2.13        | 2.61        | 0               | 0.07        | 0.04        | 0.1         | 0.07        | 0.01        | 0.08        |
| Project substation installation       | 2024 | 0.27        | 2.95        | 2.82        | 0               | 0.1         | 0.03        | 0.13        | 0.09        | 0.01        | 0.1         |
| Gen-Tie Foundation and Tower Erection | 2024 | 0           | 0.02        | 0.03        | 0               | 0           | 0           | 0           | 0           | 0           | 0           |
| Gen-Tie Stringing and Pulling         | 2024 | 0           | 0.02        | 0.04        | 0               | 0           | 0           | 0           | 0           | 0           | 0           |
| Architectural Coating (O&M Building)  | 2024 | 0.01        | 0.02        | 0.02        | 0               | 0           | 0           | 0           | 0           | 0           | 0           |
| Watering                              |      |             |             |             |                 |             |             |             |             |             |             |
| <b>Max Sub-phase - Phase 1</b>        |      | <b>0.27</b> | <b>2.95</b> | <b>2.82</b> | <b>0</b>        | <b>0.1</b>  | <b>0.07</b> | <b>0.13</b> | <b>0.09</b> | <b>0.04</b> | <b>0.1</b>  |
| Phase 2                               |      |             |             |             |                 |             |             |             |             |             |             |
| Site Preparation                      | 2025 | 0.01        | 0.13        | 0.21        | 0               | 0.01        | 0           | 0.01        | 0.01        | 0           | 0.01        |
| Grading                               | 2025 | 0.04        | 0.32        | 0.48        | 0               | 0.01        | 0.01        | 0.02        | 0.01        | 0           | 0.01        |
| Energy Storage Enclosure Installation | 2025 | 0.41        | 3.46        | 4.06        | 0.02            | 0.1         | 0.05        | 0.16        | 0.1         | 0.02        | 0.12        |
|                                       | 2026 | 0.23        | 1.93        | 2.32        | 0               | 0.06        | 0.03        | 0.08        | 0.06        | 0.01        | 0.07        |
| Architectural Coating (O&M Building)  | 2026 | 0.01        | 0.02        | 0.02        | 0               | 0           | 0           | 0           | 0           | 0           | 0           |
| Watering                              |      |             |             |             |                 |             |             |             |             |             |             |
| <b>Max Sub-phase - Phase 2</b>        |      | <b>0.41</b> | <b>3.46</b> | <b>4.06</b> | <b>0.02</b>     | <b>0.1</b>  | <b>0.05</b> | <b>0.16</b> | <b>0.1</b>  | <b>0.02</b> | <b>0.12</b> |
| Phase 3                               |      |             |             |             |                 |             |             |             |             |             |             |
| Site Preparation                      | 2026 | 0.02        | 0.19        | 0.3         | 0               | 0.01        | 0.01        | 0.02        | 0.01        | 0           | 0.01        |
| Grading                               | 2026 | 0.08        | 0.59        | 0.96        | 0               | 0.03        | 0.01        | 0.04        | 0.02        | 0           | 0.02        |
| Energy Storage Enclosure Installation | 2026 | 0.16        | 1.54        | 1.65        | 0               | 0.04        | 0.03        | 0.07        | 0.04        | 0.01        | 0.05        |
|                                       | 2027 | 0.51        | 4.88        | 5.26        | 0.02            | 0.13        | 0.12        | 0.25        | 0.12        | 0.04        | 0.16        |
|                                       | 2028 | 0.08        | 0.72        | 0.8         | 0               | 0.01        | 0.02        | 0.03        | 0.01        | 0.01        | 0.02        |
| Architectural Coating (O&M Building)  | 2028 | 0.01        | 0.02        | 0.02        | 0               | 0           | 0           | 0           | 0           | 0           | 0           |
| Watering                              |      |             |             |             |                 |             |             |             |             |             |             |
| <b>Max Sub-phase - Phase 3</b>        |      | <b>0.51</b> | <b>4.88</b> | <b>5.26</b> | <b>0.02</b>     | <b>0.13</b> | <b>0.12</b> | <b>0.25</b> | <b>0.12</b> | <b>0.04</b> | <b>0.16</b> |
| Phase 4                               |      |             |             |             |                 |             |             |             |             |             |             |
| Site Preparation                      | 2028 | 0.03        | 0.22        | 0.44        | 0               | 0.01        | 0.01        | 0.02        | 0.01        | 0           | 0.01        |
| Grading                               | 2028 | 0.07        | 0.52        | 0.98        | 0               | 0.02        | 0.01        | 0.03        | 0.02        | 0           | 0.02        |
| Energy Storage Enclosure Installation | 2028 | 0.3         | 2.89        | 3.19        | 0.01            | 0.08        | 0.08        | 0.16        | 0.07        | 0.03        | 0.09        |
|                                       | 2029 | 0.39        | 3.76        | 4.24        | 0.02            | 0.09        | 0.1         | 0.2         | 0.09        | 0.03        | 0.13        |
| Architectural Coating (O&M Building)  | 2029 | 0.01        | 0.02        | 0.02        | 0               | 0           | 0           | 0           | 0           | 0           | 0           |
| Watering                              |      |             |             |             |                 |             |             |             |             |             |             |
| <b>Max Sub-phase - Phase 4</b>        |      | <b>0.39</b> | <b>3.76</b> | <b>4.24</b> | <b>0.02</b>     | <b>0.09</b> | <b>0.1</b>  | <b>0.2</b>  | <b>0.09</b> | <b>0.03</b> | <b>0.13</b> |



**Key Energy**  
**Litium Ion Battery Option - Construction AQ Summary**

**Max by Year (Tons/yr - AQ; MT/yr GHG)**

|                                |       |       |      |      |      |       |      |      |       |       |
|--------------------------------|-------|-------|------|------|------|-------|------|------|-------|-------|
| 2024                           | 0.67  | 6.38  | 6.91 | 0    | 0.23 | 0.18  | 0.4  | 0.22 | 0.08  | 0.3   |
| 2025                           | 0.46  | 3.91  | 4.75 | 0.02 | 0.12 | 0.06  | 0.19 | 0.12 | 0.02  | 0.14  |
| 2026                           | 0.5   | 4.27  | 5.25 | 0    | 0.14 | 0.08  | 0.21 | 0.13 | 0.02  | 0.15  |
| 2027                           | 0.51  | 4.88  | 5.26 | 0.02 | 0.13 | 0.12  | 0.25 | 0.12 | 0.04  | 0.16  |
| 2028                           | 0.49  | 4.37  | 5.43 | 0.01 | 0.12 | 0.12  | 0.24 | 0.11 | 0.04  | 0.14  |
| 2029                           | 0.4   | 3.78  | 4.26 | 0.02 | 0.09 | 0.1   | 0.2  | 0.09 | 0.03  | 0.13  |
| 8/2024 - 8/2025                | 0.46  | 4.59  | 4.93 | 0.01 | 0.15 | 0.06  | 0.21 | 0.14 | 0.02  | 0.16  |
| 3/2025 - 3/2026                | 0.525 | 4.425 | 5.22 | 0.02 | 0.13 | 0.065 | 0.2  | 0.13 | 0.025 | 0.155 |
| Max 12 Month                   | 0.67  | 6.38  | 6.91 | 0.02 | 0.23 | 0.18  | 0.4  | 0.22 | 0.08  | 0.3   |
| Max 12 Month w/Decommissioning | 0.67  | 6.38  | 6.91 | 0.02 | 0.23 | 0.41  | 0.48 | 0.22 | 0.08  | 0.3   |

**Key Energy**  
**Litium Ion Battery Option - Construction GHG Summary**

**Maximum Daily Construction Emissions (lbs/day)**

| Phase                                 | Year | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R     | CO <sub>2</sub> e |
|---------------------------------------|------|------------------|-------------------|-------------------|-----------------|------------------|-------|-------------------|
| Phase 1                               |      |                  |                   |                   |                 |                  |       |                   |
| Site Preparation                      | 2024 | 0                | 7900              | 7900              | 0.3             | 0.21             | 0.13  | 7973              |
| Project Substation Site Prep          | 2024 | 0                | 8679              | 8679              | 0.31            | 0.33             | 0.15  | 8786              |
| Grading                               | 2024 | 0                | 8605              | 8605              | 0.33            | 0.22             | 0.13  | 8679              |
| Project Substation Site Grading       | 2024 | 0                | 9245              | 9245              | 0.33            | 0.34             | 0.15  | 9354              |
| Energy Storage Enclosure Installation | 2024 | 0                | 14862             | 14862             | 0.43            | 1.19             | 29.41 | 15257             |
| Project substation installation       | 2024 | 0                | 26600             | 26600             | 0.7             | 2.26             | 45.6  | 27336             |
| Gen-Tie Foundation and Tower Erection | 2024 | 0                | 2327              | 2327              | 0.07            | 0.3              | 0.19  | 2416              |
| Gen-Tie Stringing and Pulling         | 2024 | 0                | 2327              | 2327              | 0.05            | 0.3              | 0.19  | 2416              |
| Architectural Coating (O&M Building)  | 2024 | 0                | 134               | 134               | 0.01            | 0                | 0.07  | 134               |
| <b>Max Phase 1</b>                    |      | 0                | 26600             | 26600             | 0.7             | 2.26             | 45.6  | 27336             |
| Phase 2                               |      |                  |                   |                   |                 |                  |       |                   |
| Site Preparation                      | 2025 | 0                | 6419              | 6419              | 0.26            | 0.15             | 0.1   | 6441              |
| Grading                               | 2025 | 0                | 7124              | 7124              | 0.29            | 0.15             | 0.1   | 7148              |
| Energy Storage Enclosure Installation | 2025 | 0                | 14251             | 14251             | 0.39            | 1.17             | 25.95 | 14636             |
|                                       | 2026 | 0                | 14084             | 14084             | 0.38            | 1.17             | 23.05 | 14465             |
| Architectural Coating (O&M Building)  | 2026 | 0                | 134               | 134               | 0.01            | 0                | 0.07  | 134               |
| <b>Max Phase 2</b>                    |      | 0                | 14251             | 14251             | 0.39            | 1.17             | 25.95 | 14636             |
| Phase 3                               |      |                  |                   |                   |                 |                  |       |                   |
| Site Preparation                      | 2026 | 0                | 4413              | 4413              | 0.18            | 0.21             | 4.53  | 4429              |
| Grading                               | 2026 | 0                | 7123              | 7123              | 0.29            | 0.21             | 4.53  | 7148              |
| Energy Storage Enclosure Installation | 2026 | 0                | 21568             | 21568             | 0.51            | 2.25             | 42.38 | 22294             |
|                                       | 2027 | 0                | 21223             | 21223             | 0.51            | 2.14             | 37.39 | 21910             |
|                                       | 2028 | 0                | 15119             | 15119             | 0.28            | 2.1              | 0.86  | 15754             |
| Architectural Coating (O&M Building)  | 2028 | 0                | 134               | 134               | 0.01            | 0                | 0.07  | 134               |
| <b>Max Phase 3</b>                    |      | 0                | 21568             | 21568             | 0.51            | 2.25             | 42.38 | 22294             |
| Phase 4                               |      |                  |                   |                   |                 |                  |       |                   |
| Site Preparation                      | 2028 | 0                | 6423              | 6423              | 0.26            | 0.28             | 0.13  | 6445              |
| Grading                               | 2028 | 0                | 9349              | 9349              | 0.33            | 0.34             | 5.26  | 9461              |
| Energy Storage Enclosure Installation | 2028 | 0                | 20839             | 20839             | 0.5             | 2.14             | 33.02 | 21522             |
|                                       | 2029 | 0                | 20433             | 20433             | 0.5             | 2.04             | 29.19 | 21080             |
| Architectural Coating (O&M Building)  | 2029 | 0                | 134               | 134               | 0.01            | 0                | 0.07  | 134               |
| <b>Max Phase 4</b>                    |      | 0                | 20839             | 20839             | 0.51            | 2.14             | 33.02 | 21522             |

**Key Energy**  
**Litium Ion Battery Option - Construction GHG Summary**

**Maximum Annual Construction Emissions (tons/yr - AQ;**

| Phase 1                               | Year | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R           | CO <sub>2</sub> e |
|---------------------------------------|------|------------------|-------------------|-------------------|-----------------|------------------|-------------|-------------------|
| Site Preparation                      | 2024 | 0                | 35.95             | 35.95             | 0               | 0                | 0.01        | 36.28             |
| Project Substation Site Prep          | 2024 | 0                | 78.83             | 78.83             | 0               | 0                | 0.03        | 79.88             |
| Grading                               | 2024 | 0                | 78.29             | 78.29             | 0               | 0                | 0.02        | 78.95             |
| Project Substation Site Grading       | 2024 | 0                | 41.94             | 41.94             | 0               | 0                | 0.01        | 42.54             |
| Energy Storage Enclosure Installation | 2024 | 0                | 832               | 832               | 0.03            | 0.06             | 0.72        | 854               |
| Project substation installation       | 2024 | 0                | 962.3             | 962.3             | 0.03            | 0.08             | 0.71        | 987.9             |
| Gen-Tie Foundation and Tower Erection | 2024 | 0                | 9.22              | 9.22              | 0               | 0                | 0           | 9.44              |
| Gen-Tie Stringing and Pulling         | 2024 | 0                | 13.14             | 13.14             | 0               | 0                | 0.02        | 13.57             |
| Architectural Coating (O&M Building)  | 2024 | 0                | 2.32              | 2.32              | 0               | 0                | 0           | 2.33              |
| Watering                              |      |                  |                   |                   |                 |                  |             | 3.74              |
| <b>Max Sub-phase - Phase 1</b>        |      | <b>0</b>         | <b>962.3</b>      | <b>962.3</b>      | <b>0.03</b>     | <b>0.08</b>      | <b>0.72</b> | <b>987.9</b>      |
| Phase 2                               |      |                  |                   |                   |                 |                  |             |                   |
| Site Preparation                      | 2025 | 0                | 34.86             | 34.86             | 0               | 0                | 0           | 35.18             |
| Grading                               | 2025 | 0                | 76.12             | 76.12             | 0               | 0                | 0.02        | 76.75             |
| Energy Storage Enclosure Installation | 2025 | 0                | 1337              | 1337              | 0.04            | 0.11             | 1.06        | 1373              |
|                                       | 2026 | 0                | 770.2             | 770.2             | 0.02            | 0.06             | 0.55        | 790.4             |
| Architectural Coating (O&M Building)  | 2026 | 0                | 2.32              | 2.32              | 0               | 0                | 0           | 2.33              |
| Watering                              |      |                  |                   |                   |                 |                  |             | 3.86              |
| <b>Max Sub-phase - Phase 2</b>        |      | <b>0</b>         | <b>1337</b>       | <b>1337</b>       | <b>0.04</b>     | <b>0.11</b>      | <b>1.06</b> | <b>1373</b>       |
| Phase 3                               |      |                  |                   |                   |                 |                  |             |                   |
| Site Preparation                      | 2026 | 0                | 54.96             | 54.96             | 0               | 0                | 0.02        | 55.73             |
| Grading                               | 2026 | 0                | 158.92            | 158.92            | 0.01            | 0                | 0.03        | 161.15            |
| Energy Storage Enclosure Installation | 2026 | 0                | 770.9             | 770.9             | 0.02            | 0.08             | 0.66        | 795.9             |
|                                       | 2027 | 0                | 2494              | 2494              | 0.07            | 0.26             | 1.91        | 2572              |
|                                       | 2028 | 0                | 375.5             | 375.5             | 0               | 0.04             | 0.26        | 388               |
| Architectural Coating (O&M Building)  | 2028 | 0                | 2.32              | 2.32              | 0               | 0                | 0           | 2.33              |
| Watering                              |      |                  |                   |                   |                 |                  |             | 12.9              |
| <b>Max Sub-phase - Phase 3</b>        |      | <b>0</b>         | <b>2494</b>       | <b>2494</b>       | <b>0.07</b>     | <b>0.26</b>      | <b>1.91</b> | <b>2572</b>       |
| Phase 4                               |      |                  |                   |                   |                 |                  |             |                   |
| Site Preparation                      | 2028 | 0                | 77.91             | 77.91             | 0               | 0                | 0.02        | 78.9              |
| Grading                               | 2028 | 0                | 168.3             | 168.3             | 0.01            | 0                | 0.05        | 170.9             |
| Energy Storage Enclosure Installation | 2028 | 0                | 1516              | 1516              | 0.04            | 0.16             | 1.05        | 1564              |
|                                       | 2029 | 0                | 2012              | 2012              | 0.04            | 0.2              | 1.24        | 2075              |
| Architectural Coating (O&M Building)  | 2029 | 0                | 2.32              | 2.32              | 0               | 0                | 0           | 2.33              |
| Watering                              |      |                  |                   |                   |                 |                  |             | 20.7              |
| <b>Max Sub-phase - Phase 4</b>        |      | <b>0</b>         | <b>2012</b>       | <b>2012</b>       | <b>0.04</b>     | <b>0.2</b>       | <b>1.24</b> | <b>2075</b>       |

**Key Energy**  
**Litium Ion Battery Option - Construction GHG Summary**

**Max by Year (Tons/yr - AQ; MT/yr GHG)**

|                                |      |         |         |      |      |       |         |
|--------------------------------|------|---------|---------|------|------|-------|---------|
| 2024                           | 0    | 2053.99 | 2053.99 | 0.06 | 0.14 | 1.52  | 2104.89 |
| 2025                           | 0    | 1447.98 | 1447.98 | 0.04 | 0.11 | 1.08  | 1484.93 |
| 2026                           | 0    | 1757.3  | 1757.3  | 0.05 | 0.14 | 1.26  | 1805.51 |
| 2027                           | 0    | 2494    | 2494    | 0.07 | 0.26 | 1.91  | 2572    |
| 2028                           | 0    | 2140.03 | 2140.03 | 0.05 | 0.2  | 1.38  | 2204.13 |
| 2029                           | 0    | 2014.32 | 2014.32 | 0.04 | 0.2  | 1.24  | 2077.33 |
| 8/2024 - 8/2025                | 0.00 | 1541.31 | 1541.31 | 0.04 | 0.12 | 1.10  | 1580.51 |
| 3/2025 - 3/2026                | 0    | 1722.1  | 1722.1  | 0.05 | 0.14 | 1.335 | 1768.2  |
| Max 12 Month                   | 0    | 2494    | 2494    | 0.07 | 0.26 | 1.91  | 2572    |
| Max 12 Month w/Decommissioning | 0    | 2494    | 2494    | 0.07 | 0.26 | 1.91  | 2572    |

**Key Energy**  
**Litium Ion and Iron Flow Battery Option - Construction AQ Summary**

**Maximum Daily Construction Emissions (lbs/day)**

| Phase              | Year                                  | ROG  | NOx         | CO           | SO <sub>2</sub> | PM10E       | PM10D       | PM10T       | PM2.5E       | PM2.5D      | PM2.5T      |             |
|--------------------|---------------------------------------|------|-------------|--------------|-----------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|
| Phase 1            |                                       |      |             |              |                 |             |             |             |              |             |             |             |
|                    | Site Preparation                      | 2024 | 3.57        | 30.52        | 44.33           | 0.07        | 1.48        | 0.65        | 2.13         | 1.36        | 0.08        | 1.44        |
|                    | Project Substation Site Prep          | 2024 | 4.9         | 48.42        | 43.3            | 0.07        | 2.09        | 6.96        | 9.05         | 1.93        | 3.54        | 5.47        |
|                    | Grading                               | 2024 | 4.29        | 35.22        | 49.23           | 0.08        | 1.71        | 0.65        | 2.36         | 1.57        | 0.08        | 1.65        |
|                    | Project Substation Site Grading       | 2024 | 5.48        | 51.15        | 47.24           | 0.08        | 2.27        | 6.89        | 9.16         | 2.09        | 3.52        | 5.61        |
|                    | Energy Storage Enclosure Installation | 2024 | 4.29        | 35.51        | 45.38           | 0.11        | 1.12        | 0.54        | 1.66         | 1.04        | 0.16        | 1.19        |
|                    |                                       | 2025 | 4.07        | 33.65        | 43.86           | 0.11        | 1.02        | 0.54        | 1.56         | 0.95        | 0.16        | 1.1         |
|                    | Project substation installation       | 2025 | 6.38        | 68.44        | 68.85           | 0.21        | 2.18        | 0.91        | 3.09         | 2.02        | 0.32        | 2.34        |
|                    | Gen-Tie Foundation and Tower Erection | 2025 | 1.32        | 10.51        | 11.7            | 0.03        | 0.35        | 0.17        | 0.52         | 0.33        | 0.04        | 0.37        |
|                    | Gen-Tie Stringing and Pulling         | 2025 | 0.61        | 4.81         | 6.88            | 0.02        | 0.14        | 0.17        | 0.31         | 0.13        | 0.04        | 0.17        |
|                    | Architectural Coating (O&M Building)  | 2025 | 0.65        | 0.89         | 1.24            | 0           | 0.03        | 0           | 0.03         | 0.03        | 0           | 0.03        |
| <b>Max Phase 1</b> |                                       |      | <b>9.77</b> | <b>86.37</b> | <b>96.47</b>    | <b>0.21</b> | <b>3.98</b> | <b>7.61</b> | <b>11.52</b> | <b>3.66</b> | <b>3.62</b> | <b>7.26</b> |
| Phase 2            |                                       |      |             |              |                 |             |             |             |              |             |             |             |
|                    | Site Preparation                      | 2025 | 3.31        | 27.36        | 43.37           | 0.07        | 1.3         | 0.64        | 1.94         | 1.2         | 0.08        | 1.28        |
|                    | Grading                               | 2025 | 3.99        | 31.96        | 48.17           | 0.08        | 1.5         | 0.64        | 2.14         | 1.38        | 0.08        | 1.46        |
|                    |                                       | 2026 | 3.74        | 29.21        | 47.87           | 0.08        | 1.32        | 0.64        | 1.96         | 1.22        | 0.08        | 1.3         |
|                    | Energy Storage Enclosure Installation | 2026 | 3.86        | 32.11        | 39.57           | 0.11        | 0.95        | 0.5         | 1.45         | 0.88        | 0.16        | 1.03        |
|                    |                                       | 2027 | 3.73        | 30.97        | 38.74           | 0.11        | 0.89        | 0.5         | 1.39         | 0.82        | 0.16        | 0.97        |
|                    | Architectural Coating (O&M Building)  | 2027 | 0.65        | 0.89         | 1.24            | 0           | 0.03        | 0           | 0.03         | 0.03        | 0           | 0.03        |
| <b>Max Phase 2</b> |                                       |      | <b>4.38</b> | <b>32.11</b> | <b>48.17</b>    | <b>0.11</b> | <b>1.5</b>  | <b>0.64</b> | <b>2.14</b>  | <b>1.38</b> | <b>0.16</b> | <b>1.46</b> |
| Phase 3            |                                       |      |             |              |                 |             |             |             |              |             |             |             |
|                    | Site Preparation                      | 2027 | 3.13        | 23.58        | 44.89           | 0.07        | 1.02        | 0.72        | 1.74         | 0.94        | 0.1         | 1.04        |
|                    | Grading                               | 2027 | 3.77        | 28.08        | 49.69           | 0.08        | 1.2         | 0.72        | 1.92         | 1.11        | 0.1         | 1.21        |
|                    | Energy Storage Enclosure Installation | 2027 | 4.08        | 37.69        | 41.99           | 0.17        | 0.99        | 0.95        | 1.94         | 0.92        | 0.32        | 1.24        |
|                    |                                       | 2028 | 3.89        | 36.13        | 41.11           | 0.17        | 0.92        | 0.95        | 1.87         | 0.86        | 0.32        | 1.18        |
|                    |                                       | 2029 | 3.64        | 34.77        | 40.21           | 0.17        | 0.87        | 0.95        | 1.82         | 0.82        | 0.32        | 1.14        |
|                    | Architectural Coating (O&M Building)  | 2029 | 0.65        | 0.89         | 1.24            | 0           | 0.03        | 0           | 0.03         | 0.03        | 0           | 0.03        |
| <b>Max Phase 3</b> |                                       |      | <b>4.29</b> | <b>37.69</b> | <b>49.69</b>    | <b>0.17</b> | <b>1.2</b>  | <b>0.95</b> | <b>1.94</b>  | <b>1.11</b> | <b>0.32</b> | <b>1.24</b> |

**Key Energy**  
**Litium Ion and Iron Flow Battery Option - Construction AQ Summary**

**Maximum Annual Construction Emissions (tons/yr - AQ; MT/yr - GHG)**

| Phase 1                               | Year  | ROG         | NOx         | CO          | SO <sub>2</sub> | PM10E       | PM10D       | PM10T       | PM2.5E      | PM2.5D      | PM2.5T      |
|---------------------------------------|-------|-------------|-------------|-------------|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Site Preparation                      | 2024  | 0.03        | 0.3         | 0.45        | 0               | 0.01        | 0.01        | 0.02        | 0.01        | 0           | 0.01        |
| Project Substation Site Prep          | 2024  | 0.05        | 0.48        | 0.43        | 0               | 0.02        | 0.07        | 0.09        | 0.02        | 0.04        | 0.06        |
| Grading                               | 2024  | 0.09        | 0.71        | 0.98        | 0               | 0.03        | 0.01        | 0.04        | 0.03        | 0           | 0.03        |
| Project Substation Site Grading       | 2024  | 0.03        | 0.25        | 0.24        | 0               | 0.01        | 0.03        | 0.04        | 0.01        | 0.02        | 0.03        |
| Energy Storage Enclosure Installation | 2024  | 0.42        | 3.57        | 4.31        | 0.02            | 0.11        | 0.05        | 0.16        | 0.1         | 0.02        | 0.12        |
| 0                                     | 2025  | 0.26        | 2.21        | 2.73        | 0               | 0.07        | 0.04        | 0.1         | 0.07        | 0.01        | 0.08        |
| Project substation installation       | 2025  | 0.25        | 2.73        | 2.7         | 0               | 0.09        | 0.03        | 0.12        | 0.08        | 0.01        | 0.09        |
| Gen-Tie Foundation and Tower Erection | 2025  | 0           | 0.02        | 0.03        | 0               | 0           | 0           | 0           | 0           | 0           | 0           |
| Gen-Tie Stringing and Pulling         | 2025  | 0           | 0.02        | 0.04        | 0               | 0           | 0           | 0           | 0           | 0           | 0           |
| Architectural Coating (O&M Building)  | 2025  | 0.01        | 0.01        | 0.02        | 0               | 0           | 0           | 0           | 0           | 0           | 0           |
| Watering                              | Total |             |             |             |                 |             |             |             |             |             |             |
| <b>Max Sub-phase - Phase 1</b>        |       | <b>0.42</b> | <b>3.57</b> | <b>4.31</b> | <b>0.02</b>     | <b>0.11</b> | <b>0.07</b> | <b>0.16</b> | <b>0.1</b>  | <b>0.04</b> | <b>0.12</b> |
| Phase 2                               |       |             |             |             |                 |             |             |             |             |             |             |
| Site Preparation                      | 2025  | 0.01        | 0.13        | 0.21        | 0               | 0.01        | 0           | 0.01        | 0.01        | 0           | 0.01        |
| Grading                               | 2025  | 0.02        | 0.22        | 0.33        | 0               | 0.01        | 0           | 0.01        | 0.01        | 0           | 0.01        |
|                                       | 2026  | 0.01        | 0.09        | 0.16        | 0               | 0           | 0           | 0           | 0           | 0           | 0           |
| Energy Storage Enclosure Installation | 2026  | 0.48        | 4.05        | 4.85        | 0.02            | 0.12        | 0.06        | 0.19        | 0.11        | 0.02        | 0.13        |
|                                       | 2027  | 0.22        | 1.79        | 2.17        | 0               | 0.05        | 0.02        | 0.07        | 0.05        | 0.01        | 0.06        |
| Architectural Coating (O&M Building)  | 2027  | 0.01        | 0.01        | 0.02        | 0               | 0           | 0           | 0           | 0           | 0           | 0           |
| Watering                              |       |             |             |             |                 |             |             |             |             |             |             |
| <b>Max Sub-phase - Phase 2</b>        |       | <b>0.48</b> | <b>4.05</b> | <b>4.85</b> | <b>0.02</b>     | <b>0.12</b> | <b>0.06</b> | <b>0.19</b> | <b>0.11</b> | <b>0.02</b> | <b>0.13</b> |
| Phase 3                               |       |             |             |             |                 |             |             |             |             |             |             |
| Site Preparation                      | 2027  | 0.03        | 0.24        | 0.44        | 0               | 0.01        | 0.01        | 0.02        | 0.01        | 0           | 0.01        |
| Grading                               | 2027  | 0.08        | 0.55        | 0.98        | 0               | 0.02        | 0.01        | 0.03        | 0.02        | 0           | 0.02        |
| Energy Storage Enclosure Installation | 2027  | 0.16        | 1.59        | 1.71        | 0               | 0.04        | 0.04        | 0.07        | 0.04        | 0.01        | 0.05        |
|                                       | 2028  | 0.49        | 4.68        | 5.16        | 0.02            | 0.12        | 0.12        | 0.24        | 0.12        | 0.04        | 0.16        |
|                                       | 2029  | 0.2         | 1.96        | 2.19        | 0.01            | 0.05        | 0.06        | 0.11        | 0.04        | 0.02        | 0.06        |
| Architectural Coating (O&M Building)  | 2029  | 0.01        | 0.01        | 0.02        | 0               | 0           | 0           | 0           | 0           | 0           | 0           |
| Watering                              |       |             |             |             |                 |             |             |             |             |             |             |
| <b>Max Sub-phase - Phase 3</b>        |       | <b>0.49</b> | <b>4.68</b> | <b>5.16</b> | <b>0.02</b>     | <b>0.12</b> | <b>0.12</b> | <b>0.24</b> | <b>0.12</b> | <b>0.04</b> | <b>0.16</b> |

**Key Energy**  
**Litium Ion and Iron Flow Battery Option - Construction AQ Summary**

| <b>Max by Year (Tons/yr - AQ; MT/yr GHG)</b> | <b>ROG</b> | <b>NOx</b> | <b>CO</b> | <b>SO<sub>2</sub></b> | <b>PM10E</b> | <b>PM10D</b> | <b>PM10T</b> | <b>PM2.5E</b> | <b>PM2.5D</b> | <b>PM2.5T</b> |
|--|------------|------------|-----------|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|
| 2024   | 0.62       | 5.31       | 6.41      | 0.02                  | 0.18         | 0.17         | 0.35         | 0.17          | 0.08          | 0.25          |
| 2025   | 0.55       | 5.34       | 6.06      | 0                     | 0.18         | 0.07         | 0.24         | 0.17          | 0.02          | 0.19          |
| 2026   | 0.49       | 4.14       | 5.01      | 0.02                  | 0.12         | 0.06         | 0.19         | 0.11          | 0.02          | 0.13          |
| 2027   | 0.49       | 4.17       | 5.3       | 0                     | 0.12         | 0.08         | 0.19         | 0.12          | 0.02          | 0.14          |
| 2028   | 0.49       | 4.68       | 5.16      | 0.02                  | 0.12         | 0.12         | 0.24         | 0.12          | 0.04          | 0.16          |
| 2029   | 0.2        | 1.96       | 2.19      | 0.01                  | 0.05         | 0.06         | 0.11         | 0.04          | 0.02          | 0.06          |
| Max 12 Month Period                          | 0.62       | 5.34       | 6.41      | 0.02                  | 0.18         | 0.17         | 0.35         | 0.17          | 0.08          | 0.25          |
| Max 12 month w/ Decommissioning              | 0.62       | 5.34       | 6.41      | 0.02                  | 0.18         | 0.41         | 0.48         | 0.17          | 0.08          | 0.25          |

**Key Energy**  
**Lithium Ion and Iron Flow Battery Option - Construction GHG Summary**

**Maximum Daily Construction Emissions (lbs/day)**

| Phase                                 | Year | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R            | CO <sub>2</sub> e |
|---------------------------------------|------|------------------|-------------------|-------------------|-----------------|------------------|--------------|-------------------|
| Phase 1                               |      |                  |                   |                   |                 |                  |              |                   |
| Site Preparation                      | 2024 | 0                | 7900              | 7900              | 0.3             | 0.21             | 0.13         | 7973              |
| Project Substation Site Prep          | 2024 | 0                | 8679              | 8679              | 0.31            | 0.33             | 0.15         | 8786              |
| Grading                               | 2024 | 0                | 8605              | 8605              | 0.33            | 0.22             | 0.13         | 8679              |
| Project Substation Site Grading       | 2024 | 0                | 8403              | 8403              | 0.32            | 0.2              | 0.09         | 8473              |
| Energy Storage Enclosure Installation | 2024 | 0                | 15110             | 15110             | 0.44            | 1.19             | 29.41        | 15506             |
|                                       | 2025 | 0                | 14931             | 14931             | 0.39            | 1.19             | 28.57        | 15325             |
| Project substation installation       | 2025 | 0                | 26315             | 26315             | 0.68            | 2.26             | 45.04        | 27049             |
| Gen-Tie Foundation and Tower Erection | 2025 | 0                | 3995              | 3995              | 0.12            | 0.3              | 0.18         | 4086              |
| Gen-Tie Stringing and Pulling         | 2025 | 0                | 2828              | 2828              | 0.07            | 0.29             | 0.18         | 2915              |
| Architectural Coating (O&M Building)  | 2025 | 0                | 151.8             | 151.8             | 0.01            | 0                | 0.07         | 152.1             |
| <b>Max Phase 1</b>                    |      | <b>0</b>         | <b>26315</b>      | <b>26315</b>      | <b>0.68</b>     | <b>2.26</b>      | <b>45.04</b> | <b>27049</b>      |
| Phase 2                               |      |                  |                   |                   |                 |                  |              |                   |
| Site Preparation                      | 2025 | 0                | 7674              | 7674              | 0.3             | 0.2              | 0.1          | 7742              |
| Grading                               | 2025 | 0                | 8379              | 8379              | 0.33            | 0.21             | 0.1          | 8449              |
|                                       | 2026 | 0                | 8353              | 8353              | 0.33            | 0.21             | 0.09         | 8423              |
| Energy Storage Enclosure Installation | 2026 | 0                | 14084             | 14084             | 0.38            | 1.17             | 23.05        | 14465             |
|                                       | 2027 | 0                | 13899             | 13899             | 0.38            | 1.11             | 20.37        | 14261             |
| Architectural Coating (O&M Building)  | 2027 | 0                | 151.8             | 151.8             | 0.01            | 0                | 0.07         | 152.1             |
| <b>Max Phase 2</b>                    |      | <b>0</b>         | <b>14084</b>      | <b>14084</b>      | <b>0.39</b>     | <b>1.17</b>      | <b>23.05</b> | <b>14465</b>      |
| Phase 3                               |      |                  |                   |                   |                 |                  |              |                   |
| Site Preparation                      | 2027 | 0                | 8697              | 8697              | 0.3             | 0.33             | 5.77         | 8807              |
| Grading                               | 2027 | 0                | 9402              | 9402              | 0.33            | 0.34             | 5.77         | 9514              |
| Energy Storage Enclosure Installation | 2027 | 0                | 21223             | 21223             | 0.51            | 2.14             | 37.39        | 21910             |
|                                       | 2028 | 0                | 20839             | 20839             | 0.5             | 2.14             | 33.02        | 21522             |
|                                       | 2029 | 0                | 20433             | 20433             | 0.5             | 2.04             | 29.19        | 21080             |
| Architectural Coating (O&M Building)  | 2029 | 0                | 151.8             | 151.8             | 0.01            | 0                | 0.07         | 152.1             |
| <b>Max Phase 3</b>                    |      | <b>0</b>         | <b>21223</b>      | <b>21223</b>      | <b>0.51</b>     | <b>2.14</b>      | <b>37.39</b> | <b>21910</b>      |



**Key Energy**  
**Lithium Ion and Iron Flow Battery Option - Construction GHG Summary**

**Maximum Annual Construction Emissions (tons/yr - AQ):**

| Phase                                 | Year  | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R           | CO <sub>2</sub> e |
|---------------------------------------|-------|------------------|-------------------|-------------------|-----------------|------------------|-------------|-------------------|
| <b>Phase 1</b>                        |       |                  |                   |                   |                 |                  |             |                   |
| Site Preparation                      | 2024  | 0                | 71.89             | 71.89             | 0               | 0                | 0.02        | 72.55             |
| Project Substation Site Prep          | 2024  | 0                | 78.83             | 78.83             | 0               | 0                | 0.03        | 79.88             |
| Grading                               | 2024  | 0                | 156.4             | 156.4             | 0.01            | 0                | 0.04        | 158.3             |
| Project Substation Site Grading       | 2024  | 0                | 38.13             | 38.13             | 0               | 0                | 0           | 38.54             |
| Energy Storage Enclosure Installation | 2024  | 0                | 1374              | 1374              | 0.04            | 0.11             | 1.16        | 1409              |
|                                       | 2025  | 0                | 885               | 885               | 0.02            | 0.06             | 0.74        | 907               |
| Project substation installation       | 2025  | 0                | 951.6             | 951.6             | 0.03            | 0.08             | 0.7         | 977.1             |
| Gen-Tie Foundation and Tower Erection | 2025  | 0                | 9.11              | 9.11              | 0               | 0                | 0           | 9.32              |
| Gen-Tie Stringing and Pulling         | 2025  | 0                | 12.93             | 12.93             | 0               | 0                | 0.02        | 13.34             |
| Architectural Coating (O&M Building)  | 2025  | 0                | 2.31              | 2.31              | 0               | 0                | 0           | 2.33              |
| Watering                              | Total |                  |                   |                   |                 |                  |             | 13                |
| <b>Max Sub-phase - Phase 1</b>        |       | <b>0</b>         | <b>1374</b>       | <b>1374</b>       | <b>0.04</b>     | <b>0.11</b>      | <b>1.16</b> | <b>1422</b>       |
| <b>Phase 2</b>                        |       |                  |                   |                   |                 |                  |             |                   |
| Site Preparation                      | 2025  | 0                | 34.86             | 34.86             | 0               | 0                | 0           | 35.18             |
| Grading                               | 2025  | 0                | 51.72             | 51.72             | 0               | 0                | 0.01        | 52.11             |
|                                       | 2026  | 0                | 24.43             | 24.43             | 0               | 0                | 0           | 24.56             |
| Energy Storage Enclosure Installation | 2026  | 0                | 1611              | 1611              | 0.05            | 0.14             | 1.15        | 1654              |
|                                       | 2027  | 0                | 723.3             | 723.3             | 0.02            | 0.05             | 0.46        | 741.5             |
| Architectural Coating (O&M Building)  | 2027  | 0                | 2.31              | 2.31              | 0               | 0                | 0           | 2.33              |
| Watering                              |       |                  |                   |                   |                 |                  |             | 8.39              |
| <b>Max Sub-phase - Phase 2</b>        |       | <b>0</b>         | <b>1611</b>       | <b>1611</b>       | <b>0.05</b>     | <b>0.14</b>      | <b>1.15</b> | <b>1662.39</b>    |
| <b>Phase 3</b>                        |       |                  |                   |                   |                 |                  |             |                   |
| Site Preparation                      | 2027  | 0                | 78.42             | 78.42             | 0               | 0                | 0.02        | 79.42             |
| Grading                               | 2027  | 0                | 169.2             | 169.2             | 0.01            | 0                | 0.05        | 171.8             |
| Energy Storage Enclosure Installation | 2027  | 0                | 812.8             | 812.8             | 0.02            | 0.08             | 0.62        | 838.9             |
|                                       | 2028  | 0                | 2456              | 2456              | 0.07            | 0.26             | 1.69        | 2533              |
|                                       | 2029  | 0                | 1045.6            | 1045.6            | 0.02            | 0.1              | 0.65        | 1078.8            |
| Architectural Coating (O&M Building)  | 2029  | 0                | 2.31              | 2.31              | 0               | 0                | 0           | 2.33              |
| Watering                              |       |                  |                   |                   |                 |                  |             | 25.2              |
| <b>Max Sub-phase - Phase 3</b>        |       | <b>0</b>         | <b>2456</b>       | <b>2456</b>       | <b>0.07</b>     | <b>0.26</b>      | <b>1.69</b> | <b>2558.2</b>     |

**Key Energy**  
**Lithium Ion and Iron Flow Battery Option - Construction GHG Summary**

| <b>Max by Year (Tons/yr - AQ; MT/yr GHG)</b> | <i>BCO<sub>2</sub></i> | <i>NBCO<sub>2</sub></i> | <i>CO<sub>2</sub>T</i> | <i>CH<sub>4</sub></i> | <i>N<sub>2</sub>O</i> | <i>R</i> | <i>CO<sub>2</sub>e</i> |
|--|------------------------|-------------------------|------------------------|-----------------------|-----------------------|----------|------------------------|
| 2024   | 0                      | 1719.25                 | 1719.25                | 0.05                  | 0.11                  | 1.25     | 1758.27                |
| 2025   | 0                      | 1947.53                 | 1947.53                | 0.05                  | 0.14                  | 1.47     | 1996.38                |
| 2026   | 0                      | 1635.43                 | 1635.43                | 0.05                  | 0.14                  | 1.15     | 1678.56                |
| 2027   | 0                      | 1783.72                 | 1783.72                | 0.05                  | 0.13                  | 1.15     | 1831.62                |
| 2028   | 0                      | 2456                    | 2456                   | 0.07                  | 0.26                  | 1.69     | 2533                   |
| 2029   | 0                      | 1045.6                  | 1045.6                 | 0.02                  | 0.1                   | 0.65     | 1078.8                 |
| Max 12 Month Period                          | 0                      | 2456                    | 2456                   | 0.07                  | 0.26                  | 1.69     | 2533                   |
| Max 12 month w/ Decommissioning              | 0                      | 2456                    | 2456                   | 0.07                  | 0.26                  | 1.69     | 2533                   |

**Key Energy  
Construction Decommissioning Emissions Summary**

**Maximum Daily Construction Emissions (lbs/day)**

|                 | ROG  | NOx   | CO    | SO <sub>2</sub> | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R    | CO <sub>2</sub> e |
|-----------------|------|-------|-------|-----------------|-------|-------|-------|--------|--------|--------|------------------|-------------------|-------------------|-----------------|------------------|------|-------------------|
| Decommissioning | 3.39 | 28.09 | 48.98 | 0.19            | 0.58  | 3.11  | 3.68  | 0.54   | 0.55   | 1.08   | 0                | 18510             | 18510             | 0.47            | 1.48             | 0.35 | 18959             |

**Maximum Annual AQ Construction Emissions (tons/year - AQ, MT/yr - GHG)**

|                 | ROG  | NOx  | CO   | SO <sub>2</sub> | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R    | CO <sub>2</sub> e |      |
|-----------------|------|------|------|-----------------|-------|-------|-------|--------|--------|--------|------------------|-------------------|-------------------|-----------------|------------------|------|-------------------|------|
| Decommissioning | 2055 | 0.44 | 3.62 | 6.22            | 0.02  | 0.07  | 0.41  | 0.48   | 0.07   | 0.07   | 0.15             | 0                 | 2164              | 2164            | 0.05             | 0.17 | 0.02              | 2218 |
|                 | 2056 | 0.44 | 3.62 | 6.22            | 0.02  | 0.07  | 0.41  | 0.48   | 0.07   | 0.07   | 0.15             | 0                 | 2164              | 2164            | 0.05             | 0.17 | 0.02              | 2218 |
|                 | 2057 | 0.44 | 3.62 | 6.22            | 0.02  | 0.07  | 0.41  | 0.48   | 0.07   | 0.07   | 0.15             | 0                 | 2164              | 2164            | 0.05             | 0.17 | 0.02              | 2218 |
|                 | 2058 | 0.44 | 3.62 | 6.22            | 0.02  | 0.07  | 0.41  | 0.48   | 0.07   | 0.07   | 0.15             | 0                 | 2164              | 2164            | 0.05             | 0.17 | 0.02              | 2218 |

**Maximum Annual GHG Construction Emissions (MTs/year)**

|                 | CO <sub>2</sub> e | LIB | LIBwIF |
|-----------------|-------------------|-----|--------|
| watering        | 46.59             |     | 46.59  |
| Decommissioning | 8872              |     |        |
| Total:          | 8918.59           |     |        |

**Key Energy**  
**Lithium Ion Battery Option - Operational Emissions Compiled**

**Maximum Daily Operational Emissions (lbs/day)**

|                   | ROG  | NOx  | CO   | SO <sub>2</sub> | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R    | CO <sub>2</sub> e |
|-------------------|------|------|------|-----------------|-------|-------|-------|--------|--------|--------|------------------|-------------------|-------------------|-----------------|------------------|------|-------------------|
| Mobile (Monthly)  | 0.02 | 0.02 | 0.22 | 0               | 0     | 0.02  | 0.02  | 0      | 0      | 0      | 0                | 60.1              | 60.1              | 0               | 0                | 0.18 | 60.7              |
| Mobile (Annually) | 0.06 | 0.07 | 0.81 | 0               | 0     | 0.06  | 0.06  | 0      | 0.01   | 0.01   | 0                | 235               | 235               | 0.01            | 0.01             | 0.67 | 238               |
| Mobile (total)    | 0.08 | 0.09 | 1.03 | 0               | 0     | 0.08  | 0.08  | 0      | 0.01   | 0.01   | 0                | 295.1             | 295.1             | 0.01            | 0.01             | 0.85 | 298.7             |
| Area              | 0.09 | 0    | 0    | 0               | 0     | 0     | 0     | 0      | 0      | 0      | 0                | 0                 | 0                 | 0               | 0                | 0    | 0                 |
| Energy            | 0    | 0    | 0    | 0               | 0     | 0     | 0     | 0      | 0      | 0      | 0                | 35.4              | 35.4              | 0.01            | 0                | 0    | 35.8              |
| Total             | 0.17 | 0.09 | 1.03 | 0               | 0     | 0.08  | 0.08  | 0      | 0.01   | 0.01   | 0                | 330.5             | 330.5             | 0.02            | 0.01             | 0.85 | 334.5             |

**Maximum Annual AQ Operational Emissions (tons/year - AQ, MT/yr - GHG)**

|        | ROG      | NOx      | CO       | SO <sub>2</sub> | PM10E    | PM10D    | PM10T    | PM2.5E   | PM2.5D   | PM2.5T   | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R        | CO <sub>2</sub> e |
|--------|----------|----------|----------|-----------------|----------|----------|----------|----------|----------|----------|------------------|-------------------|-------------------|-----------------|------------------|----------|-------------------|
| Mobile | 1.15E-03 | 1.15E-03 | 5.45E-03 | 1.05E-03        | 1.05E-03 | 1.15E-03 | 1.15E-03 | 1.05E-03 | 1.05E-03 | 1.05E-03 | 0.00E+00         | 1.80E+00          | 1.80E+00          | 1.05E-03        | 1.05E-03         | 2.53E-03 | 1.82E+00          |
| Area   | 0.02     | 0        | 0        | 0               | 0        | 0        | 0        | 0        | 0        | 0        | 0                | 0                 | 0                 | 0               | 0                | 0        | 0                 |
| Energy | 0        | 0        | 0        | 0               | 0        | 0        | 0        | 0        | 0        | 0        | 0                | 5.86              | 5.86              | 0               | 0                | 0        | 5.92              |

**Mobile conversion to tons/year - Annual Maintenance Activity**

|                       | ROG      | NOx      | CO       | SO <sub>2</sub> | PM10E    | PM10D    | PM10T    | PM2.5E   | PM2.5D   | PM2.5T   | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R        | CO <sub>2</sub> e |
|-----------------------|----------|----------|----------|-----------------|----------|----------|----------|----------|----------|----------|------------------|-------------------|-------------------|-----------------|------------------|----------|-------------------|
| CalEEMod - tons/year  | 0.0049   | 0.0049   | 0.02     | 0.0049          | 0.0049   | 0.0049   | 0.0049   | 0.0049   | 0.0049   | 0.0049   | 0                | 6.65              | 6.65              | 0.0049          | 0.0049           | 0.01     | 6.72              |
| CalEEMod - Trips/year | 1043     | 1043     | 1043     | 1043            | 1043     | 1043     | 1043     | 1043     | 1043     | 1043     | 1043             | 1043              | 1043              | 1043            | 1043             | 1043     | 1043              |
| tons/trip             | 4.7E-06  | 4.7E-06  | 1.92E-05 | 4.7E-06         | 4.7E-06  | 4.7E-06  | 4.7E-06  | 4.7E-06  | 4.7E-06  | 4.7E-06  | 0                | 0.006376          | 0.006376          | 4.7E-06         | 4.7E-06          | 9.59E-06 | 0.006443          |
| Trips/year            | 204      | 204      | 204      | 204             | 204      | 204      | 204      | 204      | 204      | 204      | 204              | 204               | 204               | 204             | 204              | 204      | 204               |
| tons/year             | 9.58E-04 | 9.58E-04 | 3.91E-03 | 9.58E-04        | 9.58E-04 | 9.58E-04 | 9.58E-04 | 9.58E-04 | 9.58E-04 | 9.58E-04 | 0.00E+00         | 1.30E+00          | 1.30E+00          | 9.58E-04        | 9.58E-04         | 1.96E-03 | 1.31              |

\*For emissions reported as "<0.005" modeled as 0.0049

**Mobile Conversion to tons/year - Annual Employee Trips (from Ops - LIBwIF)**

|           | ROG      | NOx      | CO       | SO <sub>2</sub> | PM10E    | PM10D    | PM10T    | PM2.5E   | PM2.5D   | PM2.5T   | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R        | CO <sub>2</sub> e |
|-----------|----------|----------|----------|-----------------|----------|----------|----------|----------|----------|----------|------------------|-------------------|-------------------|-----------------|------------------|----------|-------------------|
| tons/year | 1.92E-04 | 1.92E-04 | 1.53E-03 | 9.40E-05        | 9.40E-05 | 1.92E-04 | 1.92E-04 | 9.40E-05 | 9.40E-05 | 9.40E-05 | 0.00E+00         | 5.01E-01          | 5.01E-01          | 9.40E-05        | 9.40E-05         | 5.75E-04 | 5.04E-01          |

**Key Energy**  
**Lithium Ion Battery Option - Operational Emissions Compiled**

**Maximum Annual GHG Operational Emissions (MTs/year)**

|                       | <b>CO<sub>2</sub>e</b> |
|-----------------------|------------------------|
| Mobile                | 1.82                   |
| Area                  | 0                      |
| Energy                | 5.92                   |
| Water                 | <1                     |
| Waste                 | 0                      |
| Refrig.               | <1                     |
| <b>Total CalEEMod</b> | <b>7.74</b>            |

**Construction vs. Operational Water Emissions for Phase 1**

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

| <b>Land Use</b>                  | <b>BCO<sub>2</sub></b> | <b>NBCO<sub>2</sub></b> | <b>CO<sub>2</sub>T</b> | <b>CH<sub>4</sub></b> | <b>N<sub>2</sub>O</b> | <b>R</b> | <b>CO<sub>2</sub>e</b> |
|----------------------------------|------------------------|-------------------------|------------------------|-----------------------|-----------------------|----------|------------------------|
| <b>Daily, Summer (Max)</b>       |                        |                         |                        |                       |                       |          |                        |
| Refrigerated Warehouse-No Rail   | 0                      | 22.3                    | 22.3                   | < 0.005               | < 0.005               |          | 22.6                   |
| General Office Building          | < 0.005                | < 0.005                 | < 0.005                | < 0.005               | < 0.005               |          | 0.01                   |
| Unrefrigerated Warehouse-No Rail | 0                      | 0                       | 0                      | 0                     | 0                     | 0        | 0                      |
| <b>Total</b>                     | <b>&lt; 0.005</b>      | <b>22.3</b>             | <b>22.3</b>            | <b>&lt; 0.005</b>     | <b>&lt; 0.005</b>     |          | <b>22.6</b>            |
| <b>Daily, Winter (Max)</b>       |                        |                         |                        |                       |                       |          |                        |
| Refrigerated Warehouse-No Rail   | 0                      | 22.3                    | 22.3                   | < 0.005               | < 0.005               |          | 22.6                   |
| General Office Building          | < 0.005                | < 0.005                 | < 0.005                | < 0.005               | < 0.005               |          | 0.01                   |
| Unrefrigerated Warehouse-No Rail | 0                      | 0                       | 0                      | 0                     | 0                     | 0        | 0                      |
| <b>Total</b>                     | <b>&lt; 0.005</b>      | <b>22.3</b>             | <b>22.3</b>            | <b>&lt; 0.005</b>     | <b>&lt; 0.005</b>     |          | <b>22.6</b>            |
| <b>Annual</b>                    |                        |                         |                        |                       |                       |          |                        |
| Refrigerated Warehouse-No Rail   | 0                      | 3.7                     | 3.7                    | < 0.005               | < 0.005               |          | 3.74                   |
| General Office Building          | < 0.005                | < 0.005                 | < 0.005                | < 0.005               | < 0.005               |          | < 0.005                |
| Unrefrigerated Warehouse-No Rail | 0                      | 0                       | 0                      | 0                     | 0                     | 0        | 0                      |
| <b>Total</b>                     | <b>&lt; 0.005</b>      | <b>3.7</b>              | <b>3.7</b>             | <b>&lt; 0.005</b>     | <b>&lt; 0.005</b>     |          | <b>3.74</b>            |

**Key Energy**  
**Lithium Ion and Iron Flow Battery Option - Operational Emissions Compiled**

**Maximum Daily Operational Emissions (lbs/day)**

|                  | ROG  | NOx  | CO   | SO <sub>2</sub> | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R    | CO <sub>2</sub> e |
|------------------|------|------|------|-----------------|-------|-------|-------|--------|--------|--------|------------------|-------------------|-------------------|-----------------|------------------|------|-------------------|
| Mobile (Annual)  | 0.06 | 0.07 | 0.81 | 0               | 0     | 0.06  | 0.06  | 0      | 0.01   | 0.01   | 0                | 235               | 235               | 0.01            | 0.01             | 0.67 | 238               |
| Mobile (Monthly) | 0.02 | 0.02 | 0.22 | 0               | 0     | 0.02  | 0.02  | 0      | 0      | 0      | 0                | 60.1              | 60.1              | 0               | 0                | 0.18 | 60.7              |
| Mobile (total)   | 0.08 | 0.09 | 1.03 | 0               | 0     | 0.08  | 0.08  | 0      | 0.01   | 0.01   | 0                | 295.1             | 295.1             | 0.01            | 0.01             | 0.85 | 298.7             |
| Area             | 0.09 | 0    | 0    | 0               | 0     | 0     | 0     | 0      | 0      | 0      | 0                | 0                 | 0                 | 0               | 0                | 0    | 0                 |
| Energy           | 0    | 0    | 0    | 0               | 0     | 0     | 0     | 0      | 0      | 0      | 0                | 35.4              | 35.4              | 0.01            | 0                | 0    | 35.8              |
| Total            | 0.17 | 0.09 | 1.03 | 0               | 0     | 0.08  | 0.08  | 0      | 0.01   | 0.01   | 0                | 330.5             | 330.5             | 0.02            | 0.01             | 0.85 | 334.5             |

**Maximum Annual AQ Operational Emissions (tons/year - AQ, MT/yr - GHG)**

|        | ROG      | NOx      | CO       | SO <sub>2</sub> | PM10E    | PM10D    | PM10T    | PM2.5E   | PM2.5D   | PM2.5T   | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R        | CO <sub>2</sub> e |
|--------|----------|----------|----------|-----------------|----------|----------|----------|----------|----------|----------|------------------|-------------------|-------------------|-----------------|------------------|----------|-------------------|
| Mobile | 1.15E-03 | 1.15E-03 | 5.45E-03 | 1.05E-03        | 1.05E-03 | 1.15E-03 | 1.15E-03 | 1.05E-03 | 1.05E-03 | 1.05E-03 | 0.00E+00         | 1.80E+00          | 1.80E+00          | 1.05E-03        | 1.05E-03         | 2.53E-03 | 1.82E+00          |
| Area   | 0.02     | 0        | 0        | 0               | 0        | 0        | 0        | 0        | 0        | 0        | 0                | 0                 | 0                 | 0               | 0                | 0        | 0                 |
| Energy | 0        | 0        | 0        | 0               | 0        | 0        | 0        | 0        | 0        | 0        | 0                | 5.86              | 5.86              | 0               | 0                | 0        | 5.92              |

**Mobile conversion to tons/year - Annual Maintenance Activity**

|                       | ROG      | NOx      | CO       | SO <sub>2</sub> | PM10E    | PM10D    | PM10T    | PM2.5E   | PM2.5D   | PM2.5T   | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R        | CO <sub>2</sub> e |
|-----------------------|----------|----------|----------|-----------------|----------|----------|----------|----------|----------|----------|------------------|-------------------|-------------------|-----------------|------------------|----------|-------------------|
| CalEEMod - tons/year  | 0.01     | 0.01     | 0.08     | 0.0049          | 0.0049   | 0.01     | 0.01     | 0.0049   | 0.0049   | 0.0049   | 0                | 26.1              | 26.1              | 0.0049          | 0.0049           | 0.03     | 26.3              |
| CalEEMod - Trips/year | 4171     | 4171     | 4171     | 4171            | 4171     | 4171     | 4171     | 4171     | 4171     | 4171     | 4171             | 4171              | 4171              | 4171            | 4171             | 4171     | 4171              |
| tons/trip             | 2.4E-06  | 2.4E-06  | 1.92E-05 | 1.17E-06        | 1.17E-06 | 2.4E-06  | 2.4E-06  | 1.17E-06 | 1.17E-06 | 1.17E-06 | 0                | 0.006257          | 0.006257          | 1.17E-06        | 1.17E-06         | 7.19E-06 | 0.006305          |
| Trips/year            | 80       | 80       | 80       | 80              | 80       | 80       | 80       | 80       | 80       | 80       | 80               | 80                | 80                | 80              | 80               | 80       | 80                |
| tons/year             | 1.92E-04 | 1.92E-04 | 1.53E-03 | 9.40E-05        | 9.40E-05 | 1.92E-04 | 1.92E-04 | 9.40E-05 | 9.40E-05 | 9.40E-05 | 0.00E+00         | 5.01E-01          | 5.01E-01          | 9.40E-05        | 9.40E-05         | 5.75E-04 | 5.04E-01          |

\*For emissions reported as "<0.005" modeled as 0.0049

**Mobile Conversion to tons/year - Monthly Employee Trips (from Ops - LIB)**

|           | ROG      | NOx      | CO       | SO <sub>2</sub> | PM10E    | PM10D    | PM10T    | PM2.5E   | PM2.5D   | PM2.5T   | BCO <sub>2</sub> | NBCO <sub>2</sub> | CO <sub>2</sub> T | CH <sub>4</sub> | N <sub>2</sub> O | R        | CO <sub>2</sub> e |
|-----------|----------|----------|----------|-----------------|----------|----------|----------|----------|----------|----------|------------------|-------------------|-------------------|-----------------|------------------|----------|-------------------|
| tons/year | 9.58E-04 | 9.58E-04 | 3.91E-03 | 9.58E-04        | 9.58E-04 | 9.58E-04 | 9.58E-04 | 9.58E-04 | 9.58E-04 | 9.58E-04 | 0.00E+00         | 1.30E+00          | 1.30E+00          | 9.58E-04        | 9.58E-04         | 1.96E-03 | 1.31E+00          |

**Key Energy**  
**Lithium Ion and Iron Flow Battery Option - Operational Emissions Compiled**

**Maximum Annual GHG Operational Emissions (MTs/year)**

|                       | <b>CO<sub>2</sub>e</b> |
|-----------------------|------------------------|
| Mobile                | 1.82E+00               |
| Area                  | 0                      |
| Energy                | 5.92                   |
| Water                 | <1                     |
| Waste                 | 0                      |
| Refrig.               | <1                     |
| <b>Total CalEEMod</b> | <b>7.74</b>            |

**Construction vs. Operational Water Emissions for Phase 1**

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

| <b>Land Use</b>                  | <b>BCO<sub>2</sub></b> | <b>NBCO<sub>2</sub></b> | <b>CO<sub>2</sub>T</b> | <b>CH<sub>4</sub></b> | <b>N<sub>2</sub>O</b> | <b>R</b> | <b>CO<sub>2</sub>e</b> |
|----------------------------------|------------------------|-------------------------|------------------------|-----------------------|-----------------------|----------|------------------------|
| <b>Daily, Summer (Max)</b>       |                        |                         |                        |                       |                       |          |                        |
| Refrigerated Warehouse-No Rail   | 0                      | 77.6                    | 77.6                   | 0.01                  | < 0.005               |          | 78.4                   |
| General Office Building          | < 0.005                | < 0.005                 | < 0.005                | < 0.005               | < 0.005               |          | 0.01                   |
| Unrefrigerated Warehouse-No Rail | 0                      | 0                       | 0                      | 0                     | 0                     | 0        | 0                      |
| <b>Total</b>                     | < 0.005                | 77.6                    | 77.6                   | 0.01                  | < 0.005               |          | 78.4                   |
| <b>Daily, Winter (Max)</b>       |                        |                         |                        |                       |                       |          |                        |
| Refrigerated Warehouse-No Rail   | 0                      | 77.6                    | 77.6                   | 0.01                  | < 0.005               |          | 78.4                   |
| General Office Building          | < 0.005                | < 0.005                 | < 0.005                | < 0.005               | < 0.005               |          | 0.01                   |
| Unrefrigerated Warehouse-No Rail | 0                      | 0                       | 0                      | 0                     | 0                     | 0        | 0                      |
| <b>Total</b>                     | < 0.005                | 77.6                    | 77.6                   | 0.01                  | < 0.005               |          | 78.4                   |
| <b>Annual</b>                    |                        |                         |                        |                       |                       |          |                        |
| Refrigerated Warehouse-No Rail   | 0                      | 12.9                    | 12.9                   | < 0.005               | < 0.005               |          | 13                     |
| General Office Building          | < 0.005                | < 0.005                 | < 0.005                | < 0.005               | < 0.005               |          | < 0.005                |
| Unrefrigerated Warehouse-No Rail | 0                      | 0                       | 0                      | 0                     | 0                     | 0        | 0                      |
| <b>Total</b>                     | < 0.005                | 12.9                    | 12.9                   | < 0.005               | < 0.005               |          | 13                     |

**Key Energy**  
**Unmitigated GHG Emissions - Lithium Ion Battery**

**Construction Emissions**

| Emission Source            | Annual Emissions (MT CO <sub>2</sub> e) |
|----------------------------|---|
| Phase 1                    | 2,109                                   |
| Phase 2                    | 2,282                                   |
| Phase 3                    | 3,988                                   |
| Phase 4                    | 3,912                                   |
| Total                      | 12,290                                  |
| <b>Amortized Emissions</b> |   |
| 30 years                   | 410                                     |
| Decommissioning            | 8,919                                   |
| <b>Amortized Emissions</b> |   |
| 30 years                   | 297                                     |

**Operational Emissions**

| Emission Source             | Annual Emissions (MT CO <sub>2</sub> e) | % Emissions |
|-----------------------------|---|-------------|
| Mobile                      | 2                                       |             |
| Area                        | 0                                       |             |
| Energy                      | 6                                       |             |
| Water                       | <1                                      |             |
| Waste                       | 0                                       |             |
| O&M Building Refrigerant    | <1                                      |             |
| SF <sub>6</sub>             | 888                                     | 55.42%      |
| Total                       | 896                                     | 55.90%      |
| Amortized Construction      | 410                                     | 25.56%      |
| Amortized Decommissioning   | 297                                     | 18.55%      |
| Total Operational Emissions | 1,603                                   |             |



**Key Energy**  
**Unmitigated GHG Emissions - Lithium Ion Battery**

***SF<sub>6</sub> Emissions Quantification***

17 HV circuit breakers (500 kV equipment)  
482 SF<sub>6</sub> max lbs/per circuit breaker<sup>1</sup>  
228.4 SF<sub>6</sub> average lbs/per circuit breaker<sup>1</sup>  
1.00% SF<sub>6</sub> leakage percentage per year<sup>1</sup>  
8194 max lbs/project  
3882.8 average lbs/project  
81.94 SF<sub>6</sub> max lbs leakage per year  
38.828 SF<sub>6</sub> average lbs leakage per year  
0.000453592 lbs/MT  
0.037167328 SF<sub>6</sub> max MT leakage per year  
0.01761207 SF<sub>6</sub> average MT leakage per year  
23900 GWP  
888 Max MT CO<sub>2</sub> e/year  
421 Average MT CO<sub>2</sub> e/year

<sup>1</sup> CARB 2020. *Public Hearing to Consider the Proposed Amendments to the Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear.*  
[https://www.epa.gov/sites/production/files/2018-08/documents/12183\\_sf6\\_partnership\\_overview\\_v20\\_release\\_508.pdf](https://www.epa.gov/sites/production/files/2018-08/documents/12183_sf6_partnership_overview_v20_release_508.pdf). Accessed June 2022.

**Key Energy**  
**Unmitigated GHG Emissions - Lithium Ion Battery with Iron Flow**

**Construction Emissions**

| Emission Source | Annual Emissions (MT CO <sub>2</sub> e) |
|-----------------|---|
| Phase 1         | 3,680                                   |
| Phase 2         | 2,518                                   |
| Phase 3         | 4,729                                   |
| Total           | 10,928                                  |

**Amortized Emissions**

30 years 364

Decommissioning 8,919

**Amortized Emissions**

30 years 297

**Operational Emissions**

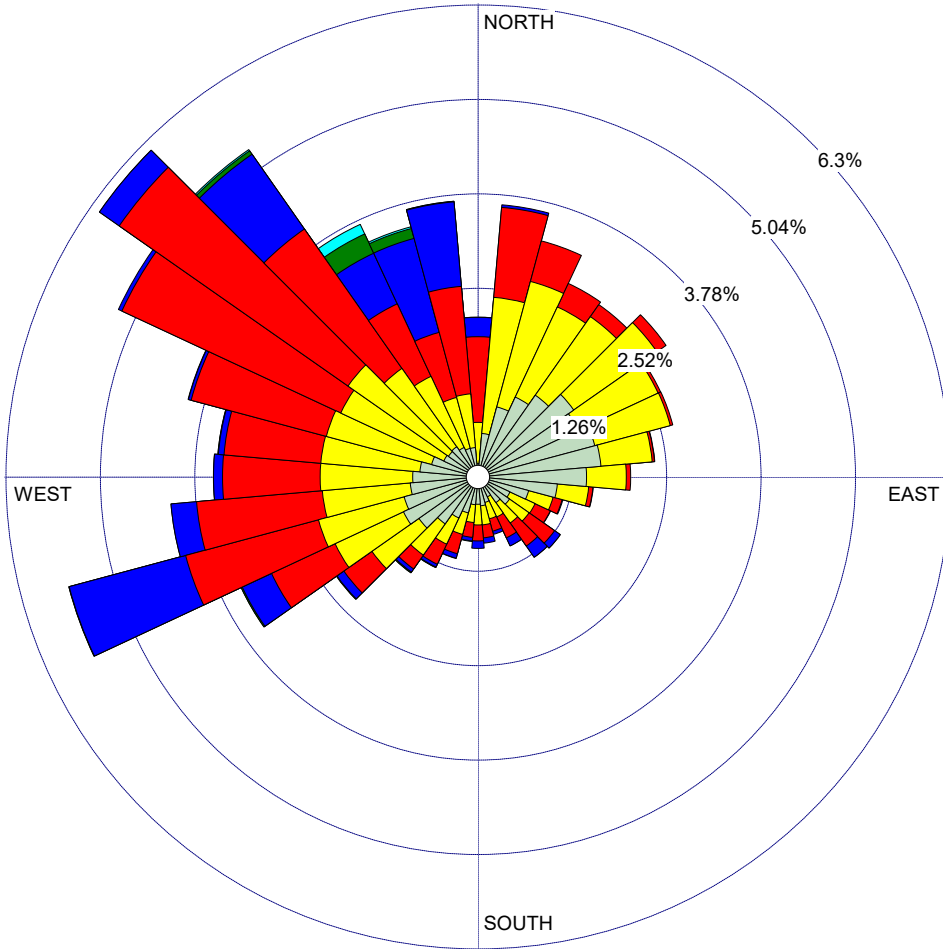
| Emission Source             | Annual Emissions (MT CO <sub>2</sub> e) | % Emissions |
|-----------------------------|---|-------------|
| Mobile                      | 2                                       |             |
| Area                        | 0                                       |             |
| Energy                      | 6                                       |             |
| Water                       | <1                                      |             |
| Waste                       | 0                                       |             |
| O&M Building Refrigerant    | <1                                      |             |
| SF <sub>6</sub>             | 888                                     | 57.03%      |
| Total                       | 896                                     | 57.53%      |
| Amortized Construction      | 364                                     | 23.39%      |
| Amortized Decommissioning   | 297                                     | 19.09%      |
| Total Operational Emissions | 1,558                                   |             |

| DISTRICT | ROUTE | RTE_SFX | COUNTY | PM_PFX | PM     | PM_SFX | DESCRIPTION              | BACK_PEAK_HOUR | BACK_PEAK_MADT | BACK_AADT | AHEAD_PEAK_HOUR | AHEAD_PEAK_MADT | AHEAD_AADT |
|----------|-------|---------|--------|--------|--------|--------|--------------------------|----------------|----------------|-----------|-----------------|-----------------|------------|
| 06       | 005   |         | FRE    |        | 0.000  |        | KINGS/FRESNO COUNTY LINE |                |                |           | 4950            | 42000           | 34500      |
| 06       | 005   |         | FRE    |        | 0.228  |        | JCT. RTE. 269            | 4950           | 42000          | 34500     | 4950            | 42000           | 35000      |
| 06       | 005   |         | FRE    |        | 14.873 |        | JCT. RTE. 198            | 4950           | 42000          | 35000     | 5200            | 44500           | 37000      |
| 06       | 005   |         | FRE    |        | 17.964 |        | JCT. RTE. 33 SOUTH, JC   | 5200           | 44500          | 37000     | 5100            | 44500           | 36000      |
| 06       | 005   |         | FRE    |        | 5.501  |        | JAYNE AVE                | 4950           | 42000          | 35000     | 4950            | 42000           | 35000      |
| 06       | 005   |         | FRE    |        | 29.955 |        | JCT. RTE. 33 NORTH       | 5100           | 44500          | 36000     | 5200            | 44500           | 36000      |
| 06       | 005   |         | FRE    |        | 38.359 |        | KAMM AVE                 | 5200           | 44500          | 36000     | 5200            | 44000           | 37000      |
| 06       | 005   |         | FRE    |        | 45.798 |        | MANNING AVE              | 5200           | 44000          | 37000     | 5100            | 46000           | 37000      |
| 06       | 005   |         | FRE    |        | 48.990 |        | PANOCH ROAD              | 5100           | 46000          | 37000     | 4700            | 49500           | 36000      |
| 06       | 005   |         | FRE    |        | 52.746 |        | RUSSELL AVE              | 4700           | 49500          | 36000     | 4700            | 49500           | 36000      |
| 06       | 005   |         | FRE    |        | 60.077 |        | SHIELDS AVE              | 4700           | 49500          | 36000     | 4850            | 49000           | 37000      |
| 06       | 005   |         | FRE    |        | 65.782 |        | NEES AVE                 | 4850           | 49000          | 37000     | 5100            | 52000           | 39000      |
| 06       | 005   |         | FRE    |        | 66.159 |        | FRESNO/MERCED COUN       | 5100           | 52000          | 39000     |                 |                 |            |

Source: <https://dot.ca.gov/programs/traffic-operations/census>  
2020-AADT.xls  
Accessed May 2022.

WIND ROSE PLOT:  
**Station #99009**

DISPLAY:  
**Wind Speed**  
**Direction (blowing from)**



WIND SPEED  
(Knots)

- >= 21.58
- 17.11 - 21.58
- 11.08 - 17.11
- 7.00 - 11.08
- 4.08 - 7.00
- 0.97 - 4.08

Calms: 3.39%

COMMENTS:

DATA PERIOD:

**Start Date: 1/1/2004 - 00:00**  
**End Date: 12/31/2008 - 23:59**

COMPANY NAME:

MODELER:

CALM WINDS:

**3.39%**

TOTAL COUNT:

**43848 hrs.**

AVG. WIND SPEED:

**5.74 Knots**

DATE:

**1/19/2023**

PROJECT NO.:

# Appendix B

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CalEEmod Output

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Lithium Ion Battery - Phase 1 CalEEMod Output (Annual, Winter, Summer)

# Key Energy - Lithium Ion Battery Option - Phase 1 Custom Report

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8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field                  | Value   |
|-----------------------------|---|
| Project Name                | Key Energy - Lithium Ion Battery Option - Phase 1 |
| Lead Agency                 | —   |
| Land Use Scale              | Project/site                                      |
| Analysis Level for Defaults | County  |
| Windspeed (m/s)             | 3.50  |
| Precipitation (days)        | 16.8  |
| Location                    | 36.13263447616909, -120.13458957268438            |
| County                      | Fresno  |
| City                        | Unincorporated                                    |
| Air District                | San Joaquin Valley APCD                           |
| Air Basin                   | San Joaquin Valley                                |
| TAZ                         | 2530  |
| EDFZ                        | 5   |
| Electric Utility            | Pacific Gas & Electric Company                    |
| Gas Utility                 | Pacific Gas & Electric                            |

## 1.2. Land Use Types

| Land Use Subtype               | Size | Unit     | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|--------------------------------|------|----------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| Refrigerated Warehouse-No Rail | 0.75 | 1000sqft | 34.0        | 750                   | 0.00                   | —                              | —          | —           |
| General Office Building        | 1.00 | 1000sqft | 0.25        | 1,000                 | 0.00                   | —                              | —          | —           |

|                                  |      |          |      |       |      |   |   |   |
|----------------------------------|------|----------|------|-------|------|---|---|---|
| Unrefrigerated Warehouse-No Rail | 2.00 | 1000sqft | 0.25 | 2,000 | 0.00 | — | — | — |
|----------------------------------|------|----------|------|-------|------|---|---|---|

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2  | CO2T   | CH4  | N2O  | R    | CO2e   |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 8.60 | 7.55 | 73.7 | 73.3 | 0.21 | 2.53  | 5.01  | 7.54  | 2.35   | 1.34   | 3.69   | —    | 26,752 | 26,752 | 0.72 | 2.26 | 45.6 | 27,489 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 11.7 | 9.79 | 87.3 | 96.6 | 0.21 | 3.98  | 9.00  | 13.0  | 3.67   | 3.97   | 7.64   | —    | 26,477 | 26,477 | 0.69 | 2.26 | 1.18 | 27,168 |
| Average Daily (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 4.46 | 3.74 | 35.1 | 37.8 | 0.09 | 1.24  | 3.21  | 4.45  | 1.15   | 0.97   | 2.12   | —    | 12,408 | 12,408 | 0.37 | 0.96 | 9.14 | 12,713 |
| Annual (Max)        | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 0.81 | 0.68 | 6.40 | 6.91 | 0.02 | 0.23  | 0.59  | 0.81  | 0.21   | 0.18   | 0.39   | —    | 2,054  | 2,054  | 0.06 | 0.16 | 1.51 | 2,105  |

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

|                      |      |      |      |      |      |      |      |      |      |      |      |   |        |        |      |      |      |        |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|---|--------|--------|------|------|------|--------|
| Daily - Summer (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2024                 | 8.60 | 7.55 | 73.7 | 73.3 | 0.21 | 2.53 | 5.01 | 7.54 | 2.35 | 1.34 | 3.69 | — | 26,752 | 26,752 | 0.72 | 2.26 | 45.6 | 27,489 |
| Daily - Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2024                 | 11.7 | 9.79 | 87.3 | 96.6 | 0.21 | 3.98 | 9.00 | 13.0 | 3.67 | 3.97 | 7.64 | — | 26,477 | 26,477 | 0.69 | 2.26 | 1.18 | 27,168 |
| Average Daily        | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2024                 | 4.46 | 3.74 | 35.1 | 37.8 | 0.09 | 1.24 | 3.21 | 4.45 | 1.15 | 0.97 | 2.12 | — | 12,408 | 12,408 | 0.37 | 0.96 | 9.14 | 12,713 |
| Annual               | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2024                 | 0.81 | 0.68 | 6.40 | 6.91 | 0.02 | 0.23 | 0.59 | 0.81 | 0.21 | 0.18 | 0.39 | — | 2,054  | 2,054  | 0.06 | 0.16 | 1.51 | 2,105  |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG     | ROG  | NOx     | CO   | SO2     | PM10E   | PM10D   | PM10T   | PM2.5E  | PM2.5D  | PM2.5T  | BCO2    | NBCO2 | CO2T | CH4     | N2O     | R    | CO2e |
|---------------------|---------|------|---------|------|---------|---------|---------|---------|---------|---------|---------|---------|-------|------|---------|---------|------|------|
| Daily, Summer (Max) | —       | —    | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | —     | —    | —       | —       | —    | —    |
| Unmit.              | 0.02    | 0.10 | 0.02    | 0.22 | < 0.005 | < 0.005 | 0.02    | 0.02    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 118   | 118  | 0.01    | < 0.005 | 0.19 | 119  |
| Daily, Winter (Max) | —       | —    | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | —     | —    | —       | —       | —    | —    |
| Unmit.              | 0.02    | 0.10 | 0.02    | 0.16 | < 0.005 | < 0.005 | 0.02    | 0.02    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 112   | 112  | 0.01    | < 0.005 | 0.01 | 114  |
| Average Daily (Max) | —       | —    | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | —     | —    | —       | —       | —    | —    |
| Unmit.              | 0.01    | 0.10 | 0.01    | 0.12 | < 0.005 | < 0.005 | 0.01    | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 97.9  | 97.9 | 0.01    | < 0.005 | 0.06 | 98.9 |
| Annual (Max)        | —       | —    | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | —     | —    | —       | —       | —    | —    |
| Unmit.              | < 0.005 | 0.02 | < 0.005 | 0.02 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 16.2  | 16.2 | < 0.005 | < 0.005 | 0.01 | 16.4 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector              | TOG  | ROG  | NOx  | CO   | SO2     | PM10E   | PM10D | PM10T | PM2.5E  | PM2.5D  | PM2.5T  | BCO2    | NBCO2 | CO2T | CH4     | N2O     | R       | CO2e    |
|---------------------|------|------|------|------|---------|---------|-------|-------|---------|---------|---------|---------|-------|------|---------|---------|---------|---------|
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —       | —     | —     | —       | —       | —       | —       | —     | —    | —       | —       | —       | —       |
| Mobile              | 0.02 | 0.02 | 0.02 | 0.22 | < 0.005 | < 0.005 | 0.02  | 0.02  | < 0.005 | < 0.005 | < 0.005 | —       | 60.1  | 60.1 | < 0.005 | < 0.005 | 0.18    | 60.7    |
| Area                | —    | 0.09 | —    | —    | —       | —       | —     | —     | —       | —       | —       | —       | —     | —    | —       | —       | —       | —       |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —     | 0.00  | 0.00    | —       | 0.00    | —       | 35.4  | 35.4 | 0.01    | < 0.005 | —       | 35.8    |
| Water               | —    | —    | —    | —    | —       | —       | —     | —     | —       | —       | —       | < 0.005 | 22.3  | 22.3 | < 0.005 | < 0.005 | —       | 22.6    |
| Waste               | —    | —    | —    | —    | —       | —       | —     | —     | —       | —       | —       | 0.00    | 0.00  | 0.00 | 0.00    | 0.00    | —       | 0.00    |
| Refrig.             | —    | —    | —    | —    | —       | —       | —     | —     | —       | —       | —       | —       | —     | —    | —       | —       | < 0.005 | < 0.005 |
| Total               | 0.02 | 0.10 | 0.02 | 0.22 | < 0.005 | < 0.005 | 0.02  | 0.02  | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 118   | 118  | 0.01    | < 0.005 | 0.19    | 119     |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —       | —     | —     | —       | —       | —       | —       | —     | —    | —       | —       | —       | —       |
| Mobile              | 0.02 | 0.01 | 0.02 | 0.16 | < 0.005 | < 0.005 | 0.02  | 0.02  | < 0.005 | < 0.005 | < 0.005 | —       | 54.7  | 54.7 | < 0.005 | < 0.005 | < 0.005 | 55.3    |
| Area                | —    | 0.09 | —    | —    | —       | —       | —     | —     | —       | —       | —       | —       | —     | —    | —       | —       | —       | —       |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —     | 0.00  | 0.00    | —       | 0.00    | —       | 35.4  | 35.4 | 0.01    | < 0.005 | —       | 35.8    |
| Water               | —    | —    | —    | —    | —       | —       | —     | —     | —       | —       | —       | < 0.005 | 22.3  | 22.3 | < 0.005 | < 0.005 | —       | 22.6    |
| Waste               | —    | —    | —    | —    | —       | —       | —     | —     | —       | —       | —       | 0.00    | 0.00  | 0.00 | 0.00    | 0.00    | —       | 0.00    |
| Refrig.             | —    | —    | —    | —    | —       | —       | —     | —     | —       | —       | —       | —       | —     | —    | —       | —       | < 0.005 | < 0.005 |
| Total               | 0.02 | 0.10 | 0.02 | 0.16 | < 0.005 | < 0.005 | 0.02  | 0.02  | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 112   | 112  | 0.01    | < 0.005 | 0.01    | 114     |
| Average Daily       | —    | —    | —    | —    | —       | —       | —     | —     | —       | —       | —       | —       | —     | —    | —       | —       | —       | —       |
| Mobile              | 0.01 | 0.01 | 0.01 | 0.12 | < 0.005 | < 0.005 | 0.01  | 0.01  | < 0.005 | < 0.005 | < 0.005 | —       | 40.2  | 40.2 | < 0.005 | < 0.005 | 0.06    | 40.6    |
| Area                | —    | 0.09 | —    | —    | —       | —       | —     | —     | —       | —       | —       | —       | —     | —    | —       | —       | —       | —       |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —     | 0.00  | 0.00    | —       | 0.00    | —       | 35.4  | 35.4 | 0.01    | < 0.005 | —       | 35.8    |
| Water               | —    | —    | —    | —    | —       | —       | —     | —     | —       | —       | —       | < 0.005 | 22.3  | 22.3 | < 0.005 | < 0.005 | —       | 22.6    |



|         |         |         |         |      |         |         |         |         |         |         |         |         |      |      |         |         |         |         |
|---------|---------|---------|---------|------|---------|---------|---------|---------|---------|---------|---------|---------|------|------|---------|---------|---------|---------|
| Waste   | —       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | —       | 0.00    |
| Refrig. | —       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | —    | —    | —       | —       | < 0.005 | < 0.005 |
| Total   | 0.01    | 0.10    | 0.01    | 0.12 | < 0.005 | < 0.005 | 0.01    | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 97.9 | 97.9 | 0.01    | < 0.005 | 0.06    | 98.9    |
| Annual  | —       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | —    | —    | —       | —       | —       | —       |
| Mobile  | < 0.005 | < 0.005 | < 0.005 | 0.02 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | —       | 6.65 | 6.65 | < 0.005 | < 0.005 | 0.01    | 6.72    |
| Area    | —       | 0.02    | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | —    | —    | —       | —       | —       | —       |
| Energy  | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | —       | 0.00    | 0.00    | —       | 0.00    | —       | 5.86 | 5.86 | < 0.005 | < 0.005 | —       | 5.92    |
| Water   | —       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | < 0.005 | 3.70 | 3.70 | < 0.005 | < 0.005 | —       | 3.74    |
| Waste   | —       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | —       | 0.00    |
| Refrig. | —       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | —    | —    | —       | —       | < 0.005 | < 0.005 |
| Total   | < 0.005 | 0.02    | < 0.005 | 0.02 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 16.2 | 16.2 | < 0.005 | < 0.005 | 0.01    | 16.4    |

### 3. Construction Emissions Details

#### 3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                    | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R | CO2e  |
|-----------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|---|-------|
| Onsite                      | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Daily, Summer (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Daily, Winter (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Off-Road Equipment          | 3.84 | 3.23 | 29.2 | 40.8 | 0.06 | 1.46  | —     | 1.46  | 1.34   | —      | 1.34   | —    | 6,415 | 6,415 | 0.26 | 0.05 | — | 6,438 |
| Dust From Material Movement | —    | —    | —    | —    | —    | —     | 0.55  | 0.55  | —      | 0.06   | 0.06   | —    | —     | —     | —    | —    | — | —     |

Key Energy - Lithium Ion Battery Option - Phase 1 Custom Report, 1/13/2023

|                              |      |      |      |      |         |      |         |         |      |         |         |   |      |      |         |         |      |      |
|------------------------------|------|------|------|------|---------|------|---------|---------|------|---------|---------|---|------|------|---------|---------|------|------|
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Average Daily                | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment           | 0.11 | 0.09 | 0.80 | 1.12 | < 0.005 | 0.04 | —       | 0.04    | 0.04 | —       | 0.04    | — | 176  | 176  | 0.01    | < 0.005 | —    | 176  |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.02    | 0.02    | —    | < 0.005 | < 0.005 | — | —    | —    | —       | —       | —    | —    |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual                       | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment           | 0.02 | 0.02 | 0.15 | 0.20 | < 0.005 | 0.01 | —       | 0.01    | 0.01 | —       | 0.01    | — | 29.1 | 29.1 | < 0.005 | < 0.005 | —    | 29.2 |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | < 0.005 | < 0.005 | —    | < 0.005 | < 0.005 | — | —    | —    | —       | —       | —    | —    |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Offsite                      | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | 0.36 | 0.33 | 0.34 | 3.37 | 0.00    | 0.00 | 0.04    | 0.04    | 0.00 | 0.00    | 0.00    | — | 644  | 644  | 0.02    | 0.03    | 0.08 | 653  |
| Vendor                       | 0.03 | 0.01 | 0.98 | 0.16 | 0.01    | 0.02 | 0.06    | 0.08    | 0.02 | 0.02    | 0.04    | — | 841  | 841  | 0.02    | 0.13    | 0.05 | 882  |
| Hauling                      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Average Daily                | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | 0.01 | 0.01 | 0.01 | 0.10 | 0.00    | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00    | 0.00    | — | 18.3 | 18.3 | < 0.005 | < 0.005 | 0.03 | 18.6 |

|         |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |         |      |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Vendor  | < 0.005 | < 0.005 | 0.03    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 23.0 | 23.0 | < 0.005 | < 0.005 | 0.02    | 24.2 |
| Hauling | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual  | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker  | < 0.005 | < 0.005 | < 0.005 | 0.02    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 3.03 | 3.03 | < 0.005 | < 0.005 | 0.01    | 3.08 |
| Vendor  | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.82 | 3.82 | < 0.005 | < 0.005 | < 0.005 | 4.00 |
| Hauling | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |

### 3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                    | TOG  | ROG  | NOx  | CO   | SO2     | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O     | R    | CO2e  |
|-----------------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|---------|------|-------|
| Onsite                      | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Daily, Summer (Max)         | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Daily, Winter (Max)         | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment          | 5.60 | 4.70 | 46.3 | 41.3 | 0.06    | 2.06  | —     | 2.06  | 1.90   | —      | 1.90   | —    | 6,674 | 6,674 | 0.27 | 0.05    | —    | 6,697 |
| Dust From Material Movement | —    | —    | —    | —    | —       | —     | 6.81  | 6.81  | —      | 3.50   | 3.50   | —    | —     | —     | —    | —       | —    | —     |
| Onsite truck                | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Average Daily               | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment          | 0.31 | 0.26 | 2.54 | 2.27 | < 0.005 | 0.11  | —     | 0.11  | 0.10   | —      | 0.10   | —    | 366   | 366   | 0.01 | < 0.005 | —    | 367   |

Key Energy - Lithium Ion Battery Option - Phase 1 Custom Report, 1/13/2023

|                              |         |         |         |         |         |         |         |         |         |         |         |   |       |       |         |         |      |       |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|-------|-------|---------|---------|------|-------|
| Dust From Material Movement: | —       | —       | —       | —       | —       | —       | 0.37    | 0.37    | —       | 0.19    | 0.19    | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual                       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.06    | 0.05    | 0.46    | 0.41    | < 0.005 | 0.02    | —       | 0.02    | 0.02    | —       | 0.02    | — | 60.5  | 60.5  | < 0.005 | < 0.005 | —    | 60.8  |
| Dust From Material Movement: | —       | —       | —       | —       | —       | —       | 0.07    | 0.07    | —       | 0.04    | 0.04    | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite                      | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max)          | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Winter (Max)          | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker                       | 0.18    | 0.17    | 0.17    | 1.68    | 0.00    | 0.00    | 0.02    | 0.02    | 0.00    | 0.00    | 0.00    | — | 322   | 322   | 0.01    | 0.01    | 0.04 | 326   |
| Vendor                       | 0.06    | 0.03    | 1.95    | 0.32    | 0.01    | 0.03    | 0.13    | 0.16    | 0.03    | 0.04    | 0.07    | — | 1,683 | 1,683 | 0.03    | 0.27    | 0.11 | 1,763 |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily                | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker                       | 0.01    | 0.01    | 0.01    | 0.10    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 18.3  | 18.3  | < 0.005 | < 0.005 | 0.03 | 18.6  |
| Vendor                       | < 0.005 | < 0.005 | 0.10    | 0.02    | < 0.005 | < 0.005 | 0.01    | 0.01    | < 0.005 | < 0.005 | < 0.005 | — | 92.2  | 92.2  | < 0.005 | 0.01    | 0.10 | 96.7  |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual                       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker                       | < 0.005 | < 0.005 | < 0.005 | 0.02    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 3.03  | 3.03  | < 0.005 | < 0.005 | 0.01 | 3.08  |
| Vendor                       | < 0.005 | < 0.005 | 0.02    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 15.3  | 15.3  | < 0.005 | < 0.005 | 0.02 | 16.0  |

|         |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |
|---------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|

### 3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                     | TOG  | ROG  | NOx  | CO   | SO2     | PM10E | PM10D | PM10T | PM2.5E | PM2.5D  | PM2.5T  | BCO2 | NBCO2 | CO2T  | CH4     | N2O     | R    | CO2e  |
|------------------------------|------|------|------|------|---------|-------|-------|-------|--------|---------|---------|------|-------|-------|---------|---------|------|-------|
| Onsite                       | —    | —    | —    | —    | —       | —     | —     | —     | —      | —       | —       | —    | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —     | —     | —     | —      | —       | —       | —    | —     | —     | —       | —       | —    | —     |
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —     | —     | —     | —      | —       | —       | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 4.71 | 3.95 | 33.9 | 45.7 | 0.07    | 1.69  | —     | 1.69  | 1.55   | —       | 1.55    | —    | 7,120 | 7,120 | 0.29    | 0.06    | —    | 7,144 |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —     | 0.55  | 0.55  | —      | 0.06    | 0.06    | —    | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00    | 0.00    | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily                | —    | —    | —    | —    | —       | —     | —     | —     | —      | —       | —       | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.26 | 0.22 | 1.86 | 2.50 | < 0.005 | 0.09  | —     | 0.09  | 0.08   | —       | 0.08    | —    | 390   | 390   | 0.02    | < 0.005 | —    | 391   |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —     | 0.03  | 0.03  | —      | < 0.005 | < 0.005 | —    | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00    | 0.00    | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual                       | —    | —    | —    | —    | —       | —     | —     | —     | —      | —       | —       | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.05 | 0.04 | 0.34 | 0.46 | < 0.005 | 0.02  | —     | 0.02  | 0.02   | —       | 0.02    | —    | 64.6  | 64.6  | < 0.005 | < 0.005 | —    | 64.8  |

|                              |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |      |      |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|------|------|
| Dust From Material Movement: | —       | —       | —       | —       | —       | —       | 0.01    | 0.01    | —       | < 0.005 | < 0.005 | — | —    | —    | —       | —       | —    | —    |
| Onsite truck                 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Offsite                      | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Summer (Max)          | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Winter (Max)          | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | 0.36    | 0.33    | 0.34    | 3.37    | 0.00    | 0.00    | 0.04    | 0.04    | 0.00    | 0.00    | 0.00    | — | 644  | 644  | 0.02    | 0.03    | 0.08 | 653  |
| Vendor                       | 0.03    | 0.01    | 0.98    | 0.16    | 0.01    | 0.02    | 0.06    | 0.08    | 0.02    | 0.02    | 0.04    | — | 841  | 841  | 0.02    | 0.13    | 0.05 | 882  |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Average Daily                | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | 0.02    | 0.02    | 0.02    | 0.19    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 36.6 | 36.6 | < 0.005 | < 0.005 | 0.07 | 37.2 |
| Vendor                       | < 0.005 | < 0.005 | 0.05    | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 46.1 | 46.1 | < 0.005 | 0.01    | 0.05 | 48.3 |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual                       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | < 0.005 | < 0.005 | < 0.005 | 0.04    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 6.06 | 6.06 | < 0.005 | < 0.005 | 0.01 | 6.15 |
| Vendor                       | < 0.005 | < 0.005 | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.63 | 7.63 | < 0.005 | < 0.005 | 0.01 | 8.00 |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |

### 3.7. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Onsite   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

Key Energy - Lithium Ion Battery Option - Phase 1 Custom Report, 1/13/2023

|                              |      |      |      |      |         |      |      |      |      |      |      |   |       |       |         |         |      |       |
|------------------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|---------|---------|------|-------|
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 6.31 | 5.30 | 50.0 | 45.4 | 0.07    | 2.25 | —    | 2.25 | 2.07 | —    | 2.07 | — | 7,240 | 7,240 | 0.29    | 0.06    | —    | 7,265 |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 6.81 | 6.81 | —    | 3.50 | 3.50 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily                | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.17 | 0.15 | 1.37 | 1.24 | < 0.005 | 0.06 | —    | 0.06 | 0.06 | —    | 0.06 | — | 198   | 198   | 0.01    | < 0.005 | —    | 199   |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.19 | 0.19 | —    | 0.10 | 0.10 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual                       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.03 | 0.03 | 0.25 | 0.23 | < 0.005 | 0.01 | —    | 0.01 | 0.01 | —    | 0.01 | — | 32.8  | 32.8  | < 0.005 | < 0.005 | —    | 33.0  |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.03 | 0.03 | —    | 0.02 | 0.02 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite                      | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |

|                     |         |         |         |         |         |         |         |         |         |         |         |   |       |       |         |         |         |       |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|-------|-------|---------|---------|---------|-------|
| Daily, Summer (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —       | —     |
| Daily, Winter (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —       | —     |
| Worker              | 0.18    | 0.17    | 0.17    | 1.68    | 0.00    | 0.00    | 0.02    | 0.02    | 0.00    | 0.00    | 0.00    | — | 322   | 322   | 0.01    | 0.01    | 0.04    | 326   |
| Vendor              | 0.06    | 0.03    | 1.95    | 0.32    | 0.01    | 0.03    | 0.13    | 0.16    | 0.03    | 0.04    | 0.07    | — | 1,683 | 1,683 | 0.03    | 0.27    | 0.11    | 1,763 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00    | 0.00  |
| Average Daily       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —       | —     |
| Worker              | 0.01    | < 0.005 | < 0.005 | 0.05    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 9.15  | 9.15  | < 0.005 | < 0.005 | 0.02    | 9.29  |
| Vendor              | < 0.005 | < 0.005 | 0.05    | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 46.1  | 46.1  | < 0.005 | 0.01    | 0.05    | 48.3  |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00    | 0.00  |
| Annual              | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —       | —     |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.01    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 1.51  | 1.51  | < 0.005 | < 0.005 | < 0.005 | 1.54  |
| Vendor              | < 0.005 | < 0.005 | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.63  | 7.63  | < 0.005 | < 0.005 | 0.01    | 8.00  |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00    | 0.00  |

### 3.9. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 3.50 | 2.92 | 25.7 | 29.4 | 0.05 | 0.97  | —     | 0.97  | 0.89   | —      | 0.89   | —    | 5,282 | 5,282 | 0.21 | 0.04 | —    | 5,300 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |



Key Energy - Lithium Ion Battery Option - Phase 1 Custom Report, 1/13/2023

|                     |      |      |      |      |         |      |      |      |      |      |      |   |       |       |      |         |      |       |
|---------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|------|---------|------|-------|
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 3.50 | 2.92 | 25.7 | 29.4 | 0.05    | 0.97 | —    | 0.97 | 0.89 | —    | 0.89 | — | 5,282 | 5,282 | 0.21 | 0.04    | —    | 5,300 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 1.20 | 1.00 | 8.79 | 10.1 | 0.02    | 0.33 | —    | 0.33 | 0.31 | —    | 0.31 | — | 1,809 | 1,809 | 0.07 | 0.01    | —    | 1,815 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 0.22 | 0.18 | 1.60 | 1.84 | < 0.005 | 0.06 | —    | 0.06 | 0.06 | —    | 0.06 | — | 299   | 299   | 0.01 | < 0.005 | —    | 301   |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Offsite             | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Worker              | 1.22 | 1.14 | 0.79 | 13.4 | 0.00    | 0.00 | 0.12 | 0.12 | 0.00 | 0.00 | 0.00 | — | 2,182 | 2,182 | 0.11 | 0.08    | 8.81 | 2,218 |
| Vendor              | 0.29 | 0.13 | 7.25 | 1.78 | 0.05    | 0.11 | 0.42 | 0.53 | 0.11 | 0.16 | 0.26 | — | 7,398 | 7,398 | 0.11 | 1.07    | 20.6 | 7,739 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Worker              | 1.09 | 0.99 | 1.01 | 10.1 | 0.00    | 0.00 | 0.12 | 0.12 | 0.00 | 0.00 | 0.00 | — | 1,932 | 1,932 | 0.06 | 0.08    | 0.23 | 1,958 |
| Vendor              | 0.29 | 0.12 | 7.80 | 1.74 | 0.05    | 0.11 | 0.42 | 0.53 | 0.11 | 0.16 | 0.26 | — | 7,399 | 7,399 | 0.11 | 1.07    | 0.53 | 7,720 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |

|         |      |      |      |      |         |      |      |      |      |      |      |   |       |       |      |         |      |       |
|---------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|------|---------|------|-------|
| Worker  | 0.38 | 0.35 | 0.30 | 3.62 | 0.00    | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | — | 686   | 686   | 0.04 | 0.03    | 1.31 | 697   |
| Vendor  | 0.10 | 0.04 | 2.61 | 0.59 | 0.02    | 0.04 | 0.14 | 0.18 | 0.04 | 0.05 | 0.09 | — | 2,534 | 2,534 | 0.04 | 0.36    | 3.03 | 2,647 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Annual  | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Worker  | 0.07 | 0.06 | 0.05 | 0.66 | 0.00    | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 114   | 114   | 0.01 | < 0.005 | 0.22 | 115   |
| Vendor  | 0.02 | 0.01 | 0.48 | 0.11 | < 0.005 | 0.01 | 0.03 | 0.03 | 0.01 | 0.01 | 0.02 | — | 419   | 419   | 0.01 | 0.06    | 0.50 | 438   |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |

### 3.11. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2  | CO2T   | CH4  | N2O  | R    | CO2e   |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 7.23 | 6.07 | 57.9 | 61.8 | 0.10 | 2.29  | —     | 2.29  | 2.11   | —      | 2.11   | —    | 10,712 | 10,712 | 0.43 | 0.09 | —    | 10,749 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 7.23 | 6.07 | 57.9 | 61.8 | 0.10 | 2.29  | —     | 2.29  | 2.11   | —      | 2.11   | —    | 10,712 | 10,712 | 0.43 | 0.09 | —    | 10,749 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 1.58 | 1.33 | 12.7 | 13.5 | 0.02 | 0.50  | —     | 0.50  | 0.46   | —      | 0.46   | —    | 2,348  | 2,348  | 0.10 | 0.02 | —    | 2,356  |

Key Energy - Lithium Ion Battery Option - Phase 1 Custom Report, 1/13/2023

|                     |      |      |      |      |         |      |         |         |      |      |      |   |        |        |         |         |      |        |
|---------------------|------|------|------|------|---------|------|---------|---------|------|------|------|---|--------|--------|---------|---------|------|--------|
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Off-Road Equipment  | 0.29 | 0.24 | 2.32 | 2.47 | < 0.005 | 0.09 | —       | 0.09    | 0.08 | —    | 0.08 | — | 389    | 389    | 0.02    | < 0.005 | —    | 390    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Offsite             | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.61 | 0.57 | 0.40 | 6.69 | 0.00    | 0.00 | 0.06    | 0.06    | 0.00 | 0.00 | 0.00 | — | 1,091  | 1,091  | 0.05    | 0.04    | 4.40 | 1,109  |
| Vendor              | 0.59 | 0.25 | 14.5 | 3.55 | 0.11    | 0.21 | 0.85    | 1.06    | 0.21 | 0.32 | 0.53 | — | 14,797 | 14,797 | 0.22    | 2.13    | 41.2 | 15,478 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.54 | 0.50 | 0.51 | 5.05 | 0.00    | 0.00 | 0.06    | 0.06    | 0.00 | 0.00 | 0.00 | — | 966    | 966    | 0.03    | 0.04    | 0.11 | 979    |
| Vendor              | 0.58 | 0.25 | 15.6 | 3.48 | 0.11    | 0.21 | 0.85    | 1.06    | 0.21 | 0.32 | 0.53 | — | 14,798 | 14,798 | 0.22    | 2.13    | 1.07 | 15,440 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.12 | 0.11 | 0.10 | 1.16 | 0.00    | 0.00 | 0.01    | 0.01    | 0.00 | 0.00 | 0.00 | — | 220    | 220    | 0.01    | 0.01    | 0.42 | 223    |
| Vendor              | 0.13 | 0.05 | 3.34 | 0.76 | 0.02    | 0.05 | 0.19    | 0.23    | 0.05 | 0.07 | 0.12 | — | 3,243  | 3,243  | 0.05    | 0.47    | 3.88 | 3,388  |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.02 | 0.02 | 0.02 | 0.21 | 0.00    | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 36.3   | 36.3   | < 0.005 | < 0.005 | 0.07 | 36.9   |
| Vendor              | 0.02 | 0.01 | 0.61 | 0.14 | < 0.005 | 0.01 | 0.03    | 0.04    | 0.01 | 0.01 | 0.02 | — | 537    | 537    | 0.01    | 0.08    | 0.64 | 561    |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |

### 3.13. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG     | ROG     | NOx  | CO   | SO2     | PM10E   | PM10D | PM10T   | PM2.5E  | PM2.5D | PM2.5T  | BCO2 | NBCO2 | CO2T  | CH4     | N2O     | R    | CO2e  |
|---------------------|---------|---------|------|------|---------|---------|-------|---------|---------|--------|---------|------|-------|-------|---------|---------|------|-------|
| Onsite              | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max) | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Daily, Winter (Max) | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | 1.25    | 1.04    | 8.81 | 8.35 | 0.02    | 0.36    | —     | 0.36    | 0.33    | —      | 0.33    | —    | 1,714 | 1,714 | 0.07    | 0.01    | —    | 1,719 |
| Onsite truck        | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily       | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | 0.02    | 0.01    | 0.12 | 0.11 | < 0.005 | < 0.005 | —     | < 0.005 | < 0.005 | —      | < 0.005 | —    | 23.5  | 23.5  | < 0.005 | < 0.005 | —    | 23.6  |
| Onsite truck        | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual              | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | < 0.005 | —     | < 0.005 | < 0.005 | —      | < 0.005 | —    | 3.89  | 3.89  | < 0.005 | < 0.005 | —    | 3.90  |
| Onsite truck        | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite             | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max) | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |
| Daily, Winter (Max) | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —     | —       | —       | —    | —     |

|               |         |         |         |         |         |         |         |         |         |         |         |   |       |       |         |         |         |       |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|-------|-------|---------|---------|---------|-------|
| Worker        | 0.36    | 0.33    | 0.34    | 3.37    | 0.00    | 0.00    | 0.04    | 0.04    | 0.00    | 0.00    | 0.00    | — | 644   | 644   | 0.02    | 0.03    | 0.08    | 653   |
| Vendor        | 0.06    | 0.03    | 1.95    | 0.32    | 0.01    | 0.03    | 0.13    | 0.16    | 0.03    | 0.04    | 0.07    | — | 1,683 | 1,683 | 0.03    | 0.27    | 0.11    | 1,763 |
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00    | 0.00  |
| Average Daily | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —       | —     |
| Worker        | 0.01    | < 0.005 | < 0.005 | 0.05    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 9.15  | 9.15  | < 0.005 | < 0.005 | 0.02    | 9.29  |
| Vendor        | < 0.005 | < 0.005 | 0.03    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 23.0  | 23.0  | < 0.005 | < 0.005 | 0.02    | 24.2  |
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00    | 0.00  |
| Annual        | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —       | —     |
| Worker        | < 0.005 | < 0.005 | < 0.005 | 0.01    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 1.51  | 1.51  | < 0.005 | < 0.005 | < 0.005 | 1.54  |
| Vendor        | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.82  | 3.82  | < 0.005 | < 0.005 | < 0.005 | 4.00  |
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00    | 0.00  |

### 3.15. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R    | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|------|------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Off-Road Equipment  | 0.36 | 0.30 | 2.80 | 3.49 | 0.01 | 0.13  | —     | 0.13  | 0.12   | —      | 0.12   | —    | 547   | 547  | 0.02 | < 0.005 | —    | 549  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 |
| Average Daily       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |

Key Energy - Lithium Ion Battery Option - Phase 1 Custom Report, 1/13/2023

|                     |         |         |         |         |         |         |         |         |         |         |         |   |       |       |         |         |      |       |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|-------|-------|---------|---------|------|-------|
| Off-Road Equipment  | 0.01    | 0.01    | 0.08    | 0.10    | < 0.005 | < 0.005 | —       | < 0.005 | < 0.005 | —       | < 0.005 | — | 15.0  | 15.0  | < 0.005 | < 0.005 | —    | 15.0  |
| Onsite truck        | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual              | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | < 0.005 | < 0.005 | 0.01    | 0.02    | < 0.005 | < 0.005 | —       | < 0.005 | < 0.005 | —       | < 0.005 | — | 2.48  | 2.48  | < 0.005 | < 0.005 | —    | 2.49  |
| Onsite truck        | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite             | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Winter (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker              | 0.36    | 0.33    | 0.34    | 3.37    | 0.00    | 0.00    | 0.04    | 0.04    | 0.00    | 0.00    | 0.00    | — | 644   | 644   | 0.02    | 0.03    | 0.08 | 653   |
| Vendor              | 0.06    | 0.03    | 1.95    | 0.32    | 0.01    | 0.03    | 0.13    | 0.16    | 0.03    | 0.04    | 0.07    | — | 1,683 | 1,683 | 0.03    | 0.27    | 0.11 | 1,763 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker              | 0.01    | 0.01    | 0.01    | 0.10    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 18.3  | 18.3  | < 0.005 | < 0.005 | 0.03 | 18.6  |
| Vendor              | < 0.005 | < 0.005 | 0.05    | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 46.1  | 46.1  | < 0.005 | 0.01    | 0.05 | 48.3  |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual              | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.02    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 3.03  | 3.03  | < 0.005 | < 0.005 | 0.01 | 3.08  |
| Vendor              | < 0.005 | < 0.005 | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.63  | 7.63  | < 0.005 | < 0.005 | 0.01 | 8.00  |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |

3.17. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location               | TOG     | ROG     | NOx  | CO   | SO2     | PM10E   | PM10D | PM10T   | PM2.5E  | PM2.5D | PM2.5T  | BCO2 | NBCO2 | CO2T | CH4     | N2O     | R    | CO2e |
|------------------------|---------|---------|------|------|---------|---------|-------|---------|---------|--------|---------|------|-------|------|---------|---------|------|------|
| Onsite                 | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Daily, Summer (Max)    | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Off-Road Equipment     | 0.17    | 0.14    | 0.91 | 1.15 | < 0.005 | 0.03    | —     | 0.03    | 0.03    | —      | 0.03    | —    | 134   | 134  | 0.01    | < 0.005 | —    | 134  |
| Architectural Coatings | —       | 0.51    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Onsite truck           | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Daily, Winter (Max)    | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Average Daily          | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Off-Road Equipment     | 0.02    | 0.01    | 0.08 | 0.11 | < 0.005 | < 0.005 | —     | < 0.005 | < 0.005 | —      | < 0.005 | —    | 12.4  | 12.4 | < 0.005 | < 0.005 | —    | 12.5 |
| Architectural Coatings | —       | 0.05    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Onsite truck           | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual                 | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Off-Road Equipment     | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | < 0.005 | —     | < 0.005 | < 0.005 | —      | < 0.005 | —    | 2.06  | 2.06 | < 0.005 | < 0.005 | —    | 2.07 |
| Architectural Coatings | —       | 0.01    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Onsite truck           | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Offsite                | —       | —       | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |

|                     |         |         |         |         |      |      |         |         |      |      |      |   |      |      |         |         |         |      |
|---------------------|---------|---------|---------|---------|------|------|---------|---------|------|------|------|---|------|------|---------|---------|---------|------|
| Daily, Summer (Max) | —       | —       | —       | —       | —    | —    | —       | —       | —    | —    | —    | — | —    | —    | —       | —       | —       | —    |
| Worker              | 0.01    | 0.01    | 0.01    | 0.11    | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 18.2 | 18.2 | < 0.005 | < 0.005 | 0.07    | 18.5 |
| Vendor              | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Daily, Winter (Max) | —       | —       | —       | —       | —    | —    | —       | —       | —    | —    | —    | — | —    | —    | —       | —       | —       | —    |
| Average Daily       | —       | —       | —       | —       | —    | —    | —       | —       | —    | —    | —    | — | —    | —    | —       | —       | —       | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.01    | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 1.55 | 1.55 | < 0.005 | < 0.005 | < 0.005 | 1.58 |
| Vendor              | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual              | —       | —       | —       | —       | —    | —    | —       | —       | —    | —    | —    | — | —    | —    | —       | —       | —       | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 0.26 | 0.26 | < 0.005 | < 0.005 | < 0.005 | 0.26 |
| Vendor              | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |

## 4. Operations Emissions Details

### 4.1. Mobile Emissions by Land Use

#### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |



Key Energy - Lithium Ion Battery Option - Phase 1 Custom Report, 1/13/2023

|                                  |         |         |         |      |         |         |         |         |         |         |         |   |      |      |         |         |         |      |
|----------------------------------|---------|---------|---------|------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Refrigerated Warehouse-No Rail   | 0.02    | 0.02    | 0.02    | 0.22 | < 0.005 | < 0.005 | 0.02    | 0.02    | < 0.005 | < 0.005 | < 0.005 | — | 60.1 | 60.1 | < 0.005 | < 0.005 | 0.18    | 60.7 |
| General Office Building          | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Unrefrigerated Warehouse-No Rail | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Total                            | 0.02    | 0.02    | 0.02    | 0.22 | < 0.005 | < 0.005 | 0.02    | 0.02    | < 0.005 | < 0.005 | < 0.005 | — | 60.1 | 60.1 | < 0.005 | < 0.005 | 0.18    | 60.7 |
| Daily, Winter (Max)              | —       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Refrigerated Warehouse-No Rail   | 0.02    | 0.01    | 0.02    | 0.16 | < 0.005 | < 0.005 | 0.02    | 0.02    | < 0.005 | < 0.005 | < 0.005 | — | 54.7 | 54.7 | < 0.005 | < 0.005 | < 0.005 | 55.3 |
| General Office Building          | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Unrefrigerated Warehouse-No Rail | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Total                            | 0.02    | 0.01    | 0.02    | 0.16 | < 0.005 | < 0.005 | 0.02    | 0.02    | < 0.005 | < 0.005 | < 0.005 | — | 54.7 | 54.7 | < 0.005 | < 0.005 | < 0.005 | 55.3 |
| Annual                           | —       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Refrigerated Warehouse-No Rail   | < 0.005 | < 0.005 | < 0.005 | 0.02 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.65 | 6.65 | < 0.005 | < 0.005 | 0.01    | 6.72 |

|                                  |         |         |         |      |         |         |         |         |         |         |         |         |   |      |      |         |         |      |      |
|----------------------------------|---------|---------|---------|------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|------|------|
| General Office Building          | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Unrefrigerated Warehouse-No Rail | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Total                            | < 0.005 | < 0.005 | < 0.005 | 0.02 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 6.65 | 6.65 | < 0.005 | < 0.005 | 0.01 | 6.72 |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                         | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4     | N2O     | R | CO2e |   |
|----------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|---------|---------|---|------|---|
| Daily, Summer (Max)              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | — | —    | — |
| Refrigerated Warehouse-No Rail   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 10.3  | 10.3 | < 0.005 | < 0.005 | — | 10.4 |   |
| General Office Building          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 13.1  | 13.1 | < 0.005 | < 0.005 | — | 13.2 |   |
| Unrefrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 12.0  | 12.0 | < 0.005 | < 0.005 | — | 12.1 |   |
| Total                            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 35.4  | 35.4 | 0.01    | < 0.005 | — | 35.8 |   |

|                                  |   |   |   |   |   |   |   |   |   |   |   |   |      |      |         |         |   |      |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|------|---------|---------|---|------|
| Daily, Winter (Max)              | — | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail   | — | — | — | — | — | — | — | — | — | — | — | — | 10.3 | 10.3 | < 0.005 | < 0.005 | — | 10.4 |
| General Office Building          | — | — | — | — | — | — | — | — | — | — | — | — | 13.1 | 13.1 | < 0.005 | < 0.005 | — | 13.2 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 12.0 | 12.0 | < 0.005 | < 0.005 | — | 12.1 |
| Total                            | — | — | — | — | — | — | — | — | — | — | — | — | 35.4 | 35.4 | 0.01    | < 0.005 | — | 35.8 |
| Annual                           | — | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail   | — | — | — | — | — | — | — | — | — | — | — | — | 1.70 | 1.70 | < 0.005 | < 0.005 | — | 1.72 |
| General Office Building          | — | — | — | — | — | — | — | — | — | — | — | — | 2.17 | 2.17 | < 0.005 | < 0.005 | — | 2.19 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 1.99 | 1.99 | < 0.005 | < 0.005 | — | 2.01 |
| Total                            | — | — | — | — | — | — | — | — | — | — | — | — | 5.86 | 5.86 | < 0.005 | < 0.005 | — | 5.92 |

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Key Energy - Lithium Ion Battery Option - Phase 1 Custom Report, 1/13/2023

| Land Use                         | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|----------------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| General Office Building          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| General Office Building          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                           | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |

|                                  |      |      |      |      |      |      |   |      |      |   |      |   |      |      |      |      |   |      |
|----------------------------------|------|------|------|------|------|------|---|------|------|---|------|---|------|------|------|------|---|------|
| Refrigerated Warehouse-No Rail   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| General Office Building          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

### 4.3. Area Emissions by Source

#### 4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source                 | TOG | ROG     | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------------------------|-----|---------|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max)    | —   | —       | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | —   | 0.08    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Architectural Coatings | —   | < 0.005 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total                  | —   | 0.09    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max)    | —   | —       | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | —   | 0.08    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                        |   |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Architect Coatings     | — | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total                  | — | 0.09    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual                 | — | —       | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products      | — | 0.01    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total                  | — | 0.02    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.4. Water Emissions by Land Use

##### 4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                         | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2    | NBCO2   | CO2T    | CH4     | N2O     | R | CO2e |
|----------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|---------|---------|---------|---------|---------|---|------|
| Daily, Summer (Max)              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —       | —       | —       | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00    | 22.3    | 22.3    | < 0.005 | < 0.005 | — | 22.6 |
| General Office Building          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.01 |
| Unrefrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 |

|                                  |   |   |   |   |   |   |   |   |   |   |   |         |         |         |         |         |   |         |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---------|---------|---------|---------|---------|---|---------|
| Total                            | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | 22.3    | 22.3    | < 0.005 | < 0.005 | — | 22.6    |
| Daily, Winter (Max)              | — | — | — | — | — | — | — | — | — | — | — | —       | —       | —       | —       | —       | — | —       |
| Refrigerated Warehouse-No Rail   | — | — | — | — | — | — | — | — | — | — | — | 0.00    | 22.3    | 22.3    | < 0.005 | < 0.005 | — | 22.6    |
| General Office Building          | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.01    |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00    |
| Total                            | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | 22.3    | 22.3    | < 0.005 | < 0.005 | — | 22.6    |
| Annual                           | — | — | — | — | — | — | — | — | — | — | — | —       | —       | —       | —       | —       | — | —       |
| Refrigerated Warehouse-No Rail   | — | — | — | — | — | — | — | — | — | — | — | 0.00    | 3.70    | 3.70    | < 0.005 | < 0.005 | — | 3.74    |
| General Office Building          | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00    |
| Total                            | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | 3.70    | 3.70    | < 0.005 | < 0.005 | — | 3.74    |

#### 4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                         | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|----------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| General Office Building          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Unrefrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| General Office Building          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |



|                                  |   |   |   |   |   |   |   |   |   |   |   |      |      |      |      |      |   |      |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                            | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                           | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail   | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| General Office Building          | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                            | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

#### 4.6. Refrigerant Emissions by Land Use

##### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R       | CO2e    |
|-------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---------|---------|
| Daily, Summer (Max)     | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | —       | —       |
| General Office Building | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | < 0.005 | < 0.005 |
| Total                   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | < 0.005 | < 0.005 |

|                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |         |         |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|---------|
| Daily, Winter (Max)     | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | —       | —       |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| Total                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| Annual                  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | —       | —       |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| Total                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |

#### 4.7. Offroad Emissions By Equipment Type

##### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

### 4.8. Stationary Emissions By Equipment Type

#### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

### 4.9. User Defined Emissions By Equipment Type

#### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.10. Soil Carbon Accumulation By Vegetation Type

##### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation          | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

##### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species             | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Sequestered         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Removed             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| —                   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Sequestered         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Removed     | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —           | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual      | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided     | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed     | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —           | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 5. Activity Data

### 5.1. Construction Schedule

| Phase Name                            | Phase Type            | Start Date | End Date  | Days Per Week | Work Days per Phase | Phase Description |
|---------------------------------------|-----------------------|------------|-----------|---------------|---------------------|-------------------|
| Site Preparation                      | Site Preparation      | 1/1/2024   | 1/12/2024 | 5.00          | 10.0                | —                 |
| Project Substation Site Prep          | Site Preparation      | 1/1/2024   | 1/26/2024 | 5.00          | 20.0                | —                 |
| Grading                               | Grading               | 1/13/2024  | 2/9/2024  | 5.00          | 20.0                | —                 |
| Project Substation Site Grading       | Grading               | 1/27/2024  | 2/9/2024  | 5.00          | 10.0                | —                 |
| Energy Storage Enclosure Installation | Building Construction | 2/10/2024  | 8/2/2024  | 5.00          | 125                 | —                 |
| Project Substation Installation       | Building Construction | 8/15/2024  | 12/4/2024 | 5.00          | 80.0                | —                 |

|                                       |                       |            |            |      |      |   |
|---------------------------------------|-----------------------|------------|------------|------|------|---|
| Gen-Tie Foundation and Tower Erection | Building Construction | 12/5/2024  | 12/11/2024 | 5.00 | 5.00 | — |
| Gen-Tie Stringing and Pulling         | Building Construction | 12/12/2024 | 12/25/2024 | 5.00 | 10.0 | — |
| Architectural Coating                 | Architectural Coating | 7/1/2024   | 8/15/2024  | 5.00 | 34.0 | — |

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

| Phase Name                            | Equipment Type            | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---------------------------------------|---------------------------|-----------|-------------|----------------|---------------|------------|-------------|
| Site Preparation                      | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Grading                               | Graders                   | Diesel    | Average     | 4.00           | 8.00          | 148        | 0.41        |
| Grading                               | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Energy Storage Enclosure Installation | Cranes                    | Diesel    | Average     | 2.00           | 7.00          | 367        | 0.29        |
| Energy Storage Enclosure Installation | Generator Sets            | Diesel    | Average     | 4.00           | 8.00          | 14.0       | 0.74        |
| Energy Storage Enclosure Installation | Tractors/Loaders/Backhoes | Diesel    | Average     | 2.00           | 8.00          | 84.0       | 0.37        |
| Architectural Coating                 | Air Compressors           | Diesel    | Average     | 1.00           | 6.00          | 37.0       | 0.48        |
| Project Substation Site Prep          | Rubber Tired Dozers       | Diesel    | Average     | 4.00           | 8.00          | 367        | 0.40        |
| Project Substation Site Prep          | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Project Substation Site Grading       | Rubber Tired Dozers       | Diesel    | Average     | 4.00           | 8.00          | 367        | 0.40        |
| Project Substation Site Grading       | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Project Substation Installation       | Cranes                    | Diesel    | Average     | 2.00           | 8.00          | 367        | 0.29        |

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|                                       |                           |        |         |      |      |      |      |
|---------------------------------------|---------------------------|--------|---------|------|------|------|------|
| Project Substation Installation       | Generator Sets            | Diesel | Average | 2.00 | 8.00 | 14.0 | 0.74 |
| Project Substation Installation       | Tractors/Loaders/Backhoes | Diesel | Average | 4.00 | 8.00 | 84.0 | 0.37 |
| Gen-Tie Foundation and Tower Erection | Cranes                    | Diesel | Average | 1.00 | 8.00 | 367  | 0.29 |
| Gen-Tie Foundation and Tower Erection | Forklifts                 | Diesel | Average | 1.00 | 8.00 | 82.0 | 0.20 |
| Gen-Tie Foundation and Tower Erection | Generator Sets            | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Gen-Tie Foundation and Tower Erection | Welders                   | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.45 |
| Gen-Tie Stringing and Pulling         | Forklifts                 | Diesel | Average | 1.00 | 8.00 | 82.0 | 0.20 |
| Gen-Tie Stringing and Pulling         | Generator Sets            | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Gen-Tie Stringing and Pulling         | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 8.00 | 84.0 | 0.37 |
| Site Preparation                      | Graders                   | Diesel | Average | 4.00 | 8.00 | 148  | 0.41 |
| Site Preparation                      | Rubber Tired Loaders      | Diesel | Average | 4.00 | 8.00 | 150  | 0.36 |
| Site Preparation                      | Skid Steer Loaders        | Diesel | Average | 4.00 | 8.00 | 71.0 | 0.37 |
| Grading                               | Plate Compactors          | Diesel | Average | 4.00 | 8.00 | 8.00 | 0.43 |
| Grading                               | Rollers                   | Diesel | Average | 4.00 | 8.00 | 36.0 | 0.38 |
| Grading                               | Rubber Tired Loaders      | Diesel | Average | 4.00 | 8.00 | 150  | 0.36 |
| Grading                               | Skid Steer Loaders        | Diesel | Average | 4.00 | 8.00 | 71.0 | 0.37 |
| Project Substation Site Grading       | Rollers                   | Diesel | Average | 4.00 | 8.00 | 36.0 | 0.38 |
| Energy Storage Enclosure Installation | Air Compressors           | Diesel | Average | 4.00 | 8.00 | 37.0 | 0.48 |
| Energy Storage Enclosure Installation | Excavators                | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |



|                                       |                         |        |         |      |      |      |      |
|---------------------------------------|-------------------------|--------|---------|------|------|------|------|
| Energy Storage Enclosure Installation | Plate Compactors        | Diesel | Average | 2.00 | 8.00 | 8.00 | 0.43 |
| Energy Storage Enclosure Installation | Rollers                 | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Energy Storage Enclosure Installation | Rough Terrain Forklifts | Diesel | Average | 2.00 | 8.00 | 96.0 | 0.40 |
| Energy Storage Enclosure Installation | Skid Steer Loaders      | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Project Substation Installation       | Aerial Lifts            | Diesel | Average | 6.00 | 8.00 | 46.0 | 0.31 |
| Project Substation Installation       | Air Compressors         | Diesel | Average | 2.00 | 8.00 | 37.0 | 0.48 |
| Project Substation Installation       | Bore/Drill Rigs         | Diesel | Average | 2.00 | 8.00 | 83.0 | 0.50 |
| Project Substation Installation       | Excavators              | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Project Substation Installation       | Rollers                 | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Project Substation Installation       | Rough Terrain Forklifts | Diesel | Average | 2.00 | 8.00 | 96.0 | 0.40 |
| Project Substation Installation       | Rubber Tired Dozers     | Diesel | Average | 2.00 | 8.00 | 367  | 0.40 |
| Project Substation Installation       | Skid Steer Loaders      | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Project Substation Installation       | Trenchers               | Diesel | Average | 4.00 | 8.00 | 40.0 | 0.50 |
| Gen-Tie Foundation and Tower Erection | Air Compressors         | Diesel | Average | 1.00 | 8.00 | 37.0 | 0.48 |
| Gen-Tie Foundation and Tower Erection | Pumps                   | Diesel | Average | 1.00 | 8.00 | 11.0 | 0.74 |

### 5.3. Construction Vehicles

## 5.3.1. Unmitigated

| Phase Name                            | Trip Type    | One-Way Trips per Day | Miles per Trip | Vehicle Mix   |
|---------------------------------------|--------------|-----------------------|----------------|---------------|
| Site Preparation                      | —            | —                     | —              | —             |
| Site Preparation                      | Worker       | 80.0                  | 11.4           | LDA,LDT1,LDT2 |
| Site Preparation                      | Vendor       | 4.00                  | 60.0           | HHDT          |
| Site Preparation                      | Hauling      | 0.00                  | 20.0           | HHDT          |
| Site Preparation                      | Onsite truck | 0.00                  | —              | HHDT          |
| Grading                               | —            | —                     | —              | —             |
| Grading                               | Worker       | 80.0                  | 11.4           | LDA,LDT1,LDT2 |
| Grading                               | Vendor       | 4.00                  | 60.0           | HHDT          |
| Grading                               | Hauling      | 0.00                  | 20.0           | HHDT          |
| Grading                               | Onsite truck | 0.00                  | —              | HHDT          |
| Energy Storage Enclosure Installation | —            | —                     | —              | —             |
| Energy Storage Enclosure Installation | Worker       | 240                   | 11.4           | LDA,LDT1,LDT2 |
| Energy Storage Enclosure Installation | Vendor       | 40.0                  | 60.0           | HHDT,MHDT     |
| Energy Storage Enclosure Installation | Hauling      | 0.00                  | 20.0           | HHDT          |
| Energy Storage Enclosure Installation | Onsite truck | 0.00                  | —              | HHDT          |
| Architectural Coating                 | —            | —                     | —              | —             |
| Architectural Coating                 | Worker       | 2.00                  | 11.4           | LDA,LDT1,LDT2 |
| Architectural Coating                 | Vendor       | 0.00                  | 8.53           | HHDT,MHDT     |
| Architectural Coating                 | Hauling      | 0.00                  | 20.0           | HHDT          |
| Architectural Coating                 | Onsite truck | 0.00                  | —              | HHDT          |
| Project Substation Site Prep          | —            | —                     | —              | —             |
| Project Substation Site Prep          | Worker       | 40.0                  | 11.4           | LDA,LDT1,LDT2 |
| Project Substation Site Prep          | Vendor       | 8.00                  | 60.0           | HHDT          |
| Project Substation Site Prep          | Hauling      | 0.00                  | 20.0           | HHDT          |
| Project Substation Site Prep          | Onsite truck | 0.00                  | —              | HHDT          |

|                                       |              |      |      |               |
|---------------------------------------|--------------|------|------|---------------|
| Project Substation Site Grading       | —            | —    | —    | —             |
| Project Substation Site Grading       | Worker       | 40.0 | 11.4 | LDA,LDT1,LDT2 |
| Project Substation Site Grading       | Vendor       | 8.00 | 60.0 | HHDT          |
| Project Substation Site Grading       | Hauling      | 0.00 | 20.0 | HHDT          |
| Project Substation Site Grading       | Onsite truck | 0.00 | —    | HHDT          |
| Project Substation Installation       | —            | —    | —    | —             |
| Project Substation Installation       | Worker       | 120  | 11.4 | LDA,LDT1,LDT2 |
| Project Substation Installation       | Vendor       | 80.0 | 60.0 | HHDT,MHDT     |
| Project Substation Installation       | Hauling      | 0.00 | 20.0 | HHDT          |
| Project Substation Installation       | Onsite truck | 0.00 | —    | HHDT          |
| Gen-Tie Foundation and Tower Erection | —            | —    | —    | —             |
| Gen-Tie Foundation and Tower Erection | Worker       | 80.0 | 11.4 | LDA,LDT1,LDT2 |
| Gen-Tie Foundation and Tower Erection | Vendor       | 8.00 | 60.0 | HHDT          |
| Gen-Tie Foundation and Tower Erection | Hauling      | 0.00 | 20.0 | HHDT          |
| Gen-Tie Foundation and Tower Erection | Onsite truck | 0.00 | —    | HHDT          |
| Gen-Tie Stringing and Pulling         | —            | —    | —    | —             |
| Gen-Tie Stringing and Pulling         | Worker       | 80.0 | 11.4 | LDA,LDT1,LDT2 |
| Gen-Tie Stringing and Pulling         | Vendor       | 8.00 | 60.0 | HHDT          |
| Gen-Tie Stringing and Pulling         | Hauling      | 0.00 | 20.0 | HHDT          |
| Gen-Tie Stringing and Pulling         | Onsite truck | 0.00 | —    | HHDT          |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name            | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|-----------------------|--|--|--|--|-----------------------------|
| Architectural Coating | 0.00                                     | 0.00                                     | 5,625  | 1,875  | —                           |

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name                      | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|---------------------------------|---------------------------------|---------------------------------|----------------------|-------------------------------|---------------------|
| Site Preparation                | 0.00                            | 0.00                            | 20.0                 | 0.00                          | —                   |
| Project Substation Site Prep    | 0.00                            | 0.00                            | 40.0                 | 0.00                          | —                   |
| Grading                         | 0.00                            | 0.00                            | 40.0                 | 0.00                          | —                   |
| Project Substation Site Grading | 0.00                            | 0.00                            | 20.0                 | 0.00                          | —                   |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|----------------------------|---------------------|----------------|-----------------|
| Water Exposed Area         | 3                   | 74%            | 74%             |

## 5.7. Construction Paving

| Land Use                         | Area Paved (acres) | % Asphalt |
|----------------------------------|--------------------|-----------|
| Refrigerated Warehouse-No Rail   | 0.00               | 0%        |
| General Office Building          | 0.00               | 0%        |
| Unrefrigerated Warehouse-No Rail | 0.00               | 0%        |

## 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4  | N2O     |
|------|--------------|-----|------|---------|
| 2024 | 0.00         | 204 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type                    | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|----------------------------------|---------------|----------------|--------------|------------|-------------|--------------|------------|----------|
| Refrigerated Warehouse-No Rail   | 4.00          | 0.00           | 0.00         | 1,043      | 59.4        | 0.00         | 0.00       | 15,498   |
| General Office Building          | 0.00          | 0.00           | 0.00         | 0.00       | 0.00        | 0.00         | 0.00       | 0.00     |
| Unrefrigerated Warehouse-No Rail | 0.00          | 0.00           | 0.00         | 0.00       | 0.00        | 0.00         | 0.00       | 0.00     |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|--|--|--|--|-----------------------------|
| 0  | 0.00                                     | 5,625  | 1,875  | —                           |

### 5.10.3. Landscape Equipment

| Season      | Unit   | Value |
|-------------|--------|-------|
| Snow Days   | day/yr | 0.00  |
| Summer Days | day/yr | 0.00  |

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

#### Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use                         | Electricity (kWh/yr) | CO2 | CH4    | N2O    | Natural Gas (kBTU/yr) |
|----------------------------------|----------------------|-----|--------|--------|-----------------------|
| Refrigerated Warehouse-No Rail   | 18,420               | 204 | 0.0330 | 0.0040 | 0.00                  |
| General Office Building          | 23,446               | 204 | 0.0330 | 0.0040 | 0.00                  |
| Unrefrigerated Warehouse-No Rail | 21,480               | 204 | 0.0330 | 0.0040 | 0.00                  |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use                         | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|----------------------------------|-------------------------|--------------------------|
| Refrigerated Warehouse-No Rail   | 0.00                    | 16,520,646               |
| General Office Building          | 1,008                   | 0.00                     |
| Unrefrigerated Warehouse-No Rail | 0.00                    | 0.00                     |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use                         | Waste (ton/year) | Cogeneration (kWh/year) |
|----------------------------------|------------------|-------------------------|
| Refrigerated Warehouse-No Rail   | 0.00             | 0.00                    |
| General Office Building          | 0.00             | 0.00                    |
| Unrefrigerated Warehouse-No Rail | 0.00             | 0.00                    |

## 5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

| Land Use Type           | Equipment Type                          | Refrigerant | GWP   | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|-------------------------|---|-------------|-------|---------------|----------------------|-------------------|----------------|
| General Office Building | Household refrigerators and/or freezers | R-134a      | 1,430 | 0.02          | 0.60                 | 0.00              | 1.00           |
| General Office Building | Other commercial A/C and heat pumps     | R-410A      | 2,088 | < 0.005       | 4.00                 | 4.00              | 18.0           |

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|----------------|-----------|-------------|----------------|---------------|------------|-------------|
|----------------|-----------|-------------|----------------|---------------|------------|-------------|

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|----------------|-----------|----------------|---------------|----------------|------------|-------------|
|----------------|-----------|----------------|---------------|----------------|------------|-------------|

5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|

5.17. User Defined

| Equipment Type | Fuel Type |
|----------------|-----------|
| —              | —         |

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|--------------------------|----------------------|---------------|-------------|
|--------------------------|----------------------|---------------|-------------|

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

5.18.2. Sequestration

5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|-----------|--------|------------------------------|------------------------------|
|-----------|--------|------------------------------|------------------------------|

## 8. User Changes to Default Data

| Screen                            | Justification   |
|-----------------------------------|---|
| Land Use                          | Total acreage for Phase 1 is 34.5 acres, 34 acres used for Refrigerated warehouse, 0.25 used for each of the O&M building land use types added                                |
| Construction: Construction Phases | Project construction schedule provided  |
| Construction: Off-Road Equipment  | Based on project provided construction equipment  |
| Operations: Vehicle Data          | Based on project specific trips for daily/monthly activity. Annual maintenance activity modeled under Lithium Ion and Iron Flow Batter Option Phase 1                         |
| Operations: Landscape Equipment   | No Landscaping  |
| Operations: Energy Use            | No natural gas connection to site. Electrical consumption based on cooling energy use only for refrigerated warehouse use.  |
| Operations: Water and Waste Water | Water usage for Refrigerated warehouse is for construction activities for dust control. Office water represents total gallons per year for warehouse/office use based on WSA. |



|                             |  |
|-----------------------------|--|
| Operations: Solid Waste     | No solid waste collection at site. All carry in/carry out for waste. |
| Operations: Refrigerants    | No cold storage onsite   |
| Operations: Fleet Mix       | All trips MDV for worker truck use                                   |
| Construction: Trips and VMT | Based on project specific information                                |

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Lithium Ion Battery - Phase 2 CalEEMod Output (Annual, Winter, Summer)

# Key Energy - Phase 2 Lithium Ion Battery Option Custom Report

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8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field                  | Value   |
|-----------------------------|---|
| Project Name                | Key Energy - Phase 2 Lithium Ion Battery Option |
| Lead Agency                 | —   |
| Land Use Scale              | Project/site                                    |
| Analysis Level for Defaults | County  |
| Windspeed (m/s)             | 3.50  |
| Precipitation (days)        | 16.8  |
| Location                    | 36.13263447616909, -120.13458957268438          |
| County                      | Fresno  |
| City                        | Unincorporated                                  |
| Air District                | San Joaquin Valley APCD                         |
| Air Basin                   | San Joaquin Valley                              |
| TAZ                         | 2530  |
| EDFZ                        | 5   |
| Electric Utility            | Pacific Gas & Electric Company                  |
| Gas Utility                 | Pacific Gas & Electric                          |

## 1.2. Land Use Types

| Land Use Subtype               | Size | Unit     | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|--------------------------------|------|----------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| Refrigerated Warehouse-No Rail | 2.00 | 1000sqft | 28.0        | 2,000                 | 0.00                   | 0.00                           | —          | —           |



### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2  | CO2T   | CH4  | N2O  | R    | CO2e   |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 4.77 | 4.03 | 32.8 | 40.5 | 0.11 | 1.02  | 3.32  | 4.33  | 0.94   | 0.86   | 1.81   | —    | 14,252 | 14,252 | 0.38 | 1.17 | 26.0 | 14,636 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 4.73 | 3.99 | 33.4 | 48.2 | 0.11 | 1.49  | 3.32  | 4.33  | 1.38   | 0.86   | 1.81   | —    | 14,089 | 14,089 | 0.39 | 1.17 | 0.67 | 14,449 |
| Average Daily (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 3.03 | 2.55 | 21.4 | 26.1 | 0.07 | 0.70  | 1.98  | 2.67  | 0.65   | 0.51   | 1.15   | —    | 8,748  | 8,748  | 0.25 | 0.69 | 6.54 | 8,965  |
| Annual (Max)        | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 0.55 | 0.46 | 3.91 | 4.76 | 0.01 | 0.13  | 0.36  | 0.49  | 0.12   | 0.09   | 0.21   | —    | 1,448  | 1,448  | 0.04 | 0.11 | 1.08 | 1,484  |

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year                 | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily - Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                      |      |      |      |      |      |      |      |      |      |      |      |   |        |        |      |      |      |        |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|---|--------|--------|------|------|------|--------|
| 2025                 | 4.77 | 4.03 | 32.8 | 40.5 | 0.11 | 1.02 | 3.32 | 4.33 | 0.94 | 0.86 | 1.81 | — | 14,252 | 14,252 | 0.38 | 1.17 | 26.0 | 14,636 |
| 2026                 | 4.58 | 3.86 | 31.5 | 39.6 | 0.11 | 0.94 | 3.32 | 4.26 | 0.88 | 0.86 | 1.74 | — | 14,083 | 14,083 | 0.38 | 1.17 | 23.0 | 14,465 |
| Daily - Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2025                 | 4.73 | 3.99 | 33.4 | 48.2 | 0.11 | 1.49 | 3.32 | 4.33 | 1.38 | 0.86 | 1.81 | — | 14,089 | 14,089 | 0.39 | 1.17 | 0.67 | 14,449 |
| 2026                 | 4.44 | 3.75 | 32.1 | 38.0 | 0.11 | 0.94 | 3.32 | 4.26 | 0.88 | 0.86 | 1.74 | — | 13,925 | 13,925 | 0.39 | 1.17 | 0.60 | 14,284 |
| Average Daily        | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2025                 | 3.03 | 2.55 | 21.4 | 26.1 | 0.07 | 0.70 | 1.98 | 2.67 | 0.65 | 0.51 | 1.15 | — | 8,748  | 8,748  | 0.25 | 0.69 | 6.54 | 8,965  |
| 2026                 | 1.49 | 1.25 | 10.6 | 12.7 | 0.04 | 0.31 | 1.09 | 1.41 | 0.29 | 0.28 | 0.58 | — | 4,647  | 4,647  | 0.13 | 0.39 | 3.30 | 4,770  |
| Annual               | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2025                 | 0.55 | 0.46 | 3.91 | 4.76 | 0.01 | 0.13 | 0.36 | 0.49 | 0.12 | 0.09 | 0.21 | — | 1,448  | 1,448  | 0.04 | 0.11 | 1.08 | 1,484  |
| 2026                 | 0.27 | 0.23 | 1.93 | 2.31 | 0.01 | 0.06 | 0.20 | 0.26 | 0.05 | 0.05 | 0.11 | — | 769    | 769    | 0.02 | 0.06 | 0.55 | 790    |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4     | N2O     | R    | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|---------|---------|------|------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 23.1  | 23.1 | < 0.005 | < 0.005 | 0.00 | 23.3 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 23.1  | 23.1 | < 0.005 | < 0.005 | 0.00 | 23.3 |
| Average Daily (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 23.1  | 23.1 | < 0.005 | < 0.005 | 0.00 | 23.3 |

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |         |         |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|---------|------|------|
| Annual (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Unmit.       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.82 | 3.82 | < 0.005 | < 0.005 | 0.00 | 3.86 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector              | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4     | N2O     | R    | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|---------|---------|------|------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | —    | —    |
| Mobile              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Area                | —    | 0.00 | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | —    | —    |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Water               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 23.1  | 23.1 | < 0.005 | < 0.005 | —    | 23.3 |
| Waste               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Total               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 23.1  | 23.1 | < 0.005 | < 0.005 | 0.00 | 23.3 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | —    | —    |
| Mobile              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Area                | —    | 0.00 | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | —    | —    |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Water               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 23.1  | 23.1 | < 0.005 | < 0.005 | —    | 23.3 |
| Waste               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Total               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 23.1  | 23.1 | < 0.005 | < 0.005 | 0.00 | 23.3 |
| Average Daily       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | —    | —    |
| Mobile              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Area                | —    | 0.00 | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | —    | —    |

|        |      |      |      |      |      |      |      |      |      |      |      |      |      |      |         |         |      |      |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|---------|------|------|
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | —    | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Water  | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 23.1 | 23.1 | < 0.005 | < 0.005 | —    | 23.3 |
| Waste  | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Total  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 23.1 | 23.1 | < 0.005 | < 0.005 | 0.00 | 23.3 |
| Annual | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Area   | —    | 0.00 | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | —    | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Water  | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 3.82 | 3.82 | < 0.005 | < 0.005 | —    | 3.86 |
| Waste  | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Total  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.82 | 3.82 | < 0.005 | < 0.005 | 0.00 | 3.86 |

### 3. Construction Emissions Details

#### 3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                    | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R | CO2e  |
|-----------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|---|-------|
| Onsite                      | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Daily, Summer (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Daily, Winter (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Off-Road Equipment          | 3.57 | 3.00 | 26.2 | 40.8 | 0.06 | 1.28  | —     | 1.28  | 1.18   | —      | 1.18   | —    | 6,419 | 6,419 | 0.26 | 0.05 | — | 6,441 |
| Dust From Material Movement | —    | —    | —    | —    | —    | —     | 0.55  | 0.55  | —      | 0.06   | 0.06   | —    | —     | —     | —    | —    | — | —     |

Key Energy - Phase 2 Lithium Ion Battery Option Custom Report, 1/13/2023

|                              |      |      |      |      |         |      |         |         |      |         |         |      |      |      |         |         |      |      |      |
|------------------------------|------|------|------|------|---------|------|---------|---------|------|---------|---------|------|------|------|---------|---------|------|------|------|
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | —    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 |
| Average Daily                | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | —    | —    | —    | —       | —       | —    | —    | —    |
| Off-Road Equipment           | 0.10 | 0.08 | 0.72 | 1.12 | < 0.005 | 0.04 | —       | 0.04    | 0.03 | —       | 0.03    | —    | 176  | 176  | 0.01    | < 0.005 | —    | 176  |      |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.02    | 0.02    | —    | < 0.005 | < 0.005 | —    | —    | —    | —       | —       | —    | —    |      |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |      |
| Annual                       | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | —    | —    | —    | —       | —       | —    | —    |      |
| Off-Road Equipment           | 0.02 | 0.01 | 0.13 | 0.20 | < 0.005 | 0.01 | —       | 0.01    | 0.01 | —       | 0.01    | —    | 29.1 | 29.1 | < 0.005 | < 0.005 | —    | 29.2 |      |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | < 0.005 | < 0.005 | —    | < 0.005 | < 0.005 | —    | —    | —    | —       | —       | —    | —    |      |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |      |
| Offsite                      | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | —    | —    | —    | —       | —       | —    | —    |      |
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | —    | —    | —    | —       | —       | —    | —    |      |
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | —    | —    | —    | —       | —       | —    | —    |      |
| Worker                       | 0.32 | 0.30 | 0.22 | 2.41 | 0.00    | 0.00 | 0.03    | 0.03    | 0.00 | 0.00    | 0.00    | —    | 430  | 430  | 0.02    | 0.02    | 0.05 | 437  |      |
| Vendor                       | 0.03 | 0.01 | 0.94 | 0.16 | 0.01    | 0.02 | 0.06    | 0.08    | 0.02 | 0.02    | 0.04    | —    | 825  | 825  | 0.02    | 0.13    | 0.05 | 864  |      |
| Hauling                      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |      |
| Average Daily                | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | —    | —    | —    | —       | —       | —    | —    |      |
| Worker                       | 0.01 | 0.01 | 0.01 | 0.07 | 0.00    | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00    | 0.00    | —    | 12.2 | 12.2 | < 0.005 | < 0.005 | 0.02 | 12.4 |      |

|         |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |         |      |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Vendor  | < 0.005 | < 0.005 | 0.03    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 22.6 | 22.6 | < 0.005 | < 0.005 | 0.02    | 23.7 |
| Hauling | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual  | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker  | < 0.005 | < 0.005 | < 0.005 | 0.01    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 2.02 | 2.02 | < 0.005 | < 0.005 | < 0.005 | 2.06 |
| Vendor  | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.74 | 3.74 | < 0.005 | < 0.005 | < 0.005 | 3.92 |
| Hauling | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |

### 3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                    | TOG  | ROG  | NOx  | CO   | SO2     | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O     | R    | CO2e  |
|-----------------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|---------|------|-------|
| Onsite                      | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Daily, Summer (Max)         | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Daily, Winter (Max)         | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment          | 4.38 | 3.68 | 30.8 | 45.6 | 0.07    | 1.48  | —     | 1.48  | 1.36   | —      | 1.36   | —    | 7,124 | 7,124 | 0.29 | 0.06    | —    | 7,148 |
| Dust From Material Movement | —    | —    | —    | —    | —       | —     | 0.55  | 0.55  | —      | 0.06   | 0.06   | —    | —     | —     | —    | —       | —    | —     |
| Onsite truck                | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Average Daily               | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment          | 0.24 | 0.20 | 1.69 | 2.50 | < 0.005 | 0.08  | —     | 0.08  | 0.07   | —      | 0.07   | —    | 390   | 390   | 0.02 | < 0.005 | —    | 392   |

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|                              |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |      |      |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|------|------|
| Dust From Material Movement: | —       | —       | —       | —       | —       | —       | 0.03    | 0.03    | —       | < 0.005 | < 0.005 | — | —    | —    | —       | —       | —    | —    |
| Onsite truck                 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual                       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment           | 0.04    | 0.04    | 0.31    | 0.46    | < 0.005 | 0.01    | —       | 0.01    | 0.01    | —       | 0.01    | — | 64.6 | 64.6 | < 0.005 | < 0.005 | —    | 64.8 |
| Dust From Material Movement: | —       | —       | —       | —       | —       | —       | 0.01    | 0.01    | —       | < 0.005 | < 0.005 | — | —    | —    | —       | —       | —    | —    |
| Onsite truck                 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Offsite                      | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Summer (Max)          | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Winter (Max)          | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | 0.32    | 0.30    | 0.22    | 2.41    | 0.00    | 0.00    | 0.03    | 0.03    | 0.00    | 0.00    | 0.00    | — | 430  | 430  | 0.02    | 0.02    | 0.05 | 437  |
| Vendor                       | 0.03    | 0.01    | 0.94    | 0.16    | 0.01    | 0.02    | 0.06    | 0.08    | 0.02    | 0.02    | 0.04    | — | 825  | 825  | 0.02    | 0.13    | 0.05 | 864  |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Average Daily                | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | 0.02    | 0.02    | 0.01    | 0.13    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 24.4 | 24.4 | < 0.005 | < 0.005 | 0.04 | 24.8 |
| Vendor                       | < 0.005 | < 0.005 | 0.05    | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 45.2 | 45.2 | < 0.005 | 0.01    | 0.05 | 47.4 |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual                       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | < 0.005 | < 0.005 | < 0.005 | 0.02    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 4.04 | 4.04 | < 0.005 | < 0.005 | 0.01 | 4.11 |
| Vendor                       | < 0.005 | < 0.005 | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.48 | 7.48 | < 0.005 | < 0.005 | 0.01 | 7.84 |

|         |      |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|

### 3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O     | R    | CO2e  |      |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|---------|------|-------|------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     | —    |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     | —    |
| Off-Road Equipment  | 3.44 | 2.87 | 25.4 | 30.0 | 0.06 | 0.91  | —     | 0.91  | 0.84   | —      | 0.84   | —    | 5,530 | 5,530 | 0.22 | 0.04    | —    | 5,549 |      |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  | 0.00 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     | —    |
| Off-Road Equipment  | 3.44 | 2.87 | 25.4 | 30.0 | 0.06 | 0.91  | —     | 0.91  | 0.84   | —      | 0.84   | —    | 5,530 | 5,530 | 0.22 | 0.04    | —    | 5,549 |      |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  | 0.00 |
| Average Daily       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     | —    |
| Off-Road Equipment  | 1.97 | 1.64 | 14.5 | 17.2 | 0.03 | 0.52  | —     | 0.52  | 0.48   | —      | 0.48   | —    | 3,160 | 3,160 | 0.13 | 0.03    | —    | 3,171 |      |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  | 0.00 |
| Annual              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     | —    |
| Off-Road Equipment  | 0.36 | 0.30 | 2.65 | 3.13 | 0.01 | 0.09  | —     | 0.09  | 0.09   | —      | 0.09   | —    | 523   | 523   | 0.02 | < 0.005 | —    | 525   |      |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  | 0.00 |
| Offsite             | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     | —    |



|                     |      |      |      |      |      |      |      |      |      |      |      |   |       |       |      |      |      |       |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|---|-------|-------|------|------|------|-------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Worker              | 1.09 | 1.03 | 0.55 | 8.93 | 0.00 | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | — | 1,455 | 1,455 | 0.04 | 0.06 | 5.45 | 1,480 |
| Vendor              | 0.24 | 0.13 | 6.87 | 1.56 | 0.05 | 0.11 | 0.42 | 0.53 | 0.11 | 0.16 | 0.26 | — | 7,266 | 7,266 | 0.11 | 1.07 | 20.5 | 7,607 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Worker              | 0.97 | 0.90 | 0.66 | 7.24 | 0.00 | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | — | 1,291 | 1,291 | 0.06 | 0.06 | 0.14 | 1,311 |
| Vendor              | 0.24 | 0.12 | 7.37 | 1.58 | 0.05 | 0.11 | 0.42 | 0.53 | 0.11 | 0.16 | 0.26 | — | 7,267 | 7,267 | 0.11 | 1.07 | 0.53 | 7,588 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Worker              | 0.56 | 0.52 | 0.34 | 4.21 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.00 | — | 764   | 764   | 0.03 | 0.04 | 1.34 | 777   |
| Vendor              | 0.14 | 0.07 | 4.11 | 0.90 | 0.03 | 0.06 | 0.24 | 0.30 | 0.06 | 0.09 | 0.15 | — | 4,152 | 4,152 | 0.06 | 0.61 | 5.06 | 4,340 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Worker              | 0.10 | 0.10 | 0.06 | 0.77 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 127   | 127   | 0.01 | 0.01 | 0.22 | 129   |
| Vendor              | 0.02 | 0.01 | 0.75 | 0.16 | 0.01 | 0.01 | 0.04 | 0.06 | 0.01 | 0.02 | 0.03 | — | 687   | 687   | 0.01 | 0.10 | 0.84 | 719   |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |

### 3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Onsite              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

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|                     |      |      |      |      |         |      |      |      |      |      |      |   |       |       |      |         |      |       |
|---------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|------|---------|------|-------|
| Off-Road Equipment  | 3.33 | 2.78 | 24.5 | 29.9 | 0.06    | 0.84 | —    | 0.84 | 0.77 | —    | 0.77 | — | 5,530 | 5,530 | 0.22 | 0.04    | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 3.33 | 2.78 | 24.5 | 29.9 | 0.06    | 0.84 | —    | 0.84 | 0.77 | —    | 0.77 | — | 5,530 | 5,530 | 0.22 | 0.04    | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 1.11 | 0.92 | 8.14 | 9.95 | 0.02    | 0.28 | —    | 0.28 | 0.26 | —    | 0.26 | — | 1,840 | 1,840 | 0.07 | 0.01    | —    | 1,846 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 0.20 | 0.17 | 1.49 | 1.82 | < 0.005 | 0.05 | —    | 0.05 | 0.05 | —    | 0.05 | — | 305   | 305   | 0.01 | < 0.005 | —    | 306   |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Offsite             | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Worker              | 1.02 | 0.95 | 0.50 | 8.22 | 0.00    | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | — | 1,425 | 1,425 | 0.04 | 0.06    | 4.95 | 1,449 |
| Vendor              | 0.24 | 0.13 | 6.50 | 1.45 | 0.05    | 0.11 | 0.42 | 0.53 | 0.11 | 0.16 | 0.26 | — | 7,129 | 7,129 | 0.11 | 1.07    | 18.1 | 7,467 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Worker              | 0.88 | 0.85 | 0.61 | 6.65 | 0.00    | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | — | 1,265 | 1,265 | 0.05 | 0.06    | 0.13 | 1,285 |

|               |      |      |      |      |         |      |         |         |      |      |      |   |       |       |         |         |      |       |
|---------------|------|------|------|------|---------|------|---------|---------|------|------|------|---|-------|-------|---------|---------|------|-------|
| Vendor        | 0.24 | 0.12 | 7.00 | 1.47 | 0.05    | 0.11 | 0.42    | 0.53    | 0.11 | 0.16 | 0.26 | — | 7,130 | 7,130 | 0.11    | 1.07    | 0.47 | 7,450 |
| Hauling       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Worker        | 0.31 | 0.29 | 0.18 | 2.25 | 0.00    | 0.00 | 0.03    | 0.03    | 0.00 | 0.00 | 0.00 | — | 436   | 436   | 0.02    | 0.02    | 0.71 | 443   |
| Vendor        | 0.08 | 0.04 | 2.27 | 0.49 | 0.02    | 0.04 | 0.14    | 0.18    | 0.04 | 0.05 | 0.09 | — | 2,372 | 2,372 | 0.04    | 0.35    | 2.59 | 2,481 |
| Hauling       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual        | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Worker        | 0.06 | 0.05 | 0.03 | 0.41 | 0.00    | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 72.2  | 72.2  | < 0.005 | < 0.005 | 0.12 | 73.4  |
| Vendor        | 0.01 | 0.01 | 0.41 | 0.09 | < 0.005 | 0.01 | 0.03    | 0.03    | 0.01 | 0.01 | 0.02 | — | 393   | 393   | 0.01    | 0.06    | 0.43 | 411   |
| Hauling       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |

## 4. Operations Emissions Details

### 4.1. Mobile Emissions by Land Use

#### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R    | CO2e |
|--------------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|------|------|
| Daily, Summer (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

|                                |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|
| Daily, Winter (Max)            | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —    | —    | —    | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual                         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —    | —    | —    | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |

|                                |   |   |   |   |   |   |   |   |   |   |   |   |      |      |      |      |   |      |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|---|------|
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | — | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |

|                                |      |      |      |      |      |      |   |      |      |   |      |   |      |      |      |      |   |      |
|--------------------------------|------|------|------|------|------|------|---|------|------|---|------|---|------|------|------|------|---|------|
| Annual                         | —    | —    | —    | —    | —    | —    | — | —    | —    | — | —    | — | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

### 4.3. Area Emissions by Source

#### 4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source                 | TOG | ROG  | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------------------------|-----|------|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max)    | —   | —    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Architectural Coatings | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total                  | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max)    | —   | —    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Architectural Coatings | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total                  | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                        |   |      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual                 | — | —    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products      | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total                  | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.4. Water Emissions by Land Use

##### 4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4     | N2O     | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|---------|---------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 23.1  | 23.1 | < 0.005 | < 0.005 | — | 23.3 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 23.1  | 23.1 | < 0.005 | < 0.005 | — | 23.3 |
| Daily, Winter (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 23.1  | 23.1 | < 0.005 | < 0.005 | — | 23.3 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 23.1  | 23.1 | < 0.005 | < 0.005 | — | 23.3 |
| Annual                         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | — | —    |

|                                |   |   |   |   |   |   |   |   |   |   |   |      |      |      |         |         |   |      |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|---------|---------|---|------|
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 3.82 | 3.82 | < 0.005 | < 0.005 | — | 3.86 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 3.82 | 3.82 | < 0.005 | < 0.005 | — | 3.86 |

#### 4.5. Waste Emissions by Land Use

##### 4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |



|       |   |   |   |   |   |   |   |   |   |   |   |      |      |      |      |      |   |      |
|-------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|
| Total | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
|-------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|

#### 4.6. Refrigerant Emissions by Land Use

##### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.7. Offroad Emissions By Equipment Type

##### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.8. Stationary Emissions By Equipment Type

##### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.9. User Defined Emissions By Equipment Type

##### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.10. Soil Carbon Accumulation By Vegetation Type

##### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation          | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species             | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Sequestered         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Removed             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| —                   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered         | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered         | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 5. Activity Data

### 5.1. Construction Schedule

| Phase Name       | Phase Type       | Start Date | End Date  | Days Per Week | Work Days per Phase | Phase Description |
|------------------|------------------|------------|-----------|---------------|---------------------|-------------------|
| Site Preparation | Site Preparation | 2/1/2025   | 2/14/2025 | 5.00          | 10.0                | —                 |
| Grading          | Grading          | 2/15/2025  | 3/14/2025 | 5.00          | 20.0                | —                 |

|                               |                       |           |           |      |     |                               |
|-------------------------------|-----------------------|-----------|-----------|------|-----|-------------------------------|
| Energy Enclosure Installation | Building Construction | 3/15/2025 | 6/19/2026 | 5.00 | 330 | Energy Enclosure Installation |
|-------------------------------|-----------------------|-----------|-----------|------|-----|-------------------------------|

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

| Phase Name                    | Equipment Type            | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|-------------------------------|---------------------------|-----------|-------------|----------------|---------------|------------|-------------|
| Site Preparation              | Graders                   | Diesel    | Average     | 4.00           | 8.00          | 148        | 0.41        |
| Site Preparation              | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Grading                       | Graders                   | Diesel    | Average     | 4.00           | 8.00          | 148        | 0.41        |
| Grading                       | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Energy Enclosure Installation | Cranes                    | Diesel    | Average     | 2.00           | 8.00          | 367        | 0.29        |
| Energy Enclosure Installation | Generator Sets            | Diesel    | Average     | 4.00           | 8.00          | 14.0       | 0.74        |
| Energy Enclosure Installation | Tractors/Loaders/Backhoes | Diesel    | Average     | 2.00           | 8.00          | 84.0       | 0.37        |
| Site Preparation              | Rubber Tired Loaders      | Diesel    | Average     | 4.00           | 8.00          | 150        | 0.36        |
| Site Preparation              | Skid Steer Loaders        | Diesel    | Average     | 4.00           | 8.00          | 71.0       | 0.37        |
| Grading                       | Plate Compactors          | Diesel    | Average     | 4.00           | 8.00          | 8.00       | 0.43        |
| Grading                       | Rollers                   | Diesel    | Average     | 4.00           | 8.00          | 36.0       | 0.38        |
| Grading                       | Rubber Tired Loaders      | Diesel    | Average     | 4.00           | 8.00          | 150        | 0.36        |
| Grading                       | Skid Steer Loaders        | Diesel    | Average     | 4.00           | 8.00          | 71.0       | 0.37        |
| Energy Enclosure Installation | Air Compressors           | Diesel    | Average     | 4.00           | 8.00          | 37.0       | 0.48        |
| Energy Enclosure Installation | Excavators                | Diesel    | Average     | 2.00           | 8.00          | 36.0       | 0.38        |
| Energy Enclosure Installation | Plate Compactors          | Diesel    | Average     | 2.00           | 8.00          | 8.00       | 0.43        |

|                               |                         |        |         |      |      |      |      |
|-------------------------------|-------------------------|--------|---------|------|------|------|------|
| Energy Enclosure Installation | Rollers                 | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Energy Enclosure Installation | Rough Terrain Forklifts | Diesel | Average | 2.00 | 8.00 | 96.0 | 0.40 |
| Energy Enclosure Installation | Skid Steer Loaders      | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |

### 5.3. Construction Vehicles

#### 5.3.1. Unmitigated

| Phase Name                    | Trip Type    | One-Way Trips per Day | Miles per Trip | Vehicle Mix   |
|-------------------------------|--------------|-----------------------|----------------|---------------|
| Site Preparation              | —            | —                     | —              | —             |
| Site Preparation              | Worker       | 80.0                  | 7.70           | LDA,LDT1,LDT2 |
| Site Preparation              | Vendor       | 4.00                  | 60.0           | HHDT          |
| Site Preparation              | Hauling      | 0.00                  | 20.0           | HHDT          |
| Site Preparation              | Onsite truck | 0.00                  | —              | HHDT          |
| Grading                       | —            | —                     | —              | —             |
| Grading                       | Worker       | 80.0                  | 7.70           | LDA,LDT1,LDT2 |
| Grading                       | Vendor       | 4.00                  | 60.0           | HHDT          |
| Grading                       | Hauling      | 0.00                  | 20.0           | HHDT          |
| Grading                       | Onsite truck | 0.00                  | —              | HHDT          |
| Energy Enclosure Installation | —            | —                     | —              | —             |
| Energy Enclosure Installation | Worker       | 240                   | 7.70           | LDA,LDT1,LDT2 |
| Energy Enclosure Installation | Vendor       | 40.0                  | 60.0           | HHDT,MHDT     |
| Energy Enclosure Installation | Hauling      | 0.00                  | 20.0           | HHDT          |
| Energy Enclosure Installation | Onsite truck | 0.00                  | —              | HHDT          |

### 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

### 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|------------|--|--|--|--|-----------------------------|
|------------|--|--|--|--|-----------------------------|

### 5.6. Dust Mitigation

#### 5.6.1. Construction Earthmoving Activities

| Phase Name       | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|------------------|---------------------------------|---------------------------------|----------------------|-------------------------------|---------------------|
| Site Preparation | 0.00                            | 0.00                            | 20.0                 | 0.00                          | —                   |
| Grading          | 0.00                            | 0.00                            | 40.0                 | 0.00                          | —                   |

#### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|----------------------------|---------------------|----------------|-----------------|
| Water Exposed Area         | 3                   | 74%            | 74%             |

### 5.7. Construction Paving

| Land Use                       | Area Paved (acres) | % Asphalt |
|--------------------------------|--------------------|-----------|
| Refrigerated Warehouse-No Rail | 0.00               | 0%        |

### 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4  | N2O     |
|------|--------------|-----|------|---------|
| 2025 | 0.00         | 204 | 0.03 | < 0.005 |



|      |      |     |      |         |
|------|------|-----|------|---------|
| 2026 | 0.00 | 204 | 0.03 | < 0.005 |
|------|------|-----|------|---------|

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type                  | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|--------------------------------|---------------|----------------|--------------|------------|-------------|--------------|------------|----------|
| Refrigerated Warehouse-No Rail | 0.00          | 0.00           | 0.00         | 0.00       | 0.00        | 0.00         | 0.00       | 0.00     |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|--|--|--|--|-----------------------------|
| 0  | 0.00                                     | 3,000  | 1,000  | —                           |

### 5.10.3. Landscape Equipment

| Season      | Unit   | Value |
|-------------|--------|-------|
| Snow Days   | day/yr | 0.00  |
| Summer Days | day/yr | 0.00  |

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use                       | Electricity (kWh/yr) | CO2 | CH4    | N2O    | Natural Gas (kBTU/yr) |
|--------------------------------|----------------------|-----|--------|--------|-----------------------|
| Refrigerated Warehouse-No Rail | 0.00                 | 204 | 0.0330 | 0.0040 | 0.00                  |

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

| Land Use                       | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|--------------------------------|-------------------------|--------------------------|
| Refrigerated Warehouse-No Rail | 0.00                    | 17,074,592               |

5.13. Operational Waste Generation

5.13.1. Unmitigated

| Land Use                       | Waste (ton/year) | Cogeneration (kWh/year) |
|--------------------------------|------------------|-------------------------|
| Refrigerated Warehouse-No Rail | 0.00             | 0.00                    |

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---------------|----------------|-------------|-----|---------------|----------------------|-------------------|----------------|
|---------------|----------------|-------------|-----|---------------|----------------------|-------------------|----------------|

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|----------------|-----------|-------------|----------------|---------------|------------|-------------|
|----------------|-----------|-------------|----------------|---------------|------------|-------------|

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|----------------|-----------|----------------|---------------|----------------|------------|-------------|
|----------------|-----------|----------------|---------------|----------------|------------|-------------|

5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|

5.17. User Defined

| Equipment Type | Fuel Type |
|----------------|-----------|
| —              | —         |

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|--------------------------|----------------------|---------------|-------------|
|--------------------------|----------------------|---------------|-------------|

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

5.18.2. Sequestration

5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|-----------|--------|------------------------------|------------------------------|
|-----------|--------|------------------------------|------------------------------|

## 8. User Changes to Default Data

| Screen                             | Justification   |
|------------------------------------|---|
| Construction: Construction Phases  | Based on Project specific information provided                      |
| Land Use                           | Based on project specific information                               |
| Construction: Off-Road Equipment   | Project provided information  |
| Construction: Trips and VMT        | Based on project specific information provided                      |
| Operations: Vehicle Data           | Mobile sources estimated under Phase 1 - Lithium Ion Battery Option |
| Operations: Consumer Products      | No operational land uses modeled                                    |
| Operations: Architectural Coatings | No operational land uses modeled                                    |
| Operations: Landscape Equipment    | No operational land uses modeled                                    |
| Operations: Energy Use             | No operational land uses modeled                                    |
| Operations: Water and Waste Water  | Dust Control for construction modeled here.                         |
| Operations: Solid Waste            | No operational land uses modeled                                    |
| Operations: Refrigerants           | No operational land uses modeled                                    |

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Lithium Ion Battery - Phase 3 CalEEMod Output (Annual, Winter, Summer)

# Key Energy - Phase 3 Lithium Ion Battery Option Custom Report

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4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings



5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field                  | Value   |
|-----------------------------|---|
| Project Name                | Key Energy - Phase 3 Lithium Ion Battery Option |
| Lead Agency                 | —   |
| Land Use Scale              | Project/site                                    |
| Analysis Level for Defaults | County  |
| Windspeed (m/s)             | 3.50  |
| Precipitation (days)        | 16.8  |
| Location                    | 36.13263447616909, -120.13458957268438          |
| County                      | Fresno  |
| City                        | Unincorporated                                  |
| Air District                | San Joaquin Valley APCD                         |
| Air Basin                   | San Joaquin Valley                              |
| TAZ                         | 2530  |
| EDFZ                        | 5   |
| Electric Utility            | Pacific Gas & Electric Company                  |
| Gas Utility                 | Pacific Gas & Electric                          |

## 1.2. Land Use Types

| Land Use Subtype               | Size | Unit     | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|--------------------------------|------|----------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| Refrigerated Warehouse-No Rail | 3.00 | 1000sqft | 76.0        | 3,000                 | 0.00                   | 0.00                           | —          | —           |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2  | CO2T   | CH4  | N2O  | R    | CO2e   |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 5.08 | 4.22 | 38.1 | 48.5 | 0.16 | 1.32  | 5.66  | 6.71  | 1.22   | 1.49   | 2.48   | —    | 21,568 | 21,568 | 0.50 | 2.25 | 42.3 | 22,295 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 4.90 | 4.09 | 39.2 | 41.1 | 0.16 | 1.05  | 5.66  | 6.71  | 0.98   | 1.49   | 2.48   | —    | 21,370 | 21,370 | 0.51 | 2.25 | 1.10 | 22,056 |
| Average Daily (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 3.39 | 2.83 | 26.7 | 28.8 | 0.12 | 0.71  | 4.00  | 4.71  | 0.66   | 1.06   | 1.72   | —    | 15,060 | 15,060 | 0.36 | 1.53 | 11.5 | 15,537 |
| Annual (Max)        | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 0.62 | 0.52 | 4.88 | 5.26 | 0.02 | 0.13  | 0.73  | 0.86  | 0.12   | 0.19   | 0.31   | —    | 2,493  | 2,493  | 0.06 | 0.25 | 1.91 | 2,572  |

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year                 | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily - Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                      |      |      |      |      |         |      |      |      |      |      |      |   |        |        |      |      |      |        |
|----------------------|------|------|------|------|---------|------|------|------|------|------|------|---|--------|--------|------|------|------|--------|
| 2026                 | 5.08 | 4.22 | 38.1 | 48.5 | 0.16    | 1.32 | 5.66 | 6.71 | 1.22 | 1.49 | 2.48 | — | 21,568 | 21,568 | 0.50 | 2.25 | 42.3 | 22,295 |
| 2027                 | 4.87 | 4.08 | 36.7 | 42.0 | 0.16    | 0.99 | 5.66 | 6.65 | 0.93 | 1.49 | 2.42 | — | 21,222 | 21,222 | 0.49 | 2.14 | 37.4 | 21,910 |
| Daily - Winter (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2026                 | 4.90 | 4.09 | 39.2 | 41.1 | 0.16    | 1.05 | 5.66 | 6.71 | 0.98 | 1.49 | 2.48 | — | 21,370 | 21,370 | 0.51 | 2.25 | 1.10 | 22,056 |
| 2027                 | 4.74 | 3.90 | 37.7 | 40.2 | 0.16    | 0.99 | 5.66 | 6.65 | 0.93 | 1.49 | 2.42 | — | 21,029 | 21,029 | 0.51 | 2.15 | 0.97 | 21,683 |
| 2028                 | 4.47 | 3.76 | 36.1 | 39.4 | 0.16    | 0.92 | 5.66 | 6.58 | 0.86 | 1.49 | 2.36 | — | 20,650 | 20,650 | 0.51 | 2.15 | 0.86 | 21,303 |
| Average Daily        | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2026                 | 1.72 | 1.43 | 12.8 | 15.9 | 0.05    | 0.42 | 1.43 | 1.85 | 0.39 | 0.36 | 0.75 | — | 5,948  | 5,948  | 0.16 | 0.53 | 4.29 | 6,115  |
| 2027                 | 3.39 | 2.83 | 26.7 | 28.8 | 0.12    | 0.71 | 4.00 | 4.71 | 0.66 | 1.06 | 1.72 | — | 15,060 | 15,060 | 0.36 | 1.53 | 11.5 | 15,537 |
| 2028                 | 0.49 | 0.41 | 3.93 | 4.33 | 0.02    | 0.10 | 0.61 | 0.71 | 0.09 | 0.16 | 0.26 | — | 2,269  | 2,269  | 0.05 | 0.23 | 1.56 | 2,342  |
| Annual               | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2026                 | 0.31 | 0.26 | 2.33 | 2.90 | 0.01    | 0.08 | 0.26 | 0.34 | 0.07 | 0.07 | 0.14 | — | 985    | 985    | 0.03 | 0.09 | 0.71 | 1,012  |
| 2027                 | 0.62 | 0.52 | 4.88 | 5.26 | 0.02    | 0.13 | 0.73 | 0.86 | 0.12 | 0.19 | 0.31 | — | 2,493  | 2,493  | 0.06 | 0.25 | 1.91 | 2,572  |
| 2028                 | 0.09 | 0.08 | 0.72 | 0.79 | < 0.005 | 0.02 | 0.11 | 0.13 | 0.02 | 0.03 | 0.05 | — | 376    | 376    | 0.01 | 0.04 | 0.26 | 388    |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R    | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|------|------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 77.4  | 77.4 | 0.01 | < 0.005 | 0.00 | 78.1 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 77.4  | 77.4 | 0.01 | < 0.005 | 0.00 | 78.1 |

|                     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |         |         |      |      |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|---------|------|------|
| Average Daily (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 77.4 | 77.4 | 0.01    | < 0.005 | 0.00 | 78.1 |
| Annual (Max)        | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.8 | 12.8 | < 0.005 | < 0.005 | 0.00 | 12.9 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector              | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R    | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|------|------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Mobile              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 |
| Area                | —    | 0.00 | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | —    | 0.00 |
| Water               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 77.4  | 77.4 | 0.01 | < 0.005 | —    | 78.1 |
| Waste               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00    | —    | 0.00 |
| Total               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 77.4  | 77.4 | 0.01 | < 0.005 | 0.00 | 78.1 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Mobile              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 |
| Area                | —    | 0.00 | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | —    | 0.00 |
| Water               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 77.4  | 77.4 | 0.01 | < 0.005 | —    | 78.1 |
| Waste               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00    | —    | 0.00 |
| Total               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 77.4  | 77.4 | 0.01 | < 0.005 | 0.00 | 78.1 |

|               |      |      |      |      |      |      |      |      |      |      |      |      |      |      |         |         |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|---------|------|------|
| Average Daily | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Mobile        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Area          | —    | 0.00 | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Energy        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | —    | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Water         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 77.4 | 77.4 | 0.01    | < 0.005 | —    | 78.1 |
| Waste         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Total         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 77.4 | 77.4 | 0.01    | < 0.005 | 0.00 | 78.1 |
| Annual        | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Mobile        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Area          | —    | 0.00 | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Energy        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | —    | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Water         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 12.8 | 12.8 | < 0.005 | < 0.005 | —    | 12.9 |
| Waste         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Total         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.8 | 12.8 | < 0.005 | < 0.005 | 0.00 | 12.9 |

### 3. Construction Emissions Details

#### 3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R | CO2e  |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|---|-------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Off-Road Equipment  | 2.37 | 1.99 | 18.3 | 28.2 | 0.04 | 0.84  | —     | 0.84  | 0.77   | —      | 0.77   | —    | 4,413 | 4,413 | 0.18 | 0.04 | — | 4,429 |

Key Energy - Phase 3 Lithium Ion Battery Option Custom Report, 1/13/2023

|                              |      |      |      |      |         |      |      |      |      |         |         |   |       |       |         |         |      |       |
|------------------------------|------|------|------|------|---------|------|------|------|------|---------|---------|---|-------|-------|---------|---------|------|-------|
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.55 | 0.55 | —    | 0.06    | 0.06    | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Average Daily                | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.13 | 0.11 | 1.00 | 1.54 | < 0.005 | 0.05 | —    | 0.05 | 0.04 | —       | 0.04    | — | 242   | 242   | 0.01    | < 0.005 | —    | 243   |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.03 | 0.03 | —    | < 0.005 | < 0.005 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual                       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.02 | 0.02 | 0.18 | 0.28 | < 0.005 | 0.01 | —    | 0.01 | 0.01 | —       | 0.01    | — | 40.0  | 40.0  | < 0.005 | < 0.005 | —    | 40.2  |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.01 | 0.01 | —    | < 0.005 | < 0.005 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite                      | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker                       | 0.34 | 0.32 | 0.17 | 2.74 | 0.00    | 0.00 | 0.03 | 0.03 | 0.00 | 0.00    | 0.00    | — | 475   | 475   | 0.01    | 0.02    | 1.65 | 483   |
| Vendor                       | 0.04 | 0.01 | 1.28 | 0.23 | 0.01    | 0.02 | 0.10 | 0.12 | 0.02 | 0.03    | 0.06    | — | 1,212 | 1,212 | 0.03    | 0.19    | 2.88 | 1,273 |
| Hauling                      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |



|                     |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |      |      |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|------|------|
| Daily, Winter (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Average Daily       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker              | 0.02    | 0.02    | 0.01    | 0.12    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 23.9 | 23.9 | < 0.005 | < 0.005 | 0.04 | 24.3 |
| Vendor              | < 0.005 | < 0.005 | 0.07    | 0.01    | < 0.005 | < 0.005 | 0.01    | 0.01    | < 0.005 | < 0.005 | < 0.005 | — | 66.4 | 66.4 | < 0.005 | 0.01    | 0.07 | 69.6 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual              | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.02    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 3.96 | 3.96 | < 0.005 | < 0.005 | 0.01 | 4.03 |
| Vendor              | < 0.005 | < 0.005 | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 11.0 | 11.0 | < 0.005 | < 0.005 | 0.01 | 11.5 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |

### 3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                    | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|-----------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite                      | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment          | 4.11 | 3.45 | 28.1 | 45.5 | 0.07 | 1.30  | —     | 1.30  | 1.20   | —      | 1.20   | —    | 7,123 | 7,123 | 0.29 | 0.06 | —    | 7,148 |
| Dust From Material Movement | —    | —    | —    | —    | —    | —     | 0.55  | 0.55  | —      | 0.06   | 0.06   | —    | —     | —     | —    | —    | —    | —     |
| Onsite truck                | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |

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|                              |         |         |      |      |         |         |         |         |         |         |         |   |       |       |         |         |      |       |
|------------------------------|---------|---------|------|------|---------|---------|---------|---------|---------|---------|---------|---|-------|-------|---------|---------|------|-------|
| Average Daily                | —       | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.45    | 0.38    | 3.08 | 4.99 | 0.01    | 0.14    | —       | 0.14    | 0.13    | —       | 0.13    | — | 781   | 781   | 0.03    | 0.01    | —    | 783   |
| Dust From Material Movement: | —       | —       | —    | —    | —       | —       | 0.06    | 0.06    | —       | 0.01    | 0.01    | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual                       | —       | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.08    | 0.07    | 0.56 | 0.91 | < 0.005 | 0.03    | —       | 0.03    | 0.02    | —       | 0.02    | — | 129   | 129   | 0.01    | < 0.005 | —    | 130   |
| Dust From Material Movement: | —       | —       | —    | —    | —       | —       | 0.01    | 0.01    | —       | < 0.005 | < 0.005 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite                      | —       | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max)          | —       | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker                       | 0.34    | 0.32    | 0.17 | 2.74 | 0.00    | 0.00    | 0.03    | 0.03    | 0.00    | 0.00    | 0.00    | — | 475   | 475   | 0.01    | 0.02    | 1.65 | 483   |
| Vendor                       | 0.04    | 0.01    | 1.28 | 0.23 | 0.01    | 0.02    | 0.10    | 0.12    | 0.02    | 0.03    | 0.06    | — | 1,212 | 1,212 | 0.03    | 0.19    | 2.88 | 1,273 |
| Hauling                      | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max)          | —       | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Average Daily                | —       | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker                       | 0.03    | 0.03    | 0.02 | 0.25 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 47.9  | 47.9  | < 0.005 | < 0.005 | 0.08 | 48.7  |
| Vendor                       | < 0.005 | < 0.005 | 0.15 | 0.02 | < 0.005 | < 0.005 | 0.01    | 0.01    | < 0.005 | < 0.005 | 0.01    | — | 133   | 133   | < 0.005 | 0.02    | 0.14 | 139   |

|         |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |      |      |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|------|------|
| Hauling | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual  | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker  | 0.01    | 0.01    | < 0.005 | 0.05    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 7.92 | 7.92 | < 0.005 | < 0.005 | 0.01 | 8.05 |
| Vendor  | < 0.005 | < 0.005 | 0.03    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 22.0 | 22.0 | < 0.005 | < 0.005 | 0.02 | 23.1 |
| Hauling | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |

### 3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 3.33 | 2.78 | 24.5 | 29.9 | 0.06 | 0.84  | —     | 0.84  | 0.77   | —      | 0.77   | —    | 5,530 | 5,530 | 0.22 | 0.04 | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 3.33 | 2.78 | 24.5 | 29.9 | 0.06 | 0.84  | —     | 0.84  | 0.77   | —      | 0.77   | —    | 5,530 | 5,530 | 0.22 | 0.04 | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 0.72 | 0.60 | 5.32 | 6.49 | 0.01 | 0.18  | —     | 0.18  | 0.17   | —      | 0.17   | —    | 1,201 | 1,201 | 0.05 | 0.01 | —    | 1,205 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |

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|                     |      |      |      |      |         |      |         |         |      |      |      |   |        |        |         |         |      |        |
|---------------------|------|------|------|------|---------|------|---------|---------|------|------|------|---|--------|--------|---------|---------|------|--------|
| Off-Road Equipment  | 0.13 | 0.11 | 0.97 | 1.19 | < 0.005 | 0.03 | —       | 0.03    | 0.03 | —    | 0.03 | — | 199    | 199    | 0.01    | < 0.005 | —    | 200    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Offsite             | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 1.27 | 1.19 | 0.62 | 10.3 | 0.00    | 0.00 | 0.10    | 0.10    | 0.00 | 0.00 | 0.00 | — | 1,781  | 1,781  | 0.05    | 0.08    | 6.18 | 1,811  |
| Vendor              | 0.48 | 0.25 | 13.0 | 2.90 | 0.11    | 0.21 | 0.85    | 1.06    | 0.21 | 0.32 | 0.53 | — | 14,257 | 14,257 | 0.22    | 2.13    | 36.2 | 14,934 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 1.09 | 1.06 | 0.76 | 8.31 | 0.00    | 0.00 | 0.10    | 0.10    | 0.00 | 0.00 | 0.00 | — | 1,581  | 1,581  | 0.07    | 0.08    | 0.16 | 1,606  |
| Vendor              | 0.47 | 0.25 | 14.0 | 2.94 | 0.11    | 0.21 | 0.85    | 1.06    | 0.21 | 0.32 | 0.53 | — | 14,259 | 14,259 | 0.22    | 2.13    | 0.94 | 14,901 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.25 | 0.23 | 0.15 | 1.84 | 0.00    | 0.00 | 0.02    | 0.02    | 0.00 | 0.00 | 0.00 | — | 356    | 356    | 0.01    | 0.02    | 0.58 | 362    |
| Vendor              | 0.10 | 0.05 | 2.96 | 0.63 | 0.02    | 0.05 | 0.18    | 0.23    | 0.05 | 0.07 | 0.11 | — | 3,097  | 3,097  | 0.05    | 0.46    | 3.39 | 3,240  |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.05 | 0.04 | 0.03 | 0.34 | 0.00    | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 58.9   | 58.9   | < 0.005 | < 0.005 | 0.10 | 59.9   |
| Vendor              | 0.02 | 0.01 | 0.54 | 0.12 | < 0.005 | 0.01 | 0.03    | 0.04    | 0.01 | 0.01 | 0.02 | — | 513    | 513    | 0.01    | 0.08    | 0.56 | 536    |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |

### 3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

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|                     |      |      |      |      |      |      |      |      |      |      |      |   |        |        |      |      |      |        |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|---|--------|--------|------|------|------|--------|
| Onsite              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 3.23 | 2.70 | 23.8 | 29.8 | 0.06 | 0.78 | —    | 0.78 | 0.71 | —    | 0.71 | — | 5,530  | 5,530  | 0.22 | 0.04 | —    | 5,549  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 3.23 | 2.70 | 23.8 | 29.8 | 0.06 | 0.78 | —    | 0.78 | 0.71 | —    | 0.71 | — | 5,530  | 5,530  | 0.22 | 0.04 | —    | 5,549  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 2.31 | 1.93 | 17.0 | 21.3 | 0.04 | 0.55 | —    | 0.55 | 0.51 | —    | 0.51 | — | 3,950  | 3,950  | 0.16 | 0.03 | —    | 3,964  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 0.42 | 0.35 | 3.10 | 3.89 | 0.01 | 0.10 | —    | 0.10 | 0.09 | —    | 0.09 | — | 654    | 654    | 0.03 | 0.01 | —    | 656    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Offsite             | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Worker              | 1.15 | 1.13 | 0.55 | 9.50 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | — | 1,744  | 1,744  | 0.05 | 0.07 | 5.59 | 1,772  |
| Vendor              | 0.48 | 0.25 | 12.4 | 2.69 | 0.11 | 0.21 | 0.85 | 1.06 | 0.21 | 0.32 | 0.53 | — | 13,949 | 13,949 | 0.22 | 2.02 | 31.8 | 14,589 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |

|                     |      |      |      |      |      |      |      |      |      |      |      |   |        |        |      |      |      |        |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|---|--------|--------|------|------|------|--------|
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Worker              | 1.03 | 0.95 | 0.69 | 7.70 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | — | 1,549  | 1,549  | 0.07 | 0.08 | 0.14 | 1,573  |
| Vendor              | 0.47 | 0.25 | 13.2 | 2.72 | 0.11 | 0.21 | 0.85 | 1.06 | 0.21 | 0.32 | 0.53 | — | 13,951 | 13,951 | 0.22 | 2.02 | 0.82 | 14,560 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Worker              | 0.74 | 0.72 | 0.44 | 5.58 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | — | 1,146  | 1,146  | 0.04 | 0.06 | 1.72 | 1,165  |
| Vendor              | 0.34 | 0.18 | 9.29 | 1.93 | 0.08 | 0.15 | 0.60 | 0.76 | 0.15 | 0.23 | 0.38 | — | 9,964  | 9,964  | 0.16 | 1.45 | 9.80 | 10,409 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Worker              | 0.14 | 0.13 | 0.08 | 1.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 190    | 190    | 0.01 | 0.01 | 0.29 | 193    |
| Vendor              | 0.06 | 0.03 | 1.70 | 0.35 | 0.01 | 0.03 | 0.11 | 0.14 | 0.03 | 0.04 | 0.07 | — | 1,650  | 1,650  | 0.03 | 0.24 | 1.62 | 1,723  |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |

### 3.9. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 3.12 | 2.61 | 22.9 | 29.8 | 0.06 | 0.71  | —     | 0.71  | 0.65   | —      | 0.65   | —    | 5,531 | 5,531 | 0.22 | 0.04 | —    | 5,550 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |

Key Energy - Phase 3 Lithium Ion Battery Option Custom Report, 1/13/2023

|                     |      |      |      |      |         |         |         |         |         |      |      |   |        |        |         |         |      |        |
|---------------------|------|------|------|------|---------|---------|---------|---------|---------|------|------|---|--------|--------|---------|---------|------|--------|
| Average Daily       | —    | —    | —    | —    | —       | —       | —       | —       | —       | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Off-Road Equipment  | 0.34 | 0.29 | 2.51 | 3.26 | 0.01    | 0.08    | —       | 0.08    | 0.07    | —    | 0.07 | — | 606    | 606    | 0.02    | < 0.005 | —    | 608    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —       | —       | —       | —       | —       | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Off-Road Equipment  | 0.06 | 0.05 | 0.46 | 0.60 | < 0.005 | 0.01    | —       | 0.01    | 0.01    | —    | 0.01 | — | 100    | 100    | < 0.005 | < 0.005 | —    | 101    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Offsite             | —    | —    | —    | —    | —       | —       | —       | —       | —       | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —       | —       | —       | —       | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —       | —       | —       | —       | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.98 | 0.90 | 0.63 | 7.13 | 0.00    | 0.00    | 0.10    | 0.10    | 0.00    | 0.00 | 0.00 | — | 1,519  | 1,519  | 0.06    | 0.08    | 0.13 | 1,544  |
| Vendor              | 0.37 | 0.25 | 12.6 | 2.50 | 0.11    | 0.21    | 0.85    | 1.06    | 0.21    | 0.32 | 0.53 | — | 13,600 | 13,600 | 0.22    | 2.02    | 0.73 | 14,210 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —       | —       | —       | —       | —       | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.11 | 0.10 | 0.06 | 0.80 | 0.00    | 0.00    | 0.01    | 0.01    | 0.00    | 0.00 | 0.00 | — | 172    | 172    | 0.01    | 0.01    | 0.24 | 175    |
| Vendor              | 0.04 | 0.03 | 1.35 | 0.27 | 0.01    | 0.02    | 0.09    | 0.12    | 0.02    | 0.03 | 0.06 | — | 1,490  | 1,490  | 0.02    | 0.22    | 1.33 | 1,558  |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —       | —       | —       | —       | —       | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.02 | 0.02 | 0.01 | 0.15 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00 | 0.00 | — | 28.5   | 28.5   | < 0.005 | < 0.005 | 0.04 | 29.0   |
| Vendor              | 0.01 | 0.01 | 0.25 | 0.05 | < 0.005 | < 0.005 | 0.02    | 0.02    | < 0.005 | 0.01 | 0.01 | — | 247    | 247    | < 0.005 | 0.04    | 0.22 | 258    |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |

## 4. Operations Emissions Details

### 4.1. Mobile Emissions by Land Use

#### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R    | CO2e |
|--------------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|------|------|
| Daily, Summer (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual                         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |



## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |

### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|--------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|--------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

|                        |   |      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max)    | — | —    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products      | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total                  | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max)    | — | —    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products      | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total                  | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual                 | — | —    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products      | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total                  | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.4. Water Emissions by Land Use

##### 4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4     | N2O     | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|---------|---------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 77.4  | 77.4 | 0.01    | < 0.005 | — | 78.1 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 77.4  | 77.4 | 0.01    | < 0.005 | — | 78.1 |
| Daily, Winter (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 77.4  | 77.4 | 0.01    | < 0.005 | — | 78.1 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 77.4  | 77.4 | 0.01    | < 0.005 | — | 78.1 |
| Annual                         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 12.8  | 12.8 | < 0.005 | < 0.005 | — | 12.9 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 12.8  | 12.8 | < 0.005 | < 0.005 | — | 12.9 |

#### 4.5. Waste Emissions by Land Use

##### 4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

|                                |   |   |   |   |   |   |   |   |   |   |   |      |      |      |      |      |   |      |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|
| Daily, Summer (Max)            | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

#### 4.6. Refrigerant Emissions by Land Use

##### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.7. Offroad Emissions By Equipment Type

##### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.8. Stationary Emissions By Equipment Type

##### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.9. User Defined Emissions By Equipment Type

##### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

### 4.10. Soil Carbon Accumulation By Vegetation Type

#### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation          | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |



4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species             | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Sequestered         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Removed             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| —                   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Sequestered         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Removed             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| —                   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|----------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sequest  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Remove d | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —        | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 5. Activity Data

### 5.1. Construction Schedule

| Phase Name                    | Phase Type            | Start Date | End Date  | Days Per Week | Work Days per Phase | Phase Description             |
|-------------------------------|-----------------------|------------|-----------|---------------|---------------------|-------------------------------|
| Site Preparation              | Site Preparation      | 6/22/2026  | 7/17/2026 | 5.00          | 20.0                | —                             |
| Grading                       | Grading               | 7/19/2026  | 9/11/2026 | 5.00          | 40.0                | —                             |
| Energy Enclosure Installation | Building Construction | 9/12/2026  | 2/25/2028 | 5.00          | 380                 | Energy Enclosure Installation |

### 5.2. Off-Road Equipment

#### 5.2.1. Unmitigated

| Phase Name                    | Equipment Type            | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|-------------------------------|---------------------------|-----------|-------------|----------------|---------------|------------|-------------|
| Site Preparation              | Graders                   | Diesel    | Average     | 4.00           | 8.00          | 148        | 0.41        |
| Site Preparation              | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Grading                       | Graders                   | Diesel    | Average     | 4.00           | 8.00          | 148        | 0.41        |
| Grading                       | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Energy Enclosure Installation | Cranes                    | Diesel    | Average     | 2.00           | 8.00          | 367        | 0.29        |

|                               |                           |        |         |      |      |      |      |
|-------------------------------|---------------------------|--------|---------|------|------|------|------|
| Energy Enclosure Installation | Generator Sets            | Diesel | Average | 4.00 | 8.00 | 14.0 | 0.74 |
| Energy Enclosure Installation | Tractors/Loaders/Backhoes | Diesel | Average | 2.00 | 8.00 | 84.0 | 0.37 |
| Site Preparation              | Rubber Tired Dozers       | Diesel | Average | 0.00 | 8.00 | 367  | 0.40 |
| Grading                       | Excavators                | Diesel | Average | 0.00 | 8.00 | 36.0 | 0.38 |
| Grading                       | Rubber Tired Dozers       | Diesel | Average | 0.00 | 8.00 | 367  | 0.40 |
| Grading                       | Scrapers                  | Diesel | Average | 0.00 | 8.00 | 423  | 0.48 |
| Energy Enclosure Installation | Forklifts                 | Diesel | Average | 0.00 | 8.00 | 82.0 | 0.20 |
| Energy Enclosure Installation | Welders                   | Diesel | Average | 0.00 | 8.00 | 46.0 | 0.45 |
| Site Preparation              | Skid Steer Loaders        | Diesel | Average | 4.00 | 8.00 | 71.0 | 0.37 |
| Grading                       | Plate Compactors          | Diesel | Average | 4.00 | 8.00 | 8.00 | 0.43 |
| Grading                       | Rollers                   | Diesel | Average | 4.00 | 8.00 | 36.0 | 0.38 |
| Grading                       | Rubber Tired Loaders      | Diesel | Average | 4.00 | 8.00 | 150  | 0.36 |
| Grading                       | Skid Steer Loaders        | Diesel | Average | 4.00 | 8.00 | 71.0 | 0.37 |
| Energy Enclosure Installation | Air Compressors           | Diesel | Average | 4.00 | 8.00 | 37.0 | 0.48 |
| Energy Enclosure Installation | Excavators                | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Energy Enclosure Installation | Plate Compactors          | Diesel | Average | 2.00 | 8.00 | 8.00 | 0.43 |
| Energy Enclosure Installation | Rollers                   | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Energy Enclosure Installation | Rough Terrain Forklifts   | Diesel | Average | 2.00 | 8.00 | 96.0 | 0.40 |
| Energy Enclosure Installation | Skid Steer Loaders        | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |

### 5.3. Construction Vehicles

### 5.3.1. Unmitigated

| Phase Name                    | Trip Type    | One-Way Trips per Day | Miles per Trip | Vehicle Mix   |
|-------------------------------|--------------|-----------------------|----------------|---------------|
| Site Preparation              | —            | —                     | —              | —             |
| Site Preparation              | Worker       | 80.0                  | 7.70           | LDA,LDT1,LDT2 |
| Site Preparation              | Vendor       | 6.00                  | 60.0           | HHDT          |
| Site Preparation              | Hauling      | 0.00                  | 20.0           | HHDT          |
| Site Preparation              | Onsite truck | 0.00                  | —              | HHDT          |
| Grading                       | —            | —                     | —              | —             |
| Grading                       | Worker       | 80.0                  | 7.70           | LDA,LDT1,LDT2 |
| Grading                       | Vendor       | 6.00                  | 60.0           | HHDT          |
| Grading                       | Hauling      | 0.00                  | 20.0           | HHDT          |
| Grading                       | Onsite truck | 0.00                  | —              | HHDT          |
| Energy Enclosure Installation | —            | —                     | —              | —             |
| Energy Enclosure Installation | Worker       | 300                   | 7.70           | LDA,LDT1,LDT2 |
| Energy Enclosure Installation | Vendor       | 80.0                  | 60.0           | HHDT,MHDT     |
| Energy Enclosure Installation | Hauling      | 0.00                  | 20.0           | HHDT          |
| Energy Enclosure Installation | Onsite truck | 0.00                  | —              | HHDT          |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|------------|--|--|--|--|-----------------------------|
|            |  |  |  |  |                             |

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name       | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|------------------|---------------------------------|---------------------------------|----------------------|-------------------------------|---------------------|
| Site Preparation | 0.00                            | 0.00                            | 20.0                 | 0.00                          | —                   |
| Grading          | 0.00                            | 0.00                            | 40.0                 | 0.00                          | —                   |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|----------------------------|---------------------|----------------|-----------------|
| Water Exposed Area         | 3                   | 74%            | 74%             |

## 5.7. Construction Paving

| Land Use                       | Area Paved (acres) | % Asphalt |
|--------------------------------|--------------------|-----------|
| Refrigerated Warehouse-No Rail | 0.00               | 0%        |

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4  | N2O     |
|------|--------------|-----|------|---------|
| 2026 | 0.00         | 204 | 0.03 | < 0.005 |
| 2027 | 0.00         | 204 | 0.03 | < 0.005 |
| 2028 | 0.00         | 204 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|---------------|---------------|----------------|--------------|------------|-------------|--------------|------------|----------|
|---------------|---------------|----------------|--------------|------------|-------------|--------------|------------|----------|

|                                |      |      |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|--------------------------------|------|------|------|------|------|------|------|------|

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|--|--|--|--|-----------------------------|
| 0  | 0.00                                     | 4,500  | 1,500  | —                           |

### 5.10.3. Landscape Equipment

| Season      | Unit   | Value |
|-------------|--------|-------|
| Snow Days   | day/yr | 0.00  |
| Summer Days | day/yr | 0.00  |

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

#### Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use                       | Electricity (kWh/yr) | CO2 | CH4    | N2O    | Natural Gas (kBTU/yr) |
|--------------------------------|----------------------|-----|--------|--------|-----------------------|
| Refrigerated Warehouse-No Rail | 0.00                 | 204 | 0.0330 | 0.0040 | 0.00                  |

## 5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

| Land Use                       | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|--------------------------------|-------------------------|--------------------------|
| Refrigerated Warehouse-No Rail | 0.00                    | 57,219,436               |

5.13. Operational Waste Generation

5.13.1. Unmitigated

| Land Use                       | Waste (ton/year) | Cogeneration (kWh/year) |
|--------------------------------|------------------|-------------------------|
| Refrigerated Warehouse-No Rail | 0.00             | 0.00                    |

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---------------|----------------|-------------|-----|---------------|----------------------|-------------------|----------------|
|---------------|----------------|-------------|-----|---------------|----------------------|-------------------|----------------|

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|----------------|-----------|-------------|----------------|---------------|------------|-------------|
|----------------|-----------|-------------|----------------|---------------|------------|-------------|

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|----------------|-----------|----------------|---------------|----------------|------------|-------------|
|----------------|-----------|----------------|---------------|----------------|------------|-------------|

5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|

### 5.17. User Defined

| Equipment Type | Fuel Type |
|----------------|-----------|
| —              | —         |

### 5.18. Vegetation

#### 5.18.1. Land Use Change

##### 5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|--------------------------|----------------------|---------------|-------------|
|--------------------------|----------------------|---------------|-------------|

#### 5.18.1. Biomass Cover Type

##### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

#### 5.18.2. Sequestration

##### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|-----------|--------|------------------------------|------------------------------|
|-----------|--------|------------------------------|------------------------------|

## 8. User Changes to Default Data

| Screen                            | Justification                                  |
|-----------------------------------|--|
| Construction: Construction Phases | Based on Project specific information provided |



|   |   |
|---|---|
| Land Use                                  | Based on project specific information - Rounded up to 3 ksf because round numbers required                            |
| Construction: Off-Road Equipment          | Project provided information . Equipment with a "0" quantity are default equipment that are not used in the analysis. |
| Construction: Trips and VMT               | Based on project specific information provided  |
| Operations: Vehicle Data                  | Mobile sources estimated under Phase 1 - Lithium Ion Battery Option   |
| Operations: Consumer Products             | No operational land uses modeled  |
| Operations: Architectural Coatings        | No operational land uses modeled  |
| Operations: Landscape Equipment           | No operational land uses modeled  |
| Operations: Energy Use                    | No operational land uses modeled  |
| Operations: Water and Waste Water         | Dust Control for construction modeled here.   |
| Operations: Solid Waste                   | No operational land uses modeled  |
| Operations: Refrigerants                  | No operational land uses modeled  |
| Construction: Dust From Material Movement | no import or export, material balanced onsite   |

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Lithium Ion Battery - Phase 4 CalEEMod Output (Annual, Winter, Summer)

# Key Energy - Phase 4 Lithium Ion Battery Option Custom Report

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  - 2.4. Operations Emissions Compared Against Thresholds
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3. Construction Emissions Details
  - 3.1. Site Preparation (2028) - Unmitigated
  - 3.3. Grading (2028) - Unmitigated
  - 3.5. Building Construction (2028) - Unmitigated
  - 3.7. Building Construction (2029) - Unmitigated

#### 4. Operations Emissions Details

##### 4.1. Mobile Emissions by Land Use

###### 4.1.1. Unmitigated

##### 4.2. Energy

###### 4.2.1. Electricity Emissions By Land Use - Unmitigated

###### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

##### 4.3. Area Emissions by Source

###### 4.3.2. Unmitigated

##### 4.4. Water Emissions by Land Use

###### 4.4.2. Unmitigated

##### 4.5. Waste Emissions by Land Use

###### 4.5.2. Unmitigated

##### 4.6. Refrigerant Emissions by Land Use

###### 4.6.1. Unmitigated

##### 4.7. Offroad Emissions By Equipment Type

###### 4.7.1. Unmitigated

##### 4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field                  | Value   |
|-----------------------------|---|
| Project Name                | Key Energy - Phase 4 Lithium Ion Battery Option |
| Lead Agency                 | —   |
| Land Use Scale              | Project/site                                    |
| Analysis Level for Defaults | County  |
| Windspeed (m/s)             | 3.50  |
| Precipitation (days)        | 16.8  |
| Location                    | 36.13263447616909, -120.13458957268438          |
| County                      | Fresno  |
| City                        | Unincorporated                                  |
| Air District                | San Joaquin Valley APCD                         |
| Air Basin                   | San Joaquin Valley                              |
| TAZ                         | 2530  |
| EDFZ                        | 5   |
| Electric Utility            | Pacific Gas & Electric Company                  |
| Gas Utility                 | Pacific Gas & Electric                          |

## 1.2. Land Use Types

| Land Use Subtype               | Size | Unit     | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|--------------------------------|------|----------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| Refrigerated Warehouse-No Rail | 3.00 | 1000sqft | 121         | 3,000                 | 0.00                   | 0.00                           | —          | —           |



### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2  | CO2T   | CH4  | N2O  | R    | CO2e   |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 4.59 | 3.89 | 35.2 | 49.6 | 0.16 | 1.08  | 5.66  | 6.58  | 1.00   | 1.49   | 2.36   | —    | 20,839 | 20,839 | 0.49 | 2.14 | 33.0 | 21,522 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 4.47 | 3.76 | 36.1 | 48.9 | 0.16 | 1.08  | 5.66  | 6.58  | 1.00   | 1.49   | 2.36   | —    | 20,650 | 20,650 | 0.51 | 2.15 | 0.86 | 21,303 |
| Average Daily (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 2.64 | 2.22 | 20.6 | 25.3 | 0.10 | 0.58  | 3.36  | 3.88  | 0.54   | 0.89   | 1.38   | —    | 12,155 | 12,155 | 0.30 | 1.22 | 7.52 | 12,533 |
| Annual (Max)        | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 0.48 | 0.40 | 3.77 | 4.61 | 0.02 | 0.11  | 0.61  | 0.71  | 0.10   | 0.16   | 0.25   | —    | 2,012  | 2,012  | 0.05 | 0.20 | 1.25 | 2,075  |

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year                 | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily - Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                      |      |      |      |      |      |      |      |      |      |      |      |   |        |        |      |      |      |        |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|---|--------|--------|------|------|------|--------|
| 2028                 | 4.59 | 3.89 | 35.2 | 49.6 | 0.16 | 1.08 | 5.66 | 6.58 | 1.00 | 1.49 | 2.36 | — | 20,839 | 20,839 | 0.49 | 2.14 | 33.0 | 21,522 |
| 2029                 | 4.45 | 3.65 | 33.8 | 40.3 | 0.16 | 0.87 | 5.66 | 6.53 | 0.82 | 1.49 | 2.32 | — | 20,432 | 20,432 | 0.49 | 2.03 | 29.2 | 21,080 |
| Daily - Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2028                 | 4.47 | 3.76 | 36.1 | 48.9 | 0.16 | 1.08 | 5.66 | 6.58 | 1.00 | 1.49 | 2.36 | — | 20,650 | 20,650 | 0.51 | 2.15 | 0.86 | 21,303 |
| 2029                 | 4.34 | 3.53 | 34.8 | 38.7 | 0.16 | 0.87 | 5.66 | 6.53 | 0.82 | 1.49 | 2.32 | — | 20,247 | 20,247 | 0.51 | 2.04 | 0.76 | 20,869 |
| Average Daily        | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2028                 | 2.64 | 2.22 | 19.9 | 25.3 | 0.08 | 0.58 | 2.75 | 3.32 | 0.54 | 0.71 | 1.25 | — | 10,646 | 10,646 | 0.27 | 1.00 | 6.68 | 10,957 |
| 2029                 | 2.60 | 2.12 | 20.6 | 23.2 | 0.10 | 0.52 | 3.36 | 3.88 | 0.49 | 0.89 | 1.38 | — | 12,155 | 12,155 | 0.30 | 1.22 | 7.52 | 12,533 |
| Annual               | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2028                 | 0.48 | 0.40 | 3.64 | 4.61 | 0.02 | 0.11 | 0.50 | 0.61 | 0.10 | 0.13 | 0.23 | — | 1,763  | 1,763  | 0.05 | 0.17 | 1.11 | 1,814  |
| 2029                 | 0.47 | 0.39 | 3.77 | 4.24 | 0.02 | 0.10 | 0.61 | 0.71 | 0.09 | 0.16 | 0.25 | — | 2,012  | 2,012  | 0.05 | 0.20 | 1.25 | 2,075  |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R    | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|------|------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 124   | 124  | 0.02 | < 0.005 | 0.00 | 125  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 124   | 124  | 0.02 | < 0.005 | 0.00 | 125  |
| Average Daily (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 124   | 124  | 0.02 | < 0.005 | 0.00 | 125  |

|              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |         |         |      |      |
|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|---------|------|------|
| Annual (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Unmit.       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 20.5 | 20.5 | < 0.005 | < 0.005 | 0.00 | 20.7 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector              | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R    | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|------|------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Mobile              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 |
| Area                | —    | 0.00 | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | —    | 0.00 |
| Water               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 124   | 124  | 0.02 | < 0.005 | —    | 125  |
| Waste               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00    | —    | 0.00 |
| Total               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 124   | 124  | 0.02 | < 0.005 | 0.00 | 125  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Mobile              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 |
| Area                | —    | 0.00 | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | —    | 0.00 |
| Water               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 124   | 124  | 0.02 | < 0.005 | —    | 125  |
| Waste               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00    | —    | 0.00 |
| Total               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 124   | 124  | 0.02 | < 0.005 | 0.00 | 125  |
| Average Daily       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Mobile              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 |
| Area                | —    | 0.00 | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |

|        |      |      |      |      |      |      |      |      |      |      |      |      |      |      |         |         |      |      |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|---------|------|------|
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | —    | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Water  | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 124  | 124  | 0.02    | < 0.005 | —    | 125  |
| Waste  | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Total  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 124  | 124  | 0.02    | < 0.005 | 0.00 | 125  |
| Annual | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Area   | —    | 0.00 | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | —    | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Water  | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 20.5 | 20.5 | < 0.005 | < 0.005 | —    | 20.7 |
| Waste  | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Total  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 20.5 | 20.5 | < 0.005 | < 0.005 | 0.00 | 20.7 |

### 3. Construction Emissions Details

#### 3.1. Site Preparation (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                    | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R | CO2e  |
|-----------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|---|-------|
| Onsite                      | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Daily, Summer (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Daily, Winter (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Off-Road Equipment          | 3.03 | 2.54 | 20.1 | 40.9 | 0.06 | 0.89  | —     | 0.89  | 0.82   | —      | 0.82   | —    | 6,423 | 6,423 | 0.26 | 0.05 | — | 6,445 |
| Dust From Material Movement | —    | —    | —    | —    | —    | —     | 0.55  | 0.55  | —      | 0.06   | 0.06   | —    | —     | —     | —    | —    | — | —     |

Key Energy - Phase 4 Lithium Ion Battery Option Custom Report, 1/13/2023

|                              |      |      |      |      |         |      |         |         |      |         |         |      |       |       |         |         |      |       |      |
|------------------------------|------|------|------|------|---------|------|---------|---------|------|---------|---------|------|-------|-------|---------|---------|------|-------|------|
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | —     | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  | 0.00 |
| Average Daily                | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | —    | —     | —     | —       | —       | —    | —     | —    |
| Off-Road Equipment           | 0.17 | 0.14 | 1.10 | 2.24 | < 0.005 | 0.05 | —       | 0.05    | 0.04 | —       | 0.04    | —    | 352   | 352   | 0.01    | < 0.005 | —    | 353   |      |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.03    | 0.03    | —    | < 0.005 | < 0.005 | —    | —     | —     | —       | —       | —    | —     |      |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |      |
| Annual                       | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | —    | —     | —     | —       | —       | —    | —     |      |
| Off-Road Equipment           | 0.03 | 0.03 | 0.20 | 0.41 | < 0.005 | 0.01 | —       | 0.01    | 0.01 | —       | 0.01    | —    | 58.3  | 58.3  | < 0.005 | < 0.005 | —    | 58.5  |      |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.01    | 0.01    | —    | < 0.005 | < 0.005 | —    | —     | —     | —       | —       | —    | —     |      |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |      |
| Offsite                      | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | —    | —     | —     | —       | —       | —    | —     |      |
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | —    | —     | —     | —       | —       | —    | —     |      |
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | —    | —     | —     | —       | —       | —    | —     |      |
| Worker                       | 0.39 | 0.36 | 0.25 | 2.85 | 0.00    | 0.00 | 0.04    | 0.04    | 0.00 | 0.00    | 0.00    | —    | 608   | 608   | 0.02    | 0.03    | 0.05 | 617   |      |
| Vendor                       | 0.05 | 0.02 | 1.71 | 0.29 | 0.01    | 0.03 | 0.13    | 0.16    | 0.03 | 0.04    | 0.07    | —    | 1,538 | 1,538 | 0.02    | 0.25    | 0.08 | 1,612 |      |
| Hauling                      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |      |
| Average Daily                | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | —    | —     | —     | —       | —       | —    | —     |      |
| Worker                       | 0.02 | 0.02 | 0.01 | 0.16 | 0.00    | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00    | 0.00    | —    | 34.5  | 34.5  | < 0.005 | < 0.005 | 0.05 | 35.0  |      |

|         |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |      |      |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|------|------|
| Vendor  | < 0.005 | < 0.005 | 0.09    | 0.02    | < 0.005 | < 0.005 | 0.01    | 0.01    | < 0.005 | < 0.005 | < 0.005 | — | 84.3 | 84.3 | < 0.005 | 0.01    | 0.08 | 88.4 |
| Hauling | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual  | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker  | < 0.005 | < 0.005 | < 0.005 | 0.03    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 5.71 | 5.71 | < 0.005 | < 0.005 | 0.01 | 5.80 |
| Vendor  | < 0.005 | < 0.005 | 0.02    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 13.9 | 13.9 | < 0.005 | < 0.005 | 0.01 | 14.6 |
| Hauling | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |

### 3.3. Grading (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                     | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|------------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite                       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max)          | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment           | 3.76 | 3.16 | 24.5 | 45.7 | 0.07 | 1.05  | —     | 1.05  | 0.97   | —      | 0.97   | —    | 7,128 | 7,128 | 0.29 | 0.06 | —    | 7,152 |
| Dust From Material Movement: | —    | —    | —    | —    | —    | —     | 0.55  | 0.55  | —      | 0.06   | 0.06   | —    | —     | —     | —    | —    | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max)          | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment           | 3.76 | 3.16 | 24.5 | 45.7 | 0.07 | 1.05  | —     | 1.05  | 0.97   | —      | 0.97   | —    | 7,128 | 7,128 | 0.29 | 0.06 | —    | 7,152 |
| Dust From Material Movement: | —    | —    | —    | —    | —    | —     | 0.55  | 0.55  | —      | 0.06   | 0.06   | —    | —     | —     | —    | —    | —    | —     |

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|                              |      |      |      |      |         |      |      |      |      |         |         |   |       |       |      |         |      |       |
|------------------------------|------|------|------|------|---------|------|------|------|------|---------|---------|---|-------|-------|------|---------|------|-------|
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Average Daily                | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment           | 0.41 | 0.35 | 2.69 | 5.01 | 0.01    | 0.12 | —    | 0.12 | 0.11 | —       | 0.11    | — | 781   | 781   | 0.03 | 0.01    | —    | 784   |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.06 | 0.06 | —    | 0.01    | 0.01    | — | —     | —     | —    | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Annual                       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment           | 0.08 | 0.06 | 0.49 | 0.91 | < 0.005 | 0.02 | —    | 0.02 | 0.02 | —       | 0.02    | — | 129   | 129   | 0.01 | < 0.005 | —    | 130   |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.01 | 0.01 | —    | < 0.005 | < 0.005 | — | —     | —     | —    | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Offsite                      | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —    | —       | —    | —     |
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —    | —       | —    | —     |
| Worker                       | 0.44 | 0.41 | 0.20 | 3.54 | 0.00    | 0.00 | 0.04 | 0.04 | 0.00 | 0.00    | 0.00    | — | 684   | 684   | 0.02 | 0.03    | 2.01 | 695   |
| Vendor                       | 0.05 | 0.02 | 1.60 | 0.29 | 0.01    | 0.03 | 0.13 | 0.16 | 0.03 | 0.04    | 0.07    | — | 1,537 | 1,537 | 0.02 | 0.25    | 3.25 | 1,614 |
| Hauling                      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —    | —       | —    | —     |
| Worker                       | 0.39 | 0.36 | 0.25 | 2.85 | 0.00    | 0.00 | 0.04 | 0.04 | 0.00 | 0.00    | 0.00    | — | 608   | 608   | 0.02 | 0.03    | 0.05 | 617   |
| Vendor                       | 0.05 | 0.02 | 1.71 | 0.29 | 0.01    | 0.03 | 0.13 | 0.16 | 0.03 | 0.04    | 0.07    | — | 1,538 | 1,538 | 0.02 | 0.25    | 0.08 | 1,612 |

|               |         |         |         |      |         |         |         |         |         |         |         |      |      |      |         |         |      |      |      |
|---------------|---------|---------|---------|------|---------|---------|---------|---------|---------|---------|---------|------|------|------|---------|---------|------|------|------|
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | —    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 |
| Average Daily | —       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | —    | —    | —    | —       | —       | —    | —    | —    |
| Worker        | 0.04    | 0.04    | 0.02    | 0.32 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | —    | 69.0 | 69.0 | < 0.005 | < 0.005 | 0.10 | 70.0 |      |
| Vendor        | 0.01    | < 0.005 | 0.18    | 0.03 | < 0.005 | < 0.005 | 0.01    | 0.02    | < 0.005 | < 0.005 | 0.01    | —    | 169  | 169  | < 0.005 | 0.03    | 0.15 | 177  |      |
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |      |
| Annual        | —       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | —    | —    | —    | —       | —       | —    | —    |      |
| Worker        | 0.01    | 0.01    | < 0.005 | 0.06 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | —    | 11.4 | 11.4 | < 0.005 | < 0.005 | 0.02 | 11.6 |      |
| Vendor        | < 0.005 | < 0.005 | 0.03    | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | —    | 27.9 | 27.9 | < 0.005 | < 0.005 | 0.03 | 29.3 |      |
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |      |

### 3.5. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 3.12 | 2.61 | 22.9 | 29.8 | 0.06 | 0.71  | —     | 0.71  | 0.65   | —      | 0.65   | —    | 5,531 | 5,531 | 0.22 | 0.04 | —    | 5,550 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 3.12 | 2.61 | 22.9 | 29.8 | 0.06 | 0.71  | —     | 0.71  | 0.65   | —      | 0.65   | —    | 5,531 | 5,531 | 0.22 | 0.04 | —    | 5,550 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |



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|                     |      |      |      |      |         |      |      |      |      |      |      |   |        |        |         |         |      |        |
|---------------------|------|------|------|------|---------|------|------|------|------|------|------|---|--------|--------|---------|---------|------|--------|
| Off-Road Equipment  | 1.38 | 1.15 | 10.1 | 13.2 | 0.02    | 0.31 | —    | 0.31 | 0.29 | —    | 0.29 | — | 2,446  | 2,446  | 0.10    | 0.02    | —    | 2,455  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Off-Road Equipment  | 0.25 | 0.21 | 1.85 | 2.40 | < 0.005 | 0.06 | —    | 0.06 | 0.05 | —    | 0.05 | — | 405    | 405    | 0.02    | < 0.005 | —    | 406    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Offsite             | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 1.10 | 1.03 | 0.49 | 8.84 | 0.00    | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | — | 1,710  | 1,710  | 0.05    | 0.07    | 5.02 | 1,737  |
| Vendor              | 0.37 | 0.25 | 11.8 | 2.47 | 0.11    | 0.21 | 0.85 | 1.06 | 0.21 | 0.32 | 0.53 | — | 13,598 | 13,598 | 0.22    | 2.02    | 28.0 | 14,235 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.98 | 0.90 | 0.63 | 7.13 | 0.00    | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | — | 1,519  | 1,519  | 0.06    | 0.08    | 0.13 | 1,544  |
| Vendor              | 0.37 | 0.25 | 12.6 | 2.50 | 0.11    | 0.21 | 0.85 | 1.06 | 0.21 | 0.32 | 0.53 | — | 13,600 | 13,600 | 0.22    | 2.02    | 0.73 | 14,210 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.44 | 0.41 | 0.25 | 3.22 | 0.00    | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.00 | — | 696    | 696    | 0.02    | 0.03    | 0.96 | 707    |
| Vendor              | 0.16 | 0.11 | 5.47 | 1.10 | 0.05    | 0.09 | 0.37 | 0.47 | 0.09 | 0.14 | 0.23 | — | 6,014  | 6,014  | 0.10    | 0.90    | 5.35 | 6,289  |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.08 | 0.07 | 0.04 | 0.59 | 0.00    | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 115    | 115    | < 0.005 | 0.01    | 0.16 | 117    |
| Vendor              | 0.03 | 0.02 | 1.00 | 0.20 | 0.01    | 0.02 | 0.07 | 0.09 | 0.02 | 0.03 | 0.04 | — | 996    | 996    | 0.02    | 0.15    | 0.89 | 1,041  |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |

### 3.7. Building Construction (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O     | R    | CO2e  |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|---------|------|-------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 3.04 | 2.54 | 22.3 | 29.6 | 0.06 | 0.66  | —     | 0.66  | 0.61   | —      | 0.61   | —    | 5,531 | 5,531 | 0.22 | 0.04    | —    | 5,550 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 3.04 | 2.54 | 22.3 | 29.6 | 0.06 | 0.66  | —     | 0.66  | 0.61   | —      | 0.61   | —    | 5,531 | 5,531 | 0.22 | 0.04    | —    | 5,550 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 1.82 | 1.52 | 13.3 | 17.8 | 0.03 | 0.40  | —     | 0.40  | 0.37   | —      | 0.37   | —    | 3,312 | 3,312 | 0.13 | 0.03    | —    | 3,323 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 0.33 | 0.28 | 2.43 | 3.24 | 0.01 | 0.07  | —     | 0.07  | 0.07   | —      | 0.07   | —    | 548   | 548   | 0.02 | < 0.005 | —    | 550   |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Offsite             | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —       | —    | —     |

|                     |      |      |      |      |      |      |      |      |      |      |      |   |        |        |         |      |      |        |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|---|--------|--------|---------|------|------|--------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —       | —    | —    | —      |
| Worker              | 1.03 | 0.96 | 0.43 | 8.25 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | — | 1,679  | 1,679  | 0.04    | 0.07 | 4.49 | 1,705  |
| Vendor              | 0.37 | 0.14 | 11.2 | 2.36 | 0.11 | 0.21 | 0.85 | 1.06 | 0.21 | 0.32 | 0.53 | — | 13,223 | 13,223 | 0.22    | 1.92 | 24.7 | 13,825 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00 | 0.00 | 0.00   |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —       | —    | —    | —      |
| Worker              | 0.93 | 0.85 | 0.57 | 6.67 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | — | 1,491  | 1,491  | 0.06    | 0.08 | 0.12 | 1,516  |
| Vendor              | 0.37 | 0.14 | 11.9 | 2.39 | 0.11 | 0.21 | 0.85 | 1.06 | 0.21 | 0.32 | 0.53 | — | 13,225 | 13,225 | 0.22    | 1.92 | 0.64 | 13,803 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00 | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —       | —    | —    | —      |
| Worker              | 0.56 | 0.51 | 0.30 | 4.04 | 0.00 | 0.00 | 0.06 | 0.06 | 0.00 | 0.00 | 0.00 | — | 925    | 925    | 0.03    | 0.04 | 1.16 | 939    |
| Vendor              | 0.22 | 0.09 | 7.01 | 1.42 | 0.06 | 0.13 | 0.51 | 0.63 | 0.13 | 0.19 | 0.32 | — | 7,919  | 7,919  | 0.13    | 1.15 | 6.36 | 8,271  |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00 | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —       | —    | —    | —      |
| Worker              | 0.10 | 0.09 | 0.05 | 0.74 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 153    | 153    | < 0.005 | 0.01 | 0.19 | 156    |
| Vendor              | 0.04 | 0.02 | 1.28 | 0.26 | 0.01 | 0.02 | 0.09 | 0.12 | 0.02 | 0.03 | 0.06 | — | 1,311  | 1,311  | 0.02    | 0.19 | 1.05 | 1,369  |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00 | 0.00 | 0.00   |

### 4. Operations Emissions Details

#### 4.1. Mobile Emissions by Land Use

##### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

|                                |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|
| Daily, Summer (Max)            | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —    | —    | —    | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max)            | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —    | —    | —    | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual                         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —    | —    | —    | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                                |   |   |   |   |   |   |   |   |   |   |   |   |      |      |      |      |   |      |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|---|------|
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | — | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | — | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |

|                                |      |      |      |      |      |      |   |      |      |   |      |   |      |      |      |      |   |      |
|--------------------------------|------|------|------|------|------|------|---|------|------|---|------|---|------|------|------|------|---|------|
| Daily, Winter (Max)            | —    | —    | —    | —    | —    | —    | — | —    | —    | — | —    | — | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | —    | —    | —    | —    | —    | —    | — | —    | —    | — | —    | — | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

### 4.3. Area Emissions by Source

#### 4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source                 | TOG | ROG  | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------------------------|-----|------|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max)    | —   | —    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Architectural Coatings | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total                  | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                        |   |      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max)    | — | —    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products      | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total                  | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual                 | — | —    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products      | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total                  | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.4. Water Emissions by Land Use

##### 4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 124   | 124  | 0.02 | < 0.005 | — | 125  |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 124   | 124  | 0.02 | < 0.005 | — | 125  |

|                                |   |   |   |   |   |   |   |   |   |   |   |      |      |      |         |         |   |      |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|---------|---------|---|------|
| Daily, Winter (Max)            | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 124  | 124  | 0.02    | < 0.005 | — | 125  |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 124  | 124  | 0.02    | < 0.005 | — | 125  |
| Annual                         | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 20.5 | 20.5 | < 0.005 | < 0.005 | — | 20.7 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 20.5 | 20.5 | < 0.005 | < 0.005 | — | 20.7 |

#### 4.5. Waste Emissions by Land Use

##### 4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |



|                                |   |   |   |   |   |   |   |   |   |   |   |   |      |      |      |      |      |   |      |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | — | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

#### 4.6. Refrigerant Emissions by Land Use

##### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.9. User Defined Emissions By Equipment Type

##### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.10. Soil Carbon Accumulation By Vegetation Type

##### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation          | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species             | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sequest             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Remove d            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequest ered        | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Remove d            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequest ered        | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Remove d            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 5. Activity Data

### 5.1. Construction Schedule

| Phase Name                    | Phase Type            | Start Date | End Date  | Days Per Week | Work Days per Phase | Phase Description             |
|-------------------------------|-----------------------|------------|-----------|---------------|---------------------|-------------------------------|
| Site Preparation              | Site Preparation      | 2/28/2028  | 3/24/2028 | 5.00          | 20.0                | —                             |
| Grading                       | Grading               | 3/25/2028  | 5/19/2028 | 5.00          | 40.0                | —                             |
| Energy Enclosure Installation | Building Construction | 5/20/2028  | 11/2/2029 | 5.00          | 380                 | Energy Enclosure Installation |

### 5.2. Off-Road Equipment

#### 5.2.1. Unmitigated

| Phase Name                    | Equipment Type            | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|-------------------------------|---------------------------|-----------|-------------|----------------|---------------|------------|-------------|
| Site Preparation              | Graders                   | Diesel    | Average     | 4.00           | 8.00          | 148        | 0.41        |
| Site Preparation              | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Grading                       | Graders                   | Diesel    | Average     | 4.00           | 8.00          | 148        | 0.41        |
| Grading                       | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Energy Enclosure Installation | Cranes                    | Diesel    | Average     | 2.00           | 8.00          | 367        | 0.29        |
| Energy Enclosure Installation | Generator Sets            | Diesel    | Average     | 4.00           | 8.00          | 14.0       | 0.74        |
| Energy Enclosure Installation | Tractors/Loaders/Backhoes | Diesel    | Average     | 2.00           | 8.00          | 84.0       | 0.37        |
| Site Preparation              | Rubber Tired Dozers       | Diesel    | Average     | 0.00           | 8.00          | 367        | 0.40        |
| Grading                       | Excavators                | Diesel    | Average     | 0.00           | 8.00          | 36.0       | 0.38        |
| Grading                       | Rubber Tired Dozers       | Diesel    | Average     | 0.00           | 8.00          | 367        | 0.40        |
| Grading                       | Scrapers                  | Diesel    | Average     | 0.00           | 8.00          | 423        | 0.48        |

|                               |                         |        |         |      |      |      |      |
|-------------------------------|-------------------------|--------|---------|------|------|------|------|
| Energy Enclosure Installation | Forklifts               | Diesel | Average | 0.00 | 8.00 | 82.0 | 0.20 |
| Energy Enclosure Installation | Welders                 | Diesel | Average | 0.00 | 8.00 | 46.0 | 0.45 |
| Site Preparation              | Rubber Tired Loaders    | Diesel | Average | 4.00 | 8.00 | 150  | 0.36 |
| Site Preparation              | Skid Steer Loaders      | Diesel | Average | 4.00 | 8.00 | 71.0 | 0.37 |
| Grading                       | Plate Compactors        | Diesel | Average | 4.00 | 8.00 | 8.00 | 0.43 |
| Grading                       | Rollers                 | Diesel | Average | 4.00 | 8.00 | 36.0 | 0.38 |
| Grading                       | Rubber Tired Loaders    | Diesel | Average | 4.00 | 8.00 | 150  | 0.36 |
| Grading                       | Skid Steer Loaders      | Diesel | Average | 4.00 | 8.00 | 71.0 | 0.37 |
| Energy Enclosure Installation | Air Compressors         | Diesel | Average | 4.00 | 8.00 | 37.0 | 0.48 |
| Energy Enclosure Installation | Excavators              | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Energy Enclosure Installation | Plate Compactors        | Diesel | Average | 2.00 | 8.00 | 8.00 | 0.43 |
| Energy Enclosure Installation | Rollers                 | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Energy Enclosure Installation | Rough Terrain Forklifts | Diesel | Average | 2.00 | 8.00 | 96.0 | 0.40 |
| Energy Enclosure Installation | Skid Steer Loaders      | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |

### 5.3. Construction Vehicles

#### 5.3.1. Unmitigated

| Phase Name       | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix   |
|------------------|-----------|-----------------------|----------------|---------------|
| Site Preparation | —         | —                     | —              | —             |
| Site Preparation | Worker    | 120                   | 7.70           | LDA,LDT1,LDT2 |
| Site Preparation | Vendor    | 8.00                  | 60.0           | HHDT          |

|                               |              |      |      |               |
|-------------------------------|--------------|------|------|---------------|
| Site Preparation              | Hauling      | 0.00 | 20.0 | HHDT          |
| Site Preparation              | Onsite truck | 0.00 | —    | HHDT          |
| Grading                       | —            | —    | —    | —             |
| Grading                       | Worker       | 120  | 7.70 | LDA,LDT1,LDT2 |
| Grading                       | Vendor       | 8.00 | 60.0 | HHDT          |
| Grading                       | Hauling      | 0.00 | 20.0 | HHDT          |
| Grading                       | Onsite truck | 0.00 | —    | HHDT          |
| Energy Enclosure Installation | —            | —    | —    | —             |
| Energy Enclosure Installation | Worker       | 300  | 7.70 | LDA,LDT1,LDT2 |
| Energy Enclosure Installation | Vendor       | 80.0 | 60.0 | HHDT,MHDT     |
| Energy Enclosure Installation | Hauling      | 0.00 | 20.0 | HHDT          |
| Energy Enclosure Installation | Onsite truck | 0.00 | —    | HHDT          |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|------------|--|--|--|--|-----------------------------|
|------------|--|--|--|--|-----------------------------|

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name       | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|------------------|---------------------------------|---------------------------------|----------------------|-------------------------------|---------------------|
| Site Preparation | 0.00                            | 0.00                            | 20.0                 | 0.00                          | —                   |
| Grading          | 0.00                            | 0.00                            | 40.0                 | 0.00                          | —                   |



## 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|----------------------------|---------------------|----------------|-----------------|
| Water Exposed Area         | 3                   | 74%            | 74%             |

## 5.7. Construction Paving

| Land Use                       | Area Paved (acres) | % Asphalt |
|--------------------------------|--------------------|-----------|
| Refrigerated Warehouse-No Rail | 0.00               | 0%        |

## 5.8. Construction Electricity Consumption and Emissions Factors

## kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4  | N2O     |
|------|--------------|-----|------|---------|
| 2028 | 0.00         | 204 | 0.03 | < 0.005 |
| 2029 | 0.00         | 204 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

## 5.9.1. Unmitigated

| Land Use Type                  | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|--------------------------------|---------------|----------------|--------------|------------|-------------|--------------|------------|----------|
| Refrigerated Warehouse-No Rail | 0.00          | 0.00           | 0.00         | 0.00       | 0.00        | 0.00         | 0.00       | 0.00     |

## 5.10. Operational Area Sources

## 5.10.1. Hearths

## 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|--|--|--|--|-----------------------------|
| 0  | 0.00                                     | 4,500  | 1,500  | —                           |

### 5.10.3. Landscape Equipment

| Season      | Unit   | Value |
|-------------|--------|-------|
| Snow Days   | day/yr | 0.00  |
| Summer Days | day/yr | 0.00  |

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

#### Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use                       | Electricity (kWh/yr) | CO2 | CH4    | N2O    | Natural Gas (kBTU/yr) |
|--------------------------------|----------------------|-----|--------|--------|-----------------------|
| Refrigerated Warehouse-No Rail | 0.00                 | 204 | 0.0330 | 0.0040 | 0.00                  |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use                       | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|--------------------------------|-------------------------|--------------------------|
| Refrigerated Warehouse-No Rail | 0.00                    | 91,629,301               |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|----------|------------------|-------------------------|
|----------|------------------|-------------------------|

|                                |      |      |
|--------------------------------|------|------|
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 |
|--------------------------------|------|------|

### 5.14. Operational Refrigeration and Air Conditioning Equipment

#### 5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---------------|----------------|-------------|-----|---------------|----------------------|-------------------|----------------|
|---------------|----------------|-------------|-----|---------------|----------------------|-------------------|----------------|

### 5.15. Operational Off-Road Equipment

#### 5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|----------------|-----------|-------------|----------------|---------------|------------|-------------|
|----------------|-----------|-------------|----------------|---------------|------------|-------------|

### 5.16. Stationary Sources

#### 5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|----------------|-----------|----------------|---------------|----------------|------------|-------------|
|----------------|-----------|----------------|---------------|----------------|------------|-------------|

#### 5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|

### 5.17. User Defined

| Equipment Type | Fuel Type |
|----------------|-----------|
| —              | —         |

### 5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|--------------------------|----------------------|---------------|-------------|
|--------------------------|----------------------|---------------|-------------|

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

5.18.2. Sequestration

5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|-----------|--------|------------------------------|------------------------------|
|-----------|--------|------------------------------|------------------------------|

## 8. User Changes to Default Data

| Screen                             | Justification   |
|------------------------------------|---|
| Construction: Construction Phases  | Based on Project specific information provided  |
| Land Use                           | Based on project specific information   |
| Construction: Off-Road Equipment   | Project provided information . Equipment with a "0" quantity are default equipment that are not used in the analysis. |
| Construction: Trips and VMT        | Based on project specific information provided  |
| Operations: Vehicle Data           | Mobile sources estimated under Phase 1 - Lithium Ion Battery Option   |
| Operations: Consumer Products      | No operational land uses modeled  |
| Operations: Architectural Coatings | No operational land uses modeled  |
| Operations: Landscape Equipment    | No operational land uses modeled  |
| Operations: Energy Use             | No operational land uses modeled  |

|   |   |
|---|---|
| Operations: Water and Waste Water         | Dust Control for construction modeled here.                 |
| Operations: Solid Waste                   | No operational land uses modeled                            |
| Operations: Refrigerants                  | No operational land uses modeled                            |
| Construction: Dust From Material Movement | no import or export, material balanced onsite               |
| Operations: Fleet Mix                     | Updated to reflect 100% MDV for worker truck access to site |

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Lithium Ion Battery w Iron Flow - Phase 1 CalEEMod Output (Annual, Winter, Summer)

# Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 Custom Report

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8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field                  | Value   |
|-----------------------------|---|
| Project Name                | Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 |
| Lead Agency                 | —   |
| Land Use Scale              | Project/site  |
| Analysis Level for Defaults | County  |
| Windspeed (m/s)             | 3.50  |
| Precipitation (days)        | 16.8  |
| Location                    | 36.13263447616909, -120.13458957268438                          |
| County                      | Fresno  |
| City                        | Unincorporated  |
| Air District                | San Joaquin Valley APCD   |
| Air Basin                   | San Joaquin Valley  |
| TAZ                         | 2530  |
| EDFZ                        | 5   |
| Electric Utility            | Pacific Gas & Electric Company                                  |
| Gas Utility                 | Pacific Gas & Electric  |

## 1.2. Land Use Types

| Land Use Subtype               | Size | Unit     | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|--------------------------------|------|----------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| Refrigerated Warehouse-No Rail | 0.75 | 1000sqft | 69.0        | 750                   | 0.00                   | —                              | —          | —           |
| General Office Building        | 1.00 | 1000sqft | 0.50        | 1,000                 | 0.00                   | —                              | —          | —           |

|                                  |      |          |      |       |      |   |   |   |
|----------------------------------|------|----------|------|-------|------|---|---|---|
| Unrefrigerated Warehouse-No Rail | 2.00 | 1000sqft | 0.50 | 2,000 | 0.00 | — | — | — |
|----------------------------------|------|----------|------|-------|------|---|---|---|

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2  | CO2T   | CH4  | N2O  | R    | CO2e   |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 7.74 | 6.39 | 67.4 | 68.8 | 0.21 | 2.18  | 4.99  | 7.18  | 2.02   | 1.34   | 3.36   | —    | 26,315 | 26,315 | 0.68 | 2.26 | 45.0 | 27,050 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 11.6 | 9.78 | 86.4 | 96.5 | 0.21 | 3.96  | 9.00  | 12.7  | 3.65   | 3.97   | 7.56   | —    | 26,195 | 26,195 | 0.69 | 2.26 | 1.17 | 26,886 |
| Average Daily (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 4.07 | 3.40 | 29.1 | 35.2 | 0.09 | 1.07  | 3.02  | 4.09  | 0.99   | 0.90   | 1.89   | —    | 11,239 | 11,239 | 0.33 | 0.94 | 8.85 | 11,535 |
| Annual (Max)        | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 0.74 | 0.62 | 5.31 | 6.42 | 0.02 | 0.19  | 0.55  | 0.75  | 0.18   | 0.16   | 0.34   | —    | 1,861  | 1,861  | 0.05 | 0.16 | 1.47 | 1,910  |

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

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|                      |      |      |      |      |      |      |      |      |      |      |      |   |        |        |      |      |      |        |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|---|--------|--------|------|------|------|--------|
| Daily - Summer (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2024                 | 5.13 | 4.28 | 34.7 | 45.4 | 0.11 | 1.12 | 3.95 | 5.07 | 1.04 | 1.01 | 2.05 | — | 15,110 | 15,110 | 0.44 | 1.19 | 29.4 | 15,506 |
| 2025                 | 7.74 | 6.39 | 67.4 | 68.8 | 0.21 | 2.18 | 4.99 | 7.18 | 2.02 | 1.34 | 3.36 | — | 26,315 | 26,315 | 0.68 | 2.26 | 45.0 | 27,050 |
| Daily - Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2024                 | 11.6 | 9.78 | 86.4 | 96.5 | 0.14 | 3.96 | 9.00 | 12.7 | 3.65 | 3.97 | 7.56 | — | 17,008 | 17,008 | 0.65 | 1.19 | 0.76 | 17,151 |
| 2025                 | 7.67 | 6.32 | 68.5 | 67.4 | 0.21 | 2.18 | 4.99 | 7.18 | 2.02 | 1.34 | 3.36 | — | 26,195 | 26,195 | 0.69 | 2.26 | 1.17 | 26,886 |
| Average Daily        | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2024                 | 4.07 | 3.40 | 29.1 | 35.2 | 0.08 | 1.07 | 3.02 | 4.09 | 0.99 | 0.90 | 1.89 | — | 10,385 | 10,385 | 0.33 | 0.72 | 7.57 | 10,616 |
| 2025                 | 3.45 | 2.91 | 27.4 | 30.2 | 0.09 | 0.86 | 2.55 | 3.40 | 0.80 | 0.66 | 1.46 | — | 11,239 | 11,239 | 0.29 | 0.94 | 8.85 | 11,535 |
| Annual               | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2024                 | 0.74 | 0.62 | 5.31 | 6.42 | 0.01 | 0.19 | 0.55 | 0.75 | 0.18 | 0.16 | 0.34 | — | 1,719  | 1,719  | 0.05 | 0.12 | 1.25 | 1,758  |
| 2025                 | 0.63 | 0.53 | 4.99 | 5.52 | 0.02 | 0.16 | 0.46 | 0.62 | 0.15 | 0.12 | 0.27 | — | 1,861  | 1,861  | 0.05 | 0.16 | 1.47 | 1,910  |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2     | PM10E   | PM10D | PM10T | PM2.5E  | PM2.5D | PM2.5T | BCO2    | NBCO2 | CO2T | CH4  | N2O  | R    | CO2e |
|---------------------|------|------|------|------|---------|---------|-------|-------|---------|--------|--------|---------|-------|------|------|------|------|------|
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —       | —     | —     | —       | —      | —      | —       | —     | —    | —    | —    | —    | —    |
| Unmit.              | 0.06 | 0.14 | 0.05 | 0.81 | < 0.005 | < 0.005 | 0.06  | 0.06  | < 0.005 | 0.01   | 0.01   | < 0.005 | 348   | 348  | 0.02 | 0.01 | 0.67 | 352  |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —       | —     | —     | —       | —      | —      | —       | —     | —    | —    | —    | —    | —    |
| Unmit.              | 0.06 | 0.14 | 0.07 | 0.58 | < 0.005 | < 0.005 | 0.06  | 0.06  | < 0.005 | 0.01   | 0.01   | < 0.005 | 328   | 328  | 0.02 | 0.01 | 0.02 | 331  |

|                     |      |      |      |      |         |         |      |      |         |         |         |         |      |      |         |         |      |      |
|---------------------|------|------|------|------|---------|---------|------|------|---------|---------|---------|---------|------|------|---------|---------|------|------|
| Average Daily (Max) | —    | —    | —    | —    | —       | —       | —    | —    | —       | —       | —       | —       | —    | —    | —       | —       | —    | —    |
| Unmit.              | 0.04 | 0.12 | 0.04 | 0.45 | < 0.005 | < 0.005 | 0.05 | 0.05 | < 0.005 | 0.01    | 0.01    | < 0.005 | 270  | 270  | 0.02    | 0.01    | 0.21 | 273  |
| Annual (Max)        | —    | —    | —    | —    | —       | —       | —    | —    | —       | —       | —       | —       | —    | —    | —       | —       | —    | —    |
| Unmit.              | 0.01 | 0.02 | 0.01 | 0.08 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 44.8 | 44.8 | < 0.005 | < 0.005 | 0.03 | 45.2 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector              | TOG  | ROG  | NOx  | CO   | SO2     | PM10E   | PM10D | PM10T | PM2.5E  | PM2.5D | PM2.5T | BCO2    | NBCO2 | CO2T | CH4     | N2O     | R       | CO2e    |
|---------------------|------|------|------|------|---------|---------|-------|-------|---------|--------|--------|---------|-------|------|---------|---------|---------|---------|
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —       | —     | —     | —       | —      | —      | —       | —     | —    | —       | —       | —       | —       |
| Mobile              | 0.06 | 0.06 | 0.05 | 0.81 | < 0.005 | < 0.005 | 0.06  | 0.06  | < 0.005 | 0.01   | 0.01   | —       | 235   | 235  | < 0.005 | 0.01    | 0.67    | 238     |
| Area                | —    | 0.09 | —    | —    | —       | —       | —     | —     | —       | —      | —      | —       | —     | —    | —       | —       | —       | —       |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —     | 0.00  | 0.00    | —      | 0.00   | —       | 35.4  | 35.4 | 0.01    | < 0.005 | —       | 35.8    |
| Water               | —    | —    | —    | —    | —       | —       | —     | —     | —       | —      | —      | < 0.005 | 77.6  | 77.6 | 0.01    | < 0.005 | —       | 78.4    |
| Waste               | —    | —    | —    | —    | —       | —       | —     | —     | —       | —      | —      | 0.00    | 0.00  | 0.00 | 0.00    | 0.00    | —       | 0.00    |
| Refrig.             | —    | —    | —    | —    | —       | —       | —     | —     | —       | —      | —      | —       | —     | —    | —       | —       | < 0.005 | < 0.005 |
| Total               | 0.06 | 0.14 | 0.05 | 0.81 | < 0.005 | < 0.005 | 0.06  | 0.06  | < 0.005 | 0.01   | 0.01   | < 0.005 | 348   | 348  | 0.02    | 0.01    | 0.67    | 352     |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —       | —     | —     | —       | —      | —      | —       | —     | —    | —       | —       | —       | —       |
| Mobile              | 0.06 | 0.05 | 0.07 | 0.58 | < 0.005 | < 0.005 | 0.06  | 0.06  | < 0.005 | 0.01   | 0.01   | —       | 214   | 214  | 0.01    | 0.01    | 0.02    | 216     |
| Area                | —    | 0.09 | —    | —    | —       | —       | —     | —     | —       | —      | —      | —       | —     | —    | —       | —       | —       | —       |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —     | 0.00  | 0.00    | —      | 0.00   | —       | 35.4  | 35.4 | 0.01    | < 0.005 | —       | 35.8    |
| Water               | —    | —    | —    | —    | —       | —       | —     | —     | —       | —      | —      | < 0.005 | 77.6  | 77.6 | 0.01    | < 0.005 | —       | 78.4    |
| Waste               | —    | —    | —    | —    | —       | —       | —     | —     | —       | —      | —      | 0.00    | 0.00  | 0.00 | 0.00    | 0.00    | —       | 0.00    |
| Refrig.             | —    | —    | —    | —    | —       | —       | —     | —     | —       | —      | —      | —       | —     | —    | —       | —       | < 0.005 | < 0.005 |



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|               |      |      |      |      |         |         |      |      |         |         |         |         |      |      |         |         |         |         |
|---------------|------|------|------|------|---------|---------|------|------|---------|---------|---------|---------|------|------|---------|---------|---------|---------|
| Total         | 0.06 | 0.14 | 0.07 | 0.58 | < 0.005 | < 0.005 | 0.06 | 0.06 | < 0.005 | 0.01    | 0.01    | < 0.005 | 328  | 328  | 0.02    | 0.01    | 0.02    | 331     |
| Average Daily | —    | —    | —    | —    | —       | —       | —    | —    | —       | —       | —       | —       | —    | —    | —       | —       | —       | —       |
| Mobile        | 0.04 | 0.04 | 0.04 | 0.45 | < 0.005 | < 0.005 | 0.05 | 0.05 | < 0.005 | 0.01    | 0.01    | —       | 157  | 157  | < 0.005 | < 0.005 | 0.21    | 159     |
| Area          | —    | 0.09 | —    | —    | —       | —       | —    | —    | —       | —       | —       | —       | —    | —    | —       | —       | —       | —       |
| Energy        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 | 0.00    | —       | 0.00    | —       | 35.4 | 35.4 | 0.01    | < 0.005 | —       | 35.8    |
| Water         | —    | —    | —    | —    | —       | —       | —    | —    | —       | —       | —       | < 0.005 | 77.6 | 77.6 | 0.01    | < 0.005 | —       | 78.4    |
| Waste         | —    | —    | —    | —    | —       | —       | —    | —    | —       | —       | —       | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | —       | 0.00    |
| Refrig.       | —    | —    | —    | —    | —       | —       | —    | —    | —       | —       | —       | —       | —    | —    | —       | —       | < 0.005 | < 0.005 |
| Total         | 0.04 | 0.12 | 0.04 | 0.45 | < 0.005 | < 0.005 | 0.05 | 0.05 | < 0.005 | 0.01    | 0.01    | < 0.005 | 270  | 270  | 0.02    | 0.01    | 0.21    | 273     |
| Annual        | —    | —    | —    | —    | —       | —       | —    | —    | —       | —       | —       | —       | —    | —    | —       | —       | —       | —       |
| Mobile        | 0.01 | 0.01 | 0.01 | 0.08 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | —       | 26.1 | 26.1 | < 0.005 | < 0.005 | 0.03    | 26.3    |
| Area          | —    | 0.02 | —    | —    | —       | —       | —    | —    | —       | —       | —       | —       | —    | —    | —       | —       | —       | —       |
| Energy        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 | 0.00    | —       | 0.00    | —       | 5.86 | 5.86 | < 0.005 | < 0.005 | —       | 5.92    |
| Water         | —    | —    | —    | —    | —       | —       | —    | —    | —       | —       | —       | < 0.005 | 12.9 | 12.9 | < 0.005 | < 0.005 | —       | 13.0    |
| Waste         | —    | —    | —    | —    | —       | —       | —    | —    | —       | —       | —       | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | —       | 0.00    |
| Refrig.       | —    | —    | —    | —    | —       | —       | —    | —    | —       | —       | —       | —       | —    | —    | —       | —       | < 0.005 | < 0.005 |
| Total         | 0.01 | 0.02 | 0.01 | 0.08 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 44.8 | 44.8 | < 0.005 | < 0.005 | 0.03    | 45.2    |

### 3. Construction Emissions Details

#### 3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Onsite              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

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|                              |      |      |      |      |         |      |      |      |      |         |         |   |       |       |         |         |      |       |
|------------------------------|------|------|------|------|---------|------|------|------|------|---------|---------|---|-------|-------|---------|---------|------|-------|
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 3.84 | 3.23 | 29.2 | 40.8 | 0.06    | 1.46 | —    | 1.46 | 1.34 | —       | 1.34    | — | 6,415 | 6,415 | 0.26    | 0.05    | —    | 6,438 |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.55 | 0.55 | —    | 0.06    | 0.06    | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily                | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.21 | 0.18 | 1.60 | 2.24 | < 0.005 | 0.08 | —    | 0.08 | 0.07 | —       | 0.07    | — | 352   | 352   | 0.01    | < 0.005 | —    | 353   |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.03 | 0.03 | —    | < 0.005 | < 0.005 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual                       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.04 | 0.03 | 0.29 | 0.41 | < 0.005 | 0.01 | —    | 0.01 | 0.01 | —       | 0.01    | — | 58.2  | 58.2  | < 0.005 | < 0.005 | —    | 58.4  |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.01 | 0.01 | —    | < 0.005 | < 0.005 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite                      | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |

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|                     |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |      |      |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|------|------|
| Daily, Winter (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker              | 0.36    | 0.33    | 0.34    | 3.37    | 0.00    | 0.00    | 0.04    | 0.04    | 0.00    | 0.00    | 0.00    | — | 644  | 644  | 0.02    | 0.03    | 0.08 | 653  |
| Vendor              | 0.03    | 0.01    | 0.98    | 0.16    | 0.01    | 0.02    | 0.06    | 0.08    | 0.02    | 0.02    | 0.04    | — | 841  | 841  | 0.02    | 0.13    | 0.05 | 882  |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Average Daily       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker              | 0.02    | 0.02    | 0.02    | 0.19    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 36.6 | 36.6 | < 0.005 | < 0.005 | 0.07 | 37.2 |
| Vendor              | < 0.005 | < 0.005 | 0.05    | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 46.1 | 46.1 | < 0.005 | 0.01    | 0.05 | 48.3 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual              | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.04    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 6.06 | 6.06 | < 0.005 | < 0.005 | 0.01 | 6.15 |
| Vendor              | < 0.005 | < 0.005 | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.63 | 7.63 | < 0.005 | < 0.005 | 0.01 | 8.00 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |

### 3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R | CO2e  |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|---|-------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Off-Road Equipment  | 5.60 | 4.70 | 46.3 | 41.3 | 0.06 | 2.06  | —     | 2.06  | 1.90   | —      | 1.90   | —    | 6,674 | 6,674 | 0.27 | 0.05 | — | 6,697 |

Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 Custom Report, 1/13/2023

|                              |      |      |      |      |         |      |      |      |      |      |      |   |       |       |         |         |      |       |
|------------------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|---------|---------|------|-------|
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 6.81 | 6.81 | —    | 3.50 | 3.50 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily                | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.31 | 0.26 | 2.54 | 2.27 | < 0.005 | 0.11 | —    | 0.11 | 0.10 | —    | 0.10 | — | 366   | 366   | 0.01    | < 0.005 | —    | 367   |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.37 | 0.37 | —    | 0.19 | 0.19 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual                       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.06 | 0.05 | 0.46 | 0.41 | < 0.005 | 0.02 | —    | 0.02 | 0.02 | —    | 0.02 | — | 60.5  | 60.5  | < 0.005 | < 0.005 | —    | 60.8  |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.07 | 0.07 | —    | 0.04 | 0.04 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite                      | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Worker                       | 0.18 | 0.17 | 0.17 | 1.68 | 0.00    | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | — | 322   | 322   | 0.01    | 0.01    | 0.04 | 326   |
| Vendor                       | 0.06 | 0.03 | 1.95 | 0.32 | 0.01    | 0.03 | 0.13 | 0.16 | 0.03 | 0.04 | 0.07 | — | 1,683 | 1,683 | 0.03    | 0.27    | 0.11 | 1,763 |
| Hauling                      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |

Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 Custom Report, 1/13/2023

|               |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |      |      |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|------|------|
| Average Daily | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker        | 0.01    | 0.01    | 0.01    | 0.10    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 18.3 | 18.3 | < 0.005 | < 0.005 | 0.03 | 18.6 |
| Vendor        | < 0.005 | < 0.005 | 0.10    | 0.02    | < 0.005 | < 0.005 | 0.01    | 0.01    | < 0.005 | < 0.005 | < 0.005 | — | 92.2 | 92.2 | < 0.005 | 0.01    | 0.10 | 96.7 |
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual        | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker        | < 0.005 | < 0.005 | < 0.005 | 0.02    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 3.03 | 3.03 | < 0.005 | < 0.005 | 0.01 | 3.08 |
| Vendor        | < 0.005 | < 0.005 | 0.02    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 15.3 | 15.3 | < 0.005 | < 0.005 | 0.02 | 16.0 |
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |

3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                    | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|-----------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite                      | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Winter (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment          | 4.71 | 3.95 | 33.9 | 45.7 | 0.07 | 1.69  | —     | 1.69  | 1.55   | —      | 1.55   | —    | 7,120 | 7,120 | 0.29 | 0.06 | —    | 7,144 |
| Dust From Material Movement | —    | —    | —    | —    | —    | —     | 0.55  | 0.55  | —      | 0.06   | 0.06   | —    | —     | —     | —    | —    | —    | —     |
| Onsite truck                | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Average Daily               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment          | 0.52 | 0.43 | 3.71 | 5.01 | 0.01 | 0.18  | —     | 0.18  | 0.17   | —      | 0.17   | —    | 780   | 780   | 0.03 | 0.01 | —    | 783   |

Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 Custom Report, 1/13/2023

|                              |         |         |      |         |         |         |         |         |         |         |         |   |      |      |         |         |      |      |
|------------------------------|---------|---------|------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|------|------|
| Dust From Material Movement: | —       | —       | —    | —       | —       | —       | 0.06    | 0.06    | —       | 0.01    | 0.01    | — | —    | —    | —       | —       | —    | —    |
| Onsite truck                 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual                       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment           | 0.09    | 0.08    | 0.68 | 0.91    | < 0.005 | 0.03    | —       | 0.03    | 0.03    | —       | 0.03    | — | 129  | 129  | 0.01    | < 0.005 | —    | 130  |
| Dust From Material Movement: | —       | —       | —    | —       | —       | —       | 0.01    | 0.01    | —       | < 0.005 | < 0.005 | — | —    | —    | —       | —       | —    | —    |
| Onsite truck                 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Offsite                      | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Summer (Max)          | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Winter (Max)          | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | 0.36    | 0.33    | 0.34 | 3.37    | 0.00    | 0.00    | 0.04    | 0.04    | 0.00    | 0.00    | 0.00    | — | 644  | 644  | 0.02    | 0.03    | 0.08 | 653  |
| Vendor                       | 0.03    | 0.01    | 0.98 | 0.16    | 0.01    | 0.02    | 0.06    | 0.08    | 0.02    | 0.02    | 0.04    | — | 841  | 841  | 0.02    | 0.13    | 0.05 | 882  |
| Hauling                      | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Average Daily                | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | 0.04    | 0.04    | 0.03 | 0.39    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 73.2 | 73.2 | < 0.005 | < 0.005 | 0.14 | 74.3 |
| Vendor                       | < 0.005 | < 0.005 | 0.10 | 0.02    | < 0.005 | < 0.005 | 0.01    | 0.01    | < 0.005 | < 0.005 | < 0.005 | — | 92.2 | 92.2 | < 0.005 | 0.01    | 0.10 | 96.7 |
| Hauling                      | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual                       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | 0.01    | 0.01    | 0.01 | 0.07    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 12.1 | 12.1 | < 0.005 | < 0.005 | 0.02 | 12.3 |
| Vendor                       | < 0.005 | < 0.005 | 0.02 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 15.3 | 15.3 | < 0.005 | < 0.005 | 0.02 | 16.0 |

|         |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |
|---------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|---------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|

### 3.7. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                     | TOG  | ROG  | NOx  | CO   | SO2     | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4     | N2O     | R    | CO2e  |
|------------------------------|------|------|------|------|---------|-------|-------|-------|--------|--------|--------|------|-------|-------|---------|---------|------|-------|
| Onsite                       | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —       | —       | —    | —     |
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 6.31 | 5.30 | 50.0 | 45.4 | 0.07    | 2.25  | —     | 2.25  | 2.07   | —      | 2.07   | —    | 7,240 | 7,240 | 0.29    | 0.06    | —    | 7,265 |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —     | 6.81  | 6.81  | —      | 3.50   | 3.50   | —    | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily                | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.17 | 0.15 | 1.37 | 1.24 | < 0.005 | 0.06  | —     | 0.06  | 0.06   | —      | 0.06   | —    | 198   | 198   | 0.01    | < 0.005 | —    | 199   |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —     | 0.19  | 0.19  | —      | 0.10   | 0.10   | —    | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual                       | —    | —    | —    | —    | —       | —     | —     | —     | —      | —      | —      | —    | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.03 | 0.03 | 0.25 | 0.23 | < 0.005 | 0.01  | —     | 0.01  | 0.01   | —      | 0.01   | —    | 32.8  | 32.8  | < 0.005 | < 0.005 | —    | 33.0  |

Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 Custom Report, 1/13/2023

|                              |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |         |      |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Dust From Material Movement: | —       | —       | —       | —       | —       | —       | 0.03    | 0.03    | —       | 0.02    | 0.02    | — | —    | —    | —       | —       | —       | —    |
| Onsite truck                 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Offsite                      | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Daily, Summer (Max)          | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Daily, Winter (Max)          | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker                       | 0.18    | 0.17    | 0.17    | 1.68    | 0.00    | 0.00    | 0.02    | 0.02    | 0.00    | 0.00    | 0.00    | — | 322  | 322  | 0.01    | 0.01    | 0.04    | 326  |
| Vendor                       | 0.03    | 0.01    | 0.98    | 0.16    | 0.01    | 0.02    | 0.06    | 0.08    | 0.02    | 0.02    | 0.04    | — | 841  | 841  | 0.02    | 0.13    | 0.05    | 882  |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Average Daily                | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker                       | 0.01    | < 0.005 | < 0.005 | 0.05    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 9.15 | 9.15 | < 0.005 | < 0.005 | 0.02    | 9.29 |
| Vendor                       | < 0.005 | < 0.005 | 0.03    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 23.0 | 23.0 | < 0.005 | < 0.005 | 0.02    | 24.2 |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual                       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker                       | < 0.005 | < 0.005 | < 0.005 | 0.01    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 1.51 | 1.51 | < 0.005 | < 0.005 | < 0.005 | 1.54 |
| Vendor                       | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.82 | 3.82 | < 0.005 | < 0.005 | < 0.005 | 4.00 |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |

### 3.9. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Onsite   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |



Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 Custom Report, 1/13/2023

|                     |      |      |      |      |      |      |      |      |      |      |      |   |       |       |      |         |      |       |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|---|-------|-------|------|---------|------|-------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 3.61 | 3.02 | 26.7 | 30.2 | 0.06 | 1.01 | —    | 1.01 | 0.93 | —    | 0.93 | — | 5,530 | 5,530 | 0.22 | 0.04    | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 3.61 | 3.02 | 26.7 | 30.2 | 0.06 | 1.01 | —    | 1.01 | 0.93 | —    | 0.93 | — | 5,530 | 5,530 | 0.22 | 0.04    | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 2.01 | 1.68 | 14.8 | 16.8 | 0.03 | 0.56 | —    | 0.56 | 0.52 | —    | 0.52 | — | 3,073 | 3,073 | 0.12 | 0.02    | —    | 3,084 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 0.37 | 0.31 | 2.71 | 3.06 | 0.01 | 0.10 | —    | 0.10 | 0.09 | —    | 0.09 | — | 509   | 509   | 0.02 | < 0.005 | —    | 511   |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Offsite             | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Worker              | 1.22 | 1.14 | 0.79 | 13.4 | 0.00 | 0.00 | 0.12 | 0.12 | 0.00 | 0.00 | 0.00 | — | 2,182 | 2,182 | 0.11 | 0.08    | 8.81 | 2,218 |
| Vendor              | 0.29 | 0.13 | 7.25 | 1.78 | 0.05 | 0.11 | 0.42 | 0.53 | 0.11 | 0.16 | 0.26 | — | 7,398 | 7,398 | 0.11 | 1.07    | 20.6 | 7,739 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |

|                     |      |      |      |      |      |      |      |      |      |      |      |   |       |       |      |      |      |       |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|---|-------|-------|------|------|------|-------|
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Worker              | 1.09 | 0.99 | 1.01 | 10.1 | 0.00 | 0.00 | 0.12 | 0.12 | 0.00 | 0.00 | 0.00 | — | 1,932 | 1,932 | 0.06 | 0.08 | 0.23 | 1,958 |
| Vendor              | 0.29 | 0.12 | 7.80 | 1.74 | 0.05 | 0.11 | 0.42 | 0.53 | 0.11 | 0.16 | 0.26 | — | 7,399 | 7,399 | 0.11 | 1.07 | 0.53 | 7,720 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Worker              | 0.61 | 0.56 | 0.48 | 5.88 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | — | 1,113 | 1,113 | 0.06 | 0.05 | 2.12 | 1,130 |
| Vendor              | 0.16 | 0.07 | 4.24 | 0.96 | 0.03 | 0.06 | 0.24 | 0.29 | 0.06 | 0.09 | 0.15 | — | 4,112 | 4,112 | 0.06 | 0.59 | 4.92 | 4,295 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Worker              | 0.11 | 0.10 | 0.09 | 1.07 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 184   | 184   | 0.01 | 0.01 | 0.35 | 187   |
| Vendor              | 0.03 | 0.01 | 0.77 | 0.18 | 0.01 | 0.01 | 0.04 | 0.05 | 0.01 | 0.02 | 0.03 | — | 681   | 681   | 0.01 | 0.10 | 0.81 | 711   |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |

### 3.11. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 3.44 | 2.87 | 25.4 | 30.0 | 0.06 | 0.91  | —     | 0.91  | 0.84   | —      | 0.84   | —    | 5,530 | 5,530 | 0.22 | 0.04 | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |

Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 Custom Report, 1/13/2023

|                     |      |      |      |      |         |      |      |      |      |      |      |   |       |       |      |         |      |       |
|---------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|------|---------|------|-------|
| Off-Road Equipment  | 3.44 | 2.87 | 25.4 | 30.0 | 0.06    | 0.91 | —    | 0.91 | 0.84 | —    | 0.84 | — | 5,530 | 5,530 | 0.22 | 0.04    | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 1.25 | 1.04 | 9.18 | 10.9 | 0.02    | 0.33 | —    | 0.33 | 0.30 | —    | 0.30 | — | 2,002 | 2,002 | 0.08 | 0.02    | —    | 2,009 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 0.23 | 0.19 | 1.68 | 1.99 | < 0.005 | 0.06 | —    | 0.06 | 0.06 | —    | 0.06 | — | 331   | 331   | 0.01 | < 0.005 | —    | 333   |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Offsite             | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Worker              | 1.15 | 1.07 | 0.72 | 12.3 | 0.00    | 0.00 | 0.12 | 0.12 | 0.00 | 0.00 | 0.00 | — | 2,135 | 2,135 | 0.04 | 0.08    | 8.07 | 2,169 |
| Vendor              | 0.24 | 0.13 | 6.87 | 1.56 | 0.05    | 0.11 | 0.42 | 0.53 | 0.11 | 0.16 | 0.26 | — | 7,266 | 7,266 | 0.11 | 1.07    | 20.5 | 7,607 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Worker              | 1.03 | 0.94 | 0.88 | 9.26 | 0.00    | 0.00 | 0.12 | 0.12 | 0.00 | 0.00 | 0.00 | — | 1,892 | 1,892 | 0.06 | 0.08    | 0.21 | 1,918 |
| Vendor              | 0.24 | 0.12 | 7.37 | 1.58 | 0.05    | 0.11 | 0.42 | 0.53 | 0.11 | 0.16 | 0.26 | — | 7,267 | 7,267 | 0.11 | 1.07    | 0.53 | 7,588 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Worker              | 0.38 | 0.35 | 0.29 | 3.52 | 0.00    | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.00 | — | 710   | 710   | 0.02 | 0.03    | 1.26 | 721   |
| Vendor              | 0.09 | 0.05 | 2.61 | 0.57 | 0.02    | 0.04 | 0.15 | 0.19 | 0.04 | 0.06 | 0.10 | — | 2,631 | 2,631 | 0.04 | 0.39    | 3.20 | 2,750 |

|         |      |      |      |      |         |      |      |      |      |      |      |   |      |      |         |         |      |      |
|---------|------|------|------|------|---------|------|------|------|------|------|------|---|------|------|---------|---------|------|------|
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual  | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —    | —    | —       | —       | —    | —    |
| Worker  | 0.07 | 0.06 | 0.05 | 0.64 | 0.00    | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 118  | 118  | < 0.005 | < 0.005 | 0.21 | 119  |
| Vendor  | 0.02 | 0.01 | 0.48 | 0.10 | < 0.005 | 0.01 | 0.03 | 0.03 | 0.01 | 0.01 | 0.02 | — | 436  | 436  | 0.01    | 0.06    | 0.53 | 455  |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |

### 3.13. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2  | CO2T   | CH4  | N2O  | R    | CO2e   |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 6.68 | 5.60 | 53.3 | 59.6 | 0.10 | 1.97  | —     | 1.97  | 1.81   | —      | 1.81   | —    | 10,714 | 10,714 | 0.43 | 0.09 | —    | 10,751 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 6.68 | 5.60 | 53.3 | 59.6 | 0.10 | 1.97  | —     | 1.97  | 1.81   | —      | 1.81   | —    | 10,714 | 10,714 | 0.43 | 0.09 | —    | 10,751 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 1.46 | 1.23 | 11.7 | 13.1 | 0.02 | 0.43  | —     | 0.43  | 0.40   | —      | 0.40   | —    | 2,348  | 2,348  | 0.10 | 0.02 | —    | 2,356  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |

Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 Custom Report, 1/13/2023

|                     |      |      |      |      |         |      |         |         |      |      |      |   |        |        |         |         |      |        |
|---------------------|------|------|------|------|---------|------|---------|---------|------|------|------|---|--------|--------|---------|---------|------|--------|
| Off-Road Equipment  | 0.27 | 0.22 | 2.13 | 2.38 | < 0.005 | 0.08 | —       | 0.08    | 0.07 | —    | 0.07 | — | 389    | 389    | 0.02    | < 0.005 | —    | 390    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Offsite             | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.57 | 0.53 | 0.36 | 6.13 | 0.00    | 0.00 | 0.06    | 0.06    | 0.00 | 0.00 | 0.00 | — | 1,068  | 1,068  | 0.02    | 0.04    | 4.04 | 1,084  |
| Vendor              | 0.48 | 0.25 | 13.7 | 3.12 | 0.11    | 0.21 | 0.85    | 1.06    | 0.21 | 0.32 | 0.53 | — | 14,533 | 14,533 | 0.22    | 2.13    | 41.0 | 15,214 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.52 | 0.47 | 0.44 | 4.63 | 0.00    | 0.00 | 0.06    | 0.06    | 0.00 | 0.00 | 0.00 | — | 946    | 946    | 0.03    | 0.04    | 0.10 | 959    |
| Vendor              | 0.47 | 0.25 | 14.7 | 3.16 | 0.11    | 0.21 | 0.85    | 1.06    | 0.21 | 0.32 | 0.53 | — | 14,534 | 14,534 | 0.22    | 2.13    | 1.07 | 15,176 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.11 | 0.10 | 0.09 | 1.06 | 0.00    | 0.00 | 0.01    | 0.01    | 0.00 | 0.00 | 0.00 | — | 215    | 215    | 0.01    | 0.01    | 0.38 | 218    |
| Vendor              | 0.10 | 0.05 | 3.16 | 0.69 | 0.02    | 0.05 | 0.19    | 0.23    | 0.05 | 0.07 | 0.12 | — | 3,185  | 3,185  | 0.05    | 0.47    | 3.88 | 3,330  |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.02 | 0.02 | 0.02 | 0.19 | 0.00    | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 35.6   | 35.6   | < 0.005 | < 0.005 | 0.06 | 36.1   |
| Vendor              | 0.02 | 0.01 | 0.58 | 0.13 | < 0.005 | 0.01 | 0.03    | 0.04    | 0.01 | 0.01 | 0.02 | — | 527    | 527    | 0.01    | 0.08    | 0.64 | 551    |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |

### 3.15. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 Custom Report, 1/13/2023

|                     |         |         |      |      |         |         |      |         |         |      |         |   |       |       |         |         |      |       |
|---------------------|---------|---------|------|------|---------|---------|------|---------|---------|------|---------|---|-------|-------|---------|---------|------|-------|
| Onsite              | —       | —       | —    | —    | —       | —       | —    | —       | —       | —    | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max) | —       | —       | —    | —    | —       | —       | —    | —       | —       | —    | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Winter (Max) | —       | —       | —    | —    | —       | —       | —    | —       | —       | —    | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | 1.19    | 0.99    | 8.33 | 8.29 | 0.02    | 0.32    | —    | 0.32    | 0.30    | —    | 0.30    | — | 1,714 | 1,714 | 0.07    | 0.01    | —    | 1,720 |
| Onsite truck        | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily       | —       | —       | —    | —    | —       | —       | —    | —       | —       | —    | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | 0.02    | 0.01    | 0.11 | 0.11 | < 0.005 | < 0.005 | —    | < 0.005 | < 0.005 | —    | < 0.005 | — | 23.5  | 23.5  | < 0.005 | < 0.005 | —    | 23.6  |
| Onsite truck        | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual              | —       | —       | —    | —    | —       | —       | —    | —       | —       | —    | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment  | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | < 0.005 | —    | < 0.005 | < 0.005 | —    | < 0.005 | — | 3.89  | 3.89  | < 0.005 | < 0.005 | —    | 3.90  |
| Onsite truck        | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite             | —       | —       | —    | —    | —       | —       | —    | —       | —       | —    | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max) | —       | —       | —    | —    | —       | —       | —    | —       | —       | —    | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Winter (Max) | —       | —       | —    | —    | —       | —       | —    | —       | —       | —    | —       | — | —     | —     | —       | —       | —    | —     |
| Worker              | 0.34    | 0.31    | 0.29 | 3.09 | 0.00    | 0.00    | 0.04 | 0.04    | 0.00    | 0.00 | 0.00    | — | 631   | 631   | 0.02    | 0.03    | 0.07 | 639   |
| Vendor              | 0.05    | 0.02    | 1.89 | 0.32 | 0.01    | 0.03    | 0.13 | 0.16    | 0.03    | 0.04 | 0.07    | — | 1,650 | 1,650 | 0.03    | 0.26    | 0.11 | 1,727 |
| Hauling             | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |

|               |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |         |      |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Average Daily | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker        | < 0.005 | < 0.005 | < 0.005 | 0.04    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 8.95 | 8.95 | < 0.005 | < 0.005 | 0.02    | 9.09 |
| Vendor        | < 0.005 | < 0.005 | 0.03    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 22.6 | 22.6 | < 0.005 | < 0.005 | 0.02    | 23.7 |
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual        | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker        | < 0.005 | < 0.005 | < 0.005 | 0.01    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 1.48 | 1.48 | < 0.005 | < 0.005 | < 0.005 | 1.50 |
| Vendor        | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.74 | 3.74 | < 0.005 | < 0.005 | < 0.005 | 3.92 |
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |

### 3.17. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2     | PM10E   | PM10D | PM10T   | PM2.5E  | PM2.5D | PM2.5T  | BCO2 | NBCO2 | CO2T | CH4     | N2O     | R    | CO2e |
|---------------------|------|------|------|------|---------|---------|-------|---------|---------|--------|---------|------|-------|------|---------|---------|------|------|
| Onsite              | —    | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Off-Road Equipment  | 0.34 | 0.28 | 2.63 | 3.47 | 0.01    | 0.11    | —     | 0.11    | 0.10    | —      | 0.10    | —    | 547   | 547  | 0.02    | < 0.005 | —    | 549  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Average Daily       | —    | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |
| Off-Road Equipment  | 0.01 | 0.01 | 0.07 | 0.10 | < 0.005 | < 0.005 | —     | < 0.005 | < 0.005 | —      | < 0.005 | —    | 15.0  | 15.0 | < 0.005 | < 0.005 | —    | 15.0 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00  | 0.00    | 0.00    | 0.00   | 0.00    | —    | 0.00  | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual              | —    | —    | —    | —    | —       | —       | —     | —       | —       | —      | —       | —    | —     | —    | —       | —       | —    | —    |

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|                     |         |         |         |         |         |         |         |         |         |         |         |   |       |       |         |         |      |       |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|-------|-------|---------|---------|------|-------|
| Off-Road Equipment  | < 0.005 | < 0.005 | 0.01    | 0.02    | < 0.005 | < 0.005 | —       | < 0.005 | < 0.005 | —       | < 0.005 | — | 2.48  | 2.48  | < 0.005 | < 0.005 | —    | 2.49  |
| Onsite truck        | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite             | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Winter (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker              | 0.34    | 0.31    | 0.29    | 3.09    | 0.00    | 0.00    | 0.04    | 0.04    | 0.00    | 0.00    | 0.00    | — | 631   | 631   | 0.02    | 0.03    | 0.07 | 639   |
| Vendor              | 0.05    | 0.02    | 1.89    | 0.32    | 0.01    | 0.03    | 0.13    | 0.16    | 0.03    | 0.04    | 0.07    | — | 1,650 | 1,650 | 0.03    | 0.26    | 0.11 | 1,727 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker              | 0.01    | 0.01    | 0.01    | 0.09    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 17.9  | 17.9  | < 0.005 | < 0.005 | 0.03 | 18.2  |
| Vendor              | < 0.005 | < 0.005 | 0.05    | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 45.2  | 45.2  | < 0.005 | 0.01    | 0.05 | 47.4  |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual              | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.02    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 2.97  | 2.97  | < 0.005 | < 0.005 | 0.01 | 3.01  |
| Vendor              | < 0.005 | < 0.005 | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 7.48  | 7.48  | < 0.005 | < 0.005 | 0.01 | 7.84  |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |

3.19. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Onsite   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |



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|                        |         |         |      |      |         |         |         |         |         |      |         |   |      |      |         |         |      |      |
|------------------------|---------|---------|------|------|---------|---------|---------|---------|---------|------|---------|---|------|------|---------|---------|------|------|
| Daily, Summer (Max)    | —       | —       | —    | —    | —       | —       | —       | —       | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment     | 0.15    | 0.13    | 0.88 | 1.14 | < 0.005 | 0.03    | —       | 0.03    | 0.03    | —    | 0.03    | — | 134  | 134  | 0.01    | < 0.005 | —    | 134  |
| Architectural Coatings | —       | 0.51    | —    | —    | —       | —       | —       | —       | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Onsite truck           | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Daily, Winter (Max)    | —       | —       | —    | —    | —       | —       | —       | —       | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Average Daily          | —       | —       | —    | —    | —       | —       | —       | —       | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment     | 0.01    | 0.01    | 0.08 | 0.11 | < 0.005 | < 0.005 | —       | < 0.005 | < 0.005 | —    | < 0.005 | — | 12.4 | 12.4 | < 0.005 | < 0.005 | —    | 12.5 |
| Architectural Coatings | —       | 0.05    | —    | —    | —       | —       | —       | —       | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Onsite truck           | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual                 | —       | —       | —    | —    | —       | —       | —       | —       | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment     | < 0.005 | < 0.005 | 0.01 | 0.02 | < 0.005 | < 0.005 | —       | < 0.005 | < 0.005 | —    | < 0.005 | — | 2.06 | 2.06 | < 0.005 | < 0.005 | —    | 2.07 |
| Architectural Coatings | —       | 0.01    | —    | —    | —       | —       | —       | —       | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Onsite truck           | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Offsite                | —       | —       | —    | —    | —       | —       | —       | —       | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Summer (Max)    | —       | —       | —    | —    | —       | —       | —       | —       | —       | —    | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                 | 0.01    | 0.01    | 0.01 | 0.10 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00 | 0.00    | — | 17.8 | 17.8 | < 0.005 | < 0.005 | 0.07 | 18.1 |

|                     |         |         |         |         |      |      |         |         |      |      |      |      |      |      |         |         |         |      |      |
|---------------------|---------|---------|---------|---------|------|------|---------|---------|------|------|------|------|------|------|---------|---------|---------|------|------|
| Vendor              | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 |
| Daily, Winter (Max) | —       | —       | —       | —       | —    | —    | —       | —       | —    | —    | —    | —    | —    | —    | —       | —       | —       | —    | —    |
| Average Daily       | —       | —       | —       | —       | —    | —    | —       | —       | —    | —    | —    | —    | —    | —    | —       | —       | —       | —    | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.01    | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | —    | 1.52 | 1.52 | < 0.005 | < 0.005 | < 0.005 | 1.54 |      |
| Vendor              | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual              | —       | —       | —       | —       | —    | —    | —       | —       | —    | —    | —    | —    | —    | —    | —       | —       | —       | —    | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | —    | 0.25 | 0.25 | < 0.005 | < 0.005 | < 0.005 | 0.26 |      |
| Vendor              | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 |

## 4. Operations Emissions Details

### 4.1. Mobile Emissions by Land Use

#### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG  | ROG  | NOx  | CO   | SO2     | PM10E   | PM10D | PM10T | PM2.5E  | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4     | N2O  | R    | CO2e |
|--------------------------------|------|------|------|------|---------|---------|-------|-------|---------|--------|--------|------|-------|------|---------|------|------|------|
| Daily, Summer (Max)            | —    | —    | —    | —    | —       | —       | —     | —     | —       | —      | —      | —    | —     | —    | —       | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.06 | 0.06 | 0.05 | 0.81 | < 0.005 | < 0.005 | 0.06  | 0.06  | < 0.005 | 0.01   | 0.01   | —    | 235   | 235  | < 0.005 | 0.01 | 0.67 | 238  |

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|                                  |      |      |      |      |         |         |      |      |         |         |         |         |   |      |      |         |         |      |      |
|----------------------------------|------|------|------|------|---------|---------|------|------|---------|---------|---------|---------|---|------|------|---------|---------|------|------|
| General Office Building          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Total                            | 0.06 | 0.06 | 0.05 | 0.81 | < 0.005 | < 0.005 | 0.06 | 0.06 | < 0.005 | 0.01    | 0.01    | 0.01    | — | 235  | 235  | < 0.005 | 0.01    | 0.67 | 238  |
| Daily, Winter (Max)              | —    | —    | —    | —    | —       | —       | —    | —    | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Refrigerated Warehouse-No Rail   | 0.06 | 0.05 | 0.07 | 0.58 | < 0.005 | < 0.005 | 0.06 | 0.06 | < 0.005 | 0.01    | 0.01    | 0.01    | — | 214  | 214  | 0.01    | 0.01    | 0.02 | 216  |
| General Office Building          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Total                            | 0.06 | 0.05 | 0.07 | 0.58 | < 0.005 | < 0.005 | 0.06 | 0.06 | < 0.005 | 0.01    | 0.01    | 0.01    | — | 214  | 214  | 0.01    | 0.01    | 0.02 | 216  |
| Annual                           | —    | —    | —    | —    | —       | —       | —    | —    | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Refrigerated Warehouse-No Rail   | 0.01 | 0.01 | 0.01 | 0.08 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 26.1 | 26.1 | < 0.005 | < 0.005 | 0.03 | 26.3 |
| General Office Building          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |

|                               |      |      |      |      |         |         |      |      |         |         |         |      |      |      |         |         |      |      |      |
|-------------------------------|------|------|------|------|---------|---------|------|------|---------|---------|---------|------|------|------|---------|---------|------|------|------|
| Unrefrigerated Warehouse Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 | —    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 |
| Total                         | 0.01 | 0.01 | 0.01 | 0.08 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | —    | 26.1 | 26.1 | < 0.005 | < 0.005 | 0.03 | 26.3 |      |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                         | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4     | N2O     | R | CO2e |
|----------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|---------|---------|---|------|
| Daily, Summer (Max)              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 10.3  | 10.3 | < 0.005 | < 0.005 | — | 10.4 |
| General Office Building          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 13.1  | 13.1 | < 0.005 | < 0.005 | — | 13.2 |
| Unrefrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 12.0  | 12.0 | < 0.005 | < 0.005 | — | 12.1 |
| Total                            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 35.4  | 35.4 | 0.01    | < 0.005 | — | 35.8 |
| Daily, Winter (Max)              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | — | —    |

|                                  |   |   |   |   |   |   |   |   |   |   |   |   |      |      |         |         |   |      |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|------|---------|---------|---|------|
| Refrigerated Warehouse-No        | — | — | — | — | — | — | — | — | — | — | — | — | 10.3 | 10.3 | < 0.005 | < 0.005 | — | 10.4 |
| General Office Building          | — | — | — | — | — | — | — | — | — | — | — | — | 13.1 | 13.1 | < 0.005 | < 0.005 | — | 13.2 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 12.0 | 12.0 | < 0.005 | < 0.005 | — | 12.1 |
| Total                            | — | — | — | — | — | — | — | — | — | — | — | — | 35.4 | 35.4 | 0.01    | < 0.005 | — | 35.8 |
| Annual                           | — | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail   | — | — | — | — | — | — | — | — | — | — | — | — | 1.70 | 1.70 | < 0.005 | < 0.005 | — | 1.72 |
| General Office Building          | — | — | — | — | — | — | — | — | — | — | — | — | 2.17 | 2.17 | < 0.005 | < 0.005 | — | 2.19 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 1.99 | 1.99 | < 0.005 | < 0.005 | — | 2.01 |
| Total                            | — | — | — | — | — | — | — | — | — | — | — | — | 5.86 | 5.86 | < 0.005 | < 0.005 | — | 5.92 |

#### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 Custom Report, 1/13/2023

|                                  |      |      |      |      |      |      |   |      |      |   |      |   |      |      |      |      |   |      |
|----------------------------------|------|------|------|------|------|------|---|------|------|---|------|---|------|------|------|------|---|------|
| Daily, Summer (Max)              | —    | —    | —    | —    | —    | —    | — | —    | —    | — | —    | — | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| General Office Building          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)              | —    | —    | —    | —    | —    | —    | — | —    | —    | — | —    | — | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail   | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| General Office Building          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                           | —    | —    | —    | —    | —    | —    | — | —    | —    | — | —    | — | —    | —    | —    | —    | — | —    |

|                                  |      |      |      |      |      |      |   |      |      |   |      |   |      |      |      |      |   |      |
|----------------------------------|------|------|------|------|------|------|---|------|------|---|------|---|------|------|------|------|---|------|
| Refrigerated Warehouse Rail      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| General Office Building          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Unrefrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

### 4.3. Area Emissions by Source

#### 4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source                 | TOG | ROG     | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------------------------|-----|---------|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max)    | —   | —       | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | —   | 0.08    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Architectural Coatings | —   | < 0.005 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total                  | —   | 0.09    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max)    | —   | —       | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | —   | 0.08    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                        |   |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|---------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Architect Coatings     | — | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total                  | — | 0.09    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual                 | — | —       | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products      | — | 0.01    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | < 0.005 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total                  | — | 0.02    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                         | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2    | NBCO2   | CO2T    | CH4     | N2O     | R | CO2e |
|----------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|---------|---------|---------|---------|---------|---|------|
| Daily, Summer (Max)              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —       | —       | —       | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00    | 77.6    | 77.6    | 0.01    | < 0.005 | — | 78.4 |
| General Office Building          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.01 |
| Unrefrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 |



Key Energy - Lithium Ion and Iron Flow Battery Option - Phase 1 Custom Report, 1/13/2023

|                                  |   |   |   |   |   |   |   |   |   |   |   |         |         |         |         |         |   |         |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---------|---------|---------|---------|---------|---|---------|
| Total                            | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | 77.6    | 77.6    | 0.01    | < 0.005 | — | 78.4    |
| Daily, Winter (Max)              | — | — | — | — | — | — | — | — | — | — | — | —       | —       | —       | —       | —       | — | —       |
| Refrigerated Warehouse-No Rail   | — | — | — | — | — | — | — | — | — | — | — | 0.00    | 77.6    | 77.6    | 0.01    | < 0.005 | — | 78.4    |
| General Office Building          | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.01    |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00    |
| Total                            | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | 77.6    | 77.6    | 0.01    | < 0.005 | — | 78.4    |
| Annual                           | — | — | — | — | — | — | — | — | — | — | — | —       | —       | —       | —       | —       | — | —       |
| Refrigerated Warehouse-No Rail   | — | — | — | — | — | — | — | — | — | — | — | 0.00    | 12.9    | 12.9    | < 0.005 | < 0.005 | — | 13.0    |
| General Office Building          | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00    |
| Total                            | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | 12.9    | 12.9    | < 0.005 | < 0.005 | — | 13.0    |

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                         | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|----------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| General Office Building          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Unrefrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| General Office Building          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |

|                                  |   |   |   |   |   |   |   |   |   |   |   |      |      |      |      |      |   |      |
|----------------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                            | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                           | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail   | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| General Office Building          | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Unrefrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                            | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

#### 4.6. Refrigerant Emissions by Land Use

##### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R       | CO2e    |
|-------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---------|---------|
| Daily, Summer (Max)     | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | —       | —       |
| General Office Building | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | < 0.005 | < 0.005 |
| Total                   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | < 0.005 | < 0.005 |

|                         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |         |         |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---------|---------|
| Daily, Winter (Max)     | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | —       | —       |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| Total                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| Annual                  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | —       | —       |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| Total                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.10. Soil Carbon Accumulation By Vegetation Type

##### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation          | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

##### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species             | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Sequestered         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Removed             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| —                   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Sequestered         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Removed     | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —           | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual      | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided     | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed     | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —           | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 5. Activity Data

### 5.1. Construction Schedule

| Phase Name                            | Phase Type            | Start Date | End Date   | Days Per Week | Work Days per Phase | Phase Description                     |
|---------------------------------------|-----------------------|------------|------------|---------------|---------------------|---------------------------------------|
| Site Preparation                      | Site Preparation      | 1/1/2024   | 1/26/2024  | 5.00          | 20.0                | —                                     |
| Project Substation Site Prep          | Site Preparation      | 1/1/2024   | 1/26/2024  | 5.00          | 20.0                | Project Substation Site Prep          |
| Grading                               | Grading               | 1/27/2024  | 3/22/2024  | 5.00          | 40.0                | —                                     |
| Project Substation Site Grading       | Grading               | 1/27/2024  | 2/9/2024   | 5.00          | 10.0                | —                                     |
| Energy Storage Enclosure Installation | Building Construction | 3/23/2024  | 7/4/2025   | 5.00          | 335                 | Energy Storage Enclosure Installation |
| Project Substation Installation       | Building Construction | 7/5/2025   | 10/24/2025 | 5.00          | 80.0                | Project Substation Installation       |



|                                       |                       |            |            |      |      |                                       |
|---------------------------------------|-----------------------|------------|------------|------|------|---------------------------------------|
| Gen-Tie Foundation and Tower Erection | Building Construction | 10/25/2025 | 10/31/2025 | 5.00 | 5.00 | Gen-Tie Foundation and Tower Erection |
| Gen-Tie Stringing and Pulling         | Building Construction | 11/1/2025  | 11/14/2025 | 5.00 | 10.0 | Gen-Tie Stringing and Pulling         |
| Architectural Coating                 | Architectural Coating | 5/20/2025  | 7/4/2025   | 5.00 | 34.0 | —                                     |

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

| Phase Name                            | Equipment Type            | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---------------------------------------|---------------------------|-----------|-------------|----------------|---------------|------------|-------------|
| Site Preparation                      | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Grading                               | Graders                   | Diesel    | Average     | 4.00           | 8.00          | 148        | 0.41        |
| Grading                               | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Energy Storage Enclosure Installation | Cranes                    | Diesel    | Average     | 2.00           | 8.00          | 367        | 0.29        |
| Energy Storage Enclosure Installation | Generator Sets            | Diesel    | Average     | 4.00           | 8.00          | 14.0       | 0.74        |
| Energy Storage Enclosure Installation | Tractors/Loaders/Backhoes | Diesel    | Average     | 2.00           | 8.00          | 84.0       | 0.37        |
| Architectural Coating                 | Air Compressors           | Diesel    | Average     | 1.00           | 6.00          | 37.0       | 0.48        |
| Project Substation Site Prep          | Rubber Tired Dozers       | Diesel    | Average     | 4.00           | 8.00          | 367        | 0.40        |
| Project Substation Site Prep          | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Project Substation Site Grading       | Rubber Tired Dozers       | Diesel    | Average     | 4.00           | 8.00          | 367        | 0.40        |
| Project Substation Site Grading       | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Project Substation Installation       | Cranes                    | Diesel    | Average     | 2.00           | 8.00          | 367        | 0.29        |

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|                                       |                           |        |         |      |      |      |      |
|---------------------------------------|---------------------------|--------|---------|------|------|------|------|
| Project Substation Installation       | Generator Sets            | Diesel | Average | 2.00 | 8.00 | 14.0 | 0.74 |
| Project Substation Installation       | Tractors/Loaders/Backhoes | Diesel | Average | 4.00 | 8.00 | 84.0 | 0.37 |
| Gen-Tie Foundation and Tower Erection | Cranes                    | Diesel | Average | 1.00 | 8.00 | 367  | 0.29 |
| Gen-Tie Foundation and Tower Erection | Forklifts                 | Diesel | Average | 1.00 | 8.00 | 82.0 | 0.20 |
| Gen-Tie Foundation and Tower Erection | Generator Sets            | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Gen-Tie Foundation and Tower Erection | Welders                   | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.45 |
| Gen-Tie Stringing and Pulling         | Forklifts                 | Diesel | Average | 1.00 | 8.00 | 82.0 | 0.20 |
| Gen-Tie Stringing and Pulling         | Generator Sets            | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Gen-Tie Stringing and Pulling         | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 8.00 | 84.0 | 0.37 |
| Site Preparation                      | Rubber Tired Dozers       | Diesel | Average | 0.00 | 8.00 | 367  | 0.40 |
| Grading                               | Excavators                | Diesel | Average | 0.00 | 8.00 | 36.0 | 0.38 |
| Grading                               | Rubber Tired Dozers       | Diesel | Average | 0.00 | 8.00 | 367  | 0.40 |
| Grading                               | Scrapers                  | Diesel | Average | 0.00 | 8.00 | 423  | 0.48 |
| Project Substation Site Grading       | Excavators                | Diesel | Average | 0.00 | 8.00 | 36.0 | 0.38 |
| Project Substation Site Grading       | Graders                   | Diesel | Average | 0.00 | 8.00 | 148  | 0.41 |
| Project Substation Site Grading       | Scrapers                  | Diesel | Average | 0.00 | 8.00 | 423  | 0.48 |
| Energy Storage Enclosure Installation | Forklifts                 | Diesel | Average | 0.00 | 8.00 | 82.0 | 0.20 |
| Energy Storage Enclosure Installation | Welders                   | Diesel | Average | 0.00 | 8.00 | 46.0 | 0.45 |

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|                                       |                           |        |         |      |      |      |      |
|---------------------------------------|---------------------------|--------|---------|------|------|------|------|
| Project Substation Installation       | Forklifts                 | Diesel | Average | 0.00 | 8.00 | 82.0 | 0.20 |
| Project Substation Installation       | Welders                   | Diesel | Average | 0.00 | 8.00 | 46.0 | 0.45 |
| Gen-Tie Foundation and Tower Erection | Tractors/Loaders/Backhoes | Diesel | Average | 0.00 | 7.00 | 84.0 | 0.37 |
| Gen-Tie Stringing and Pulling         | Cranes                    | Diesel | Average | 0.00 | 7.00 | 367  | 0.29 |
| Gen-Tie Stringing and Pulling         | Welders                   | Diesel | Average | 0.00 | 8.00 | 46.0 | 0.45 |
| Site Preparation                      | Graders                   | Diesel | Average | 4.00 | 8.00 | 148  | 0.41 |
| Site Preparation                      | Skid Steer Loaders        | Diesel | Average | 4.00 | 8.00 | 71.0 | 0.37 |
| Site Preparation                      | Rubber Tired Loaders      | Diesel | Average | 4.00 | 8.00 | 150  | 0.36 |
| Grading                               | Plate Compactors          | Diesel | Average | 4.00 | 8.00 | 8.00 | 0.43 |
| Grading                               | Rollers                   | Diesel | Average | 4.00 | 8.00 | 36.0 | 0.38 |
| Grading                               | Rubber Tired Loaders      | Diesel | Average | 4.00 | 8.00 | 150  | 0.36 |
| Grading                               | Skid Steer Loaders        | Diesel | Average | 4.00 | 8.00 | 71.0 | 0.37 |
| Project Substation Site Grading       | Rollers                   | Diesel | Average | 4.00 | 8.00 | 36.0 | 0.38 |
| Energy Storage Enclosure Installation | Air Compressors           | Diesel | Average | 4.00 | 8.00 | 37.0 | 0.48 |
| Energy Storage Enclosure Installation | Excavators                | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Energy Storage Enclosure Installation | Plate Compactors          | Diesel | Average | 2.00 | 8.00 | 8.00 | 0.43 |
| Energy Storage Enclosure Installation | Rollers                   | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Energy Storage Enclosure Installation | Rough Terrain Forklifts   | Diesel | Average | 2.00 | 8.00 | 96.0 | 0.40 |
| Energy Storage Enclosure Installation | Skid Steer Loaders        | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |

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|                                       |                         |        |         |      |      |      |      |
|---------------------------------------|-------------------------|--------|---------|------|------|------|------|
| Project Substation Installation       | Aerial Lifts            | Diesel | Average | 6.00 | 8.00 | 46.0 | 0.31 |
| Project Substation Installation       | Air Compressors         | Diesel | Average | 2.00 | 8.00 | 37.0 | 0.48 |
| Project Substation Installation       | Bore/Drill Rigs         | Diesel | Average | 2.00 | 8.00 | 83.0 | 0.50 |
| Project Substation Installation       | Excavators              | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Project Substation Installation       | Rollers                 | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Project Substation Installation       | Rough Terrain Forklifts | Diesel | Average | 2.00 | 8.00 | 96.0 | 0.40 |
| Project Substation Installation       | Rubber Tired Dozers     | Diesel | Average | 2.00 | 8.00 | 367  | 0.40 |
| Project Substation Installation       | Skid Steer Loaders      | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |
| Project Substation Installation       | Trenchers               | Diesel | Average | 4.00 | 8.00 | 40.0 | 0.50 |
| Gen-Tie Foundation and Tower Erection | Air Compressors         | Diesel | Average | 1.00 | 8.00 | 37.0 | 0.48 |
| Gen-Tie Foundation and Tower Erection | Pumps                   | Diesel | Average | 1.00 | 8.00 | 11.0 | 0.74 |

### 5.3. Construction Vehicles

#### 5.3.1. Unmitigated

| Phase Name       | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix   |
|------------------|-----------|-----------------------|----------------|---------------|
| Site Preparation | —         | —                     | —              | —             |
| Site Preparation | Worker    | 80.0                  | 11.4           | LDA,LDT1,LDT2 |
| Site Preparation | Vendor    | 4.00                  | 60.0           | HHDT          |
| Site Preparation | Hauling   | 0.00                  | 20.0           | HHDT          |

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|                                       |              |      |      |               |
|---------------------------------------|--------------|------|------|---------------|
| Site Preparation                      | Onsite truck | 0.00 | —    | HHDT          |
| Grading                               | —            | —    | —    | —             |
| Grading                               | Worker       | 80.0 | 11.4 | LDA,LDT1,LDT2 |
| Grading                               | Vendor       | 4.00 | 60.0 | HHDT          |
| Grading                               | Hauling      | 0.00 | 20.0 | HHDT          |
| Grading                               | Onsite truck | 0.00 | —    | HHDT          |
| Energy Storage Enclosure Installation | —            | —    | —    | —             |
| Energy Storage Enclosure Installation | Worker       | 240  | 11.4 | LDA,LDT1,LDT2 |
| Energy Storage Enclosure Installation | Vendor       | 40.0 | 60.0 | HHDT,MHDT     |
| Energy Storage Enclosure Installation | Hauling      | 0.00 | 20.0 | HHDT          |
| Energy Storage Enclosure Installation | Onsite truck | 0.00 | —    | HHDT          |
| Architectural Coating                 | —            | —    | —    | —             |
| Architectural Coating                 | Worker       | 2.00 | 11.4 | LDA,LDT1,LDT2 |
| Architectural Coating                 | Vendor       | 0.00 | 8.53 | HHDT,MHDT     |
| Architectural Coating                 | Hauling      | 0.00 | 20.0 | HHDT          |
| Architectural Coating                 | Onsite truck | 0.00 | —    | HHDT          |
| Project Substation Site Prep          | —            | —    | —    | —             |
| Project Substation Site Prep          | Worker       | 40.0 | 11.4 | LDA,LDT1,LDT2 |
| Project Substation Site Prep          | Vendor       | 8.00 | 60.0 | HHDT          |
| Project Substation Site Prep          | Hauling      | 0.00 | 20.0 | HHDT          |
| Project Substation Site Prep          | Onsite truck | 0.00 | —    | HHDT          |
| Project Substation Site Grading       | —            | —    | —    | —             |
| Project Substation Site Grading       | Worker       | 40.0 | 11.4 | LDA,LDT1,LDT2 |
| Project Substation Site Grading       | Vendor       | 4.00 | 60.0 | HHDT          |
| Project Substation Site Grading       | Hauling      | 0.00 | 20.0 | HHDT          |
| Project Substation Site Grading       | Onsite truck | 0.00 | —    | HHDT          |
| Project Substation Installation       | —            | —    | —    | —             |

|                                       |              |      |      |               |
|---------------------------------------|--------------|------|------|---------------|
| Project Substation Installation       | Worker       | 120  | 11.4 | LDA,LDT1,LDT2 |
| Project Substation Installation       | Vendor       | 80.0 | 60.0 | HHDT,MHDT     |
| Project Substation Installation       | Hauling      | 0.00 | 20.0 | HHDT          |
| Project Substation Installation       | Onsite truck | 0.00 | —    | HHDT          |
| Gen-Tie Foundation and Tower Erection | —            | —    | —    | —             |
| Gen-Tie Foundation and Tower Erection | Worker       | 80.0 | 11.4 | LDA,LDT1,LDT2 |
| Gen-Tie Foundation and Tower Erection | Vendor       | 8.00 | 60.0 | HHDT          |
| Gen-Tie Foundation and Tower Erection | Hauling      | 0.00 | 20.0 | HHDT          |
| Gen-Tie Foundation and Tower Erection | Onsite truck | 0.00 | —    | HHDT          |
| Gen-Tie Stringing and Pulling         | —            | —    | —    | —             |
| Gen-Tie Stringing and Pulling         | Worker       | 80.0 | 11.4 | LDA,LDT1,LDT2 |
| Gen-Tie Stringing and Pulling         | Vendor       | 8.00 | 60.0 | HHDT          |
| Gen-Tie Stringing and Pulling         | Hauling      | 0.00 | 20.0 | HHDT          |
| Gen-Tie Stringing and Pulling         | Onsite truck | 0.00 | —    | HHDT          |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name            | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|-----------------------|--|--|--|--|-----------------------------|
| Architectural Coating | 0.00                                     | 0.00                                     | 5,625  | 1,875  | —                           |

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name                      | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|---------------------------------|---------------------------------|---------------------------------|----------------------|-------------------------------|---------------------|
| Site Preparation                | 0.00                            | 0.00                            | 20.0                 | 0.00                          | —                   |
| Project Substation Site Prep    | 0.00                            | 0.00                            | 40.0                 | 0.00                          | —                   |
| Grading                         | 0.00                            | 0.00                            | 40.0                 | 0.00                          | —                   |
| Project Substation Site Grading | 0.00                            | 0.00                            | 20.0                 | 0.00                          | —                   |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|----------------------------|---------------------|----------------|-----------------|
| Water Exposed Area         | 3                   | 74%            | 74%             |

## 5.7. Construction Paving

| Land Use                         | Area Paved (acres) | % Asphalt |
|----------------------------------|--------------------|-----------|
| Refrigerated Warehouse-No Rail   | 0.00               | 0%        |
| General Office Building          | 0.00               | 0%        |
| Unrefrigerated Warehouse-No Rail | 0.00               | 0%        |

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4  | N2O     |
|------|--------------|-----|------|---------|
| 2024 | 0.00         | 204 | 0.03 | < 0.005 |
| 2025 | 0.00         | 204 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type                    | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|----------------------------------|---------------|----------------|--------------|------------|-------------|--------------|------------|----------|
| Refrigerated Warehouse-No Rail   | 16.0          | 0.00           | 0.00         | 4,171      | 238         | 0.00         | 0.00       | 61,997   |
| General Office Building          | 0.00          | 0.00           | 0.00         | 0.00       | 0.00        | 0.00         | 0.00       | 0.00     |
| Unrefrigerated Warehouse-No Rail | 0.00          | 0.00           | 0.00         | 0.00       | 0.00        | 0.00         | 0.00       | 0.00     |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|--|--|--|--|-----------------------------|
| 0  | 0.00                                     | 5,625  | 1,875  | —                           |

### 5.10.3. Landscape Equipment

| Season      | Unit   | Value |
|-------------|--------|-------|
| Snow Days   | day/yr | 0.00  |
| Summer Days | day/yr | 0.00  |

## 5.11. Operational Energy Consumption



5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use                         | Electricity (kWh/yr) | CO2 | CH4    | N2O    | Natural Gas (kBTU/yr) |
|----------------------------------|----------------------|-----|--------|--------|-----------------------|
| Refrigerated Warehouse-No Rail   | 18,420               | 204 | 0.0330 | 0.0040 | 0.00                  |
| General Office Building          | 23,446               | 204 | 0.0330 | 0.0040 | 0.00                  |
| Unrefrigerated Warehouse-No Rail | 21,480               | 204 | 0.0330 | 0.0040 | 0.00                  |

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

| Land Use                         | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|----------------------------------|-------------------------|--------------------------|
| Refrigerated Warehouse-No Rail   | 0.00                    | 57,414,946               |
| General Office Building          | 1,008                   | 0.00                     |
| Unrefrigerated Warehouse-No Rail | 0.00                    | 0.00                     |

5.13. Operational Waste Generation

5.13.1. Unmitigated

| Land Use                         | Waste (ton/year) | Cogeneration (kWh/year) |
|----------------------------------|------------------|-------------------------|
| Refrigerated Warehouse-No Rail   | 0.00             | 0.00                    |
| General Office Building          | 0.00             | 0.00                    |
| Unrefrigerated Warehouse-No Rail | 0.00             | 0.00                    |

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

| Land Use Type           | Equipment Type                          | Refrigerant | GWP   | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|-------------------------|---|-------------|-------|---------------|----------------------|-------------------|----------------|
| General Office Building | Household refrigerators and/or freezers | R-134a      | 1,430 | 0.02          | 0.60                 | 0.00              | 1.00           |
| General Office Building | Other commercial A/C and heat pumps     | R-410A      | 2,088 | < 0.005       | 4.00                 | 4.00              | 18.0           |

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|----------------|-----------|-------------|----------------|---------------|------------|-------------|
|----------------|-----------|-------------|----------------|---------------|------------|-------------|

## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|----------------|-----------|----------------|---------------|----------------|------------|-------------|
|----------------|-----------|----------------|---------------|----------------|------------|-------------|

### 5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|

## 5.17. User Defined

| Equipment Type | Fuel Type |
|----------------|-----------|
| —              | —         |

## 5.18. Vegetation

### 5.18.1. Land Use Change

5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|--------------------------|----------------------|---------------|-------------|
|--------------------------|----------------------|---------------|-------------|

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

5.18.2. Sequestration

5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|-----------|--------|------------------------------|------------------------------|
|-----------|--------|------------------------------|------------------------------|

## 8. User Changes to Default Data

| Screen                            | Justification   |
|-----------------------------------|---|
| Land Use                          | Total acreage for Phase 1 is 70 acres, 69 acres used for Refrigerated warehouse land use, 0.5 used for each of the O&M building land use types added          |
| Construction: Construction Phases | Project construction schedule provided  |
| Construction: Off-Road Equipment  | Based on project provided construction equipment  |
| Operations: Vehicle Data          | Models operational trips for Annual Maintenance Activities. Average day/month trip emissions modeled in Lithium Ion Batter Option Phase 1                     |
| Operations: Landscape Equipment   | No Landscaping  |
| Operations: Energy Use            | No natural gas connection to site. Electrical consumption based on cooling energy use only for refrigerated warehouse use.                                    |
| Operations: Water and Waste Water | Water usage for Refrigerated warehouse is for construction activities for dust control. General Office Building is the total water usage for the O&M building |
| Operations: Solid Waste           | No solid waste collection at site. All carry in/carry out for waste.  |

|   |   |
|---|---|
| Operations: Refrigerants                  | No cold storage onsite                            |
| Operations: Fleet Mix                     | All trips MDV for worker truck use                |
| Construction: Trips and VMT               | Based on project specific information             |
| Construction: Dust From Material Movement | All material balanced onsite, no import or export |

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Lithium Ion Battery w Iron Flow - Phase 2 CalEEMod Output (Annual, Winter, Summer)

# Key Energy - Phase 2 Lithium Ion and Iron Flow Battery Option Custom Report

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## 8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field                  | Value   |
|-----------------------------|---|
| Project Name                | Key Energy - Phase 2 Lithium Ion and Iron Flow Battery Option |
| Lead Agency                 | —   |
| Land Use Scale              | Project/site  |
| Analysis Level for Defaults | County  |
| Windspeed (m/s)             | 3.50  |
| Precipitation (days)        | 16.8  |
| Location                    | 36.13263447616909, -120.13458957268438                        |
| County                      | Fresno  |
| City                        | Unincorporated  |
| Air District                | San Joaquin Valley APCD                                       |
| Air Basin                   | San Joaquin Valley  |
| TAZ                         | 2530  |
| EDFZ                        | 5   |
| Electric Utility            | Pacific Gas & Electric Company                                |
| Gas Utility                 | Pacific Gas & Electric  |

## 1.2. Land Use Types

| Land Use Subtype               | Size | Unit     | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|--------------------------------|------|----------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| Refrigerated Warehouse-No Rail | 2.00 | 1000sqft | 55.0        | 2,000                 | 0.00                   | 0.00                           | —          | —           |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2  | CO2T   | CH4  | N2O  | R    | CO2e   |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 4.58 | 3.86 | 31.5 | 39.6 | 0.11 | 0.94  | 3.32  | 4.26  | 0.88   | 0.86   | 1.74   | —    | 14,083 | 14,083 | 0.38 | 1.17 | 23.0 | 14,465 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 4.73 | 3.99 | 32.1 | 48.2 | 0.11 | 1.49  | 3.32  | 4.26  | 1.38   | 0.86   | 1.74   | —    | 13,925 | 13,925 | 0.39 | 1.17 | 0.60 | 14,284 |
| Average Daily (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 3.21 | 2.69 | 22.7 | 27.4 | 0.08 | 0.68  | 2.31  | 2.99  | 0.63   | 0.60   | 1.23   | —    | 9,879  | 9,879  | 0.27 | 0.82 | 6.94 | 10,138 |
| Annual (Max)        | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 0.59 | 0.49 | 4.14 | 5.00 | 0.01 | 0.12  | 0.42  | 0.55  | 0.12   | 0.11   | 0.22   | —    | 1,636  | 1,636  | 0.05 | 0.14 | 1.15 | 1,678  |

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year                 | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily - Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

Key Energy - Phase 2 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                      |      |      |      |      |         |      |      |      |      |         |      |   |        |        |         |         |      |        |
|----------------------|------|------|------|------|---------|------|------|------|------|---------|------|---|--------|--------|---------|---------|------|--------|
| 2026                 | 4.58 | 3.86 | 31.5 | 39.6 | 0.11    | 0.94 | 3.32 | 4.26 | 0.88 | 0.86    | 1.74 | — | 14,083 | 14,083 | 0.38    | 1.17    | 23.0 | 14,465 |
| 2027                 | 4.40 | 3.73 | 30.4 | 38.8 | 0.11    | 0.88 | 3.32 | 4.20 | 0.82 | 0.86    | 1.68 | — | 13,899 | 13,899 | 0.37    | 1.11    | 20.4 | 14,261 |
| Daily - Winter (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —    | — | —      | —      | —       | —       | —    | —      |
| 2025                 | 4.73 | 3.99 | 31.9 | 48.2 | 0.07    | 1.49 | 1.21 | 2.70 | 1.38 | 0.22    | 1.60 | — | 8,379  | 8,379  | 0.33    | 0.21    | 0.10 | 8,449  |
| 2026                 | 4.44 | 3.75 | 32.1 | 47.9 | 0.11    | 1.32 | 3.32 | 4.26 | 1.21 | 0.86    | 1.74 | — | 13,925 | 13,925 | 0.39    | 1.17    | 0.60 | 14,284 |
| 2027                 | 4.29 | 3.58 | 31.0 | 37.3 | 0.11    | 0.88 | 3.32 | 4.20 | 0.82 | 0.86    | 1.68 | — | 13,744 | 13,744 | 0.39    | 1.12    | 0.53 | 14,088 |
| Average Daily        | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —    | — | —      | —      | —       | —       | —    | —      |
| 2025                 | 0.28 | 0.24 | 1.93 | 2.98 | < 0.005 | 0.09 | 0.08 | 0.17 | 0.08 | 0.01    | 0.10 | — | 523    | 523    | 0.02    | 0.01    | 0.11 | 527    |
| 2026                 | 3.21 | 2.69 | 22.7 | 27.4 | 0.08    | 0.68 | 2.31 | 2.99 | 0.63 | 0.60    | 1.23 | — | 9,879  | 9,879  | 0.27    | 0.82    | 6.94 | 10,138 |
| 2027                 | 1.36 | 1.15 | 9.76 | 11.9 | 0.03    | 0.28 | 1.04 | 1.32 | 0.26 | 0.27    | 0.53 | — | 4,371  | 4,371  | 0.12    | 0.35    | 2.79 | 4,483  |
| Annual               | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —    | — | —      | —      | —       | —       | —    | —      |
| 2025                 | 0.05 | 0.04 | 0.35 | 0.54 | < 0.005 | 0.02 | 0.01 | 0.03 | 0.02 | < 0.005 | 0.02 | — | 86.6   | 86.6   | < 0.005 | < 0.005 | 0.02 | 87.3   |
| 2026                 | 0.59 | 0.49 | 4.14 | 5.00 | 0.01    | 0.12 | 0.42 | 0.55 | 0.12 | 0.11    | 0.22 | — | 1,636  | 1,636  | 0.05    | 0.14    | 1.15 | 1,678  |
| 2027                 | 0.25 | 0.21 | 1.78 | 2.16 | 0.01    | 0.05 | 0.19 | 0.24 | 0.05 | 0.05    | 0.10 | — | 724    | 724    | 0.02    | 0.06    | 0.46 | 742    |

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|---|------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 50.2  | 50.2 | 0.01 | < 0.005 | — | 50.7 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 50.2  | 50.2 | 0.01 | < 0.005 | — | 50.7 |

|                     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |         |         |   |      |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|---------|---|------|
| Average Daily (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | — | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 50.2 | 50.2 | 0.01    | < 0.005 | — | 50.7 |
| Annual (Max)        | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | — | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.31 | 8.31 | < 0.005 | < 0.005 | — | 8.39 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector              | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|---|------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| Mobile              | —    | —    | —    | —    | —    | —     | 0.00  | 0.00  | —      | 0.00   | 0.00   | —    | —     | —    | —    | —       | — | —    |
| Area                | —    | 0.00 | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | — | 0.00 |
| Water               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 50.2  | 50.2 | 0.01 | < 0.005 | — | 50.7 |
| Waste               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00    | — | 0.00 |
| Total               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 50.2  | 50.2 | 0.01 | < 0.005 | — | 50.7 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| Mobile              | —    | —    | —    | —    | —    | —     | 0.00  | 0.00  | —      | 0.00   | 0.00   | —    | —     | —    | —    | —       | — | —    |
| Area                | —    | 0.00 | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | — | 0.00 |
| Water               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 50.2  | 50.2 | 0.01 | < 0.005 | — | 50.7 |
| Waste               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00    | — | 0.00 |
| Total               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 50.2  | 50.2 | 0.01 | < 0.005 | — | 50.7 |

|               |      |      |      |      |      |      |      |      |      |      |      |      |      |      |         |         |   |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|---------|---|------|
| Average Daily | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | — | —    |
| Mobile        | —    | —    | —    | —    | —    | —    | 0.00 | 0.00 | —    | 0.00 | 0.00 | —    | —    | —    | —       | —       | — | —    |
| Area          | —    | 0.00 | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | — | —    |
| Energy        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | —    | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00 |
| Water         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 50.2 | 50.2 | 0.01    | < 0.005 | — | 50.7 |
| Waste         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00 |
| Total         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 50.2 | 50.2 | 0.01    | < 0.005 | — | 50.7 |
| Annual        | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | — | —    |
| Mobile        | —    | —    | —    | —    | —    | —    | 0.00 | 0.00 | —    | 0.00 | 0.00 | —    | —    | —    | —       | —       | — | —    |
| Area          | —    | 0.00 | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | — | —    |
| Energy        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | —    | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00 |
| Water         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 8.31 | 8.31 | < 0.005 | < 0.005 | — | 8.39 |
| Waste         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00 |
| Total         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 8.31 | 8.31 | < 0.005 | < 0.005 | — | 8.39 |

### 3. Construction Emissions Details

#### 3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |   |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|---|
| Onsite              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    | — |
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    | — |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    | — |



Key Energy - Phase 2 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                              |      |      |      |      |         |      |         |         |      |         |         |   |       |       |         |         |      |       |
|------------------------------|------|------|------|------|---------|------|---------|---------|------|---------|---------|---|-------|-------|---------|---------|------|-------|
| Off-Road Equipment           | 3.57 | 3.00 | 26.2 | 40.8 | 0.06    | 1.28 | —       | 1.28    | 1.18 | —       | 1.18    | — | 6,419 | 6,419 | 0.26    | 0.05    | —    | 6,441 |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.55    | 0.55    | —    | 0.06    | 0.06    | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily                | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.10 | 0.08 | 0.72 | 1.12 | < 0.005 | 0.04 | —       | 0.04    | 0.03 | —       | 0.03    | — | 176   | 176   | 0.01    | < 0.005 | —    | 176   |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.02    | 0.02    | —    | < 0.005 | < 0.005 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual                       | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.02 | 0.01 | 0.13 | 0.20 | < 0.005 | 0.01 | —       | 0.01    | 0.01 | —       | 0.01    | — | 29.1  | 29.1  | < 0.005 | < 0.005 | —    | 29.2  |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | < 0.005 | < 0.005 | —    | < 0.005 | < 0.005 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite                      | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —    | —       | —       | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker                       | 0.32 | 0.30 | 0.22 | 2.41 | 0.00    | 0.00 | 0.03    | 0.03    | 0.00 | 0.00    | 0.00    | — | 430   | 430   | 0.02    | 0.02    | 0.05 | 437   |

Key Energy - Phase 2 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|               |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |         |      |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Vendor        | 0.03    | 0.01    | 0.94    | 0.16    | 0.01    | 0.02    | 0.06    | 0.08    | 0.02    | 0.02    | 0.04    | — | 825  | 825  | 0.02    | 0.13    | 0.05    | 864  |
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Average Daily | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker        | 0.01    | 0.01    | 0.01    | 0.07    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 12.2 | 12.2 | < 0.005 | < 0.005 | 0.02    | 12.4 |
| Vendor        | < 0.005 | < 0.005 | 0.03    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 22.6 | 22.6 | < 0.005 | < 0.005 | 0.02    | 23.7 |
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual        | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker        | < 0.005 | < 0.005 | < 0.005 | 0.01    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 2.02 | 2.02 | < 0.005 | < 0.005 | < 0.005 | 2.06 |
| Vendor        | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 3.74 | 3.74 | < 0.005 | < 0.005 | < 0.005 | 3.92 |
| Hauling       | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                     | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|------------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite                       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max)          | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Winter (Max)          | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment           | 4.38 | 3.68 | 30.8 | 45.6 | 0.07 | 1.48  | —     | 1.48  | 1.36   | —      | 1.36   | —    | 7,124 | 7,124 | 0.29 | 0.06 | —    | 7,148 |
| Dust From Material Movement: | —    | —    | —    | —    | —    | —     | 0.55  | 0.55  | —      | 0.06   | 0.06   | —    | —     | —     | —    | —    | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |

Key Energy - Phase 2 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                              |         |         |      |      |         |         |         |         |         |         |         |   |      |      |         |         |      |      |
|------------------------------|---------|---------|------|------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|------|------|
| Average Daily                | —       | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment           | 0.16    | 0.14    | 1.14 | 1.70 | < 0.005 | 0.05    | —       | 0.05    | 0.05    | —       | 0.05    | — | 265  | 265  | 0.01    | < 0.005 | —    | 266  |
| Dust From Material Movement: | —       | —       | —    | —    | —       | —       | 0.02    | 0.02    | —       | < 0.005 | < 0.005 | — | —    | —    | —       | —       | —    | —    |
| Onsite truck                 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual                       | —       | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Off-Road Equipment           | 0.03    | 0.02    | 0.21 | 0.31 | < 0.005 | 0.01    | —       | 0.01    | 0.01    | —       | 0.01    | — | 43.9 | 43.9 | < 0.005 | < 0.005 | —    | 44.0 |
| Dust From Material Movement: | —       | —       | —    | —    | —       | —       | < 0.005 | < 0.005 | —       | < 0.005 | < 0.005 | — | —    | —    | —       | —       | —    | —    |
| Onsite truck                 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Offsite                      | —       | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Summer (Max)          | —       | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Daily, Winter (Max)          | —       | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | 0.32    | 0.30    | 0.22 | 2.41 | 0.00    | 0.00    | 0.03    | 0.03    | 0.00    | 0.00    | 0.00    | — | 430  | 430  | 0.02    | 0.02    | 0.05 | 437  |
| Vendor                       | 0.03    | 0.01    | 0.94 | 0.16 | 0.01    | 0.02    | 0.06    | 0.08    | 0.02    | 0.02    | 0.04    | — | 825  | 825  | 0.02    | 0.13    | 0.05 | 864  |
| Hauling                      | 0.00    | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Average Daily                | —       | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker                       | 0.01    | 0.01    | 0.01 | 0.09 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 16.6 | 16.6 | < 0.005 | < 0.005 | 0.03 | 16.9 |
| Vendor                       | < 0.005 | < 0.005 | 0.03 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 30.7 | 30.7 | < 0.005 | < 0.005 | 0.03 | 32.1 |

|         |         |         |         |         |         |         |         |         |         |         |         |      |      |      |         |         |         |      |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|------|------|---------|---------|---------|------|
| Hauling | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual  | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —    | —    | —    | —       | —       | —       | —    |
| Worker  | < 0.005 | < 0.005 | < 0.005 | 0.02    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | —    | 2.74 | 2.74 | < 0.005 | < 0.005 | < 0.005 | 2.79 |
| Vendor  | < 0.005 | < 0.005 | 0.01    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | —    | 5.08 | 5.08 | < 0.005 | < 0.005 | 0.01    | 5.32 |
| Hauling | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |

### 3.5. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                     | TOG  | ROG  | NOx  | CO   | SO2     | PM10E | PM10D | PM10T | PM2.5E | PM2.5D  | PM2.5T  | BCO2 | NBCO2 | CO2T  | CH4  | N2O     | R    | CO2e  |
|------------------------------|------|------|------|------|---------|-------|-------|-------|--------|---------|---------|------|-------|-------|------|---------|------|-------|
| Onsite                       | —    | —    | —    | —    | —       | —     | —     | —     | —      | —       | —       | —    | —     | —     | —    | —       | —    | —     |
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —     | —     | —     | —      | —       | —       | —    | —     | —     | —    | —       | —    | —     |
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —     | —     | —     | —      | —       | —       | —    | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment           | 4.11 | 3.45 | 28.1 | 45.5 | 0.07    | 1.30  | —     | 1.30  | 1.20   | —       | 1.20    | —    | 7,123 | 7,123 | 0.29 | 0.06    | —    | 7,148 |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —     | 0.55  | 0.55  | —      | 0.06    | 0.06    | —    | —     | —     | —    | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00  | 0.00  | 0.00  | 0.00   | 0.00    | 0.00    | —    | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Average Daily                | —    | —    | —    | —    | —       | —     | —     | —     | —      | —       | —       | —    | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment           | 0.07 | 0.06 | 0.50 | 0.80 | < 0.005 | 0.02  | —     | 0.02  | 0.02   | —       | 0.02    | —    | 125   | 125   | 0.01 | < 0.005 | —    | 126   |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —     | 0.01  | 0.01  | —      | < 0.005 | < 0.005 | —    | —     | —     | —    | —       | —    | —     |

Key Energy - Phase 2 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                              |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |         |      |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|---------|------|
| Onsite truck                 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual                       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Off-Road Equipment           | 0.01    | 0.01    | 0.09    | 0.15    | < 0.005 | < 0.005 | —       | < 0.005 | < 0.005 | —       | < 0.005 | — | 20.8 | 20.8 | < 0.005 | < 0.005 | —       | 20.8 |
| Dust From Material Movement: | —       | —       | —       | —       | —       | —       | < 0.005 | < 0.005 | —       | < 0.005 | < 0.005 | — | —    | —    | —       | —       | —       | —    |
| Onsite truck                 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Offsite                      | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Daily, Summer (Max)          | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Daily, Winter (Max)          | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker                       | 0.29    | 0.28    | 0.20    | 2.22    | 0.00    | 0.00    | 0.03    | 0.03    | 0.00    | 0.00    | 0.00    | — | 422  | 422  | 0.02    | 0.02    | 0.04    | 428  |
| Vendor                       | 0.03    | 0.01    | 0.91    | 0.15    | 0.01    | 0.02    | 0.06    | 0.08    | 0.02    | 0.02    | 0.04    | — | 808  | 808  | 0.02    | 0.13    | 0.05    | 847  |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Average Daily                | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker                       | 0.01    | 0.01    | < 0.005 | 0.04    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 7.69 | 7.69 | < 0.005 | < 0.005 | 0.01    | 7.82 |
| Vendor                       | < 0.005 | < 0.005 | 0.02    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 14.2 | 14.2 | < 0.005 | < 0.005 | 0.01    | 14.9 |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |
| Annual                       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —       | —    |
| Worker                       | < 0.005 | < 0.005 | < 0.005 | 0.01    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 1.27 | 1.27 | < 0.005 | < 0.005 | < 0.005 | 1.29 |
| Vendor                       | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 2.36 | 2.36 | < 0.005 | < 0.005 | < 0.005 | 2.47 |
| Hauling                      | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00 |

### 3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 3.33 | 2.78 | 24.5 | 29.9 | 0.06 | 0.84  | —     | 0.84  | 0.77   | —      | 0.77   | —    | 5,530 | 5,530 | 0.22 | 0.04 | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 3.33 | 2.78 | 24.5 | 29.9 | 0.06 | 0.84  | —     | 0.84  | 0.77   | —      | 0.77   | —    | 5,530 | 5,530 | 0.22 | 0.04 | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 2.32 | 1.93 | 17.1 | 20.8 | 0.04 | 0.58  | —     | 0.58  | 0.54   | —      | 0.54   | —    | 3,853 | 3,853 | 0.16 | 0.03 | —    | 3,866 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 0.42 | 0.35 | 3.11 | 3.80 | 0.01 | 0.11  | —     | 0.11  | 0.10   | —      | 0.10   | —    | 638   | 638   | 0.03 | 0.01 | —    | 640   |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Offsite             | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |

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|                     |      |      |      |      |      |      |      |      |      |      |      |   |       |       |      |      |      |       |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|---|-------|-------|------|------|------|-------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Worker              | 1.02 | 0.95 | 0.50 | 8.22 | 0.00 | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | — | 1,425 | 1,425 | 0.04 | 0.06 | 4.95 | 1,449 |
| Vendor              | 0.24 | 0.13 | 6.50 | 1.45 | 0.05 | 0.11 | 0.42 | 0.53 | 0.11 | 0.16 | 0.26 | — | 7,129 | 7,129 | 0.11 | 1.07 | 18.1 | 7,467 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Worker              | 0.88 | 0.85 | 0.61 | 6.65 | 0.00 | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | — | 1,265 | 1,265 | 0.05 | 0.06 | 0.13 | 1,285 |
| Vendor              | 0.24 | 0.12 | 7.00 | 1.47 | 0.05 | 0.11 | 0.42 | 0.53 | 0.11 | 0.16 | 0.26 | — | 7,130 | 7,130 | 0.11 | 1.07 | 0.47 | 7,450 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Worker              | 0.65 | 0.60 | 0.38 | 4.72 | 0.00 | 0.00 | 0.06 | 0.06 | 0.00 | 0.00 | 0.00 | — | 913   | 913   | 0.03 | 0.04 | 1.49 | 928   |
| Vendor              | 0.17 | 0.09 | 4.75 | 1.02 | 0.04 | 0.07 | 0.29 | 0.37 | 0.07 | 0.11 | 0.18 | — | 4,967 | 4,967 | 0.08 | 0.74 | 5.43 | 5,195 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Worker              | 0.12 | 0.11 | 0.07 | 0.86 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 151   | 151   | 0.01 | 0.01 | 0.25 | 154   |
| Vendor              | 0.03 | 0.02 | 0.87 | 0.19 | 0.01 | 0.01 | 0.05 | 0.07 | 0.01 | 0.02 | 0.03 | — | 822   | 822   | 0.01 | 0.12 | 0.90 | 860   |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |

### 3.9. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Onsite              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

Key Energy - Phase 2 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                     |      |      |      |      |         |      |      |      |      |      |      |   |       |       |      |         |      |       |
|---------------------|------|------|------|------|---------|------|------|------|------|------|------|---|-------|-------|------|---------|------|-------|
| Off-Road Equipment  | 3.23 | 2.70 | 23.8 | 29.8 | 0.06    | 0.78 | —    | 0.78 | 0.71 | —    | 0.71 | — | 5,530 | 5,530 | 0.22 | 0.04    | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 3.23 | 2.70 | 23.8 | 29.8 | 0.06    | 0.78 | —    | 0.78 | 0.71 | —    | 0.71 | — | 5,530 | 5,530 | 0.22 | 0.04    | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 1.02 | 0.86 | 7.54 | 9.45 | 0.02    | 0.25 | —    | 0.25 | 0.23 | —    | 0.23 | — | 1,753 | 1,753 | 0.07 | 0.01    | —    | 1,759 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Off-Road Equipment  | 0.19 | 0.16 | 1.38 | 1.73 | < 0.005 | 0.04 | —    | 0.04 | 0.04 | —    | 0.04 | — | 290   | 290   | 0.01 | < 0.005 | —    | 291   |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Offsite             | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Worker              | 0.92 | 0.90 | 0.44 | 7.60 | 0.00    | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | — | 1,395 | 1,395 | 0.04 | 0.06    | 4.47 | 1,417 |
| Vendor              | 0.24 | 0.13 | 6.18 | 1.34 | 0.05    | 0.11 | 0.42 | 0.53 | 0.11 | 0.16 | 0.26 | — | 6,974 | 6,974 | 0.11 | 1.01    | 15.9 | 7,295 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —       | —    | —     |
| Worker              | 0.82 | 0.76 | 0.55 | 6.16 | 0.00    | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.00 | — | 1,239 | 1,239 | 0.05 | 0.06    | 0.12 | 1,259 |



|               |      |      |      |      |         |      |         |         |      |      |      |   |       |       |         |         |      |       |
|---------------|------|------|------|------|---------|------|---------|---------|------|------|------|---|-------|-------|---------|---------|------|-------|
| Vendor        | 0.24 | 0.12 | 6.62 | 1.36 | 0.05    | 0.11 | 0.42    | 0.53    | 0.11 | 0.16 | 0.26 | — | 6,975 | 6,975 | 0.11    | 1.01    | 0.41 | 7,280 |
| Hauling       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Average Daily | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Worker        | 0.26 | 0.26 | 0.16 | 1.98 | 0.00    | 0.00 | 0.03    | 0.03    | 0.00 | 0.00 | 0.00 | — | 407   | 407   | 0.01    | 0.02    | 0.61 | 414   |
| Vendor        | 0.08 | 0.04 | 2.06 | 0.43 | 0.02    | 0.03 | 0.13    | 0.17    | 0.03 | 0.05 | 0.08 | — | 2,211 | 2,211 | 0.04    | 0.32    | 2.18 | 2,310 |
| Hauling       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual        | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —     | —     | —       | —       | —    | —     |
| Worker        | 0.05 | 0.05 | 0.03 | 0.36 | 0.00    | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 67.3  | 67.3  | < 0.005 | < 0.005 | 0.10 | 68.5  |
| Vendor        | 0.01 | 0.01 | 0.38 | 0.08 | < 0.005 | 0.01 | 0.02    | 0.03    | 0.01 | 0.01 | 0.02 | — | 366   | 366   | 0.01    | 0.05    | 0.36 | 382   |
| Hauling       | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |

## 4. Operations Emissions Details

### 4.1. Mobile Emissions by Land Use

#### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | 0.00  | 0.00  | —      | 0.00   | 0.00   | —    | —     | —    | —   | —   | — | —    |
| Total                          | —   | —   | —   | —  | —   | —     | 0.00  | 0.00  | —      | 0.00   | 0.00   | —    | —     | —    | —   | —   | — | —    |

|                                |   |   |   |   |   |   |      |      |   |      |      |   |   |   |   |   |   |   |
|--------------------------------|---|---|---|---|---|---|------|------|---|------|------|---|---|---|---|---|---|---|
| Daily, Winter (Max)            | — | — | — | — | — | — | —    | —    | — | —    | —    | — | — | — | — | — | — | — |
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — | — | — | — | — | — | — |
| Total                          | — | — | — | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — | — | — | — | — | — | — |
| Annual                         | — | — | — | — | — | — | —    | —    | — | —    | —    | — | — | — | — | — | — | — |
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — | — | — | — | — | — | — |
| Total                          | — | — | — | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — | — | — | — | — | — | — |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |

|                                |   |   |   |   |   |   |   |   |   |   |   |   |      |      |      |      |   |      |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|---|------|
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | — | — | — | — | — | — | — | — | — | — | — | — | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |

|                                |      |      |      |      |      |      |   |      |      |   |      |   |      |      |      |      |   |      |
|--------------------------------|------|------|------|------|------|------|---|------|------|---|------|---|------|------|------|------|---|------|
| Annual                         | —    | —    | —    | —    | —    | —    | — | —    | —    | — | —    | — | —    | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

### 4.3. Area Emissions by Source

#### 4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source                 | TOG | ROG  | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------------------------|-----|------|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max)    | —   | —    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Architectural Coatings | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total                  | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max)    | —   | —    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Architectural Coatings | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total                  | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                        |   |      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual                 | — | —    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products      | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total                  | — | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.4. Water Emissions by Land Use

##### 4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 50.2  | 50.2 | 0.01 | < 0.005 | — | 50.7 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 50.2  | 50.2 | 0.01 | < 0.005 | — | 50.7 |
| Daily, Winter (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 50.2  | 50.2 | 0.01 | < 0.005 | — | 50.7 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 50.2  | 50.2 | 0.01 | < 0.005 | — | 50.7 |
| Annual                         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | — | —    |

|                                |   |   |   |   |   |   |   |   |   |   |   |      |      |      |         |         |   |      |
|--------------------------------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|---------|---------|---|------|
| Refrigerated Warehouse-No Rail | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 8.31 | 8.31 | < 0.005 | < 0.005 | — | 8.39 |
| Total                          | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 8.31 | 8.31 | < 0.005 | < 0.005 | — | 8.39 |

#### 4.5. Waste Emissions by Land Use

##### 4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |

|       |   |   |   |   |   |   |   |   |   |   |   |      |      |      |      |      |   |      |
|-------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|
| Total | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
|-------|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|------|---|------|

#### 4.6. Refrigerant Emissions by Land Use

##### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.7. Offroad Emissions By Equipment Type

##### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.8. Stationary Emissions By Equipment Type

##### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.9. User Defined Emissions By Equipment Type

##### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)



| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.10. Soil Carbon Accumulation By Vegetation Type

##### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation          | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species             | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Sequestered         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Removed             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| —                   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered         | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered         | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed             | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal            | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 5. Activity Data

### 5.1. Construction Schedule

| Phase Name       | Phase Type       | Start Date | End Date   | Days Per Week | Work Days per Phase | Phase Description |
|------------------|------------------|------------|------------|---------------|---------------------|-------------------|
| Site Preparation | Site Preparation | 12/1/2025  | 12/12/2025 | 5.00          | 10.0                | —                 |
| Grading          | Grading          | 12/13/2025 | 1/9/2026   | 5.00          | 20.0                | —                 |

|                               |                       |           |           |      |     |                               |
|-------------------------------|-----------------------|-----------|-----------|------|-----|-------------------------------|
| Energy Enclosure Installation | Building Construction | 1/10/2026 | 6/11/2027 | 5.00 | 370 | Energy Enclosure Installation |
|-------------------------------|-----------------------|-----------|-----------|------|-----|-------------------------------|

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

| Phase Name                    | Equipment Type            | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|-------------------------------|---------------------------|-----------|-------------|----------------|---------------|------------|-------------|
| Site Preparation              | Graders                   | Diesel    | Average     | 4.00           | 8.00          | 148        | 0.41        |
| Site Preparation              | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Grading                       | Graders                   | Diesel    | Average     | 4.00           | 8.00          | 148        | 0.41        |
| Grading                       | Tractors/Loaders/Backhoes | Diesel    | Average     | 4.00           | 8.00          | 84.0       | 0.37        |
| Energy Enclosure Installation | Cranes                    | Diesel    | Average     | 2.00           | 8.00          | 367        | 0.29        |
| Energy Enclosure Installation | Generator Sets            | Diesel    | Average     | 4.00           | 8.00          | 14.0       | 0.74        |
| Energy Enclosure Installation | Tractors/Loaders/Backhoes | Diesel    | Average     | 2.00           | 8.00          | 84.0       | 0.37        |
| Site Preparation              | Rubber Tired Dozers       | Diesel    | Average     | 0.00           | 8.00          | 367        | 0.40        |
| Grading                       | Excavators                | Diesel    | Average     | 0.00           | 8.00          | 36.0       | 0.38        |
| Grading                       | Rubber Tired Dozers       | Diesel    | Average     | 0.00           | 8.00          | 367        | 0.40        |
| Grading                       | Scrapers                  | Diesel    | Average     | 0.00           | 8.00          | 423        | 0.48        |
| Energy Enclosure Installation | Forklifts                 | Diesel    | Average     | 0.00           | 8.00          | 82.0       | 0.20        |
| Energy Enclosure Installation | Welders                   | Diesel    | Average     | 0.00           | 8.00          | 46.0       | 0.45        |
| Site Preparation              | Rubber Tired Loaders      | Diesel    | Average     | 4.00           | 8.00          | 150        | 0.36        |
| Site Preparation              | Skid Steer Loaders        | Diesel    | Average     | 4.00           | 8.00          | 71.0       | 0.37        |
| Grading                       | Plate Compactors          | Diesel    | Average     | 4.00           | 8.00          | 8.00       | 0.43        |

|                               |                         |        |         |      |      |      |      |
|-------------------------------|-------------------------|--------|---------|------|------|------|------|
| Grading                       | Rollers                 | Diesel | Average | 4.00 | 8.00 | 36.0 | 0.38 |
| Grading                       | Rubber Tired Loaders    | Diesel | Average | 4.00 | 8.00 | 150  | 0.36 |
| Grading                       | Skid Steer Loaders      | Diesel | Average | 4.00 | 8.00 | 71.0 | 0.37 |
| Energy Enclosure Installation | Air Compressors         | Diesel | Average | 4.00 | 8.00 | 37.0 | 0.48 |
| Energy Enclosure Installation | Excavators              | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Energy Enclosure Installation | Plate Compactors        | Diesel | Average | 2.00 | 8.00 | 8.00 | 0.43 |
| Energy Enclosure Installation | Rollers                 | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Energy Enclosure Installation | Rough Terrain Forklifts | Diesel | Average | 2.00 | 8.00 | 96.0 | 0.40 |
| Energy Enclosure Installation | Skid Steer Loaders      | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |

### 5.3. Construction Vehicles

#### 5.3.1. Unmitigated

| Phase Name       | Trip Type    | One-Way Trips per Day | Miles per Trip | Vehicle Mix   |
|------------------|--------------|-----------------------|----------------|---------------|
| Site Preparation | —            | —                     | —              | —             |
| Site Preparation | Worker       | 80.0                  | 7.70           | LDA,LDT1,LDT2 |
| Site Preparation | Vendor       | 4.00                  | 60.0           | HHDT          |
| Site Preparation | Hauling      | 0.00                  | 20.0           | HHDT          |
| Site Preparation | Onsite truck | 0.00                  | —              | HHDT          |
| Grading          | —            | —                     | —              | —             |
| Grading          | Worker       | 80.0                  | 7.70           | LDA,LDT1,LDT2 |
| Grading          | Vendor       | 4.00                  | 60.0           | HHDT          |
| Grading          | Hauling      | 0.00                  | 20.0           | HHDT          |
| Grading          | Onsite truck | 0.00                  | —              | HHDT          |

|                               |              |      |      |               |
|-------------------------------|--------------|------|------|---------------|
| Energy Enclosure Installation | —            | —    | —    | —             |
| Energy Enclosure Installation | Worker       | 240  | 7.70 | LDA,LDT1,LDT2 |
| Energy Enclosure Installation | Vendor       | 40.0 | 60.0 | HHDT,MHDT     |
| Energy Enclosure Installation | Hauling      | 0.00 | 20.0 | HHDT          |
| Energy Enclosure Installation | Onsite truck | 0.00 | —    | HHDT          |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|------------|--|--|--|--|-----------------------------|
|------------|--|--|--|--|-----------------------------|

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name       | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|------------------|---------------------------------|---------------------------------|----------------------|-------------------------------|---------------------|
| Site Preparation | 0.00                            | 0.00                            | 20.0                 | 0.00                          | —                   |
| Grading          | 0.00                            | 0.00                            | 40.0                 | 0.00                          | —                   |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|----------------------------|---------------------|----------------|-----------------|
| Water Exposed Area         | 3                   | 74%            | 74%             |

## 5.7. Construction Paving

| Land Use                       | Area Paved (acres) | % Asphalt |
|--------------------------------|--------------------|-----------|
| Refrigerated Warehouse-No Rail | 0.00               | 0%        |

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4  | N2O     |
|------|--------------|-----|------|---------|
| 2025 | 0.00         | 204 | 0.03 | < 0.005 |
| 2026 | 0.00         | 204 | 0.03 | < 0.005 |
| 2027 | 0.00         | 204 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type                  | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|--------------------------------|---------------|----------------|--------------|------------|-------------|--------------|------------|----------|
| Refrigerated Warehouse-No Rail | 0.00          | 0.00           | 0.00         | 0.00       | 0.00        | 0.00         | 0.00       | 0.00     |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|--|--|--|--|-----------------------------|
| 0  | 0.00                                     | 3,000  | 1,000  | —                           |

5.10.3. Landscape Equipment

| Season      | Unit   | Value |
|-------------|--------|-------|
| Snow Days   | day/yr | 0.00  |
| Summer Days | day/yr | 0.00  |

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use                       | Electricity (kWh/yr) | CO2 | CH4    | N2O    | Natural Gas (kBTU/yr) |
|--------------------------------|----------------------|-----|--------|--------|-----------------------|
| Refrigerated Warehouse-No Rail | 0.00                 | 204 | 0.0330 | 0.0040 | 0.00                  |

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

| Land Use                       | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|--------------------------------|-------------------------|--------------------------|
| Refrigerated Warehouse-No Rail | 0.00                    | 37,114,429               |

5.13. Operational Waste Generation

5.13.1. Unmitigated

| Land Use                       | Waste (ton/year) | Cogeneration (kWh/year) |
|--------------------------------|------------------|-------------------------|
| Refrigerated Warehouse-No Rail | 0.00             | 0.00                    |

5.14. Operational Refrigeration and Air Conditioning Equipment



5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Served |
|---------------|----------------|-------------|-----|---------------|----------------------|-------------------|--------------|
|---------------|----------------|-------------|-----|---------------|----------------------|-------------------|--------------|

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|----------------|-----------|-------------|----------------|---------------|------------|-------------|
|----------------|-----------|-------------|----------------|---------------|------------|-------------|

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|----------------|-----------|----------------|---------------|----------------|------------|-------------|
|----------------|-----------|----------------|---------------|----------------|------------|-------------|

5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|

5.17. User Defined

| Equipment Type | Fuel Type |
|----------------|-----------|
| —              | —         |

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|--------------------------|----------------------|---------------|-------------|
|--------------------------|----------------------|---------------|-------------|

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

5.18.2. Sequestration

5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|-----------|--------|------------------------------|------------------------------|
|-----------|--------|------------------------------|------------------------------|

## 8. User Changes to Default Data

| Screen                             | Justification   |
|------------------------------------|---|
| Construction: Construction Phases  | Based on Project specific information provided  |
| Land Use                           | Based on project specific information - rounded up to 2,000 square feet from 1.75 since CalEEmod won't allow for fractions after 1,000 sqft. 55 acres from 54.25 since CalEEMod won't allow for partial acres over 1 acre |
| Construction: Off-Road Equipment   | Project provided information . Equipment with a "0" quantity are default equipment that are not used in the analysis.   |
| Construction: Trips and VMT        | Based on project specific information provided  |
| Operations: Vehicle Data           | Mobile sources estimated under Phase 1 - Lithium Ion Battery Option for daily/monthly, and Lithium Ion and Iron Flow Phase 1 for annual maintenance activities  |
| Operations: Consumer Products      | No operational land uses modeled  |
| Operations: Architectural Coatings | No operational land uses modeled  |
| Operations: Landscape Equipment    | No operational land uses modeled  |
| Operations: Energy Use             | No operational land uses modeled  |
| Operations: Water and Waste Water  | Dust Control for construction modeled here.   |
| Operations: Solid Waste            | No operational land uses modeled  |
| Operations: Refrigerants           | No operational land uses modeled  |

|   |   |
|---|---|
| Construction: Dust From Material Movement | no import or export, material balanced onsite |
| Operations: Fleet Mix                     | mobile not modeled                            |

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Lithium Ion Battery w Iron Flow - Phase 3 CalEEMod Output (Annual, Winter, Summer)

# Key Energy - Phase 3 Lithium Ion and Iron Flow Battery Option Custom Report

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## 8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field                  | Value   |
|-----------------------------|---|
| Project Name                | Key Energy - Phase 3 Lithium Ion and Iron Flow Battery Option |
| Lead Agency                 | —   |
| Land Use Scale              | Project/site  |
| Analysis Level for Defaults | County  |
| Windspeed (m/s)             | 3.50  |
| Precipitation (days)        | 16.8  |
| Location                    | 36.13263447616909, -120.13458957268438                        |
| County                      | Fresno  |
| City                        | Unincorporated  |
| Air District                | San Joaquin Valley APCD                                       |
| Air Basin                   | San Joaquin Valley  |
| TAZ                         | 2530  |
| EDFZ                        | 5   |
| Electric Utility            | Pacific Gas & Electric Company                                |
| Gas Utility                 | Pacific Gas & Electric  |

## 1.2. Land Use Types

| Land Use Subtype               | Size | Unit     | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|--------------------------------|------|----------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| Refrigerated Warehouse-No Rail | 5.00 | 1000sqft | 136         | 5,000                 | 0.00                   | 0.00                           | —          | —           |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2  | CO2T   | CH4  | N2O  | R    | CO2e   |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 4.87 | 4.08 | 36.7 | 49.7 | 0.16 | 1.20  | 5.66  | 6.65  | 1.11   | 1.49   | 2.42   | —    | 21,222 | 21,222 | 0.49 | 2.14 | 37.4 | 21,910 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 4.74 | 3.90 | 37.7 | 40.2 | 0.16 | 0.99  | 5.66  | 6.65  | 0.93   | 1.49   | 2.42   | —    | 21,029 | 21,029 | 0.51 | 2.15 | 0.97 | 21,683 |
| Average Daily (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 3.21 | 2.70 | 25.7 | 28.3 | 0.12 | 0.66  | 4.01  | 4.67  | 0.62   | 1.06   | 1.68   | —    | 14,828 | 14,828 | 0.36 | 1.53 | 10.2 | 15,304 |
| Annual (Max)        | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 0.59 | 0.49 | 4.68 | 5.17 | 0.02 | 0.12  | 0.73  | 0.85  | 0.11   | 0.19   | 0.31   | —    | 2,455  | 2,455  | 0.06 | 0.25 | 1.69 | 2,534  |

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year                 | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily - Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

Key Energy - Phase 3 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                      |      |      |      |      |      |      |      |      |      |      |      |   |        |        |      |      |      |        |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|---|--------|--------|------|------|------|--------|
| 2027                 | 4.87 | 4.08 | 36.7 | 49.7 | 0.16 | 1.20 | 5.66 | 6.65 | 1.11 | 1.49 | 2.42 | — | 21,222 | 21,222 | 0.49 | 2.14 | 37.4 | 21,910 |
| 2028                 | 4.59 | 3.89 | 35.2 | 41.1 | 0.16 | 0.92 | 5.66 | 6.58 | 0.86 | 1.49 | 2.36 | — | 20,839 | 20,839 | 0.49 | 2.14 | 33.0 | 21,522 |
| 2029                 | 4.45 | 3.65 | 33.8 | 40.3 | 0.16 | 0.87 | 5.66 | 6.53 | 0.82 | 1.49 | 2.32 | — | 20,432 | 20,432 | 0.49 | 2.03 | 29.2 | 21,080 |
| Daily - Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2027                 | 4.74 | 3.90 | 37.7 | 40.2 | 0.16 | 0.99 | 5.66 | 6.65 | 0.93 | 1.49 | 2.42 | — | 21,029 | 21,029 | 0.51 | 2.15 | 0.97 | 21,683 |
| 2028                 | 4.47 | 3.76 | 36.1 | 39.4 | 0.16 | 0.92 | 5.66 | 6.58 | 0.86 | 1.49 | 2.36 | — | 20,650 | 20,650 | 0.51 | 2.15 | 0.86 | 21,303 |
| 2029                 | 4.34 | 3.53 | 34.8 | 38.7 | 0.16 | 0.87 | 5.66 | 6.53 | 0.82 | 1.49 | 2.32 | — | 20,247 | 20,247 | 0.51 | 2.04 | 0.76 | 20,869 |
| Average Daily        | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2027                 | 1.79 | 1.50 | 13.1 | 17.2 | 0.05 | 0.42 | 1.57 | 1.99 | 0.39 | 0.40 | 0.79 | — | 6,407  | 6,407  | 0.17 | 0.55 | 4.17 | 6,581  |
| 2028                 | 3.21 | 2.70 | 25.7 | 28.3 | 0.12 | 0.66 | 4.01 | 4.67 | 0.62 | 1.06 | 1.68 | — | 14,828 | 14,828 | 0.36 | 1.53 | 10.2 | 15,304 |
| 2029                 | 1.35 | 1.10 | 10.7 | 12.1 | 0.05 | 0.27 | 1.74 | 2.02 | 0.26 | 0.46 | 0.72 | — | 6,316  | 6,316  | 0.15 | 0.63 | 3.91 | 6,512  |
| Annual               | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2027                 | 0.33 | 0.27 | 2.39 | 3.14 | 0.01 | 0.08 | 0.29 | 0.36 | 0.07 | 0.07 | 0.14 | — | 1,061  | 1,061  | 0.03 | 0.09 | 0.69 | 1,090  |
| 2028                 | 0.59 | 0.49 | 4.68 | 5.17 | 0.02 | 0.12 | 0.73 | 0.85 | 0.11 | 0.19 | 0.31 | — | 2,455  | 2,455  | 0.06 | 0.25 | 1.69 | 2,534  |
| 2029                 | 0.25 | 0.20 | 1.96 | 2.20 | 0.01 | 0.05 | 0.32 | 0.37 | 0.05 | 0.08 | 0.13 | — | 1,046  | 1,046  | 0.03 | 0.10 | 0.65 | 1,078  |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R    | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|------|------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 151   | 151  | 0.02 | < 0.005 | 0.00 | 152  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 151   | 151  | 0.02 | < 0.005 | 0.00 | 152  |

|                     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |         |         |      |      |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|---------|------|------|
| Average Daily (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 151  | 151  | 0.02    | < 0.005 | 0.00 | 152  |
| Annual (Max)        | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Unmit.              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 25.0 | 25.0 | < 0.005 | < 0.005 | 0.00 | 25.2 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector              | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O     | R    | CO2e |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|---------|------|------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Mobile              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 |
| Area                | —    | 0.00 | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | —    | 0.00 |
| Water               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 151   | 151  | 0.02 | < 0.005 | —    | 152  |
| Waste               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00    | —    | 0.00 |
| Total               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 151   | 151  | 0.02 | < 0.005 | 0.00 | 152  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Mobile              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 |
| Area                | —    | 0.00 | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —       | —    | —    |
| Energy              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00    | —    | 0.00 |
| Water               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 151   | 151  | 0.02 | < 0.005 | —    | 152  |
| Waste               | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00    | —    | 0.00 |
| Total               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | 0.00 | 151   | 151  | 0.02 | < 0.005 | 0.00 | 152  |

|               |      |      |      |      |      |      |      |      |      |      |      |      |      |      |         |         |      |      |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------|---------|------|------|
| Average Daily | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Mobile        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Area          | —    | 0.00 | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Energy        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | —    | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Water         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 151  | 151  | 0.02    | < 0.005 | —    | 152  |
| Waste         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Total         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 151  | 151  | 0.02    | < 0.005 | 0.00 | 152  |
| Annual        | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Mobile        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Area          | —    | 0.00 | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —       | —       | —    | —    |
| Energy        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | —    | 0.00 | 0.00 | —    | 0.00 | —    | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Water         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 25.0 | 25.0 | < 0.005 | < 0.005 | —    | 25.2 |
| Waste         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | —    | 0.00 |
| Total         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 25.0 | 25.0 | < 0.005 | < 0.005 | 0.00 | 25.2 |

### 3. Construction Emissions Details

#### 3.1. Site Preparation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R | CO2e  |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|---|-------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | — | —     |
| Off-Road Equipment  | 3.16 | 2.66 | 21.7 | 40.8 | 0.06 | 0.99  | —     | 0.99  | 0.91   | —      | 0.91   | —    | 6,421 | 6,421 | 0.26 | 0.05 | — | 6,443 |

Key Energy - Phase 3 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                              |      |      |      |      |         |      |      |      |      |         |         |   |       |       |         |         |      |       |
|------------------------------|------|------|------|------|---------|------|------|------|------|---------|---------|---|-------|-------|---------|---------|------|-------|
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.55 | 0.55 | —    | 0.06    | 0.06    | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max)          | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Average Daily                | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.17 | 0.15 | 1.19 | 2.24 | < 0.005 | 0.05 | —    | 0.05 | 0.05 | —       | 0.05    | — | 352   | 352   | 0.01    | < 0.005 | —    | 353   |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.03 | 0.03 | —    | < 0.005 | < 0.005 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual                       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.03 | 0.03 | 0.22 | 0.41 | < 0.005 | 0.01 | —    | 0.01 | 0.01 | —       | 0.01    | — | 58.3  | 58.3  | < 0.005 | < 0.005 | —    | 58.5  |
| Dust From Material Movement: | —    | —    | —    | —    | —       | —    | 0.01 | 0.01 | —    | < 0.005 | < 0.005 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite                      | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max)          | —    | —    | —    | —    | —       | —    | —    | —    | —    | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker                       | 0.46 | 0.45 | 0.22 | 3.80 | 0.00    | 0.00 | 0.04 | 0.04 | 0.00 | 0.00    | 0.00    | — | 698   | 698   | 0.02    | 0.03    | 2.23 | 709   |
| Vendor                       | 0.05 | 0.02 | 1.66 | 0.29 | 0.01    | 0.03 | 0.13 | 0.16 | 0.03 | 0.04    | 0.07    | — | 1,578 | 1,578 | 0.02    | 0.25    | 3.54 | 1,655 |
| Hauling                      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |



Key Energy - Phase 3 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                     |         |         |         |         |         |         |         |         |         |         |         |   |      |      |         |         |      |      |
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|------|------|---------|---------|------|------|
| Daily, Winter (Max) | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Average Daily       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker              | 0.02    | 0.02    | 0.01    | 0.17    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 35.2 | 35.2 | < 0.005 | < 0.005 | 0.05 | 35.7 |
| Vendor              | < 0.005 | < 0.005 | 0.09    | 0.02    | < 0.005 | < 0.005 | 0.01    | 0.01    | < 0.005 | < 0.005 | < 0.005 | — | 86.5 | 86.5 | < 0.005 | 0.01    | 0.08 | 90.6 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual              | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | —       | — | —    | —    | —       | —       | —    | —    |
| Worker              | < 0.005 | < 0.005 | < 0.005 | 0.03    | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 5.82 | 5.82 | < 0.005 | < 0.005 | 0.01 | 5.92 |
| Vendor              | < 0.005 | < 0.005 | 0.02    | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 14.3 | 14.3 | < 0.005 | < 0.005 | 0.01 | 15.0 |
| Hauling             | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |

3.3. Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                    | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|-----------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite                      | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment          | 3.93 | 3.30 | 26.2 | 45.6 | 0.07 | 1.17  | —     | 1.17  | 1.08   | —      | 1.08   | —    | 7,126 | 7,126 | 0.29 | 0.06 | —    | 7,150 |
| Dust From Material Movement | —    | —    | —    | —    | —    | —     | 0.55  | 0.55  | —      | 0.06   | 0.06   | —    | —     | —     | —    | —    | —    | —     |
| Onsite truck                | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |

Key Energy - Phase 3 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                              |      |         |      |      |         |         |         |         |         |         |         |   |       |       |         |         |      |       |
|------------------------------|------|---------|------|------|---------|---------|---------|---------|---------|---------|---------|---|-------|-------|---------|---------|------|-------|
| Average Daily                | —    | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.43 | 0.36    | 2.87 | 5.00 | 0.01    | 0.13    | —       | 0.13    | 0.12    | —       | 0.12    | — | 781   | 781   | 0.03    | 0.01    | —    | 784   |
| Dust From Material Movement: | —    | —       | —    | —    | —       | —       | 0.06    | 0.06    | —       | 0.01    | 0.01    | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Annual                       | —    | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Off-Road Equipment           | 0.08 | 0.07    | 0.52 | 0.91 | < 0.005 | 0.02    | —       | 0.02    | 0.02    | —       | 0.02    | — | 129   | 129   | 0.01    | < 0.005 | —    | 130   |
| Dust From Material Movement: | —    | —       | —    | —    | —       | —       | 0.01    | 0.01    | —       | < 0.005 | < 0.005 | — | —     | —     | —       | —       | —    | —     |
| Onsite truck                 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Offsite                      | —    | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Daily, Summer (Max)          | —    | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker                       | 0.46 | 0.45    | 0.22 | 3.80 | 0.00    | 0.00    | 0.04    | 0.04    | 0.00    | 0.00    | 0.00    | — | 698   | 698   | 0.02    | 0.03    | 2.23 | 709   |
| Vendor                       | 0.05 | 0.02    | 1.66 | 0.29 | 0.01    | 0.03    | 0.13    | 0.16    | 0.03    | 0.04    | 0.07    | — | 1,578 | 1,578 | 0.02    | 0.25    | 3.54 | 1,655 |
| Hauling                      | 0.00 | 0.00    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00 | 0.00  |
| Daily, Winter (Max)          | —    | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Average Daily                | —    | —       | —    | —    | —       | —       | —       | —       | —       | —       | —       | — | —     | —     | —       | —       | —    | —     |
| Worker                       | 0.05 | 0.04    | 0.03 | 0.34 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | — | 70.3  | 70.3  | < 0.005 | < 0.005 | 0.11 | 71.5  |
| Vendor                       | 0.01 | < 0.005 | 0.19 | 0.03 | < 0.005 | < 0.005 | 0.01    | 0.02    | < 0.005 | < 0.005 | 0.01    | — | 173   | 173   | < 0.005 | 0.03    | 0.17 | 181   |

|         |         |         |         |      |         |         |         |         |         |         |         |      |      |      |         |         |      |      |      |
|---------|---------|---------|---------|------|---------|---------|---------|---------|---------|---------|---------|------|------|------|---------|---------|------|------|------|
| Hauling | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00 | —    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 |
| Annual  | —       | —       | —       | —    | —       | —       | —       | —       | —       | —       | —       | —    | —    | —    | —       | —       | —    | —    | —    |
| Worker  | 0.01    | 0.01    | < 0.005 | 0.06 | 0.00    | 0.00    | < 0.005 | < 0.005 | 0.00    | 0.00    | 0.00    | —    | 11.6 | 11.6 | < 0.005 | < 0.005 | 0.02 | 11.8 |      |
| Vendor  | < 0.005 | < 0.005 | 0.03    | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | —    | 28.6 | 28.6 | < 0.005 | < 0.005 | 0.03 | 30.0 |      |
| Hauling | 0.00    | 0.00    | 0.00    | 0.00 | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | —    | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |      |

### 3.5. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 3.23 | 2.70 | 23.8 | 29.8 | 0.06 | 0.78  | —     | 0.78  | 0.71   | —      | 0.71   | —    | 5,530 | 5,530 | 0.22 | 0.04 | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 3.23 | 2.70 | 23.8 | 29.8 | 0.06 | 0.78  | —     | 0.78  | 0.71   | —      | 0.71   | —    | 5,530 | 5,530 | 0.22 | 0.04 | —    | 5,549 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Average Daily       | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 0.75 | 0.63 | 5.54 | 6.94 | 0.01 | 0.18  | —     | 0.18  | 0.17   | —      | 0.17   | —    | 1,288 | 1,288 | 0.05 | 0.01 | —    | 1,292 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Annual              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |

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|                     |      |      |      |      |         |      |         |         |      |      |      |   |        |        |         |         |      |        |
|---------------------|------|------|------|------|---------|------|---------|---------|------|------|------|---|--------|--------|---------|---------|------|--------|
| Off-Road Equipment  | 0.14 | 0.11 | 1.01 | 1.27 | < 0.005 | 0.03 | —       | 0.03    | 0.03 | —    | 0.03 | — | 213    | 213    | 0.01    | < 0.005 | —    | 214    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Offsite             | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 1.15 | 1.13 | 0.55 | 9.50 | 0.00    | 0.00 | 0.10    | 0.10    | 0.00 | 0.00 | 0.00 | — | 1,744  | 1,744  | 0.05    | 0.07    | 5.59 | 1,772  |
| Vendor              | 0.48 | 0.25 | 12.4 | 2.69 | 0.11    | 0.21 | 0.85    | 1.06    | 0.21 | 0.32 | 0.53 | — | 13,949 | 13,949 | 0.22    | 2.02    | 31.8 | 14,589 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 1.03 | 0.95 | 0.69 | 7.70 | 0.00    | 0.00 | 0.10    | 0.10    | 0.00 | 0.00 | 0.00 | — | 1,549  | 1,549  | 0.07    | 0.08    | 0.14 | 1,573  |
| Vendor              | 0.47 | 0.25 | 13.2 | 2.72 | 0.11    | 0.21 | 0.85    | 1.06    | 0.21 | 0.32 | 0.53 | — | 13,951 | 13,951 | 0.22    | 2.02    | 0.82 | 14,560 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.24 | 0.24 | 0.14 | 1.82 | 0.00    | 0.00 | 0.02    | 0.02    | 0.00 | 0.00 | 0.00 | — | 373    | 373    | 0.01    | 0.02    | 0.56 | 380    |
| Vendor              | 0.11 | 0.06 | 3.03 | 0.63 | 0.02    | 0.05 | 0.20    | 0.25    | 0.05 | 0.07 | 0.12 | — | 3,249  | 3,249  | 0.05    | 0.47    | 3.20 | 3,394  |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —       | —    | —       | —       | —    | —    | —    | — | —      | —      | —       | —       | —    | —      |
| Worker              | 0.04 | 0.04 | 0.03 | 0.33 | 0.00    | 0.00 | < 0.005 | < 0.005 | 0.00 | 0.00 | 0.00 | — | 61.8   | 61.8   | < 0.005 | < 0.005 | 0.09 | 62.9   |
| Vendor              | 0.02 | 0.01 | 0.55 | 0.11 | < 0.005 | 0.01 | 0.04    | 0.04    | 0.01 | 0.01 | 0.02 | — | 538    | 538    | 0.01    | 0.08    | 0.53 | 562    |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00    | 0.00    | 0.00 | 0.00   |

### 3.7. Building Construction (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
|----------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|

Key Energy - Phase 3 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                     |      |      |      |      |      |      |      |      |      |      |      |   |        |        |      |      |      |        |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|---|--------|--------|------|------|------|--------|
| Onsite              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 3.12 | 2.61 | 22.9 | 29.8 | 0.06 | 0.71 | —    | 0.71 | 0.65 | —    | 0.65 | — | 5,531  | 5,531  | 0.22 | 0.04 | —    | 5,550  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 3.12 | 2.61 | 22.9 | 29.8 | 0.06 | 0.71 | —    | 0.71 | 0.65 | —    | 0.65 | — | 5,531  | 5,531  | 0.22 | 0.04 | —    | 5,550  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 2.24 | 1.87 | 16.4 | 21.3 | 0.04 | 0.51 | —    | 0.51 | 0.47 | —    | 0.47 | — | 3,962  | 3,962  | 0.16 | 0.03 | —    | 3,975  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Off-Road Equipment  | 0.41 | 0.34 | 2.99 | 3.89 | 0.01 | 0.09 | —    | 0.09 | 0.09 | —    | 0.09 | — | 656    | 656    | 0.03 | 0.01 | —    | 658    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Offsite             | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Worker              | 1.10 | 1.03 | 0.49 | 8.84 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | — | 1,710  | 1,710  | 0.05 | 0.07 | 5.02 | 1,737  |
| Vendor              | 0.37 | 0.25 | 11.8 | 2.47 | 0.11 | 0.21 | 0.85 | 1.06 | 0.21 | 0.32 | 0.53 | — | 13,598 | 13,598 | 0.22 | 2.02 | 28.0 | 14,235 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |

Key Energy - Phase 3 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                     |      |      |      |      |      |      |      |      |      |      |      |   |        |        |      |      |      |        |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|---|--------|--------|------|------|------|--------|
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Worker              | 0.98 | 0.90 | 0.63 | 7.13 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | — | 1,519  | 1,519  | 0.06 | 0.08 | 0.13 | 1,544  |
| Vendor              | 0.37 | 0.25 | 12.6 | 2.50 | 0.11 | 0.21 | 0.85 | 1.06 | 0.21 | 0.32 | 0.53 | — | 13,600 | 13,600 | 0.22 | 2.02 | 0.73 | 14,210 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Worker              | 0.71 | 0.66 | 0.40 | 5.21 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.00 | 0.00 | — | 1,127  | 1,127  | 0.04 | 0.05 | 1.55 | 1,144  |
| Vendor              | 0.27 | 0.18 | 8.85 | 1.78 | 0.08 | 0.15 | 0.61 | 0.76 | 0.15 | 0.23 | 0.38 | — | 9,740  | 9,740  | 0.16 | 1.45 | 8.66 | 10,185 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| Worker              | 0.13 | 0.12 | 0.07 | 0.95 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 187    | 187    | 0.01 | 0.01 | 0.26 | 189    |
| Vendor              | 0.05 | 0.03 | 1.62 | 0.32 | 0.01 | 0.03 | 0.11 | 0.14 | 0.03 | 0.04 | 0.07 | — | 1,613  | 1,613  | 0.03 | 0.24 | 1.43 | 1,686  |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00 | 0.00 | 0.00   |

### 3.9. Building Construction (2029) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location            | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite              | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment  | 3.04 | 2.54 | 22.3 | 29.6 | 0.06 | 0.66  | —     | 0.66  | 0.61   | —      | 0.61   | —    | 5,531 | 5,531 | 0.22 | 0.04 | —    | 5,550 |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |

Key Energy - Phase 3 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                     |      |      |      |      |         |      |      |      |      |      |      |   |        |        |      |         |      |        |
|---------------------|------|------|------|------|---------|------|------|------|------|------|------|---|--------|--------|------|---------|------|--------|
| Off-Road Equipment  | 3.04 | 2.54 | 22.3 | 29.6 | 0.06    | 0.66 | —    | 0.66 | 0.61 | —    | 0.61 | — | 5,531  | 5,531  | 0.22 | 0.04    | —    | 5,550  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00    | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —       | —    | —      |
| Off-Road Equipment  | 0.95 | 0.79 | 6.92 | 9.23 | 0.02    | 0.21 | —    | 0.21 | 0.19 | —    | 0.19 | — | 1,721  | 1,721  | 0.07 | 0.01    | —    | 1,727  |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00    | 0.00 | 0.00   |
| Annual              | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —       | —    | —      |
| Off-Road Equipment  | 0.17 | 0.14 | 1.26 | 1.68 | < 0.005 | 0.04 | —    | 0.04 | 0.03 | —    | 0.03 | — | 285    | 285    | 0.01 | < 0.005 | —    | 286    |
| Onsite truck        | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00    | 0.00 | 0.00   |
| Offsite             | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —       | —    | —      |
| Daily, Summer (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —       | —    | —      |
| Worker              | 1.03 | 0.96 | 0.43 | 8.25 | 0.00    | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | — | 1,679  | 1,679  | 0.04 | 0.07    | 4.49 | 1,705  |
| Vendor              | 0.37 | 0.14 | 11.2 | 2.36 | 0.11    | 0.21 | 0.85 | 1.06 | 0.21 | 0.32 | 0.53 | — | 13,223 | 13,223 | 0.22 | 1.92    | 24.7 | 13,825 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00    | 0.00 | 0.00   |
| Daily, Winter (Max) | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —       | —    | —      |
| Worker              | 0.93 | 0.85 | 0.57 | 6.67 | 0.00    | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | — | 1,491  | 1,491  | 0.06 | 0.08    | 0.12 | 1,516  |
| Vendor              | 0.37 | 0.14 | 11.9 | 2.39 | 0.11    | 0.21 | 0.85 | 1.06 | 0.21 | 0.32 | 0.53 | — | 13,225 | 13,225 | 0.22 | 1.92    | 0.64 | 13,803 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00   | 0.00   | 0.00 | 0.00    | 0.00 | 0.00   |
| Average Daily       | —    | —    | —    | —    | —       | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —       | —    | —      |
| Worker              | 0.29 | 0.27 | 0.15 | 2.10 | 0.00    | 0.00 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 | — | 481    | 481    | 0.01 | 0.02    | 0.60 | 488    |
| Vendor              | 0.12 | 0.04 | 3.64 | 0.74 | 0.03    | 0.07 | 0.26 | 0.33 | 0.07 | 0.10 | 0.16 | — | 4,115  | 4,115  | 0.07 | 0.60    | 3.31 | 4,298  |

|         |      |      |      |      |      |      |      |      |      |      |      |   |      |      |         |         |      |      |
|---------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|---------|---------|------|------|
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |
| Annual  | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —    | —    | —       | —       | —    | —    |
| Worker  | 0.05 | 0.05 | 0.03 | 0.38 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | — | 79.6 | 79.6 | < 0.005 | < 0.005 | 0.10 | 80.8 |
| Vendor  | 0.02 | 0.01 | 0.67 | 0.13 | 0.01 | 0.01 | 0.05 | 0.06 | 0.01 | 0.02 | 0.03 | — | 681  | 681  | 0.01    | 0.10    | 0.55 | 712  |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00    | 0.00    | 0.00 | 0.00 |

## 4. Operations Emissions Details

### 4.1. Mobile Emissions by Land Use

#### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R    | CO2e |
|--------------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|------|------|
| Daily, Summer (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |



|                                |      |      |      |      |      |      |      |      |      |      |      |   |      |      |      |      |      |      |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|---|------|------|------|------|------|------|
| Annual                         | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —    | —    | —    | —    | —    | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |

|              |   |   |   |   |   |   |   |   |   |   |   |   |      |      |      |      |   |      |
|--------------|---|---|---|---|---|---|---|---|---|---|---|---|------|------|------|------|---|------|
| Refrigerated | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total        | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | —     | 0.00  | 0.00   | —      | 0.00   | —    | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |

### 4.3. Area Emissions by Source

#### 4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source                 | TOG | ROG  | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|------------------------|-----|------|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max)    | —   | —    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Architectural Coatings | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total                  | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max)    | —   | —    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Architectural Coatings | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total                  | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual                 | —   | —    | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Consumer Products      | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Architectural Coatings | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total                  | —   | 0.00 | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

#### 4.4. Water Emissions by Land Use

##### 4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4     | N2O     | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|---------|---------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 151   | 151  | 0.02    | < 0.005 | — | 152  |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 151   | 151  | 0.02    | < 0.005 | — | 152  |
| Daily, Winter (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 151   | 151  | 0.02    | < 0.005 | — | 152  |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 151   | 151  | 0.02    | < 0.005 | — | 152  |
| Annual                         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —       | —       | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 25.0  | 25.0 | < 0.005 | < 0.005 | — | 25.2 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 25.0  | 25.0 | < 0.005 | < 0.005 | — | 25.2 |

#### 4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use                       | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4  | N2O  | R | CO2e |
|--------------------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|------|------|---|------|
| Daily, Summer (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Daily, Winter (Max)            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Annual                         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —    | —    | — | —    |
| Refrigerated Warehouse-No Rail | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total                          | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | 0.00 | 0.00  | 0.00 | 0.00 | 0.00 | — | 0.00 |

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

### 4.8. Stationary Emissions By Equipment Type

#### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

### 4.9. User Defined Emissions By Equipment Type

#### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type      | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

#### 4.10. Soil Carbon Accumulation By Vegetation Type

##### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation          | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

##### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |



|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species             | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Sequestered         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Removed             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| —                   | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Sequestered         | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Removed     | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —           | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual      | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided     | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed     | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —           | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 5. Activity Data

#### 5.1. Construction Schedule

| Phase Name                    | Phase Type            | Start Date | End Date | Days Per Week | Work Days per Phase | Phase Description             |
|-------------------------------|-----------------------|------------|----------|---------------|---------------------|-------------------------------|
| Site Preparation              | Site Preparation      | 6/12/2027  | 7/9/2027 | 5.00          | 20.0                | —                             |
| Grading                       | Grading               | 7/10/2027  | 9/3/2027 | 5.00          | 40.0                | —                             |
| Energy Enclosure Installation | Building Construction | 9/4/2027   | 6/8/2029 | 5.00          | 460                 | Energy Enclosure Installation |

#### 5.2. Off-Road Equipment

##### 5.2.1. Unmitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|------------|----------------|-----------|-------------|----------------|---------------|------------|-------------|
|------------|----------------|-----------|-------------|----------------|---------------|------------|-------------|

Key Energy - Phase 3 Lithium Ion and Iron Flow Battery Option Custom Report, 1/13/2023

|                               |                           |        |         |      |      |      |      |
|-------------------------------|---------------------------|--------|---------|------|------|------|------|
| Site Preparation              | Graders                   | Diesel | Average | 4.00 | 8.00 | 148  | 0.41 |
| Site Preparation              | Tractors/Loaders/Backhoes | Diesel | Average | 4.00 | 8.00 | 84.0 | 0.37 |
| Grading                       | Graders                   | Diesel | Average | 4.00 | 8.00 | 148  | 0.41 |
| Grading                       | Tractors/Loaders/Backhoes | Diesel | Average | 4.00 | 8.00 | 84.0 | 0.37 |
| Energy Enclosure Installation | Cranes                    | Diesel | Average | 2.00 | 8.00 | 367  | 0.29 |
| Energy Enclosure Installation | Generator Sets            | Diesel | Average | 4.00 | 8.00 | 14.0 | 0.74 |
| Energy Enclosure Installation | Tractors/Loaders/Backhoes | Diesel | Average | 2.00 | 8.00 | 84.0 | 0.37 |
| Site Preparation              | Rubber Tired Dozers       | Diesel | Average | 0.00 | 8.00 | 367  | 0.40 |
| Grading                       | Excavators                | Diesel | Average | 0.00 | 8.00 | 36.0 | 0.38 |
| Grading                       | Rubber Tired Dozers       | Diesel | Average | 0.00 | 8.00 | 367  | 0.40 |
| Grading                       | Scrapers                  | Diesel | Average | 0.00 | 8.00 | 423  | 0.48 |
| Energy Enclosure Installation | Forklifts                 | Diesel | Average | 0.00 | 8.00 | 82.0 | 0.20 |
| Energy Enclosure Installation | Welders                   | Diesel | Average | 0.00 | 8.00 | 46.0 | 0.45 |
| Site Preparation              | Rubber Tired Loaders      | Diesel | Average | 4.00 | 8.00 | 150  | 0.36 |
| Site Preparation              | Skid Steer Loaders        | Diesel | Average | 4.00 | 8.00 | 71.0 | 0.37 |
| Grading                       | Plate Compactors          | Diesel | Average | 4.00 | 8.00 | 8.00 | 0.43 |
| Grading                       | Rollers                   | Diesel | Average | 4.00 | 8.00 | 36.0 | 0.38 |
| Grading                       | Rubber Tired Loaders      | Diesel | Average | 4.00 | 8.00 | 150  | 0.36 |
| Grading                       | Skid Steer Loaders        | Diesel | Average | 4.00 | 8.00 | 71.0 | 0.37 |
| Energy Enclosure Installation | Air Compressors           | Diesel | Average | 4.00 | 8.00 | 37.0 | 0.48 |
| Energy Enclosure Installation | Excavators                | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |

|                               |                         |        |         |      |      |      |      |
|-------------------------------|-------------------------|--------|---------|------|------|------|------|
| Energy Enclosure Installation | Plate Compactors        | Diesel | Average | 2.00 | 8.00 | 8.00 | 0.43 |
| Energy Enclosure Installation | Rollers                 | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Energy Enclosure Installation | Rough Terrain Forklifts | Diesel | Average | 2.00 | 8.00 | 96.0 | 0.40 |
| Energy Enclosure Installation | Skid Steer Loaders      | Diesel | Average | 2.00 | 8.00 | 71.0 | 0.37 |

### 5.3. Construction Vehicles

#### 5.3.1. Unmitigated

| Phase Name                    | Trip Type    | One-Way Trips per Day | Miles per Trip | Vehicle Mix   |
|-------------------------------|--------------|-----------------------|----------------|---------------|
| Site Preparation              | —            | —                     | —              | —             |
| Site Preparation              | Worker       | 120                   | 7.70           | LDA,LDT1,LDT2 |
| Site Preparation              | Vendor       | 8.00                  | 60.0           | HHDT          |
| Site Preparation              | Hauling      | 0.00                  | 20.0           | HHDT          |
| Site Preparation              | Onsite truck | 0.00                  | —              | HHDT          |
| Grading                       | —            | —                     | —              | —             |
| Grading                       | Worker       | 120                   | 7.70           | LDA,LDT1,LDT2 |
| Grading                       | Vendor       | 8.00                  | 60.0           | HHDT          |
| Grading                       | Hauling      | 0.00                  | 20.0           | HHDT          |
| Grading                       | Onsite truck | 0.00                  | —              | HHDT          |
| Energy Enclosure Installation | —            | —                     | —              | —             |
| Energy Enclosure Installation | Worker       | 300                   | 7.70           | LDA,LDT1,LDT2 |
| Energy Enclosure Installation | Vendor       | 80.0                  | 60.0           | HHDT,MHDT     |
| Energy Enclosure Installation | Hauling      | 0.00                  | 20.0           | HHDT          |
| Energy Enclosure Installation | Onsite truck | 0.00                  | —              | HHDT          |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|------------|--|--|--|--|-----------------------------|
|------------|--|--|--|--|-----------------------------|

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name       | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|------------------|---------------------------------|---------------------------------|----------------------|-------------------------------|---------------------|
| Site Preparation | 0.00                            | 0.00                            | 20.0                 | 0.00                          | —                   |
| Grading          | 0.00                            | 0.00                            | 40.0                 | 0.00                          | —                   |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|----------------------------|---------------------|----------------|-----------------|
| Water Exposed Area         | 3                   | 74%            | 74%             |

## 5.7. Construction Paving

| Land Use                       | Area Paved (acres) | % Asphalt |
|--------------------------------|--------------------|-----------|
| Refrigerated Warehouse-No Rail | 0.00               | 0%        |

## 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|------|--------------|-----|-----|-----|
|------|--------------|-----|-----|-----|

|      |      |     |      |         |
|------|------|-----|------|---------|
| 2027 | 0.00 | 204 | 0.03 | < 0.005 |
| 2028 | 0.00 | 204 | 0.03 | < 0.005 |
| 2029 | 0.00 | 204 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type                  | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|--------------------------------|---------------|----------------|--------------|------------|-------------|--------------|------------|----------|
| Refrigerated Warehouse-No Rail | 0.00          | 0.00           | 0.00         | 0.00       | 0.00        | 0.00         | 0.00       | 0.00     |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|--|--|--|--|-----------------------------|
| 0  | 0.00                                     | 7,500  | 2,500  | —                           |

### 5.10.3. Landscape Equipment

| Season      | Unit   | Value |
|-------------|--------|-------|
| Snow Days   | day/yr | 0.00  |
| Summer Days | day/yr | 0.00  |

## 5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use                       | Electricity (kWh/yr) | CO2 | CH4    | N2O    | Natural Gas (kBTU/yr) |
|--------------------------------|----------------------|-----|--------|--------|-----------------------|
| Refrigerated Warehouse-No Rail | 0.00                 | 204 | 0.0330 | 0.0040 | 0.00                  |

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

| Land Use                       | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|--------------------------------|-------------------------|--------------------------|
| Refrigerated Warehouse-No Rail | 0.00                    | 111,441,042              |

5.13. Operational Waste Generation

5.13.1. Unmitigated

| Land Use                       | Waste (ton/year) | Cogeneration (kWh/year) |
|--------------------------------|------------------|-------------------------|
| Refrigerated Warehouse-No Rail | 0.00             | 0.00                    |

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---------------|----------------|-------------|-----|---------------|----------------------|-------------------|----------------|
|---------------|----------------|-------------|-----|---------------|----------------------|-------------------|----------------|

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|----------------|-----------|-------------|----------------|---------------|------------|-------------|
|----------------|-----------|-------------|----------------|---------------|------------|-------------|

## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|----------------|-----------|----------------|---------------|----------------|------------|-------------|
|----------------|-----------|----------------|---------------|----------------|------------|-------------|

### 5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|
|----------------|-----------|--------|--------------------------|------------------------------|------------------------------|

## 5.17. User Defined

| Equipment Type | Fuel Type |
|----------------|-----------|
| —              | —         |

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|--------------------------|----------------------|---------------|-------------|
|--------------------------|----------------------|---------------|-------------|

### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

### 5.18.2. Sequestration



5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|-----------|--------|------------------------------|------------------------------|
|-----------|--------|------------------------------|------------------------------|

## 8. User Changes to Default Data

| Screen                                    | Justification  |
|---|--|
| Construction: Construction Phases         | Based on Project specific information provided   |
| Land Use                                  | Based on project specific information - rounded up to 136 acres from 135.75 since CalEEMod won't allow for partial acres over 1 acre                           |
| Construction: Off-Road Equipment          | Project provided information . Equipment with a "0" quantity are default equipment that are not used in the analysis.  |
| Construction: Trips and VMT               | Based on project specific information provided   |
| Operations: Vehicle Data                  | Mobile sources estimated under Phase 1 - Lithium Ion Battery Option for daily/monthly, and Lithium Ion and Iron Flow Phase 1 for annual maintenance activities |
| Operations: Consumer Products             | No operational land uses modeled   |
| Operations: Architectural Coatings        | No operational land uses modeled   |
| Operations: Landscape Equipment           | No operational land uses modeled   |
| Operations: Energy Use                    | No operational land uses modeled   |
| Operations: Water and Waste Water         | Dust Control for construction modeled here.  |
| Operations: Solid Waste                   | No operational land uses modeled   |
| Operations: Refrigerants                  | No operational land uses modeled   |
| Construction: Dust From Material Movement | no import or export, material balanced onsite  |
| Operations: Fleet Mix                     | mobile not modeled   |

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Decommissioning CalEEMod Output (Annual, Winter, Summer)

# Key Energy - Decommissioning Custom Report

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8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field                  | Value                                  |
|-----------------------------|--|
| Project Name                | Key Energy - Decommissioning           |
| Lead Agency                 | —                                      |
| Land Use Scale              | Project/site                           |
| Analysis Level for Defaults | County                                 |
| Windspeed (m/s)             | 3.50                                   |
| Precipitation (days)        | 16.8                                   |
| Location                    | 36.13263447616909, -120.13458957268438 |
| County                      | Fresno                                 |
| City                        | Unincorporated                         |
| Air District                | San Joaquin Valley APCD                |
| Air Basin                   | San Joaquin Valley                     |
| TAZ                         | 2530                                   |
| EDFZ                        | 5                                      |
| Electric Utility            | Pacific Gas & Electric Company         |
| Gas Utility                 | Pacific Gas & Electric                 |

## 1.2. Land Use Types

| Land Use Subtype               | Size | Unit     | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|--------------------------------|------|----------|-------------|-----------------------|------------------------|--------------------------------|------------|-------------|
| Refrigerated Warehouse-No Rail | 3.00 | 1000sqft | 122         | 3,000                 | 0.00                   | 0.00                           | —          | —           |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit.             | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2  | CO2T   | CH4  | N2O  | R    | CO2e   |
|---------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|--------|--------|------|------|------|--------|
| Daily, Summer (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 3.93 | 3.38 | 27.5 | 49.0 | 0.18 | 0.58  | 8.43  | 9.01  | 0.54   | 1.88   | 2.42   | —    | 18,510 | 18,510 | 0.46 | 1.47 | 0.35 | 18,960 |
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 3.92 | 3.36 | 28.1 | 47.6 | 0.18 | 0.58  | 8.43  | 9.01  | 0.54   | 1.88   | 2.42   | —    | 18,291 | 18,291 | 0.47 | 1.48 | 0.01 | 18,743 |
| Average Daily (Max) | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 2.78 | 2.39 | 19.9 | 34.0 | 0.13 | 0.41  | 5.96  | 6.37  | 0.38   | 1.33   | 1.71   | —    | 13,073 | 13,073 | 0.33 | 1.05 | 0.11 | 13,395 |
| Annual (Max)        | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —      | —      | —    | —    | —    | —      |
| Unmit.              | 0.51 | 0.44 | 3.63 | 6.21 | 0.02 | 0.07  | 1.09  | 1.16  | 0.07   | 0.24   | 0.31   | —    | 2,164  | 2,164  | 0.05 | 0.17 | 0.02 | 2,218  |

### 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year                 | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|----------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily - Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                      |      |      |      |      |      |      |      |      |      |      |      |   |        |        |      |      |      |        |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|---|--------|--------|------|------|------|--------|
| 2050                 | 3.93 | 3.38 | 27.5 | 49.0 | 0.18 | 0.58 | 8.43 | 9.01 | 0.54 | 1.88 | 2.42 | — | 18,510 | 18,510 | 0.46 | 1.47 | 0.35 | 18,960 |
| Daily - Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2050                 | 3.92 | 3.36 | 28.1 | 47.6 | 0.18 | 0.58 | 8.43 | 9.01 | 0.54 | 1.88 | 2.42 | — | 18,291 | 18,291 | 0.47 | 1.48 | 0.01 | 18,743 |
| Average Daily        | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2050                 | 2.78 | 2.39 | 19.9 | 34.0 | 0.13 | 0.41 | 5.96 | 6.37 | 0.38 | 1.33 | 1.71 | — | 13,073 | 13,073 | 0.33 | 1.05 | 0.11 | 13,395 |
| Annual               | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —      | —      | —    | —    | —    | —      |
| 2050                 | 0.51 | 0.44 | 3.63 | 6.21 | 0.02 | 0.07 | 1.09 | 1.16 | 0.07 | 0.24 | 0.31 | — | 2,164  | 2,164  | 0.05 | 0.17 | 0.02 | 2,218  |

### 3. Construction Emissions Details

#### 3.1. Grading (2050) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location                    | TOG  | ROG  | NOx  | CO   | SO2  | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T  | CH4  | N2O  | R    | CO2e  |
|-----------------------------|------|------|------|------|------|-------|-------|-------|--------|--------|--------|------|-------|-------|------|------|------|-------|
| Onsite                      | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment          | 3.21 | 2.69 | 20.3 | 41.5 | 0.08 | 0.47  | —     | 0.47  | 0.43   | —      | 0.43   | —    | 7,804 | 7,804 | 0.32 | 0.06 | —    | 7,831 |
| Dust From Material Movement | —    | —    | —    | —    | —    | —     | 2.12  | 2.12  | —      | 0.23   | 0.23   | —    | —     | —     | —    | —    | —    | —     |
| Onsite truck                | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00  | 0.00  | 0.00  | 0.00   | 0.00   | 0.00   | —    | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Daily, Winter (Max)         | —    | —    | —    | —    | —    | —     | —     | —     | —      | —      | —      | —    | —     | —     | —    | —    | —    | —     |



|                              |      |      |      |      |      |      |      |      |      |      |      |   |       |       |      |      |      |       |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|---|-------|-------|------|------|------|-------|
| Off-Road Equipment           | 3.21 | 2.69 | 20.3 | 41.5 | 0.08 | 0.47 | —    | 0.47 | 0.43 | —    | 0.43 | — | 7,804 | 7,804 | 0.32 | 0.06 | —    | 7,831 |
| Dust From Material Movement: | —    | —    | —    | —    | —    | —    | 2.12 | 2.12 | —    | 0.23 | 0.23 | — | —     | —     | —    | —    | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Average Daily                | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment           | 2.29 | 1.91 | 14.5 | 29.6 | 0.05 | 0.33 | —    | 0.33 | 0.31 | —    | 0.31 | — | 5,559 | 5,559 | 0.23 | 0.05 | —    | 5,578 |
| Dust From Material Movement: | —    | —    | —    | —    | —    | —    | 1.51 | 1.51 | —    | 0.16 | 0.16 | — | —     | —     | —    | —    | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Annual                       | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Off-Road Equipment           | 0.42 | 0.35 | 2.64 | 5.40 | 0.01 | 0.06 | —    | 0.06 | 0.06 | —    | 0.06 | — | 920   | 920   | 0.04 | 0.01 | —    | 924   |
| Dust From Material Movement: | —    | —    | —    | —    | —    | —    | 0.28 | 0.28 | —    | 0.03 | 0.03 | — | —     | —     | —    | —    | —    | —     |
| Onsite truck                 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |
| Offsite                      | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Daily, Summer (Max)          | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —    | —    | —    | —     |
| Worker                       | 0.56 | 0.56 | 0.29 | 6.19 | 0.00 | 0.00 | 0.14 | 0.14 | 0.00 | 0.00 | 0.00 | — | 1,996 | 1,996 | 0.03 | 0.02 | 0.20 | 2,002 |
| Vendor                       | 0.15 | 0.14 | 6.90 | 1.29 | 0.11 | 0.11 | 0.85 | 0.95 | 0.11 | 0.32 | 0.42 | — | 8,710 | 8,710 | 0.11 | 1.39 | 0.15 | 9,126 |
| Hauling                      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00  |

|                     |      |      |      |      |      |      |      |      |      |      |      |   |       |       |         |         |         |       |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|---|-------|-------|---------|---------|---------|-------|
| Daily, Winter (Max) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —       | —     |
| Worker              | 0.56 | 0.54 | 0.31 | 4.82 | 0.00 | 0.00 | 0.14 | 0.14 | 0.00 | 0.00 | 0.00 | — | 1,775 | 1,775 | 0.04    | 0.03    | 0.01    | 1,784 |
| Vendor              | 0.15 | 0.14 | 7.48 | 1.31 | 0.11 | 0.11 | 0.85 | 0.95 | 0.11 | 0.32 | 0.42 | — | 8,712 | 8,712 | 0.11    | 1.39    | < 0.005 | 9,128 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00    | 0.00  |
| Average Daily       | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —       | —     |
| Worker              | 0.38 | 0.38 | 0.21 | 3.56 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.00 | — | 1,309 | 1,309 | 0.02    | 0.02    | 0.06    | 1,315 |
| Vendor              | 0.11 | 0.10 | 5.16 | 0.92 | 0.08 | 0.08 | 0.60 | 0.68 | 0.08 | 0.23 | 0.30 | — | 6,205 | 6,205 | 0.08    | 0.99    | 0.05    | 6,502 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00    | 0.00  |
| Annual              | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | — | —     | —     | —       | —       | —       | —     |
| Worker              | 0.07 | 0.07 | 0.04 | 0.65 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | — | 217   | 217   | < 0.005 | < 0.005 | 0.01    | 218   |
| Vendor              | 0.02 | 0.02 | 0.94 | 0.17 | 0.01 | 0.01 | 0.11 | 0.12 | 0.01 | 0.04 | 0.06 | — | 1,027 | 1,027 | 0.01    | 0.16    | 0.01    | 1,076 |
| Hauling             | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00  | 0.00  | 0.00    | 0.00    | 0.00    | 0.00  |

## 4. Operations Emissions Details

### 4.10. Soil Carbon Accumulation By Vegetation Type

#### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation          | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual              | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use            | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Daily, Winter (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Annual              | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Total               | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species             | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---------------------|-----|-----|-----|----|-----|-------|-------|-------|--------|--------|--------|------|-------|------|-----|-----|---|------|
| Daily, Summer (Max) | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Avoided             | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |
| Subtotal            | —   | —   | —   | —  | —   | —     | —     | —     | —      | —      | —      | —    | —     | —    | —   | —   | — | —    |

|                           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sequest                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal                  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Remove<br>d               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal                  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                         | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily,<br>Winter<br>(Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal                  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequest<br>ered           | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal                  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Remove<br>d               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal                  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                         | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual                    | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided                   | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal                  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequest<br>ered           | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal                  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Remove<br>d               | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal                  | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| —                         | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 5. Activity Data

### 5.1. Construction Schedule

| Phase Name      | Phase Type | Start Date | End Date   | Days Per Week | Work Days per Phase | Phase Description |
|-----------------|------------|------------|------------|---------------|---------------------|-------------------|
| Decommissioning | Grading    | 1/1/2050   | 12/31/2050 | 5.00          | 260                 | —                 |

### 5.2. Off-Road Equipment

#### 5.2.1. Unmitigated

| Phase Name      | Equipment Type            | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|-----------------|---------------------------|-----------|-------------|----------------|---------------|------------|-------------|
| Decommissioning | Excavators                | Diesel    | Average     | 2.00           | 8.00          | 36.0       | 0.38        |
| Decommissioning | Graders                   | Diesel    | Average     | 4.00           | 8.00          | 148        | 0.41        |
| Decommissioning | Rubber Tired Dozers       | Diesel    | Average     | 0.00           | 8.00          | 367        | 0.40        |
| Decommissioning | Scrapers                  | Diesel    | Average     | 0.00           | 8.00          | 423        | 0.48        |
| Decommissioning | Tractors/Loaders/Backhoes | Diesel    | Average     | 2.00           | 8.00          | 84.0       | 0.37        |
| Decommissioning | Air Compressors           | Diesel    | Average     | 4.00           | 8.00          | 37.0       | 0.48        |
| Decommissioning | Cranes                    | Diesel    | Average     | 2.00           | 8.00          | 367        | 0.29        |
| Decommissioning | Generator Sets            | Diesel    | Average     | 4.00           | 8.00          | 14.0       | 0.74        |
| Decommissioning | Plate Compactors          | Diesel    | Average     | 2.00           | 8.00          | 8.00       | 0.43        |
| Decommissioning | Rollers                   | Diesel    | Average     | 2.00           | 8.00          | 36.0       | 0.38        |
| Decommissioning | Rough Terrain Forklifts   | Diesel    | Average     | 2.00           | 8.00          | 96.0       | 0.40        |
| Decommissioning | Skid Steer Loaders        | Diesel    | Average     | 2.00           | 8.00          | 71.0       | 0.37        |

### 5.3. Construction Vehicles

#### 5.3.1. Unmitigated

| Phase Name      | Trip Type    | One-Way Trips per Day | Miles per Trip | Vehicle Mix   |
|-----------------|--------------|-----------------------|----------------|---------------|
| Decommissioning | —            | —                     | —              | —             |
| Decommissioning | Worker       | 420                   | 7.70           | LDA,LDT1,LDT2 |
| Decommissioning | Vendor       | 80.0                  | 60.0           | HHDT,MHDT     |
| Decommissioning | Hauling      | 0.00                  | 20.0           | HHDT          |
| Decommissioning | Onsite truck | 0.00                  | —              | HHDT          |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|------------|--|--|--|--|-----------------------------|
|            |  |  |  |  |                             |

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name      | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|-----------------|---------------------------------|---------------------------------|----------------------|-------------------------------|---------------------|
| Decommissioning | 0.00                            | 0.00                            | 520                  | 0.00                          | —                   |

### 5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

## 5.7. Construction Paving

| Land Use                       | Area Paved (acres) | % Asphalt |
|--------------------------------|--------------------|-----------|
| Refrigerated Warehouse-No Rail | 0.00               | 0%        |

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4  | N2O     |
|------|--------------|-----|------|---------|
| 2050 | 0.00         | 204 | 0.03 | < 0.005 |

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|--------------------------|----------------------|---------------|-------------|
|--------------------------|----------------------|---------------|-------------|

### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|--------------------|---------------|-------------|
|--------------------|---------------|-------------|

### 5.18.2. Sequestration

#### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|-----------|--------|------------------------------|------------------------------|
|-----------|--------|------------------------------|------------------------------|

## 8. User Changes to Default Data

| Screen                            | Justification  |
|-----------------------------------|--|
| Land Use                          | Assumed larges land use scenario for decommissioning activities. |
| Construction: Construction Phases | Only modeling for decommissioning.                               |

|                                  |                              |
|----------------------------------|------------------------------|
| Construction: Off-Road Equipment | Project supplied equipment   |
| Construction: Trips and VMT      | Based on project information |



# Appendix D2

## Fuel Use Calculations



Source: Annual Unmitigated Run for the Lithium Ion Battery option located in Appendix B of *Air Quality and Greenhouse Gas Study* (Rincon, 2022)

**Energy Usage**

|                                  | Phase 1  |             | Phase 2  |             | Phase 3  |             | Phase 4  |             |
|----------------------------------|----------|-------------|----------|-------------|----------|-------------|----------|-------------|
|                                  | kWh/year | Page in PDF | kWh/year | Page in PDF | kWh/year | Page in PDF | kWh/year | Page in PDF |
| Refrigerated Warehouse-No Rail   | 18420    | 137         | 0        | 173         | 0        | 209         | 0        | 245         |
| General Office Building          | 23446    | 137         |          |             |          |             |          |             |
| Unrefrigerated Warehouse-No Rail | 21480    | 137         |          |             |          |             |          |             |

**Fuel Usage**

|  |         |
|--|---------|
| Total CO2e from Haul and Vendor Trips: | 7194.26 |
| Total CO2e from Worker Trips:          | 963.58  |
| Total CO2e from Offroad Equipment:     | 4083.96 |

| Phase 1                                  |              |             | Phase 2                                  |              |             | Phase 3                                  |              |             | Phase 4                                  |              |             |
|--|--------------|-------------|--|--------------|-------------|--|--------------|-------------|--|--------------|-------------|
| Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF |
| <b>3.1 Site Preparation (2024)</b>       |              |             | <b>3.1 Site Preparation (2025)</b>       |              |             | <b>3.1 Site Preparation (2026)</b>       |              |             | <b>3.1 Site Preparation (2028)</b>       |              |             |
| Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF |
| Off-road Equipment                       | 29.2         | 101         | Off-road Equipment                       | 29.2         | 152         | Off-road Equipment                       | 40.2         | 187         | Off-road Equipment                       | 58.5         | 224         |
| Worker                                   | 3.08         | 102         | Worker                                   | 2.06         | 153         | Worker                                   | 4.03         | 188         | Worker                                   | 5.8          | 225         |
| Hauling                                  | 0            | 102         | Hauling                                  | 0            | 153         | Hauling                                  | 0            | 188         | Hauling                                  | 0            | 225         |
| Vendor                                   | 4            | 102         | Vendor                                   | 3.92         | 153         | Vendor                                   | 11.5         | 188         | Vendor                                   | 14.6         | 225         |
| <b>3.3 Site Preparation (2024)</b>       |              |             | <b>3.3 Grading (2025)</b>                |              |             | <b>3.3 Grading (2026)</b>                |              |             | <b>3.3 Grading (2028)</b>                |              |             |
| Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF |
| Off-road Equipment                       | 60.8         | 103         | Off-road Equipment                       | 64.8         | 154         | Off-road Equipment                       | 130          | 189         | Off-road Equipment                       | 130          | 226         |
| Worker                                   | 3.08         | 103         | Worker                                   | 4.11         | 154         | Worker                                   | 8.05         | 190         | Worker                                   | 11.6         | 227         |
| Hauling                                  | 0            | 103         | Hauling                                  | 0            | 154         | Hauling                                  | 0            | 190         | Hauling                                  | 0            | 227         |
| Vendor                                   | 16           | 103         | Vendor                                   | 7.84         | 154         | Vendor                                   | 23.1         | 190         | Vendor                                   | 29.3         | 227         |
| <b>3.5 Grading (2024)</b>                |              |             | <b>3.5 Building Construction (2025)</b>  |              |             | <b>3.5 Building Construction (2026)</b>  |              |             | <b>3.5 Building Construction (2028)</b>  |              |             |
| Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF |
| Off-road Equipment                       | 64.8         | 104         | Off-road Equipment                       | 525          | 155         | Off-road Equipment                       | 200          | 191         | Off-road Equipment                       | 406          | 228         |
| Worker                                   | 6.15         | 105         | Worker                                   | 129          | 156         | Worker                                   | 59.9         | 191         | Worker                                   | 117          | 228         |
| Hauling                                  | 0            | 105         | Hauling                                  | 0            | 156         | Hauling                                  | 0            | 191         | Hauling                                  | 0            | 228         |
| Vendor                                   | 8            | 105         | Vendor                                   | 719          | 156         | Vendor                                   | 536          | 191         | Vendor                                   | 1041         | 228         |
| <b>3.7 Grading (2024)</b>                |              |             | <b>3.7 Building Construction (2026)</b>  |              |             | <b>3.7 Building Construction (2027)</b>  |              |             | <b>3.7 Building Construction (2029)</b>  |              |             |
| Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF |
| Off-road Equipment                       | 33           | 106         | Off-road Equipment                       | 306          | 157         | Off-road Equipment                       | 656          | 192         | Off-road Equipment                       | 550          | 229         |
| Worker                                   | 1.54         | 107         | Worker                                   | 73.4         | 158         | Worker                                   | 193          | 193         | Worker                                   | 156          | 230         |
| Hauling                                  | 0            | 107         | Hauling                                  | 0            | 158         | Hauling                                  | 0            | 193         | Hauling                                  | 0            | 230         |
| Vendor                                   | 8            | 107         | Vendor                                   | 411          | 158         | Vendor                                   | 1723         | 193         | Vendor                                   | 1369         | 230         |
| <b>3.9 Building Construction (2024)</b>  |              |             | <b>3.9 Building Construction (2028)</b>  |              |             | <b>3.9 Building Construction (2028)</b>  |              |             | <b>3.9 Building Construction (2028)</b>  |              |             |
| Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF |
| Off-road Equipment                       | 301          | 108         | Off-road Equipment                       | 101          | 194         | Off-road Equipment                       | 101          | 194         | Off-road Equipment                       | 101          | 194         |
| Worker                                   | 115          | 109         | Worker                                   | 29           | 194         | Worker                                   | 29           | 194         | Worker                                   | 29           | 194         |
| Hauling                                  | 0            | 109         | Hauling                                  | 0            | 194         | Hauling                                  | 0            | 194         | Hauling                                  | 0            | 194         |
| Vendor                                   | 438          | 109         | Vendor                                   | 258          | 194         | Vendor                                   | 258          | 194         | Vendor                                   | 258          | 194         |
| <b>3.11 Building Construction (2024)</b> |              |             | <b>3.11 Building Construction (2024)</b> |              |             | <b>3.11 Building Construction (2024)</b> |              |             | <b>3.11 Building Construction (2024)</b> |              |             |
| Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF |
| Off-road Equipment                       | 390          | 110         | Off-road Equipment                       | 390          | 110         | Off-road Equipment                       | 390          | 110         | Off-road Equipment                       | 390          | 110         |
| Worker                                   | 36.9         | 110         | Worker                                   | 36.9         | 110         | Worker                                   | 36.9         | 110         | Worker                                   | 36.9         | 110         |
| Hauling                                  | 0            | 110         | Hauling                                  | 0            | 110         | Hauling                                  | 0            | 110         | Hauling                                  | 0            | 110         |
| Vendor                                   | 561          | 110         | Vendor                                   | 561          | 110         | Vendor                                   | 561          | 110         | Vendor                                   | 561          | 110         |
| <b>3.13 Building Construction (2024)</b> |              |             | <b>3.13 Building Construction (2024)</b> |              |             | <b>3.13 Building Construction (2024)</b> |              |             | <b>3.13 Building Construction (2024)</b> |              |             |
| Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF |
| Off-road Equipment                       | 3.9          | 111         | Off-road Equipment                       | 3.9          | 111         | Off-road Equipment                       | 3.9          | 111         | Off-road Equipment                       | 3.9          | 111         |
| Worker                                   | 1.54         | 112         | Worker                                   | 1.54         | 112         | Worker                                   | 1.54         | 112         | Worker                                   | 1.54         | 112         |
| Hauling                                  | 0            | 112         | Hauling                                  | 0            | 112         | Hauling                                  | 0            | 112         | Hauling                                  | 0            | 112         |
| Vendor                                   | 4            | 112         | Vendor                                   | 4            | 112         | Vendor                                   | 4            | 112         | Vendor                                   | 4            | 112         |
| <b>3.15 Building Construction (2024)</b> |              |             | <b>3.15 Building Construction (2024)</b> |              |             | <b>3.15 Building Construction (2024)</b> |              |             | <b>3.15 Building Construction (2024)</b> |              |             |
| Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF |
| Off-road Equipment                       | 2.49         | 113         | Off-road Equipment                       | 2.49         | 113         | Off-road Equipment                       | 2.49         | 113         | Off-road Equipment                       | 2.49         | 113         |
| Worker                                   | 3.08         | 113         | Worker                                   | 3.08         | 113         | Worker                                   | 3.08         | 113         | Worker                                   | 3.08         | 113         |
| Hauling                                  | 0            | 113         | Hauling                                  | 0            | 113         | Hauling                                  | 0            | 113         | Hauling                                  | 0            | 113         |
| Vendor                                   | 8            | 113         | Vendor                                   | 8            | 113         | Vendor                                   | 8            | 113         | Vendor                                   | 8            | 113         |
| <b>3.17 Architectural Coating (2024)</b> |              |             | <b>3.17 Architectural Coating (2024)</b> |              |             | <b>3.17 Architectural Coating (2024)</b> |              |             | <b>3.17 Architectural Coating (2024)</b> |              |             |
| Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF | Location (Annual)                        | CO2e (MT/yr) | Page in PDF |
| Off-road Equipment                       | 2.07         | 114         | Off-road Equipment                       | 2.07         | 114         | Off-road Equipment                       | 2.07         | 114         | Off-road Equipment                       | 2.07         | 114         |
| Worker                                   | 0.26         | 115         | Worker                                   | 0.26         | 115         | Worker                                   | 0.26         | 115         | Worker                                   | 0.26         | 115         |
| Hauling                                  | 0            | 115         | Hauling                                  | 0            | 115         | Hauling                                  | 0            | 115         | Hauling                                  | 0            | 115         |
| Vendor                                   | 0            | 115         | Vendor                                   | 0            | 115         | Vendor                                   | 0            | 115         | Vendor                                   | 0            | 115         |

**Energy Usage**

|                                  | Phase 1  |             | Phase 2   |             | Phase 3  |             |
|----------------------------------|----------|-------------|-----------|-------------|----------|-------------|
|                                  | kWh/year | Page in PDF | kWh/year  | Page in PDF | kWh/year | Page in PDF |
| Refrigerated Warehouse-No Rail   | 18420    | 300         | 0         | 339         | 0        | 378         |
| General Office Building          | 23446    | 300         |           |             |          |             |
| Unrefrigerated Warehouse-No Rail | 21480    | 300         |           |             |          |             |
|                                  | 63346    |             | 520000000 |             | 0.001218 |             |

**Fuel Usage**

|  |         |
|--|---------|
| Total CO2e from Haul and Vendor Trips: | 6031.47 |
| Total CO2e from Worker Trips:          | 949     |
| Total CO2e from Offroad Equipment:     | 3896.16 |

| Phase 1                                  |              |             | Phase 2                                 |              |             | Phase 3                                 |              |             |
|--|--------------|-------------|---|--------------|-------------|---|--------------|-------------|
|  | CO2e (MT/yr) | Page in PDF |   | CO2e (MT/yr) | Page in PDF |   | CO2e (MT/yr) | Page in PDF |
| <b>3.1 Site Preparation (2024)</b>       |              |             | <b>3.1 Site Preparation (2025)</b>      |              |             | <b>3.1 Site Preparation (2027)</b>      |              |             |
| Location (Annual)                        |              |             | Location (Annual)                       |              |             | Location (Annual)                       |              |             |
| Off-road Equipment                       | 58.4         | 261         | Off-road Equipment                      | 29.2         | 316         | Off-road Equipment                      | 58.5         | 355         |
| Worker                                   | 6.15         | 262         | Worker                                  | 2.06         | 317         | Worker                                  | 5.92         | 356         |
| Hauling                                  | 0            | 262         | Hauling                                 | 0            | 317         | Hauling                                 | 0            | 356         |
| Vendor                                   | 8            | 262         | Vendor                                  | 3.92         | 317         | Vendor                                  | 15           | 356         |
| <b>3.3 Site Preparation (2024)</b>       |              |             | <b>3.3 Grading (2025)</b>               |              |             | <b>3.3 Grading (2027)</b>               |              |             |
| Location (Annual)                        |              |             | Location (Annual)                       |              |             | Location (Annual)                       |              |             |
| Off-road Equipment                       | 60.8         | 263         | Off-road Equipment                      | 44           | 318         | Off-road Equipment                      | 130          | 357         |
| Worker                                   | 3.08         | 264         | Worker                                  | 2.79         | 319         | Worker                                  | 11.8         | 358         |
| Hauling                                  | 0            | 264         | Hauling                                 | 0            | 319         | Hauling                                 | 0            | 358         |
| Vendor                                   | 16           | 264         | Vendor                                  | 5.32         | 319         | Vendor                                  | 30           | 358         |
| <b>3.5 Grading (2024)</b>                |              |             | <b>3.5 Grading (2026)</b>               |              |             | <b>3.5 Building Construction (2027)</b> |              |             |
| Location (Annual)                        |              |             | Location (Annual)                       |              |             | Location (Annual)                       |              |             |
| Off-road Equipment                       | 130          | 265         | Off-road Equipment                      | 20.8         | 320         | Off-road Equipment                      | 214          | 359         |
| Worker                                   | 12.3         | 265         | Worker                                  | 1.29         | 320         | Worker                                  | 62.9         | 359         |
| Hauling                                  | 0            | 266         | Hauling                                 | 0            | 320         | Hauling                                 | 0            | 359         |
| Vendor                                   | 16           | 265         | Vendor                                  | 2.47         | 320         | Vendor                                  | 562          | 359         |
| <b>3.7 Grading (2024)</b>                |              |             | <b>3.7 Building Construction (2026)</b> |              |             | <b>3.7 Building Construction (2028)</b> |              |             |
| Location (Annual)                        |              |             | Location (Annual)                       |              |             | Location (Annual)                       |              |             |
| Off-road Equipment                       | 33           | 266         | Off-road Equipment                      | 640          | 321         | Off-road Equipment                      | 658          | 360         |
| Worker                                   | 1.54         | 267         | Worker                                  | 154          | 322         | Worker                                  | 189          | 361         |
| Hauling                                  | 0            | 267         | Hauling                                 | 0            | 322         | Hauling                                 | 0            | 361         |
| Vendor                                   | 4            | 267         | Vendor                                  | 860          | 322         | Vendor                                  | 1686         | 361         |
| <b>3.9 Building Construction (2024)</b>  |              |             | <b>3.9 Building Construction (2027)</b> |              |             | <b>3.9 Building Construction (2029)</b> |              |             |
| Location (Annual)                        |              |             | Location (Annual)                       |              |             | Location (Annual)                       |              |             |
| Off-road Equipment                       | 511          | 268         | Off-road Equipment                      | 291          | 323         | Off-road Equipment                      | 286          | 362         |
| Worker                                   | 187          | 269         | Worker                                  | 68.5         | 324         | Worker                                  | 80.8         | 363         |
| Hauling                                  | 0            | 269         | Hauling                                 | 0            | 324         | Hauling                                 | 0            | 363         |
| Vendor                                   | 711          | 269         | Vendor                                  | 382          | 324         | Vendor                                  | 712          | 363         |
| <b>3.11 Building Construction (2025)</b> |              |             |   |              |             |   |              |             |
| Location (Annual)                        |              |             |   |              |             |   |              |             |
| Off-road Equipment                       | 333          | 270         |   |              |             |   |              |             |
| Worker                                   | 119          | 271         |   |              |             |   |              |             |
| Hauling                                  | 0            | 271         |   |              |             |   |              |             |
| Vendor                                   | 455          | 271         |   |              |             |   |              |             |
| <b>3.13 Building Construction (2025)</b> |              |             |   |              |             |   |              |             |
| Location (Annual)                        |              |             |   |              |             |   |              |             |
| Off-road Equipment                       | 390          | 272         |   |              |             |   |              |             |
| Worker                                   | 36.1         | 272         |   |              |             |   |              |             |
| Hauling                                  | 0            | 272         |   |              |             |   |              |             |
| Vendor                                   | 551          | 272         |   |              |             |   |              |             |
| <b>3.15 Building Construction (2025)</b> |              |             |   |              |             |   |              |             |
| Location (Annual)                        |              |             |   |              |             |   |              |             |
| Off-road Equipment                       | 3.9          | 273         |   |              |             |   |              |             |
| Worker                                   | 1.5          | 274         |   |              |             |   |              |             |
| Hauling                                  | 0            | 274         |   |              |             |   |              |             |
| Vendor                                   | 3.92         | 274         |   |              |             |   |              |             |
| <b>3.17 Building Construction (2025)</b> |              |             |   |              |             |   |              |             |
| Location (Annual)                        |              |             |   |              |             |   |              |             |
| Off-road Equipment                       | 2.49         | 275         |   |              |             |   |              |             |
| Worker                                   | 3.01         | 275         |   |              |             |   |              |             |
| Hauling                                  | 0            | 275         |   |              |             |   |              |             |
| Vendor                                   | 7.84         | 275         |   |              |             |   |              |             |
| <b>3.19 Architectural Coating (2025)</b> |              |             |   |              |             |   |              |             |
| Location (Annual)                        |              |             |   |              |             |   |              |             |
| Off-road Equipment                       | 2.07         | 276         |   |              |             |   |              |             |
| Worker                                   | 0.26         | 277         |   |              |             |   |              |             |
| Hauling                                  | 0            | 277         |   |              |             |   |              |             |
| Vendor                                   | 0            | 277         |   |              |             |   |              |             |

## Heartland Hydrogen - Project Fuel Use Calculations Project Construction

### Lithium Ion Battery

#### Diesel Emissions

|                              |             |
|------------------------------|-------------|
| Offroad Equipment            | 4,083.96 MT |
| Onroad (Haul & Vendor Trips) | 7194.26 MT  |
| Total Diesel Emissions       | 11278.22 MT |
|                              | 1000 kg/MT  |
| Total CO2 Emissions          | 11278220 kg |

|                             |                 |                          |            |
|-----------------------------|-----------------|--------------------------|------------|
| Diesel fuel combustion rate | 10.21 kg/gallon | Overall Diesel in Fresno | Percentage |
| Diesel fuel consumption     | 1104625 gallons | 182000000                | 0.606937   |

#### Gasoline Emissions

|                 |            |
|-----------------|------------|
| Worker Trips    | 963.58 MT  |
|                 | 1000 kg/MT |
| Total Emissions | 963580 kg  |

|                          |                  |                            |            |
|--------------------------|------------------|----------------------------|------------|
| Gasoline combustion rate | 8.78 kg/gallon   | Overall Gasoline in Fresno | Percentage |
| Gasoline consumption     | 109747.2 gallons | 387000000                  | 0.028358   |

Note: (The Climate Registry, 2022) Combustion rates taken from The Climate Registry 2022 default emission factors (Table 2.1)

### Lithium Ion Battery with Iron Flow

#### Diesel Emissions

|                              |             |
|------------------------------|-------------|
| Offroad Equipment            | 3,896.16 MT |
| Onroad (Haul & Vendor Trips) | 6031.47 MT  |
| Total Diesel Emissions       | 9927.63 MT  |
|                              | 1000 kg/MT  |
| Total CO2 Emissions          | 9927630 kg  |

|                             |                  |                          |            |
|-----------------------------|------------------|--------------------------|------------|
| Diesel fuel combustion rate | 10.21 kg/gallon  | Overall Diesel in Fresno | Percentage |
| Diesel fuel consumption     | 972343.8 gallons | 182000000                | 0.534255   |

#### Gasoline Emissions

|                 |            |
|-----------------|------------|
| Worker Trips    | 949 MT     |
|                 | 1000 kg/MT |
| Total Emissions | 949000 kg  |

|                          |                  |                            |            |
|--------------------------|------------------|----------------------------|------------|
| Gasoline combustion rate | 8.78 kg/gallon   | Overall Gasoline in Fresno | Percentage |
| Gasoline consumption     | 108086.6 gallons | 387000000                  | 0.027929   |

Note: (The Climate Registry, 2022) Combustion rates taken from The Climate Registry 2022 default emission factors (Table 2.1)

# Appendix E

## **Biological Resources**



**TABLE 3-X  
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR WITHIN THE PROJECT SITE**

| <b>Species</b>   | <b>Status<br/>Fed/State/CNPS*</b> | <b>Habitat</b>  | <b>Potential to Occur</b>  |
|--|-----------------------------------|---|--|
| <b>Plants</b>  |                                   |   |  |
| <i>Atriplex depressa</i><br>brittlescale                               | --/--/1B.2                        | Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools; alkaline, clay. Annual herb. Blooms Apr–Oct. Elevation 3–1050 m.  | <b>Not Present.</b> Suitable meadow, scrub, playa or grassland habitat is not present at the Project site. There are no occurrences within approximately 5 miles of the Project site (CDFW 2023).                    |
| <i>Caulanthus californicus</i><br>California jewelflower               | FE/SE/1B.1                        | Non-native grassland, upper Sonoran scrub, and juniper woodland. Typically occurs in areas with dense herbaceous cover and in primarily subalkaline, sandy loams. Annual herb. Elevation 240 and 2,950 feet. Blooms February through May. | <b>Unlikely.</b> The Project site lacks grassland, scrub or woodland habitat. Nearest occurrence approximately 5 miles north of the Project site (CDFW 2023).  |
| <i>Caulanthus lemmoni</i><br>Lemmon's jewelflower                      | --/--/1B.2                        | Grasslands, chaparral and scrub habitats. Annual herb. Elevation 260 to 3,280 feet. Blooms March through May.   | <b>Not Present.</b> Suitable scrub, chaparral or grassland habitat is not present on-site. There are no occurrences within approximately 5 miles of the Project site (CDFW 2023).                                    |
| <i>Deinandra halliana</i><br>Hall's tarplant                           | --/--/1B.2                        | Clay, sometimes alkaline; chenopod scrub; cismontane woodland; valley and foothill grassland. Annual herb. Blooms Apr–May. Elevation 260–950 m.   | <b>Not Present.</b> Suitable scrub, alkaline clay, or grassland habitat is not present on-site. There are no occurrences within approximately 5 miles of the Project site (CDFW 2023).                               |
| <i>Delphinium recurvatum</i><br>recurved larkspur                      | --/--/1B.2                        | Chenopod scrub, meadows and seeps, playa, valley and foothill grassland; alkaline. Perennial herb. Blooms Mar–June. Elevation 10–2592 m.  | <b>Not Present.</b> Suitable scrub, woodland, alkali playa or grassland habitat is not present on-site. There are no occurrences within approximately 5 miles of the Project site (CDFW 2023).                       |
| <i>Eremalche parryi</i><br><i>ssp. kernensis</i><br>Kern mallow        | FE/--/1B.2                        | Valley saltbush scrub habitats in alkaline sandy loam or clay soil. Annual herb. Elevation 315 to 900 feet. Blooms March to May   | <b>Not Present.</b> Suitable saltbrush scrub habitat is not present on the Project site. No occurrences within approximately 5 miles of the Project site (CDFW 2023).  |
| <i>Lasthenia chrysantha</i><br>alkali-sink goldfields                  | --/--/1B.1                        | Valley grassland, alkali sink, wetland-riparian. Annual herb. Blooms Feb–June.  | <b>Not Present.</b> Suitable alkali sink, grassland or riparian habitat is not present on-site. No occurrences within approximately 5 miles of the Project site (CDFW 2023).   |
| <i>Layia heterotricha</i><br>Pale yellow tidy-tips                     | --/--/1B.1                        | Chenopod scrub, valley and foothill grassland (alkaline clay). Annual herb. Blooms Mar–Apr. Elevation 492–2297 m.   | <b>Not Present.</b> Suitable scrub, alkali or grassland habitat is not present on-site. No occurrences within approximately 5 miles of the Project site (CDFW 2023).   |
| <i>Lepidium jaredii</i> ssp.<br><i>album</i><br>Panoche<br>peppergrass | --/--/1B.2                        | Valley and foothill grassland (steep slopes, clay). Annual herb. Blooms Feb– June. Elevation 607–902 m.   | <b>Not Present.</b> Suitable grassland habitat is not present on-site. Also, the site is outside of the species' known elevation range. No occurrences within approximately 5 miles of the Project site (CDFW 2023). |
| <i>Madia radiata</i><br>Showy golden madia                             | --/--/1B.1                        | Cismontane woodland, valley and foothill grassland. Annual herb. Blooms Mar–May. Elevation 25 - 1215 m.   | <b>Not Present.</b> Site lacks suitable woodland or grassland habitat for this species.  |

**TABLE 3-X  
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR WITHIN THE PROJECT SITE**

| <b>Species</b>  | <b>Status<br/>Fed/State/CNPS*</b> | <b>Habitat</b>  | <b>Potential to Occur</b>   |
|---|-----------------------------------|---|---|
| <i>Monolopia congdonii</i><br>San Joaquin<br>woollythreads        | FE/--/1B.2                        | Chenopod scrub, valley and foothill grassland (sandy). Annual herb. Blooms Feb–May. Elevation 197–2625 m.   | <b>Unlikely.</b> Project site lacks suitable scrub or sandy grassland habitat. Nearest occurrences approximately 5 miles north of the Project site (CDFW 2023).   |
| <i>Senecio aphanactis</i><br>Chaparral ragwort                    | --/--/2B.2                        | Marshes and swamps (assorted shallow freshwater). Perennial rhizomatous herb. Blooms May–Oct (Nov). Elevation 0–2133 m.   | <b>Not Present.</b> Project site lacks marsh and swamp habitat. There are no occurrences within approximately 5 miles of the Project site (CDFW 2023).  |
| <b>Invertebrates</b>  |                                   |   |   |
| <i>Bombus crotchii</i><br>Crotch bumblebee                        | --/CE                             | Inhabits grassland and scrubland in hot, dry areas. Nests underground, often in abandoned rodent burrows.   | <b>Unlikely.</b> The Project site consists of active agricultural land and disturbed land, which do not contain suitable burrows for this species.  |
| <b>Reptiles and Amphibians</b>                                    |                                   |   |   |
| <i>Anniella pulchra</i><br>California legless<br>lizard           | --/SSC                            | Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils. | <b>Unlikely.</b> The Project site consists of actively farmed agricultural lands and disturbed areas that do not provide suitable habitat for this species.   |
| <i>Arizona elegans occidentalis</i><br>California glossy<br>snake | --/SSC                            | Chaparral, sagebush, valley-foothill hardwood, pine-juniper, and annual grasslands, in small mammal burrows and rock outcrops.  | <b>Unlikely.</b> The Project site consists of actively farmed agricultural areas and disturbed areas that do not provide suitable habitat for this species.   |
| <i>Gambelia sila</i><br>blunt-nosed leopard<br>lizard             | FE/SE, FP                         | Sparsely vegetated alkali and desert scrubs, including semi-arid grasslands, alkali flats, and washes.  | <b>Unlikely.</b> The Project site consists of active agricultural areas and disturbed land. The nearest CNDDDB occurrences were recorded approximately 4-5 miles west and southwest, primarily near native vegetation of the Kettleman Hills (CDFW 2023). |
| <i>Masticophis flagellum ruddocki</i><br>San Joaquin<br>whipsnake | --/SSC                            | Open, dry, treeless areas including grassland and saltbush scrub. This species needs mammal burrows for refuge.   | <b>Unlikely.</b> The Project site consists of actively farmed agricultural lands and disturbed areas that do not provide suitable habitat for this species.   |
| <i>Rana boylei</i><br>Foothill yellow-legged<br>frog              | --/SE                             | Rivers and streams with rocky substrate in conifer, coastal scrub, mixed chaparral, riparian or wet meadow habitat.   | <b>Not Present.</b> The Project site lacks suitable aquatic habitat for this species. No CNDDDB occurrences within approximately 5 miles of the Project site (CDFW 2023).   |
| <i>Spea hammondi</i><br>western spadefoot                         | --/SSC                            | Primarily grassland and vernal pools, but also ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture.            | <b>Not Present.</b> The Project site lacks suitable aquatic habitat for this species. The nearest CNDDDB occurrence is approximately 5 miles north of the Project site (CDFW 2023).   |
| <b>Birds</b>  |                                   |   |   |
| <i>Agelaius tricolor</i><br>tricolored blackbird                  | --/Candidate<br>Endangered        | Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture.   | <b>Unlikely.</b> The Project site lacks suitable marsh nesting habitat, though it may provide foraging areas within cultivated agricultural lands. Nearest CNDDDB occurrence 5 miles southeast of the Project site (CDFW 2023).                           |

**TABLE 3-X  
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR WITHIN THE PROJECT SITE**

| <b>Species</b>  | <b>Status<br/>Fed/State/CNPS*</b> | <b>Habitat</b>   | <b>Potential to Occur</b>  |
|---|-----------------------------------|--|--|
| <i>Asio otis</i><br>long-eared owl                                      | --/SSC                            | Grassland, prairies, dunes, meadows, irrigated lands, and saline and freshwater emergent wetlands. Nests on ground in salt or freshwater marshes, irrigated grain or alfalfa fields, ungrazed grasslands, and old pastures.  | <b>Unlikely.</b> This species may forage in agricultural fields within the Project site but suitable nesting habitat is not present. No occurrences within approximately 5 miles of the Project site (CDFW 2023).  |
| <i>Athene cunicularia</i><br>burrowing owl                              | --/SSC                            | Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows. This species requires short vegetation with sparse shrubs and burrows for roosting and nesting.  | <b>Unlikely.</b> The Project site has minimal habitat features to support this species. No suitable burrows observed during surveys. The nearest CNDDDB occurrences approximately 4.5 miles from the Project site (CDFW 2023).   |
| <i>Buteo swainsoni</i><br>Swainson's hawk                               | --/ST                             | Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture.   | <b>Unlikely.</b> No suitable nest trees on the Project site; potential foraging habitat in the row crops in the vicinity of the Project. One Swainson's hawk observed at site during burrowing owl surveys. Nearest CNDDDB occurrence approx. 5 miles northeast (CDFW 2023). |
| <i>Coccyzus americanus occidentalis</i><br>Western yellow-billed cuckoo | FT/SE                             | Nests in dense riparian woodlands and forest with well-developed understories.   | <b>Not Present.</b> Suitable riparian habitat is absent from the Project site.   |
| <i>Lanius ludovicianus</i><br>loggerhead shrike                         | --/SSC                            | Nests and forages in open habitats with scattered shrubs, trees, or other perches.   | <b>Moderate Potential.</b> The Project site contains suitable foraging habitat and barbed wire in the agricultural fields. Nearest CNDDDB occurrence approximately 4 miles southeast.  |
| <i>Toxostoma lecontei</i><br>LeConte's thrasher                         | --/SSC                            | Found in sandy, open deserts with saltbush, shadscale, cholla cactus, creosote, yucca, or mesquite in flat or rolling landscapes of arroyos, open flats, or dunes.   | <b>Unlikely.</b> The Project site consists of disturbed agricultural land which is not suitable habitat for this species. It may occasionally fly over or forage in the vicinity.  |
| <i>Xanthocephalus xanthocephalus</i><br>Yellow-headed blackbird         | --/SSC                            | Nests in marshes and prairie meadows, and in winter forages in croplands, ranchlands and savanna. Found in large flocks with other blackbirds.   | <b>Unlikely.</b> The Project site lacks suitable marsh nesting habitat, though it may provide foraging areas within cultivated agricultural lands. Nearest CNDDDB occurrence 5 miles southeast of the Project site (CDFW 2023).  |
| <b>Mammals</b>  |                                   |  |  |
| <i>Ammospermophilus nelsoni</i><br>Nelson's antelope squirrel           | --/ST                             | Arid annual grassland or shrubland with rolling hills or sandy washes, with or without shrubs including saltbush ( <i>Atriplex spp.</i> ), California jointfir ( <i>Ephedra californica</i> ), bladderpod ( <i>Physaria spp.</i> ), goldenbush ( <i>Astereae</i> ), snakeweed ( <i>Gutierrezia spp.</i> ) Prefers fine-textured soils. | <b>Unlikely.</b> Project site is highly disturbed and lacks suitable grassland or shrubland habitat. Nearest CNDDDB occurrence is a historic sighting approximately 3 miles west of the Project site; west of I-5 (CDFW 2023).   |
| <i>Dipodomys nitratoides brevinasus</i><br>Short-nosed kangaroo rat     | --/SSC                            | Burrows in loose soils with sparse vegetation on flat or gently rolling terrain in grassland or scrubland.   | <b>Unlikely.</b> The Project site lacks suitable grassland or scrubland habitat. Nearest CNDDDB occurrence approximately 5 miles west in the Gujarral Hills, west of I-5 (CDFW 2023).  |



**TABLE 3-X  
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR WITHIN THE PROJECT SITE**

| <b>Species</b>   | <b>Status<br/>Fed/State/CNPS*</b> | <b>Habitat</b>   | <b>Potential to Occur</b>   |
|--|-----------------------------------|--|---|
| <i>Eumops perotis californicus</i><br>western mastiff bat        | --/SSC                            | Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; Suitable habitat consists of extensive open areas with abundant roost locations provided by crevices in rock outcrops, trees, tunnels, and buildings. | <b>Unlikely.</b> No suitable crevices or caves for roosting. The Project site provides suitable foraging habitat over agricultural fields. Nearest CNDDDB occurrence approximately 4.5 miles north (CDFW 2022).   |
| <i>Onychomys torridus tularensis</i><br>Tulare grasshopper mouse | --/SSC                            | Low, open scrub, and semi-scrub habitats in arid semi-desert associations.   | <b>Unlikely.</b> The Project site is highly disturbed and lacks shrubland communities typically associated with this species. Nearest CNDDDB occurrence approximately 5 miles south of the Project site (CDFW 2023).  |
| <i>Taxidea taxus</i><br>American badger                          | --/SSC                            | Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils.  | <b>Unlikely.</b> Badgers burrow in open areas, including ranchlands and agricultural fields; however, the Project site is regularly tilled and surrounded by other agricultural sites. Nearest CNDDDB occurrence 4.5 miles north of the Project site (CDFW 2023). |
| <i>Vulpes macrotis mutica</i><br>San Joaquin kit fox             | FE/ST                             | Grasslands and scrublands, including disturbed areas; oak woodland, alkali sink scrubland, vernal pools, and alkali meadows.   | <b>Unlikely.</b> Low potential to occur within the site based on disturbance and lack of suitable denning habitat in the vicinity. May sporadically traverse the area. No CNDDDB occurrences within 3 miles but several records within 3 and 5 miles (CDFW 2023). |

**USGS 7.5-minute quads** Gujarral Hills, La Cima, Avenal, Huron, Harris Ranch, Calflax, Domengine Ranch, Kreyenhagen Hills, Coalinga

**\*STATUS LEGEND:**

FE = Federally Endangered.  
 FT = Federally Threatened.  
 FP = CDFW Fully Protected Species.  
 FDL = Federally Delisted.  
 SE = State Endangered.  
 ST = State Threatened.  
 SSC = California Species of Concern.  
 SDL = State Delisted.  
 BCC = Bird of Conservation Concern

**CRPR:**

1B: Plants rare, threatened, or endangered in California and elsewhere  
 2B: Plants rare, threatened, or endangered in California, but more common elsewhere  
 4: Plants of limited distribution – watch list

**THREAT RANK:**

1 – Seriously threatened in California  
 2 – Fairly threatened in California  
 3 – Fairly threatened in California and elsewhere



# Key Energy Storage Project

## Biological Resources Assessment

*prepared for*

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**October 2022**



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# Executive Summary

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Rincon Consultants, Inc. (Rincon) conducted a Biological Resources Assessment for the Key Energy Storage Project (Project). The Project includes the construction of an energy storage facility on up to 260 acres in Fresno County. The Project is subject to the California Environmental Quality Act (CEQA) and County of Fresno will serve as the lead agency. The CEQA Guidelines, Appendix G – Initial Study Checklist, were used as the basis to evaluate potential environmental effects.

Rincon performed a literature review to obtain baseline information about the potential biological resources on site and compiled a list of special status species potentially found at the Project site. A field reconnaissance survey was conducted following the literature review to document conditions on site. Subsequent focused surveys for burrowing owl and rare plants were conducted on four occasions between January and July 2022. Conclusions regarding which special status species have the potential to occur onsite were based on background research and literature review and the results of field surveys.

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts. A portion of the Project site is actively being used for agriculture and has been developed routinely for cultivation purposes. There is minimal native vegetation outside of cultivated crops; the majority of vegetation exists within the margins of agricultural fields and within two tailwater basins used for irrigation practices. No sensitive plant communities are located within the Project site and no regional wildlife linkages or corridors are mapped within the Project site.

Rincon determined that San Joaquin kit fox, tricolored blackbird, Swainson's hawk, northern harrier, loggerhead shrike, burrowing owl, prairie falcon, and other nesting birds have potential to be found on and/or adjacent to the site either for nesting and/or foraging, or transient species during Project implementation. The Project may potentially impact these species through injury or mortality or disruption of normal adult behaviors resulting in the abandonment or harm to eggs and nestlings. Construction occurring within the vicinity of nesting birds or Swainson's hawk may also indirectly impact individuals with construction noise and dust. Measures to reduce potential impacts include confining construction activities to occur outside of the nesting season, and performance of preconstruction surveys, Swainson's hawk protocol-level surveys, avoidance buffer implementation, and biological monitoring. Implementation of these recommended measures would reduce potential impacts to San Joaquin kit fox, nesting birds and raptors, including Swainson's hawk, burrowing owl and prairie falcon, to less than significant levels.

# 1 Introduction

---

This report documents the findings of a biological resources assessment conducted by Rincon Consultants, Inc. (Rincon) for the Key Energy Storage Project located north of the City of Avenal in unincorporated Fresno County, California. The purpose of this report is to document existing conditions at the Project site and to evaluate the potential for impacts to special status biological resources in compliance with the California Environmental Quality Act (CEQA) review process.

## 1.1 Project Location

The Project site is in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles east of Interstate 5 (Figure 1). The Project site is located southwest of the Gates Substation along West Jayne Avenue. The Project would be developed on up to 260 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2). All areas and associated habitat within the 318-acre Project site south of West Jayne Avenue were evaluated as part of the biological resource assessment (Study Area) (Figure 3). The generation tie line (gen-tie line) north of the Project site was not part of the Study Area and thus not evaluated as part of the biological resource assessment.

The Project site is depicted on the *Avenal and Guijarral Hills, California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles and is within Section 4 of Township 21, Range 17 within the Mount Diablo Principal Meridian. The approximate center of the Project is at latitude 36° 7'56.56"N and longitude 120° 7'59.71"W. Adjacent land uses include agricultural fields in all directions, as well as a solar field directly to the west, and a substation to the north. The site currently consists of barren and active agricultural fields, including a mature orchard grove, tailwater basins, and existing compacted dirt roads bordering on all sides.

## 1.2 Project Description

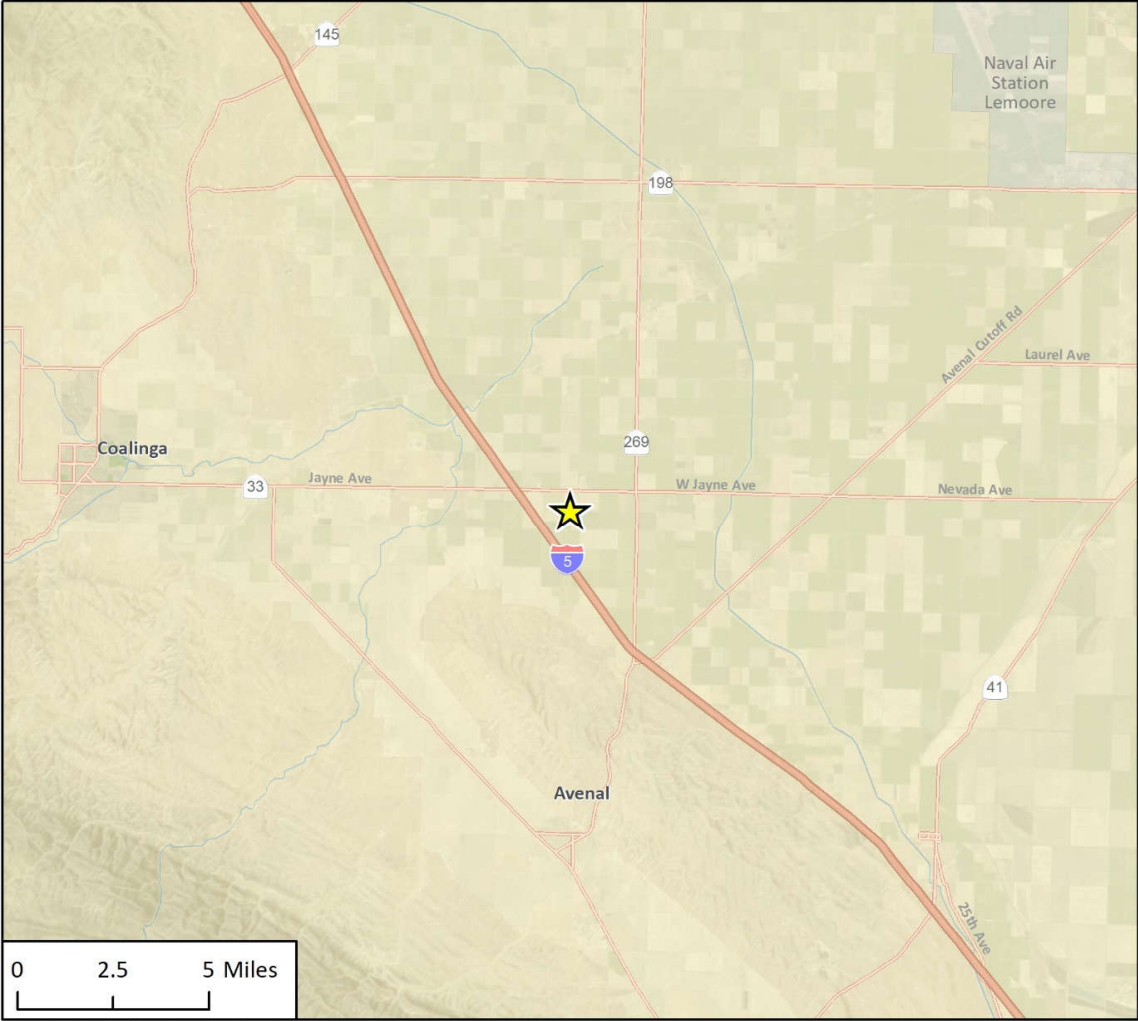
The applicant proposes to construct and operate the Project on up to 260 acres within the 318-acre Study Area in unincorporated Fresno County. The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.<sup>1</sup> The Project would also include a 500-kilovolt (kV) overhead gen-tie line, which would extend north to the adjacent substation. Buildout of the Project would occur in phases, with construction beginning in 2024. For the purposes of this analysis, Rincon has assumed the Project will involve full buildout of 260 acres of the Project site.

---

<sup>1</sup> The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the Project may change, the overall size of the Project (up to approximately 260 acres) would remain consistent.

---

Figure 1 Regional Location



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 Project Location 

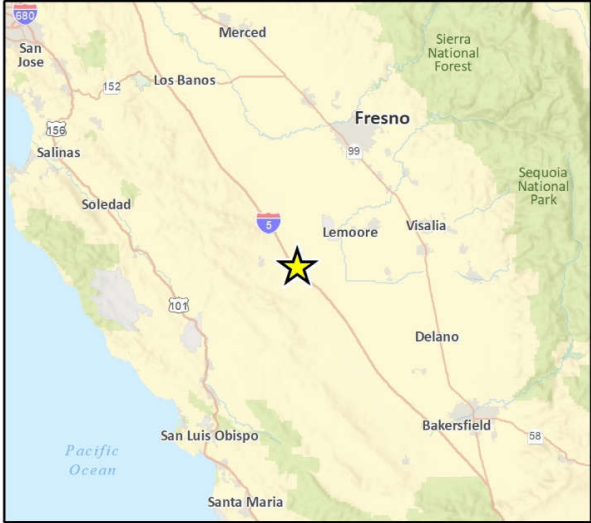
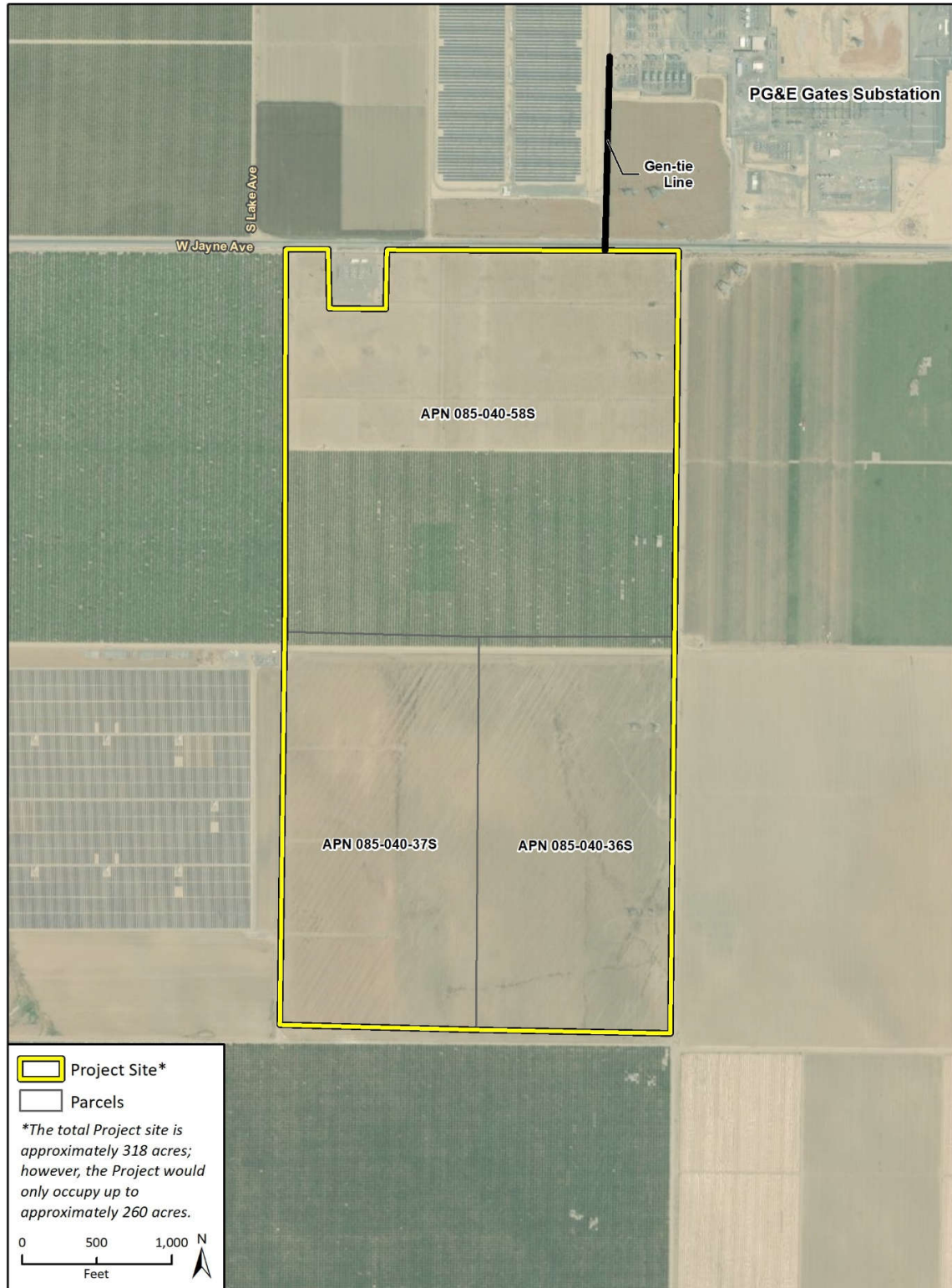


Fig 2 Regional Location

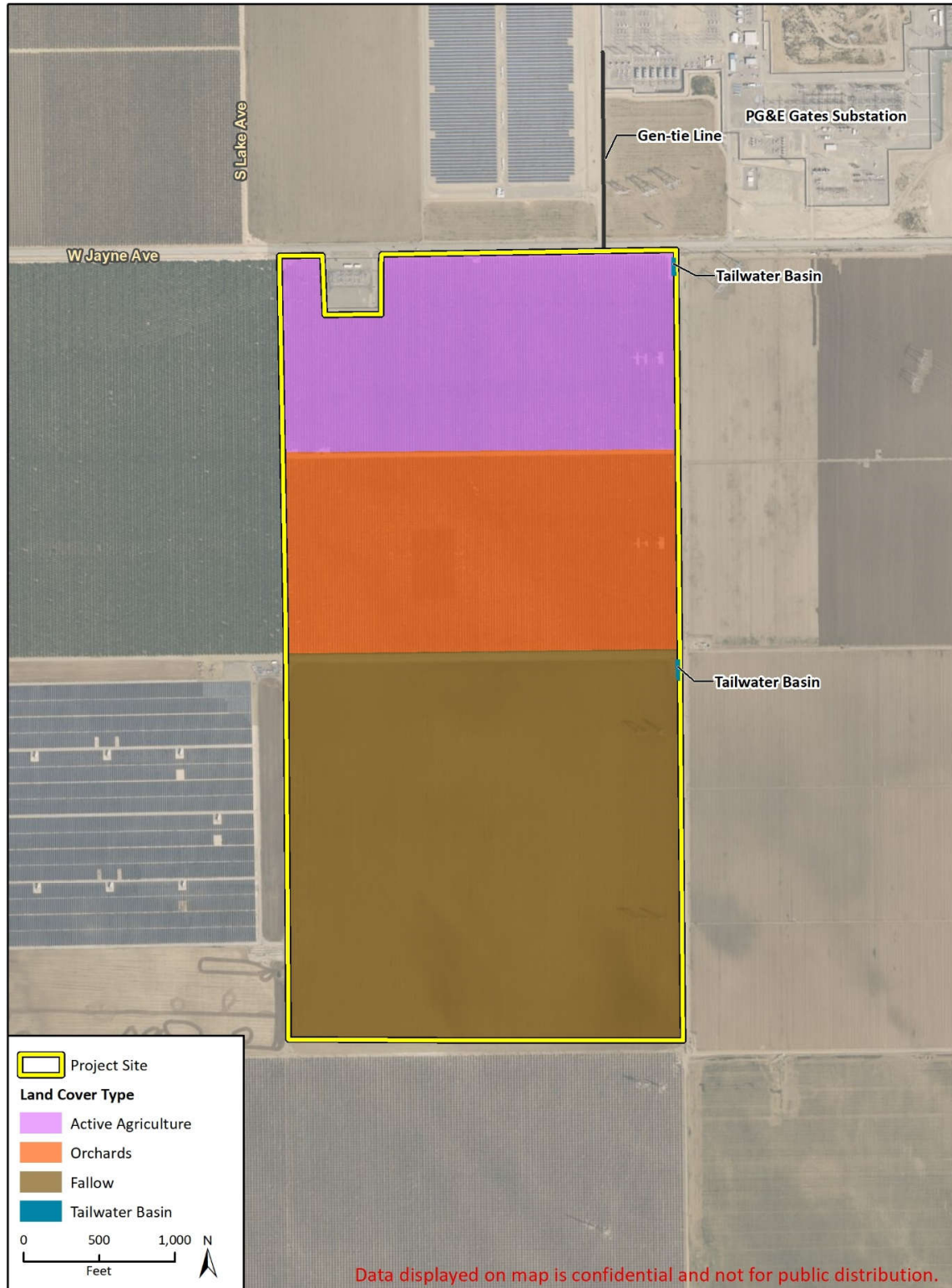
Figure 2 Project Location and Study Area



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Additional data provided by Fresno County, 2021.



Figure 3 Land Cover within the Project Site/Study Area



Imagery provided by Microsoft Bing and its licensors © 2021.

The Project would support state policies necessary to improve the reliability of California’s energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region’s renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

## 2 Methodology

---

### 2.1 Regulatory Overview

Regulated or sensitive resources studied and analyzed herein include special status plant and wildlife species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by Federal, State, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, Fresno County).

#### 2.1.1 Definition of Special Status Species

For the purposes of this report, special status species include:

- Species listed as threatened or endangered under the Federal Endangered Species Act (ESA); species that are under review may be included if there is a reasonable expectation of listing within the life of the Project;
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA);
- Species designated as Fully Protected, Species of Special Concern, or Watch List by the California Department of Fish and Wildlife (CDFW);
- Species designated as locally important by the Local Agency and/or otherwise protected through ordinance or local policy;
- Plant species with a California Rare Plant Rank of 1B and 2.

#### 2.1.2 Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes (Appendix A):

- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (ESA)
- California Endangered Species Act (CESA)
- Federal Clean Water Act (CWA)
- California Fish and Game Code (FGC)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- Fresno County General Plan

#### 2.1.3 Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the CEQA Guidelines Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. The proposed Project would have a significant effect on biological resources if it fit any of the following criteria:

- a) *Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*
- b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.*
- c) *Have a substantial adverse effect on state and federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*
- d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*
- e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*
- f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.*

## 2.2 Literature Review

Queries of scientific databases including the CDFW California Natural Diversity Database (CNDDDB) (CDFW, 2021a), the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) System Query (USFWS, 2021c), and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California (CNPS, 2021) were conducted to obtain comprehensive information regarding special status species considered to have potential to occur within the *Avenal and Gujarral Hills, California* USGS 7.5-minute topographic quadrangle and the surrounding ten USGS quadrangles (*Huron, Calflax, Harris Ranch, Domengine Ranch, Coalinga, Kreyenhagen Hills, The Dark Hole, Garza Peak, Kettleman Plain, and La Cima, California*). The results of database queries are presented in Appendix D. Rincon assessed the potential for each species to occur within the Project site based on the Project site's existing conditions as observed during the biological field surveys in the context of the specific habitat requirements of each species, as well as focused survey methodologies where appropriate

Additional sources of information were reviewed by Rincon regarding sensitive biological resources included:

- CDFW Biogeographic Information and Observation System Viewer Application for the Biological Study Area (CDFW 2021b);
- USFWS Critical Habitat Portal (USFWS 2021b);
- USFWS National Wetlands Inventory (NWI) Mapper (USFWS 2021d); and
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA, NRCS 2021).

## 2.3 Field Surveys

### Field Reconnaissance Survey

Rincon conducted an initial biological resource reconnaissance survey to assess the habitat suitability for potential special status species, map the existing vegetation, map any evidence of sensitive biological resources currently on site, note the presence of potential jurisdictional waters or wetlands, document any wildlife connectivity/movement features, and record plant and wildlife species within the Project site. Rincon Biologists Dustin Groh and Morgan Craig conducted the site visit on November 9, 2021, between the hours of 8:35 a.m. and 12:50 p.m. Weather conditions were calm and clear at the time of the survey, with temperatures ranging from 55 degrees Fahrenheit (°F) to 63°F with wind speeds of 3-5 miles per hour (mph) gusting at 8-10 mph. Site photos from the survey are included as Appendix B.

During the field survey, Rincon biologists inventoried plant species present within the Project site and document the general site conditions. Plant species nomenclature and taxonomy followed the Jepson Manual: Vascular Plants of California, second edition (Baldwin et al., 2012). Data collected during the field survey was used to formally classify vegetation communities and land cover types. The vegetation classification used for this analysis is based on *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al., 2009), modified as necessary to accurately describe existing vegetation communities on site.

During the reconnaissance survey the potential for special status species to occur in the Project site or otherwise be impacted by the proposed Project was assessed by Rincon and was based on factors such as historical occurrence, habitat conditions, and presence of plants, wildlife, or wildlife “sign” (e.g., burrows, scat, tracks). The detection of wildlife species was limited by seasonal and temporal factors. The survey was conducted in the fall; therefore, potentially occurring winter migrants or flora with a typical springtime blooming period would not have been observed or identifiable. As the survey was performed during the day, identification of nocturnal animals was limited to sign if present on-site. However, the survey was sufficient to accurately identify vegetation communities and land cover types, evaluate the site’s capacity to support special status and sensitive biological resources, and assess potential impacts to biological resources under CEQA.

### Burrowing Owl Surveys

Rincon conducted focused surveys for burrowing owl (BUOW; *Athene cunicularia*) following the *Burrowing Owl Survey Protocol and Mitigation Guidelines* (California Burrowing Owl Consortium, 1993) and *the Staff Report on Burrowing Owl Mitigation* (CDFW, 2012). Survey dates were chosen to occur during the winter non-breeding season (September 1 through January 31), and breeding season (February 1 through August 31). One non-breeding season survey was conducted on January 31, 2022, and three breeding season surveys, spaced at least three weeks apart to capture as much of the breeding season as possible, were conducted on March 24, May 18, and July 8, 2022. Surveys were conducted under optimal weather and temperature conditions for detecting BUOW, and no factors were present that may have impaired visibility or detection probability. Per the survey protocol, surveys were timed to coincide with local sunrise times, starting approximately 30-minutes prior to sunrise and concluding prior to 10:00 AM. Survey dates, times, conditions, and personnel are outlined in Table 1, included at the end of this section. Survey times in Table 1 reflect total time on site and include additional botanical surveys.

Potential BUOW habitat within the Study Area was determined to be present in the fallow areas on the southern side of the property. The remainder of the property was active agriculture, orchard, or substation infrastructure and was determined to not be suitable habitat for BUOW. These non-suitable habitat portions of the Study Area were visually surveyed using binoculars and on foot aided by binoculars where needed to search for BUOW, sign, potential dens, or other indications of habitat suitability or potential occupancy. A 500-foot buffer around the entire Project site was also visually surveyed with binoculars where possible. The southern fallow region of potentially suitable habitat was surveyed by pedestrian transects spaced seven to twenty meters apart and adjusted as needed to visually cover 100% of the survey area. The entire transect area was regularly scanned with binoculars for BUOW, their sign, or any potential dens during transects. The fallow area was vegetated with annual grasses and other forbs during the first survey conducted on January 31, 2022 but following that survey the field was disked multiple times and nearly entirely bare of vegetation on all subsequent surveys. Because some burrowing mammal activity was observed within the middle citrus orchard on July 8, 2022, this portion of the Study Area was surveyed with pedestrian transects aided by binoculars to confirm no potential burrows were present. Results of BUOW surveys are detailed in Section 4.1.2.

### **Rare Plant Surveys**

Rincon conducted protocol-level botanical surveys to determine presence or absence of any federally listed, state listed, or other special status plant species in accordance with Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants (USFWS, 2021a), and Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW, 2018). Four botanical preconstruction surveys were performed between January 31, 2022 and July 8, 2022, as shown in Table 1. Results of all botanical observations made during surveys are included in Appendix C. Spring and summer focused botanical surveys were conducted to capture bloom periods of sensitive species with potential to occur on site.

The botanical surveys were conducted by Rincon Biologists Nicole Argueta and Ryan Wardle. Intuitively controlled transects were walked throughout the entire Study Area so that 100% visual inspection was achieved. During field surveys, an inventory of all plant species observed was compiled, vegetation communities were classified, and the general site conditions were documented.

Prior to initiation of field botanical surveys, Rincon biologists conducted desktop reviews on special status species with potential to occur in the general vicinity. The biologists conducted visits at reference populations and occurrences for Kern mallow (*Eremalche parryi* ssp. *kernensis*) and California jewelflower (*Caulanthus californicus*) in the Cuyama Valley, and a reference population for San Joaquin woollythreads (*Monolopia congdonii*) in the Carrizo Plain.

The Jepson Manual, Second Edition (Baldwin et al., 2012), and a 10x hand lens aided in confirmation of species identity in the field. Identification of collected specimens was confirmed through literature review and cross-referencing species occurrences on Calflora (2021).

### **Spring and Summer Botanical Surveys**

The spring and summer botanical field surveys conducted on March 24, May 18, and July 8, 2022, were floristic in nature, meaning that all vascular plant species encountered on site were identified to the lowest possible taxonomic level, which is required to determine the presence or absence and phenological stage (e.g., vegetative, flowering, fruiting) of the special status plant species with

potential to occur onsite. During the spring and summer botanical surveys, there were five plant species lacking floristic parts and could not be identified to the lowest possible taxonomic level. All of these species were identified to be ruderal species that typically occur in disturbed, agricultural areas and was determined that none of these species were listed as special status. Rare plant survey results are described in Section 4.1.1.

**Table 1 Field Surveys**

| <b>Date</b> | <b>Personnel</b>             | <b>Time</b> | <b>Temperature</b> | <b>Weather Conditions</b>          | <b>Survey Type(s)</b> |
|-------------|------------------------------|-------------|--------------------|------------------------------------|-----------------------|
| 11/9/21     | Dustin Groh & Morgan Craig   | 0835 - 1250 | 55-63°F            | Winds 3-5 mph, clear skies (0%)    | Field Reconnaissance  |
| 1/31/22     | Ryan Wardle & Nicole Argueta | 0630 - 1030 | 37-54°F            | Winds 0-3 mph, partly cloudy (50%) | BUOW & Rare Plant     |
| 3/24/22     | Ryan Wardle & Nicole Argueta | 0630 - 0930 | 50-75°F            | Winds 0-3 mph, clear skies (0%)    | BUOW & Rare Plant     |
| 5/18/22     | Ryan Wardle & Nicole Argueta | 0530 - 0830 | 58 – 87°F          | Winds 0-3 mph, clear skies (0%)    | BUOW & Rare Plant     |
| 7/8/22      | Ryan Wardle & Nicole Argueta | 0530-1130   | 69-94°F            | Winds 0-3 mph, clear skies (0%)    | BUOW & Rare Plant     |

## 3 Existing Conditions

---

This section summarizes the results of the literature review, field reconnaissance survey and vegetation mapping, and provides further analysis of the data related to existing conditions. Discussions regarding the general environmental setting, vegetation communities present, and plant and wildlife species observed are presented below. Representative photographs of the Study Area are provided in Appendix B and a completed list of all the plant and wildlife species observed on site during the field surveys is provided in Appendix C.

### 3.1 Physical Characteristics

The Projects is located in Fresno County within the western San Joaquin Valley. The San Joaquin Valley extends from the Sacramento-San Joaquin River Delta in the north to the Tehachapi Mountains in the south, and from the California coastal ranges in the west to the Sierra Nevada range in the east. The San Joaquin River drains the northern half of the valley into the Sacramento-San Joaquin River Delta with the Kings and Kern Rivers draining the southern half of the valley. Climate within the San Joaquin Valley is considered Mediterranean, with hot, dry summers and cool, wet winters. The average high temperature during summer months (June through September) within the Study Area is 96°F and the average low temperature is 62°F. The average high temperature during the winter months (December through March) is 62°F and the average low temperature is 38°F. Average annual precipitation is 7.62 inches, with the majority of rainfall occurring during December through March (Western Regional Climate Center 2021).

Terrain within the Study Area is flat with a slight elevation change across the site, decreasing from the west to the east. The elevation ranges from approximately 435 feet to 408 feet along West Jayne Avenue. Land use within the Study Area and surrounding properties consists of active agriculture, specifically citrus production and fallow, barren fields.

#### 3.1.1 Watershed and Drainages

The Study Area is located within the Tulare-Buena Vista Lakes watershed unit (USGS, 1987). There are no natural waterways or drainages present within the Study Area, and the Study Area has been routinely developed for agricultural cultivation, including irrigation practices. No aquatic features are depicted on the NWI (USFWS, 2021d) or the National Hydrography Dataset (NHD) within the Study Area. Two constructed tailwater basins used in irrigation for on-site agriculture activities were observed within the Study Area (Figure 3). The two tailwater basins were not observed to have direct connectivity to any navigable waters, based on online database searches, aerial imagery investigations (Google Earth, 2021) and field observations. No water was observed within either basin during our reconnaissance site survey. A small amount of water was present in the northeastern tailwater basin during the survey on July 8, 2022. Water was draining from an irrigation pipe and formed a small pool approximately one inch deep in the bottom of the basin.



### 3.1.2 Soils

The Study Area is located within the Fresno County, California, Western Part Soil Survey (NRCS, 2021). Three soil map units were identified within the Study Area and include:

- Kimberlina sandy loam, dry, 0 to 2 percent slopes, MLRA 17, 30
- Westhaven loam, 0 to 2 percent slopes, MLRA 17
- Wasco sandy loam, dry, 2 to 5 percent slopes, MLRA 17, 30

The locations of each soil map unit within the Study Area are depicted in Figure 4, and the soil series are described below using the NRCS Official Soils Series Descriptions (2021). These soil units are from the USDA NRCS Soil Survey of Fresno County, California, Western Part, which was conducted on a broader scale than this study and did not necessarily include on site observations. The physical characteristics of the soil units described below are generalized and not specific to the Project site. None of the described soils are considered hydric soil types (NRCS, 2021).

#### **Kimberlina Series**

The Kimberlina series consists of very deep, well drained soils on flood plains and alluvial fans. These soils formed in mixed alluvium derived dominantly from igneous and/or sedimentary rock. The soil between the depths of 8 and 24 inches is dry in all parts from April to mid-January and is moist in some or all parts for only 60 consecutive days in winter. This soil is used for growing irrigated field, forage, row crops, and livestock grazing. When not irrigated, vegetation is annual grasses, forbs, and atriplex spp. in the San Joaquin Valley (NRCS, 2021).

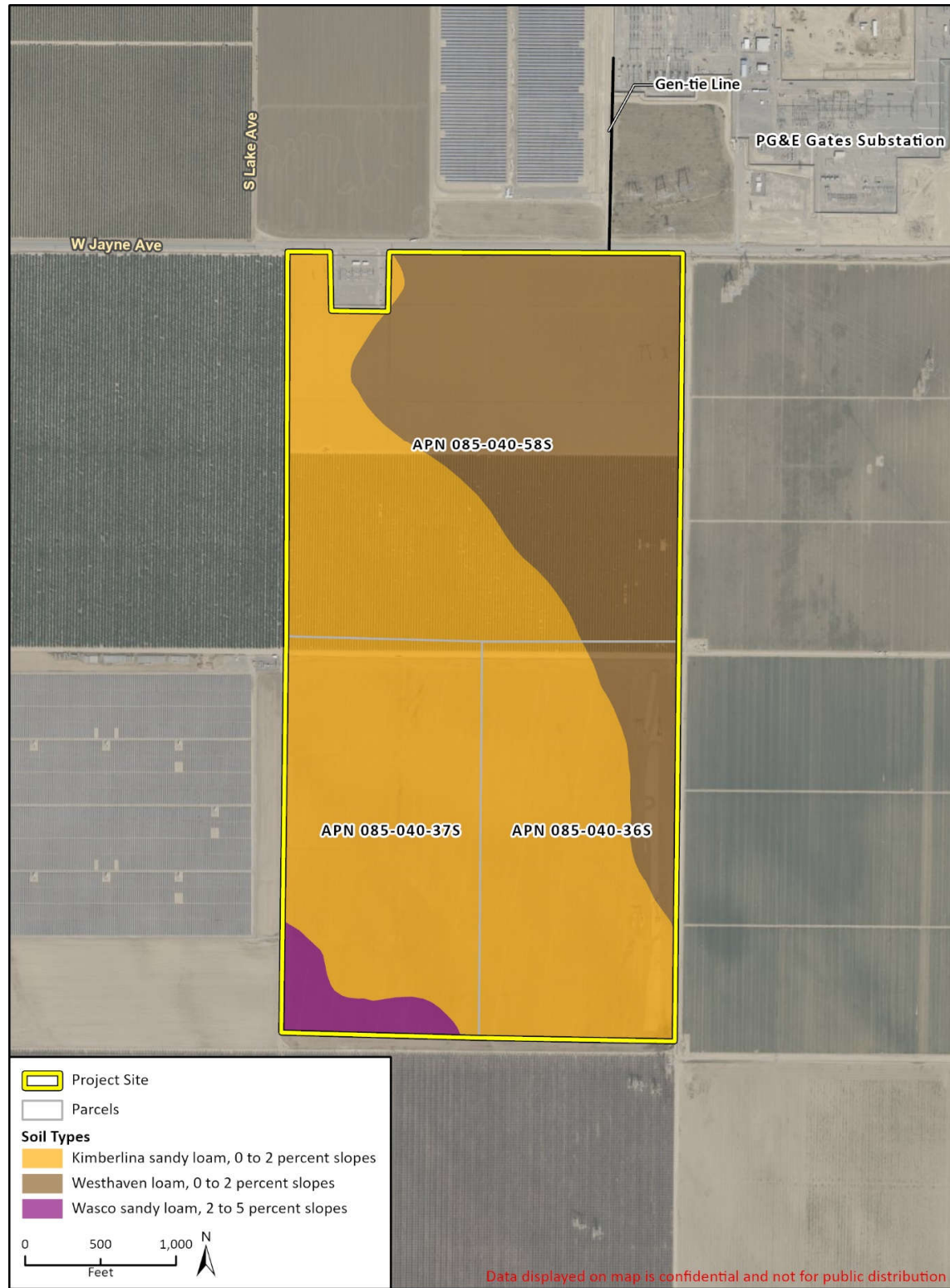
#### **Westhaven Series**

The Westhaven series consists of very deep, well drained soils on alluvial fans and flood plains. These soils formed in stratified mixed alluvium derived from igneous and/or sedimentary rock. The soil depths of 4 to 12 inches is usually dry from April to December and is not moist in some or all parts for as long as 90 consecutive days. They are principally used for crops such as wheat, lettuce, cotton, tomatoes, almonds, grapes, and peaches. Some areas are used for home site development. Native vegetation is annual grasses, forbs, and saltbush (NRCS, 2021).

#### **Wasco Series**

The Wasco series consists of very deep, well drained soils on alluvial fans and flood plains. These soils formed in mixed alluvium derived from igneous and/or sedimentary rock. The soil depths of 8 to 24 inches is usually dry from mid-April to mid-January and is continuously moist in some or all parts for as long as 60 to 90 consecutive days in winter. This soil is used for growing irrigated field, forage, and row crops. Some areas are used for livestock grazing, wildlife habitat, recreation and homesites. Native vegetation is Atriplex spp., annual grasses, and forbs (NRCS, 2021).

Figure 4 USDA NRCS Soil Survey Mapped Soil Units



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Additional data provided by USDA and Fresno County, 2021.

20-10624 Next Era Fresno Battery Figure Updates  
Fig X Soils 20221011

## 3.2 Vegetation and Other Land Cover

Vegetation types in the San Joaquin Valley have been significantly modified and disturbed by anthropogenic activity. The region once consisted of a diverse assemblage of perennial bunchgrass ecosystems that included a variety of vegetation communities and habitats including prairies, oak-grass savannas, desert grasslands, riparian woodlands, freshwater marshes, alkali sink, and vernal pools. Extensive agricultural and urban development during the 19<sup>th</sup> and 20<sup>th</sup> centuries has resulted in substantial modification to virtually all of the San Joaquin Valley's habitats. Grasslands in the region are now dominated by introduced non-native grasses and most wetlands and lakes have been drained to support the extensive irrigation infrastructure of the San Joaquin Valley. In general, agricultural development, urban expansion, and changes to the hydrologic regimes have resulted in a loss of the majority of natural habitats and native vegetation communities (Sawyer et al., 2009).

The Study Area is comprised of four land cover types: active agriculture, orchard, fallow, and tailwater basin. No natural vegetation communities occur in the Study Area. Compacted dirt roads border and separate each land cover type and are likely used for agriculture maintenance activities.

A complete list of plant species identified within each land cover type is included in Appendix C. Figure 3 shows these land cover types within the Study Area and are discussed in greater detail below.

### Agriculture

Active agriculture land cover within the Study Area exists in the northern portion of the Project site (Figure 3). Ongoing agriculture and maintenance activities were observed to comprise the entire portion of the agriculture area. This land cover was tilled and disked, irrigation was installed, and crop rows had been established (Appendix B; Photograph 7). This land cover consists of a monotypic block of crop and the remainder of this section was unvegetated. No other plant or animal resources or sign were observed within the agriculture area during reconnaissance surveys on November 9, 2021. Subsequent surveys identified the northern block to be establishing pistachio saplings. Because agriculture is a man-made land cover type it is not identified in MCV2 (Sawyer, et al., 2009) as a defined vegetation community.

### Orchard

An orchard occurs in the central portion of the Study Area (Figure 3). The orchard grove on site contains planted rows of maintained citrus trees that were mature and fruiting during the reconnaissance site visit. This land cover consists of a monotypic stand of citrus orchard and the remainder of this section was unvegetated. No other plant or animal resources or sign were observed within the orchard area during reconnaissance surveys on November 9, 2021. Because orchards are a man-made land cover type it is not identified in MCV2 (Sawyer, et al., 2009) as a defined vegetation community.

### Fallow

Fallow cropland comprised the entire southern half of the Study Area. This land cover is likely part of a rotating crop cycle in which this portion of land was left out of active production for the current season to allow for moisture and nutrient growth in the area. The fallow area was recently disked and appears to remain at least partially active through soil maintenance and preparation. The majority of land cover was barren soil (Appendix B; Photograph 2). Russian thistle (*Salsola tragus*) was common and scattered throughout portions of the fallow area (Appendix B; Photograph 4).

Other non-native species such as cheeseweed mallow (*Malva parviflora*) and ripgut brome (*Bromus diandrus*) were observed intermittently throughout the fallow portion of the Study Area. Because fallow fields are a man-made land cover type it is not identified in MCV2 (Sawyer, et al., 2009) as a defined vegetation community.

### Tailwater Basin

The eastern edge of the Study Area contains two small irrigation ponds or tailwater basins (Figure 3). These basins are associated with on-site agriculture activities and are likely used for redistribution of water as part of on-site irrigation for crops. Neither the northern nor southern tailwater basins contained water during the November 9, 2021, reconnaissance survey. The northern tailwater basin contained a small amount of water flowing from an irrigation pipe on the July 8, 2022 site survey, forming pooled water approximately one inch deep pond. Species observed within the basins included non-native horseweed (*Erigeron canadensis*), prostrate pigweed (*Amaranthus blitoides*), curly dock (*Rumex crispus*), and non-native grasses such as smilo grass (*Stipa miliacea*).

## 3.3 General Wildlife

The Study Area and the surrounding vicinity consists predominantly of disturbed agricultural lands. Observed wildlife abundance and diversity was low, as expected for an agricultural and disturbed site. Wildlife species observed included avian species such as house finch (*Haemorhous mexicanus*), northern harrier (*Circus cyaneus*), common raven (*Corvus corax*), western meadowlark (*Sturnella neglecta*), say's phoebe (*Sayornis saya*), white-crowned sparrow (*Zonotrichia leucophrys*), and American pipit (*Anthus rubescens*). Transmission and distribution towers within the survey area provide perching habitat for many avian species and could provide habitat for nesting birds. Several active nests were observed during field surveys, and are described in Section 4.1.3. Burrows of Botta's pocket gopher (*Thomomys bottae*), coyote scat and tracks (*Canis latrans*), and black-tailed jack rabbit (*Lepus californicus*) were also observed on site. A complete list of wildlife species observed is included in Appendix C.

## 4 Sensitive Biological Resources

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Local, state, and federal agencies regulate special status species and other sensitive biological resources. CEQA requires an assessment of the potential impacts to special status species on site prior to the approval of proposed development on a property. This section evaluates the potential for the Project site to support sensitive biological resources and the potential impacts to those resources from Project development. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDDB, species occurrence records from other sites in the vicinity of the survey area, previous reports for the Project site, the results of survey of the Project site, and the vegetation communities present on site. The potential for each special status species to occur in the Study Area was evaluated according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDDB, other reports) on the site recently (within the last five years).

### 4.1 Special Status Species

This section describes the general potential for special status species to occur within the Project site. As discussed in Section 2.2, an analysis was conducted to determine which of the regionally occurring special status species have the potential to occur within the Project site (Appendix D). Species with potential to occur onsite are discussed in detail below.

#### 4.1.1 Special Status Plant Species

Eighteen special status plant species have been previously documented by the CNPS and CNDDDB within the *Avenal* and *Guijarral Hills, California* and surrounding USGS 7.5-minute quadrangles (Appendix D). The Study Area does not contain suitable habitat for any of the special status plant species known to occur in the region. Rincon's determinations for the lack of potential of these species to occur were based on the disturbance history of the site from ongoing agriculture activities, lack of suitable soils, inappropriate hydrological conditions, absence of appropriate vegetation communities, and/or being outside the elevational range of the species. Seasonally timed botanical surveys were conducted between January 31, and July 8, 2022, to further confirm

presence or absence of any special status plant species that could potentially occur within the Study Area. The survey timing covered the potential blooming period for all special-status plants with potential to occur. No special status plant species were observed in any portion of the Study Area throughout all survey efforts. The entire Study Area was subject to high levels of disturbance from active agriculture, disking, and other related activities. Only small patches of ruderal vegetation persist within the Study Area, it is unlikely for any special status plants to occur within the Study Area.

#### 4.1.2 Special Status Animal Species

Rincon evaluated twenty-three special status wildlife species for their potential to occur within the *Avenal* and *Guijarral Hills, California* USGS 7.5-minute quadrangle and surrounding quadrangles (Appendix D). Six of these species have a low potential to occur and one species was detected within the Project site during the field reconnaissance survey and is, therefore, considered present. Table 2 lists each of these species, their status, and their potential to occur within the Study Area.

**Table 2 Special status Wildlife Species with Potential to Occur within the Study Area**

| Common Name          | Scientific Name               | Status  | Potential to Occur       |
|----------------------|-------------------------------|---------|--------------------------|
| San Joaquin kit fox  | <i>Vulpes macrotis mutica</i> | FE, ST  | Low Potential            |
| Tricolored blackbird | <i>Agelaius tricolor</i>      | ST, SSC | Low Potential (foraging) |
| Swainson’s hawk      | <i>Buteo swainsoni</i>        | ST      | Low Potential (foraging) |
| Northern harrier     | <i>Circus hudsonius</i>       | SSC     | Present (foraging)       |
| Loggerhead shrike    | <i>Lanius ludovicianus</i>    | SSC     | Low Potential            |
| Burrowing Owl        | <i>Athene cunicularia</i>     | SSC     | Low Potential            |
| Prairie falcon       | <i>Falco mexicanus</i>        | WL      | Low Potential (foraging) |

FE = Federally Endangered      FT = Federally Threatened      SE = State Endangered      ST = State Threatened  
SSC = CDFW Species of Special Concern      FP = State Fully Protected      WL = CDFW Watch List

The remaining sixteen species, as discussed in Appendix D, are not expected to occur in the Study Area or immediate vicinity based on the absence of riparian, grassland, woodland, scrub, vernal pool, or other suitable natural habitats or vegetation communities, and/or because the range of the species does not overlap with the Study Area. Additionally, the Project site is surrounded by agriculture and roadways that likely further limits connectivity of species movements in and around the site. Special status wildlife species that have potential or are known to occur on site are discussed in further detail below.

#### San Joaquin Kit Fox

The San Joaquin kit fox (SJKF) is a federally endangered and state threatened species. SJKF is endemic to California west of the Sierra Nevada Mountains. This species occurs in the Central Valley generally from the Sacramento area south to the southern end of the San Joaquin Valley, in the Carrizo Plain, the Panoche Valley, and from northern San Luis Obispo County north through the Salinas Valley. Individuals are about the size of a house cat, weighing 4-7 pounds and are approximately 30 inches in length. Diet consists primarily of kangaroo rats (*Dipodomys* sp.) and other small mammals, occasionally including black-tailed jackrabbits, desert cottontails, and ground squirrels (*Otospermophilus* sp.) SJKF will also eat insects, reptiles, small birds, bird eggs, and

vegetation. Predators include coyotes, large raptors, bobcat, red fox, and feral dogs. SJKF are most commonly found in gently sloping to relatively flat terrain vegetated with grasslands or grassy open stages with scattered shrubby vegetation. They may occur on a limited basis in areas under less intense agricultural production, such as dry-land grain farming and orchards, and they are known to occur in urban areas (California State University Stanislaus 2021). The species requires loose-textured sandy soils for burrowing, and breeding can occur from December to March. Pups are born within dens after a 48- to 52-day gestation period (United States Environmental Protection Agency, 2021).

There are multiple reported occurrences from CNDDDB of SJKF within 5 miles of the Study Area, however, they are all historical from 1975 to 1981. During the field reconnaissance survey, no burrows of a suitable size for SJKF (greater than 4 inches in diameter) were detected within the Study Area. The intensive agricultural activities on site, minimal sign of prey species on site, and the presence of coyotes substantially reduce the habitat value within the Study Area, and SJKF are not expected to use the site for breeding. There is a low potential for SJKF to use the site as a transient for foraging and dispersal; however, presence of coyote and lack of cover likely discourage the species' on-site presence. No SJKF, suitable dens, or sign were observed during all field surveys.

### **Tricolored Blackbird**

Tricolored blackbird is a state threatened species, with a low potential to forage on site, and no potential to nest within 100 feet of the Project site. This species nests in a variety of substrates and exhibits a range of foraging behaviors. The tricolored blackbird breeds in dense colonies and may travel far distances to forage. Colonies require suitable nesting substrate surrounded by foraging habitats that may include semi-natural grasslands, agricultural croplands, or alkali scrub habitats, and a nearby source of freshwater. Suitable nesting substrate must be protected (i.e., flooded or surrounded by thorny or spiny vegetation), such as cattails (*Typha* spp.), bulrushes (*Schoenoplectus* spp.), and Himalayan blackberry (*Rubus armeniacus*). Tricolored blackbirds also utilize agricultural crops such as triticale, a wheat/rye hybrid grain.

The closest reported occurrence of tricolored blackbird is from 2007 and was identified approximately 4.3 miles southeast of the Study Area. Suitable nesting habitat is not likely present within the tailwater basins on the eastern edge of the Project site due to irregular water levels from agricultural practices which would likely reduce potential for a reliable aquatic resource that this species relies on. Additionally, appropriate emergent vegetation was not observed within the basins during reconnaissance surveys. Suitable foraging habitat is present within the Study Area as this species is an opportunistic forager of a variety of prey items. No tricolored blackbirds were observed during the field surveys.

### **Swainson's Hawk**

Swainson's hawk is a state listed (threatened) species, with a potential to forage on site, and a low potential to nest within 0.5 mile of the Project site. This species breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, and agricultural or ranch lands with groves or lines of trees. Suitable foraging areas such as grasslands, or agricultural fields such as fallow fields, alfalfa, low-growing crops such as beet and tomato, and irrigated and dryland pasture, are required adjacent to the nesting habitat.

No documented occurrences of nesting Swainson's hawk are located within five miles of the Project site; however, a single transitory Swainson's hawk was observed in the vicinity during burrowing owl surveys in March of 2022. Ten documented nests have been reported within 10 miles of the Project

site, recorded on dates ranging from 2005 to 2016. Based on review of aerial imagery potential foraging habitat, in the form of agricultural lands, occurs within 10 miles of the nest occurrences. The nests reported in the CNDDDB within 10 miles of the Project range in distances of approximately 5.5 miles to 9.5 miles away from the Project site. According to previous studies, assessment of suitable agricultural foraging habitat is based primarily on two factors: 1) prey abundance; and 2) prey accessibility, which is influenced by vegetation structure (Estep, 2009). Land uses considered suitable for Swainson's hawk foraging include crops comprised of alfalfa hay; irrigated cropland typically cultivated in a rotation of cotton, wheat, and tomatoes, but also including silage crops such as triticale, sorghum, and corn; irrigated pasture; and uncultivated land that has retained some natural soil and vegetation (Estep, 2017). Land uses considered unsuitable for Swainson's hawk foraging include developed land; orchards and vineyards; solar facilities; and open water (Helix Environmental Planning [Helix], 2018).

As discussed in Section 3.2 and displayed in Figure 3, the Study Area consists of orchard, active agriculture, and fallow cropland. The orchard portion of the Study Area is considered unsuitable or low-quality foraging habitat due to the tall, dense structure and layout of the citrus trees within the orchard. The fallow cropland and active agriculture portions of the Study Area could provide better quality foraging habitat due to the openness of the areas and lack of tall, dense vegetation, however, the minimal amount of small mammal burrows and lack of native or low growing vegetation observed during the reconnaissance survey suggest these portions of the Study Area are also low-quality foraging habitat areas. The northern active agriculture section of the Study Area has immature pistachio trees planted which will also mature into a tall, dense tree layout and be considered poor quality foraging habitat. The southern fallow cropland area is frequently disked, with disking occurring multiple times between field survey dates. This regular disturbance kept vegetation very minimal, and the majority of the field was bare, loose soil with no vegetation cover. The frequent disking also likely prevents the establishment of small mammal burrows and the establishment of other prey populations. As a result of the lack of vegetation and prey, the southern area would also be considered low-quality foraging habitat. Additionally, foraging habitat surrounding the Study Area would also be considered low quality because these areas consist of fields of solar panels to the north and west and orchards to the south. Based on these factors, the Study Area is low quality or unsuitable foraging habitat for Swainson's hawk.

This species typically prefers to nest within a grove or lines of trees but are known to nest within smaller trees and isolated trees when higher quality nesting habitat is absent. There is marginally suitable nesting habitat for Swainson's hawk within 0.5 mile of the Study Area on power poles or other manmade structures. Habitat within 0.5 miles of the Project site consists primarily of orchards and active agriculture which likely do not provide suitable nesting habitat due to ongoing activities associated with agriculture production. The Study Area is low-quality foraging and nesting habitat, and therefore Swainson's hawk is considered to have a low potential to occur.

### **Northern Harrier**

Northern harrier is a CDFW Species of Special Concern (SSC) that inhabits a range of habitats with low vegetation, including deserts, grasslands, dry plains, estuaries, and agricultural fields. Diet consists primarily of voles during the winter months but also includes other small rodents, rabbits, songbirds, and small reptiles and amphibians. Breeding typically occurs in the northern US and Canada in a variety of habitats, such as freshwater and brackish marshes, dry upland prairies, or riverside woodlands. Nests are constructed on the ground in dense vegetation, including willows, sedges, cattails, or grasses.



A northern harrier was observed flying above the Project site during the field reconnaissance survey on November 9, 2021. Suitable nesting habitat does not occur within the Project site and there is marginally suitable foraging habitat for the species in disked fields on site. The northern harrier is present as a winter forager and has no potential to nest within the Study Area.

### **Loggerhead Shrike**

Loggerhead shrike is a CDFW SSC that inhabits shrublands or woodlands throughout most of California except for the primarily forested coastal slope, the Coast Ranges, the Klamath and Siskiyou mountains of northwestern California, the Sierra Nevada and southern Cascades, and high elevations of the Transverse Ranges. They require tall shrubs or trees, fences, and powerlines for hunting perches, territorial advertisement, and pair maintenance; open areas of short grasses, forbs, or bare ground for hunting; and large trees for nest placement. They also require impaling sites for prey manipulation or storage, which can include sharp, thorny plants and barbed-wire fences. Diet consists primarily of large insects, but will also take small birds, mammals, amphibians, reptiles, fish, carrion, and various other invertebrates (CDFW, 2008). The closest reported known occurrence from CNDDDB is from 3.6 miles southeast of the Project from 2001. Suitable nesting habitat could potentially exist within the orchard on site, as well as Russian thistle shrubs found in the fallow agriculture fields in the southern portion of the site. Suitable foraging habitat for this species could also exist within the open agriculture fields in the northern and southern portions of the Study Area. Loggerhead shrike were not observed on site during any field surveys.

### **Burrowing Owl**

The burrowing owl is a CDFW SSC that occupies open, treeless areas within grassland, low density scrub, and desert biomes. This species generally inhabits gently sloping areas, characterized by low, sparse vegetation, and is often associated with high densities of burrowing mammals. Burrowing owls often use relatively disturbed areas such as agricultural fields, golf courses, cemeteries, and vacant urban lots in addition to natural breeding habitats. Nests are most often in fossorial wildlife burrows, such as California ground squirrel or American badger, but atypical nests such as culverts or rubble piles may also be used. Nest sites are typically selected in an area with a high density of burrows (Cornell Lab of Ornithology, 2022). The closest reported known occurrence from CNDDDB is from 3.9 miles southeast of the Project from 2003.

Throughout both non-breeding and breeding season surveys, no burrowing owls were observed within the Study Area. No burrows of sufficient size to accommodate burrowing owl were detected and no burrowing owl sign was observed during all site surveys. In the absence of California ground squirrel colonies or other suitable burrows and cover, and the active agricultural uses over most of the Project site, the site consists of marginal and unoccupied habitat for the species. Because no potential burrows or other sign was observed during each survey, subsequent surveys followed the same transect methodology. No point counts, calls, cameras, or any other survey methods were utilized during any survey since no potential dens or sign were observed. Based on the results of the protocol surveys, the high levels of disturbance and lack of potential burrows, burrowing owls are not expected to occur on the Project site.

### **Prairie falcon**

The prairie falcon is a CDFW Watchlist (WL) species that inhabits dry open habitats such as desert, grasslands, and agricultural fields that are relatively flat or hilly and nests are placed in cliff faces.

They primarily prey upon small mammals but will also take small birds, reptiles, or insects. The nearest recorded observation of prairie falcon from CNDDDB is 8.9 miles from the Study Area.

The establishing pistachio saplings and active citrus orchard portions of the Study Area are not suitable habitat for prairie falcon given the density of trees. Sign of prey such as small mammals and reptiles was virtually non-existent; the active agricultural activity, including regular disking of fallow fields, and maintenance of orchards, and pesticide use are likely reducing the presence of small mammals and other prey. No suitable nesting sites occur within the vicinity of the Study Area. Due to the low-quality foraging habitat and lack of prey, and absence of available nest sites, prairie falcons have a low potential to occur.

### 4.1.3 Other Protected Species

#### **Nesting Birds**

Non-game migratory birds protected under the California Fish and Game Code (CFG) Section 3503, such as native avian species common to grasslands, agricultural, developed and ruderal areas, have the potential to breed and forage throughout the Project site. Power lines provide nesting habitat for some common passerine species including American crow (*Corvus brachyrhynchos*) and common raven (*Corvus corax*), as well as raptors such as Swainson's hawk (*Buteo swainsoni*) and red-tailed hawk (*Buteo jamaicensis*). Ground nesting birds such as western meadowlark (*Sturnella neglecta*) could potentially utilize fallow fields adjacent to the Study Area. During the course of field surveys three active nests were documented within the Study Area: two common raven and one house finch. One common raven nest was located on the top of the transmission line pole to the west of the substation in the northern portion of the site. The nest was first observed during March 24, 2022 surveys with incubating adults present, confirmed to still be active with large nestlings present on May 18, 2022, and assumed to have successfully fledged prior to the final survey on July 8, 2022. The second common raven nest was located on the top of the transmission tower on the eastern side of the southern field. This nest was first observed during the May 18, 2022 surveys with incubating adults present, and assumed to be still active with both adults present in and around the nest on the July 8, 2022 survey. A house finch nest was located with the active citrus orchard during the May 18, 2022, survey in the incubation phase.

## 4.2 Sensitive Plant Communities and Critical Habitats

One sensitive natural community is documented in the CNDDDB within the nine USGS quadrangles surrounding the Study Area: Great Valley Mesquite Scrub (CDFW, 2021a). This community, nor other sensitive plant communities, occur within the Study Area. The Sensitive Natural Communities List in the CNDDDB is not currently maintained and no new information has been added. Therefore, vegetation types on site were also compared with the List of California Sensitive Natural Communities (CDFW, 2021e). According to the CDFW's Vegetation Program, Alliances with State ranks of S1-S3 are considered imperiled, and thus, potentially of special concern. None of the land cover types mapped within the Study Area are natural and not considered sensitive by CDFW.

There is no USFWS designated critical habitat within the Study Area (USFWS, 2021a).

### 4.3 Jurisdictional Waters and Wetlands

Two tailwater basins are present along the eastern edge of the Study Area, adjacent to the active agriculture and fallow cropland areas (Figure 3). These tailwater basins are manmade and are likely used to support irrigation for on-site agriculture activities. These basins are not mapped by NWI (USFWS, 2021d). Neither of these features are considered navigable waters, nor do they abut or are connected to any navigable waters, and they are therefore not expected to be subject to U.S. Army Corps of Engineers (USACE) jurisdiction. These features were excavated for agricultural purposes, have no connectivity with any other waterways, and are also not expected to fall under CDFW jurisdiction. The tailwater basins are also not likely State wetlands per the Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB, 2021) because they are less than one acre in size, were constructed for agricultural crop irrigation not by modifying a surface water of the state and appear to be maintained. The tailwater basins were also not constructed as compensatory mitigation purposes nor are they identified in a water quality control plan as a wetland or other water of the state. Additionally, the Central Valley RWQCB does not typically require permits for these types of human-made features.

### 4.4 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between areas of suitable habitat that allow for physical and genetic exchange between otherwise isolated wildlife populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein wildlife periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young wildlife. A group of habitat linkages in an area can form a wildlife corridor network. The California Essential Habitat Connectivity Project, commissioned by the California Department of Transportation (Caltrans) and CDFW, identifies “Natural Landscape Blocks” which support native biodiversity and the “Essential Connectivity Areas” which link them (Spencer et al., 2010).

Disked fields, fence lines, and existing roads within and adjacent to the Project site could provide local-scale opportunities for wildlife movement, particularly disturbance-tolerant species such as coyote. However, there are no Natural Landscape Blocks or Essential Connectivity Areas mapped within the Project site and wildlife movement within the Project site and surrounding land has long been disrupted by intensive agriculture.

### 4.5 Resources Protected By Local Policies and Ordinances

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts. The Project site is actively using the site for agriculture and has been developed routinely for cultivation purposes. No native trees were observed on site or are proposed for removal.

Policy LU-B.13 In conjunction with environmental reviews under CEQA, the County shall require applicants to identify biological resources to determine if there are sensitive and/or important flora and fauna that require special protection measures.

## 4.6 Habitat Conservation Plans

The Study Area is not included in any adopted Habitat Conservation Plans or Natural Community Conservation Plans.

## 5 Impact Analysis and Mitigation Measures

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This section discusses the possible impacts and adverse effects from implementation of the Project that could represent significant impacts under CEQA.

### 5.1 Special Status Species

The proposed Project would have a significant effect on biological resources if it would:

- a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*

#### 5.1.1 Special status Plant Species

No special status plant species were observed within the Project site during focused botanical surveys. Given the high levels of both historic and ongoing disturbance related to active agriculture activities in the Study Area, and the results of the focused botanical surveys, special status plants are not expected to occur, and therefore no impacts to special status plant species are expected.

#### 5.1.2 Special status Wildlife Species

Seven special status wildlife species were identified as having potential to occur within the Study Area: Tricolored blackbird, Swainson's hawk, northern harrier, loggerhead shrike, San Joaquin kit fox, burrowing owl, and prairie falcon. No tricolored blackbirds were present nesting within the Study Area during the breeding season and are not expected to nest within the Project site. Based on the results of protocol surveys, burrowing owl is considered absent, and not expected to occur based on site conditions. A northern harrier was observed foraging within the Project site during the field reconnaissance survey but is not expected to nest within the Project site. Swainson's hawk, loggerhead shrike, San Joaquin kit fox have low potential to occur within the Study Area. Potential impacts to each of the special status wildlife species with potential to occur within the Study Area are described below. Nesting birds protected under the MBTA and CFGC have potential to occur throughout the Study Area during the nesting season (February 1 to September 15). While these species are not considered special-status, impacts to active nests would be considered a violation of CFGC and/or MBTA.

#### **San Joaquin Kit Fox**

The SJKF has a low potential to occur on site. No burrows of sufficient size to accommodate SJKF were detected during site surveys and no sign of the species was observed. The site provides marginal foraging habitat for the species with minimal sign of small mammal burrows observed, but the presence of coyote predators likely further deters SJKF from the area. SJKF individuals may occur within the Project site irregularly during dispersal as they travel through the region but are not otherwise expected to be found on site. Direct impacts to SJKF, if present during construction, could include injury or mortality of individuals (due to vehicle strikes, entrapment, etc.). Therefore, impacts to SJKF are potentially significant.

### **Tricolored Blackbird**

Marginally suitable nesting habitat is present within the tailwater basins on the eastern edges of the Project site; however, water levels in these basins are likely irregular and do not produce a reliable aquatic resource. Additionally, no suitable nesting emergent vegetation occur within these basins such as cattails (*Typha* spp.), bulrushes (*Schoenoplectus* spp.), and Himalayan blackberry (*Rubus armeniacus*). Ongoing agriculture activities and relatively low water source availability would discourage this species from nesting within the Project. This species is not likely to nest within the Project site. Suitable foraging habitat is present within the Project site as this species are opportunistic foragers of a variety of prey items. This species could occur as a transient species to temporarily forage within the Project site; however, implementation of the Project is not expected to result in significant impacts to the species.

### **Swainson's Hawk**

Ten nests have been previously reported within 10 miles of the Study Area most recently from 2016 (CNDDDB 2021a). Helix 2018 conducted an analysis of impacts to Swainson's hawk foraging habitat at a 4,089-acre solar development site (19 times larger than the proposed Project) approximately 33 miles north of the Study Area and situated in a regional setting similar to the proposed Project within agricultural land. The Helix analysis found that at the project level, impacts to the regional population of Swainson's hawk through foraging habitat loss by converting 4,089 acres of active agricultural land into a solar PV generating facility would be less than significant, and no compensatory mitigation would be required (Helix 2018). The proposed Project would be converting a much smaller footprint of agricultural land to energy storage and the land that would be converted would be lower quality foraging habitat compared to the nearby solar development site. Given the low-quality foraging habitat within and adjacent to the Study Area (Section 4.1.2), the relatively small Project size of up to 260 acres, conversion of poor suitable foraging habitat, as well as no known nesting Swainson's hawk within 10 miles of the Study Area within the last 5 years, we conclude that the loss of Swainson's hawk foraging habitat would not be significant. Marginal suitable nesting habitat for the Swainson's hawk could potentially exist within 0.5 miles of the Project site on power poles or other manmade structures or scattered trees in the vicinity. The orchards on the Project site are not likely suitable nesting habitat due to ongoing agriculture activities and disturbances, such as cultivation and crop maintenance. No impacts to nesting Swainson's hawks are expected from implementation of the proposed Project within the Study Area, however this species could nest within 0.5 miles of the Project site.

### **Northern Harrier**

The northern harrier is present as a winter forager within the Project site. Marginally suitable nesting habitat is found within the Project site and there is marginally suitable foraging habitat for the species in disked fields on site. The northern harrier is present as a winter forager and has a low potential to nest within 500 feet of the Study Area. Were the species to nest on or near the Project site, the Project could directly impact breeding through ground disturbance activities destroying the nest, or through disruption of normal biological behaviors during construction of the Project resulting in nest failure. Indirect impacts could include disturbance of breeding habitat. Impacts to nesting northern harrier are potentially significant.

### Loggerhead Shrike

Suitable nesting habitat exists within the orchard on site, as well as Russian thistle shrubs found in the fallow agriculture fields in the southern portion of the site. Suitable foraging habitat for this species could also exist within the open agriculture fields in the northern and southern portions of the Project site. Were the species to nest within Project site, the Project could directly impact breeding through ground or vegetation disturbance activities destroying the nest, or through disruption of normal biological behaviors during construction of the Project resulting in nest failure. Indirect impacts could include disturbance of nesting habitat. Impacts to nesting loggerhead shrike are potentially significant.

### Burrowing Owl

BUOW has low potential to occur on site. No burrows of sufficient size to accommodate BUOW were detected and no burrowing owl sign was observed during site surveys. The site provides poor nesting and foraging habitat for the species as no California ground squirrel burrows were observed and very few small mammal burrows were observed within the Study Area. BUOW individuals are unlikely to occur within the Project site. Protocol level surveys conducted during 2022 confirmed no BUOW, BUOW burrows, or sign were present within the Study Area. Impacts to BUOW during Project implementation are not expected.

### Prairie falcon

The foraging habitat within the Study Area is low quality lacking a prey base or much suitable habitat. There also is no available nesting habitat given the lack of cliffs within the Study Area. Prairie falcons have a low potential to occur for foraging, and impacts to prairie falcon during Project implementation are not expected.

## 5.2 Sensitive Plant Communities

The proposed Project would have a significant effect on biological resources if it would:

- b) *Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.*

No sensitive vegetation communities or riparian habitats occur on site and therefore no impacts from the proposed Project are expected and no measures are recommended.

## 5.3 Jurisdictional Waters and Wetlands

The proposed Project would have a significant effect on biological resources if it would:

- c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*

As discussed in Section 4.3, the manmade tailwater basins are not likely jurisdictional water features by any federal, state, or local agency. The proposed Project does not have the potential to result in impacts on state or federally protected wetlands and no measures are recommended.

## 5.4 Wildlife Movement

The proposed Project would have a significant effect on biological resources if it would:

- d) *Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.*

There are no Natural Landscape Blocks or Essential Connectivity Areas mapped within the Study Area. Wildlife movement within the Study Area and surrounding land has long been disrupted by intensive agriculture. In the vicinity of the Study Area disked fields, fence lines, and existing roads could provide local scale opportunities for wildlife movement, particularly disturbance-tolerant species such as coyote. The Project could reduce wildlife movement areas by development of disked and fallow fields, however, fence lines and existing roads around the perimeter of the Project site will likely remain as a local scale opportunity for wildlife movement. The Project is not expected to substantially alter existing wildlife movement or interfere with established resident or migratory wildlife corridors. Therefore, impacts to wildlife movement would be less than significant.

## 5.5 Local Policies and Ordinances

The proposed Project would have a significant effect on biological resources if it would:

- e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance*

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts. The Project site is actively using the site for agriculture and has been developed routinely for cultivation purposes.

Policy LU-B.13 In conjunction with environmental reviews under CEQA, the County shall require applicants to identify biological resources to determine if there are sensitive and/or important flora and fauna that require special protection measures.

No native trees were observed on site or are proposed for removal. The Project will not conflict with any local policies or ordinances protecting biological resources.

## 5.6 Adopted or Approved Plans

The proposed Project would have a significant effect on biological resources if it would:

- f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.*

The Project is not included in any adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plans. Therefore, no conflict will occur, and no additional measures are recommended. The Study Area is not included in any adopted Habitat Conservation Plans or Natural Community Conservation Plans. Due to the absence of applied plans, no measures are recommended.



## 6 Limitations, Assumptions, and Use Reliance

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This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Reconnaissance biological surveys for certain taxa may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis, or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDDB, may vary with regard to accuracy and completeness. In particular, the CNDDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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# Appendix A

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Regulatory Setting

# Regulatory Setting

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The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the Project site include:

- U.S. Army Corps of Engineers (wetlands and other waters of the United States);
- U.S. Fish and Wildlife Service (federally listed species and migratory birds);
- National Marine Fisheries Service (marine animals and anadromous fishes);
- Central Valley Regional Water Quality Control Board (waters of the State);
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes; state-listed species; nesting birds, marine resources);
- California Coastal Commission;
- County of Fresno

## United States Army Corps of Engineers

The United States Army Corps of Engineers (USACE) is responsible for administering several federal programs related to ensuring the quality and navigability of the nation's waters.

### Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites."

Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including the territorial seas." "Waters of the United States" are broadly defined at 33 CFR Part 328.3 to include navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows. In recent years the USACE and US Environmental Protection Agency (USEPA) have undertaken several efforts to modernize their regulations defining "waters of the United States" (e.g., the 2015 Clean Water Rule and 2020 Navigable Waters Protection Rule), but these efforts have been frustrated by legal challenges which have invalidated the updated regulations. Thus, the agencies' longstanding definition of "waters of the United States," which dates from 1986, remains in effect albeit with supplemental guidance interpreting applicable court decisions as described below.

#### *Waters of the U.S.*

In summary, USACE and USEPA regulations define "waters of the United States" as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
  - i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
  - ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - iii. Which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States;
5. Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;
6. The territorial sea;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in items 1-6 above.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the USEPA.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the United States.

The lateral limits of USACE jurisdiction in non-tidal waters is defined by the "ordinary high-water mark" (OHWM) unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or the presence of debris (33 CFR 328.3(e)). As such, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of USACE jurisdiction extend beyond the OHWM to the outer edge of the wetlands (33 CFR 328.4 (c)). The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 CFR 328.4; see also 51 FR 41217).

### *Wetlands*

The USACE defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3). The USACE's delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

## Hydrophytic Vegetation

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USACE published the National Wetland Plant List (USACE 2018), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- **Obligate Wetland (OBL).** Almost always occur in wetlands
- **Facultative Wetland (FACW).** Usually occur in wetlands, but occasionally found in non-wetlands
- **Facultative (FAC).** Occur in wetlands or non-wetlands
- **Facultative Upland (FACU).** Usually occur in non-wetlands, but may occur in wetlands
- **Obligate Upland (UPL).** Almost never occur in wetlands

The USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the United States Fish and Wildlife Service's list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5% vegetative cover to be considered as a vegetated wetland.

## Hydric Soils

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying (indicates reducing conditions by a blue-grey color), or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

## Wetland Hydrology

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

## *Applicable Case Law and Agency Guidance*

The USACE's regulations defining "waters of the United States" have been subject to legal interpretation, and two influential Supreme Court decisions have narrowed the definition to exclude certain classes of waters that bear an insufficient connection to navigable waters. In *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers* (2001), the United States Supreme Court stated that the USACE's CWA jurisdiction does not extend to ponds that "are not adjacent to open water." In reaching its decision, the Court concluded that the "Migratory Bird Rule," which



served as the basis for the USACE's asserted jurisdiction, was not supported by the CWA. The Migratory Bird Rule extended CWA jurisdiction to intrastate waters "which are or would be used as habitat by birds protected by Migratory Bird Treaties or which are or would be used as habitat by other migratory birds which cross state lines..." The Court was concerned that application of the Migratory Bird Rule resulted in "reading the term 'navigable waters' out of the statute. Highlighting the language of the CWA to determine the statute's jurisdictional reach, the Court stated, "the term 'navigable' has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made." This decision stands for the proposition that non-navigable isolated, intrastate waters are not waters of the United States and thus are not jurisdictional under the CWA.

In 2006 the United States Supreme Court decided *Rapanos v. United States* and *Carabell v. United States* (collectively "Rapanos"), which were consolidated cases determining the extent of CWA jurisdiction over waters that carry only an infrequent surface flow. The court issued no majority opinion in Rapanos. Instead, the justices authored five separate opinions including the "plurality" opinion, authored by Justice Scalia (joined by three other justices), and a concurring opinion by Justice Kennedy. To guide implementation of the decision, the USACE and USEPA issued a joint guidance memorandum ("Rapanos Guidance Memorandum") in 2008 stating that "regulatory jurisdiction under the CWA exists over a water body if either the plurality's or Justice Kennedy's standard is satisfied."

According to the plurality opinion in Rapanos, "the waters of the United States include only relatively permanent, standing or flowing bodies of water" and do not include "ordinarily dry channels through which water occasionally or intermittently flows." In addition, while all wetlands that meet the USACE definition are considered adjacent wetlands, only those adjacent wetlands that have a continuous surface connection because they directly abut the tributary (e.g., they are not separated by uplands, a berm, dike, or similar feature) are considered jurisdictional under the plurality standard.

Under Justice Kennedy's opinion, "the USACE's jurisdiction over wetlands depends upon the existence of a significant nexus between the wetlands in question and navigable waters in the traditional sense. Wetlands possess the requisite nexus, and thus come within the statutory phrase 'navigable waters,' if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable.' When, in contrast, wetlands' effects on water quality are speculative or insubstantial, they fall outside the zone fairly encompassed by the statutory term 'navigable waters.'" Justice Kennedy identified "pollutant trapping, flood control, and runoff storage" as some of the critical functions wetlands can perform relative to other waters. He concluded that, given wetlands' ecological role, "mere adjacency" to a non-navigable tributary was insufficient to establish CWA jurisdiction, and that "a more specific inquiry, based on the significant nexus standard, is therefore necessary."

Interpreting these decisions, and according to the Rapanos Guidance Memorandum, the USACE and USEPA will assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and,

- Wetlands that directly abut such tributaries.

The USACE and USEPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and,
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

Where a significant nexus analysis is required, the USACE and USEPA will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters; and,
- Significant nexus includes consideration of hydrologic and ecologic factors.

The USACE and USEPA generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and,
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

## Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States, and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. It is important to note that Section 10 applies only to navigable waters, and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by the USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

## Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) have jurisdiction over “waters of the State,” which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code sec. 13050(e)). These agencies also have responsibilities for administering portions of the CWA.

## Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by the SWRCB for multi-region projects. The process begins when an applicant submits an application to the RWQCB and informs the USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a “reasonable period of time” for the RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. When the period has elapsed, if the RWQCB has not either issued or denied the application for Section 401 Certification, the USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

## Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

The quality of all the waters of the State shall be protected

All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason

The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint source related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB’s *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear that the agency will apply the Porter-Cologne Act’s requirements to discharges of dredge and fill material as well. The *Procedures* state that they are to be used in issuing CWA Section 401 Certifications and WDRs, and largely mirror the existing review requirements for CWA

Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA’s *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

#### *Non-Wetland Waters of the State*

The SWRCB and RWQCBs have not established regulations for field determinations of waters of the state except for wetlands currently. In many cases the RWQCBs interpret the limits of waters of the State to be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance each RWQCB may interpret jurisdictional boundaries within their region and the SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by the RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body compared to the USACE.

#### *Wetland Waters of the State*

Procedures for defining wetland waters of the State pursuant to the SWRCB’s *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as wetland if, under normal circumstances:

- (i) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;
- the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
- the area’s vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB’s *Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State* (2020), states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

## United States Fish and Wildlife Service

The United States Fish and Wildlife Service (USFWS) implements several laws protecting the Nation’s fish and wildlife resources, including the Endangered Species Act (ESA; 16 United States Code [USC] Sections 153 et seq.), the Migratory Bird Treaty Act (MBTA; 16 USC Sections 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668).

## Endangered Species Act

The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the ESA. Generally, the USFWS implements the ESA for terrestrial and freshwater species, while the NMFS implements the ESA for marine and anadromous species. Projects that would result in “take” of any threatened or endangered animal species, or a threatened or endangered plant species if occurring on federal land, are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan)

of the ESA, depending on the involvement by the federal government in funding, authorizing, or carrying out the Project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the ESA; however, the USFWS and NMFS advise Project applicants that they could be elevated to listed status at any time.

## Migratory Bird Treaty Act

The MBTA of 1918 implements four international conservation treaties that the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of all protected migratory bird species. The law has been amended with the signing of each treaty, as well as when any of the treaties were amended, such as with Mexico in 1976 and Canada in 1995. The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS.

The list of migratory bird species protected by the law, in regulations at 50 CFR Part 10.13, is primarily based on bird families and species included in the four international treaties. A migratory bird species is included on the list if it meets one or more of the following criteria:

1. It occurs in the United States or U.S. territories as the result of natural biological or ecological processes and is currently, or was previously listed as, a species or part of a family protected by one of the four international treaties or their amendments.
2. Revised taxonomy results in it being newly split from a species that was previously on the list, and the new species occurs in the United States or U.S. territories as the result of natural biological or ecological processes.
3. New evidence exists for its natural occurrence in the United States or U.S. territories resulting from natural distributional changes and the species occurs in a protected family.

In 2004, the Migratory Bird Treaty Reform Act limited the scope of the MBTA by stating the MBTA applies only to migratory bird species that are native to the United States or U.S. territories, and that a native migratory bird species is one that is present as a result of natural biological or ecological processes. The MBTRA requires the USFWS to publish a list of all nonnative, human-introduced bird species to which the MBTA does not apply, and an updated list was published in 2020. The 2020 update identifies species belonging to biological families referred to in treaties the MBTA implements but are not protected because their presence in the United States or U.S. territories is solely the result of intentional or unintentional human-assisted introductions.

## Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the USFWS, from "taking" bald or golden eagles, including their parts (including feathers), nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any

golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

"Disturb" means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

## California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) derives its authority from the Fish and Game Code of California and administers several State laws protecting fish and wildlife resources and the habitats upon which they depend.

### California Endangered Species Act

The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et. seq.) prohibits take of state listed threatened or endangered. Take under CESA is defined as "Hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (Fish and Game Code sec. 86). This definition does not prohibit indirect harm by way of habitat modification, except where such harm is the proximate cause of death of a listed species. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated. Unlike the federal ESA, CESA's protections extend to candidate species during the period (typically one year) while the California Fish and Game Commission decides whether the species warrants CESA listing.

### Native Plant Protection Act

The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare, and prohibits the take of listed plant species. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority of the NPPA, establishing that the CESA's permitting procedures would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

### Fully Protected Species Laws

The CDFW enforces Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code, which prohibit take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided. The exception is situations where a Natural Community Conservation Plan (NCCP) is in place that authorizes take of the fully protected species.

## Avian Protection Laws

California Fish and Game Code sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a state-level offense to take any bird in violation of the federal Migratory Bird Treaty Act.

## Protection of Lakes and Streambeds

California Fish and Game Code section 1602 states that it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying the California Department of Fish and Wildlife (CDFW) of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFW determines that the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain from CDFW a Streambed Alteration Agreement (SAA), which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receiving a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft SAA. Upon review of the Draft SAA by the applicant, any problematic terms are negotiated with CDFW and a final SAA is executed.

The CDFW has not defined the term "stream" for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction as discussed below.

- **The plain language of Section 1602 of CFGC** establishes the following general concepts:
  - References "river," "stream," and "lake"
  - References "natural flow"
  - References "bed," "bank," and "channel"
- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987)), which interpreted Section 1602's use of "stream" to be as defined in common law. The Court indicated that a "stream" is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM

- **CDFW regulations** defining “stream” for other purposes, including sport fishing (14 CCR 1.72) and streambed alterations associated with cannabis production (14 CCR 722(c)(21)), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation
- **Guidance documents**, including *A Field Guide to Lake and Streambed Alteration Agreements* (CDFG 1994) and *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
  - Width of a stream course can reasonably be identified by physical or biological indicators
  - A stream may have one or more channels (single thread vs. compound form)
  - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
  - Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
  - Biologic components of a stream may include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
  - The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. Importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

## Local Jurisdiction

### *Fresno County General Plan*

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts. The Project site is actively using the site for agriculture and has been developed routinely for cultivation purposes.

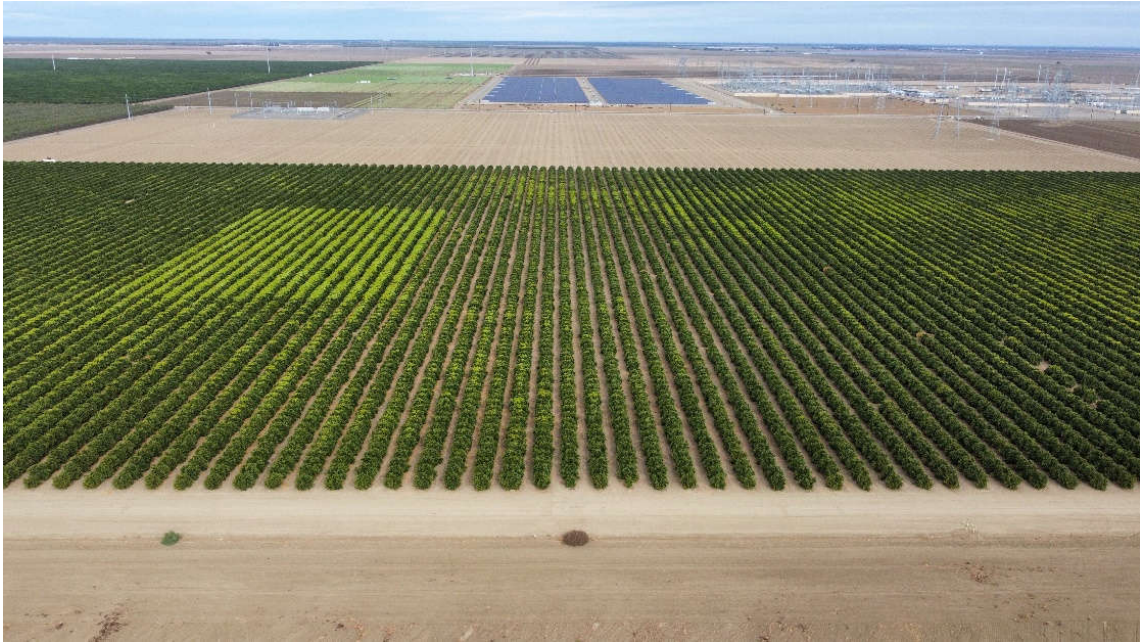


*Policy LU-B.13 In conjunction with environmental reviews under CEQA, the County shall require applicants to identify biological resources to determine if there are sensitive and/or important flora and fauna that require special protection measures.*

# Appendix B

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Site Photographs



**Photograph 1.** Aerial overview photo of Project site showing Orchard grove in center and active agriculture in background. View north. November 9, 2021.



**Photograph 2.** Fallow cropland showing sign of recent tilling/disking. View east. November 9, 2021.



**Photograph 3.** Compacted dirt road with active agriculture on left and orchard grove on right. View east. November 9, 2021.



**Photograph 4.** Fallow cropland with scattered Russian thistle. View west. November 9, 2021.



**Photograph 5.** Orchard grove rows from middle portion of orchard area. View south. November 9, 2021.



**Photograph 6.** Dry tailwater basin on eastern portion of Project site adjacent to fallow cropland. View north. November 9, 2021.



**Photograph 7.** Active agriculture area in northern portion of Project site with grow tubes and irrigation. View north. November 9, 2021.



**Photograph 8.** Dry tailwater basin on northeastern portion of Project site adjacent to active agriculture area. View west. November 9, 2021.

# Appendix C

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Floral and Faunal Compendium

**Plant Species Observed Within the Study Area**

| Scientific Name              | Common Name          | Status | Native/<br>Introduced     | Obs.<br>Nov. 9,<br>2021 | Obs.<br>Jan. 31,<br>2022 | Obs.<br>Mar. 24,<br>2022 | Obs.<br>May 18,<br>2022 | Obs.<br>Jul. 8,<br>2022 |
|------------------------------|----------------------|--------|---------------------------|-------------------------|--------------------------|--------------------------|-------------------------|-------------------------|
| <b>Shrubs/Trees</b>          |                      |        |                           |                         |                          |                          |                         |                         |
| <i>Citrus sinensis</i>       | Orange               | None   | Introduced,<br>Cultivated | X                       | X                        | X                        | X                       | X                       |
| <i>Pistacia spp.</i>         | Pistachio            | None   | Introduced,<br>Cultivated |                         | X                        | X                        | X                       | X                       |
| <i>Salix spp.</i>            | Willow               | None   | Native                    |                         |                          | X                        | X                       | X                       |
| <b>Herbs</b>                 |                      |        |                           |                         |                          |                          |                         |                         |
| <i>Amaranthus blitoides</i>  | Prostrate pigweed    | None   | Native                    | X                       | X                        | X                        | X                       | X                       |
| <i>Amsinckia spp.</i>        | Fiddlenecks          | None   | Unknown                   |                         | X                        | X                        | X                       |                         |
| <i>Brassica tournefortii</i> | Asian mustard        | None   | Non-native                |                         |                          | X                        |                         |                         |
| <i>Calistegia sp.</i>        | Morning Glory        | None   | Native                    | X                       |                          |                          |                         |                         |
| <i>Capsella bursa</i>        | Shepherd's Purse     | None   | Non-native                |                         | X                        | X                        | X                       |                         |
| <i>Chenopodium album</i>     | Lambs quarters       | None   | Non-native                | X                       | X                        |                          | X                       | X                       |
| <i>Chenopodium murale</i>    | Nettleleaf goosefoot | None   | Non-Native                |                         |                          | X                        |                         |                         |
| <i>Chondrilla juncea</i>     | Skeleton weed        | None   | Non-native                | X                       | X                        | X                        | X                       | X                       |
| <i>Cyperus spp.</i>          | Nutsedge             | None   | Non-native                |                         |                          | X                        |                         |                         |
| <i>Erigeron canadensis</i>   | Horseweed            | None   | Native                    | X                       | X                        | X                        | X                       | X                       |
| <i>Erodium cicutarium</i>    | Redstem filaree      | None   | Non-native                |                         | X                        | X                        | X                       | X                       |
| <i>Lactuca serriola</i>      | Prickly lettuce      | None   | Non-native                | X                       | X                        | X                        | X                       | X                       |
| <i>Malva parviflora</i>      | Cheeseweed mallow    | None   | Non-native                | X                       | X                        | X                        | X                       | X                       |
| <i>Polygonum aviculare</i>   | Prostrate knotweed   | None   | Introduced                | X                       | X                        | X                        | X                       | X                       |
| <i>Portulaca oleracea</i>    | Purslane             | None   | Non-native                | X                       | X                        | X                        | X                       | X                       |
| <i>Rumex crispus</i>         | Curly dock           | None   | Invasive,<br>non-native   | X                       | X                        | X                        | X                       |                         |
| <i>Salsola tragus</i>        | Russian thistle      | None   | Invasive,<br>non-native   | X                       | X                        | X                        | X                       | X                       |
| <i>Sisymbrium spp.</i>       | Hedge mustard        | None   | Unknown                   |                         | X                        | X                        | X                       |                         |
| <i>Solanum spp.</i>          | Nightshade           | None   | Unknown                   |                         | X                        | X                        | X                       | X                       |
| <i>Sonchus oleraceus</i>     | Common sow thistle   | None   | Non-native                | X                       | X                        | X                        | X                       | X                       |
| <b>Grasses</b>               |                      |        |                           |                         |                          |                          |                         |                         |
| <i>Agrostis spp.</i>         | Bentgrass            | None   | Unknown                   |                         |                          | X                        |                         |                         |



| Scientific Name                    | Common Name            | Status | Native/<br>Introduced                         | Obs.<br>Nov. 9,<br>2021 | Obs.<br>Jan. 31,<br>2022 | Obs.<br>Mar. 24,<br>2022 | Obs.<br>May 18,<br>2022 | Obs.<br>Jul. 8,<br>2022 |
|------------------------------------|------------------------|--------|---|-------------------------|--------------------------|--------------------------|-------------------------|-------------------------|
| <i>Bromus diandrus</i>             | Ripgut brome           | None   | Introduced.<br>Cal-IPC<br>rating:<br>Moderate | X                       | X                        | X                        | X                       | X                       |
| <i>Hordeum sp.</i>                 | Barley                 | None   | Unknown                                       | X                       | X                        | X                        | X                       | X                       |
| <i>Polypogon<br/>monspeliensis</i> | Annual beard-<br>grass | None   | Non-native                                    |                         |                          | X                        |                         |                         |
| <i>Stipa miliacea</i>              | Smilo grass            | None   | Non-native                                    | X                       |                          | X                        |                         |                         |

### Animal Species Observed Within the Study Area

| Scientific Name                 | Common Name          | Status | Native/<br>Introduced | Obs.<br>Nov. 9,<br>2021 | Obs.<br>Jan. 31,<br>2022 | Obs.<br>Mar. 24,<br>2022 | Obs.<br>May 18,<br>2022 | Obs.<br>Jul. 8,<br>2022 |
|---------------------------------|----------------------|--------|-----------------------|-------------------------|--------------------------|--------------------------|-------------------------|-------------------------|
| <b>Birds</b>                    |                      |        |                       |                         |                          |                          |                         |                         |
| <i>Anthus rubescens</i>         | American pipet       | None   | Native                | X                       |                          |                          |                         |                         |
| <i>Buteo jamaicensis</i>        | Red-tailed hawk      | None   | Native                | X                       | X                        | X                        |                         |                         |
| <i>Buteo swainsoni</i>          | Swainson's hawk      | ST     | Native                |                         |                          | X                        |                         |                         |
| <i>Charadrius vociferus</i>     | Killdeer             | None   | Native                |                         |                          | X                        |                         |                         |
| <i>Chondestes grammacus</i>     | Lark sparrow         | None   | Native                |                         |                          | X                        |                         | X                       |
| <i>Circus cyaneus</i>           | Northern harrier     | SSC    | Native                | X                       |                          |                          |                         |                         |
| <i>Columba livia</i>            | Rock pigeon          | None   | Introduced            | X                       |                          |                          |                         |                         |
| <i>Corvus brachyrhynchos</i>    | American crow        | None   | Native                | X                       |                          |                          |                         |                         |
| <i>Corvus corax</i>             | Common raven         | None   | Native                | X                       | X                        | X                        | X                       | X                       |
| <i>Eremophila alpestris</i>     | Horned lark          | None   | Native                |                         | X                        | X                        | X                       | X                       |
| <i>Euphagus cyanocephalus</i>   | Brewer's blackbird   | None   | Native                | X                       |                          | X                        | X                       | X                       |
| <i>Falco sparverius</i>         | American kestrel     | None   | Native                |                         | X                        | X                        | X                       | X                       |
| <i>Geococcyx californianus</i>  | Greater roadrunner   | None   | Native                |                         |                          | X                        |                         | X                       |
| <i>Haemorhous mexicanus</i>     | House finch          | None   | Native                | X                       | X                        | X                        | X                       | X                       |
| <i>Junco hyemalis</i>           | Dark-eyed junco      | None   | Native                | X                       |                          |                          |                         |                         |
| <i>Mimus polyglottos</i>        | Northern mockingbird | None   | Native                | X                       |                          |                          |                         | X                       |
| <i>Passer domesticus</i>        | House sparrow        | None   | Introduced            |                         |                          | X                        |                         |                         |
| <i>Petrochelidon pyrrhonota</i> | Cliff swallow        | None   | Native                |                         |                          |                          |                         | X                       |

| Scientific Name               | Common Name                 | Status | Native/<br>Introduced | Obs.<br>Nov. 9,<br>2021 | Obs.<br>Jan. 31,<br>2022 | Obs.<br>Mar. 24,<br>2022 | Obs.<br>May 18,<br>2022 | Obs.<br>Jul. 8,<br>2022 |
|-------------------------------|-----------------------------|--------|-----------------------|-------------------------|--------------------------|--------------------------|-------------------------|-------------------------|
| <i>Phalacrocorax auritus</i>  | Double crested cormorant    | None   | Native                |                         | X                        |                          |                         |                         |
| <i>Sayornis nigricans</i>     | Black phoebe                | None   | Native                |                         | X                        | X                        | X                       | X                       |
| <i>Sayornis saya</i>          | Say's phoebe                | None   | Native                | X                       | X                        |                          |                         |                         |
| <i>Setophaga coronata</i>     | Yellow-rumped warbler       | None   | Native                |                         |                          | X                        |                         |                         |
| <i>Sturnella neglecta</i>     | Western meadowlark          | None   | Native                | X                       |                          |                          |                         |                         |
| <i>Sturnus vulgaris</i>       | European starling           | None   | Introduced            |                         | X                        | X                        | X                       |                         |
| <i>Turdus migratorius</i>     | American robin              | None   | Native                |                         |                          | X                        |                         |                         |
| <i>Tyrannus verticalis</i>    | Western kingbird            | None   | Native                |                         |                          | X                        | X                       | X                       |
| <i>Zenaida macroura</i>       | Mourning dove               | None   | Native                |                         | X                        | X                        | X                       | X                       |
| <i>Zonotrichia leucophrys</i> | White-crowned sparrow       | None   | Native                | X                       | X                        | X                        | X                       |                         |
| <b>Mammals</b>                |                             |        |                       |                         |                          |                          |                         |                         |
| <i>Canis latrans</i>          | Coyote                      | None   | Native                | X*                      | X                        |                          |                         | X                       |
| <i>Lepus californicus</i>     | Black-tailed jack rabbit    | None   | Native                | X                       |                          |                          | X                       | X                       |
| <i>Sylvilagus audubonii</i>   | Desert cottontail rabbit    | None   | Native                |                         |                          |                          | X                       | X                       |
| <i>Thomomys bottae</i>        | Botta's pocket gopher       | None   | Native                | X*                      |                          |                          |                         |                         |
| <b>Reptiles</b>               |                             |        |                       |                         |                          |                          |                         |                         |
| <i>Uta stansburiana</i>       | Common side-blotched lizard | None   | Native                |                         |                          | X                        |                         |                         |

ST- State Threatened; SSC – State Species of Special Concern; WL – State Watch List; FP – State Fully Protected

\* - observed sign by species only (i.e., tracks, scat, burrow)

# Appendix D

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Special Status Species Evaluation Tables

## Special Status Plant Species in the Regional Vicinity of the Study Area

| Scientific Name<br>Common Name                           | Status<br>Fed/State ESA<br>CRPR | Habitat Requirements  | Potential<br>to Occur | Rationale  |
|--|---------------------------------|---|-----------------------|--|
| <i>Atriplex depressa</i><br>brittlescale                 | None/None<br>G2/S2<br>1B.2      | Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools. Usually in alkali scalds or alkaline clay in meadows or annual grassland; rarely associated with riparian, marshes, or vernal pools. 1-325 m. annual herb. Blooms Apr-Oct | Not<br>Expected       | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur. |
| <i>Atriplex minuscula</i><br>lesser saltscale            | None/None<br>G2/S2<br>1B.1      | Chenopod scrub, playas, valley and foothill grassland. Sandy, alkaline soils. 0-225 m. annual herb. Blooms May-Oct  | Not<br>Expected       | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur. |
| <i>Caulanthus californicus</i><br>California jewelflower | FE/SE<br>G1/S1<br>1B.2          | Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland. Sandy. 61-1000m. annual herb. Blooms Feb-May  | Not<br>Expected       | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur. |
| <i>Caulanthus lemmonii</i><br>lemmon's jewelflower       | None/None<br>G3/S3<br>1B.2      | Pinyon and juniper woodland, Valley and foothill grassland. 80 - 1580 m. annual herb. Blooms Feb-May  | Not<br>Expected       | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur. |

| Scientific Name<br>Common Name                                  | Status<br>Fed/State ESA<br>CRPR | Habitat Requirements  | Potential<br>to Occur | Rationale   |
|---|---------------------------------|---|-----------------------|---|
| <i>Deinandra halliana</i><br>hall's tarplant                    | None/None<br>G3/S3<br>1B.1      | Chenopod scrub, Cismontane woodland, Valley and foothill grassland. Reported from a variety of substrates including clay, sand, and alkaline soils. 260-950m. Blooms (Mar)Apr-May.          | Not<br>Expected       | No suitable habitat occurs within the Project site, including site being out of elevation range. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur. |
| <i>Delphinium recurvatum</i><br>recurved larkspur               | None/None<br>G2?/S2?<br>1B.2    | Chenopod scrub, valley and foothill grassland, cismontane woodland. On alkaline soils; often in valley saltbush or valley chenopod scrub. 3-790 m. perennial herb. Blooms Mar-Jun           | Not<br>Expected       | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.  |
| <i>Eremalche parryi</i> ssp.<br><i>kernensis</i><br>kern mallow | FE/None<br>G3G4T3/S3<br>1B.2    | Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland. On dry, open sandy to clay soils; often at edge of balds. 70 - 1290 m. annual herb. Blooms Jan,Mar,Apr,May(Feb) | Not<br>Expected       | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.  |
| <i>Eriastrum hooveri</i><br>hoover's eriastrum                  | FD/None<br>G3/S3<br>4.2         | Chenopod scrub, valley and foothill grassland. Hillsides, in white-grey alkaline clay soils, w/grasses and chenopod scrub associates. 45-765 m. annual herb. Blooms Mar-Apr                 | Not<br>Expected       | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.  |

| Scientific Name<br>Common Name                        | Status<br>Fed/State ESA<br>CRPR | Habitat Requirements  | Potential<br>to Occur | Rationale  |
|---|---------------------------------|---|-----------------------|--|
| <i>Eriogonum<br/>temblorense</i>                      | None/None<br>G2/S2<br>1B.2      | Valley and foothill grasslands on barren clay or sandstone substrates. 230 – 840m. Annual herb. Blooms May.   | Not<br>Expected.      | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Soil substrate not present. Species is not expected to occur.                               |
| <i>Lagophylla diabolensis</i>                         | None/None<br>G2/S2<br>1B.2      | Cismontane woodland, valley and foothill grasslands on clay soils. 365-1070 m. Annual herb. Blooms April-August.  | Not<br>Expected       | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Soil substrate not present. Species is not expected to occur.                               |
| <i>Lasthenia chrysantha</i><br>alkali-sink goldfields | None/None<br>G1/S1<br>1B.2      | Vernal pools. alkaline. 0 - 200 m. annual herb. Blooms Feb-Apr  | Not<br>Expected       | No suitable habitat within tailwater basins. Irregular flooding and potential maintenance of these basins reduce potential for this species to occur. No CNDDDB occurrences of this species have been reported within 5 miles of the Project site. Species is not expected to occur. |
| <i>Layia heterotricha</i><br>pale-yellow layia        | None/None<br>G2/S2<br>1B.1      | Cismontane woodland, Coastal scrub, Pinyon and juniper woodland, Valley and foothill grassland. alkaline or clay. 300 - 1705 m. annual herb. Blooms Mar-Jun | Not<br>Expected       | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.   |

| Scientific Name<br>Common Name                                       | Status<br>Fed/State ESA<br>CRPR    | Habitat Requirements   | Potential<br>to Occur | Rationale  |
|--|------------------------------------|--|-----------------------|--|
| <i>Lepidium jaredii</i> ssp.<br><i>Album</i><br>panoche pepper-grass | None/None<br>G2G3T2T3/S2S3<br>1B.1 | Valley and foothill grassland. White or grey clay lenses on steep slopes; incidental in alluvial fans and washes. Clay and gypsum-rich soils. 185-745m. Blooms Feb-Jun.    | Not<br>Expected       | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.                             |
| <i>Madia radiata</i><br>showy golden madia                           | None/None<br>G2/S2<br>1B.1         | Valley and foothill grassland, cismontane woodland. Mostly on adobe clay in grassland or among shrubs. 75-1220 m. annual herb. Blooms Mar-May.                             | Not<br>Expected       | Suitable habitat elements such as adobe clay are not present. Disturbance history of Project site due to ongoing agriculture activities further limit the possibility of occurrence and suitable habitat. Species is not expected to occur.            |
| <i>Malacothamnus</i><br><i>aboriginum</i>                            | None/ None<br>G3/S3<br>1B.2        | Cismontane woodland and chaparral on granitic outcrops and sandy, often disturbed soil. 150-1130 m. Shrub. Blooms April – October.   | Not<br>expected       | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Soil substrate not present. Species is not expected to occur. |
| <i>Monolopia congdonii</i><br>San Joaquin<br>woollythreads           | FE/None<br>G2/S2<br>1B.2           | Chenopod scrub, valley and foothill grassland. Alkaline or loamy plains; sandy soils, often with grasses and within chenopod scrub. 55-840 m. annual herb. Blooms Feb-May. | Not<br>Expected       | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.                             |

| Scientific Name<br>Common Name                      | Status<br>Fed/State ESA<br>CRPR | Habitat Requirements  | Potential<br>to Occur | Rationale  |
|---|---------------------------------|---|-----------------------|--|
| <i>Navarretia nigelliformis</i> ssp. <i>radians</i> | None/ None<br>G4T2/S2<br>1B.2   | Cismontane woodland, valley and foothill grassland and vernal pools. 60-975m. Annual herb. Blooms April – July.   | Not Expected          | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Soil substrate not present. Species is not expected to occur. |
| <i>Senecio aphanactis</i><br>chaparral ragwort      | None/None<br>G3/S2<br>2B.2      | Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 20-855 m. annual herb. Blooms Jan-Apr(May). | Not Expected          | No suitable habitat occurs within the Project site. Disturbance history of Project site due to ongoing agriculture activities limits the possibility of occurrence and suitable habitat. Species is not expected to occur.                             |

Regional Vicinity refers to within a 9-quad search radius of site.

FE = Federally Endangered      FT = Federally Threatened      FC = Federal Candidate Species  
SE = State Endangered          ST = State Threatened          SC = State Candidate          SR = State Rare

**CRPR (CNPS California Rare Plant Rank)**

- 1A = Presumed Extinct in California
- 1B = Rare, Threatened, or Endangered in California and elsewhere
- 2A = Plants presumed extirpated in California, but more common elsewhere
- 2B = Plants Rare, Threatened, or Endangered in California, but more common elsewhere

**CRPR Threat Code Extension**

- .1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- .2 = Fairly endangered in California (20-80% occurrences threatened)
- .3 = Not very endangered in California (<20% of occurrences threatened)



**Special Status Animal Species in the Regional Vicinity of the Study Area**

| Scientific Name<br>Common Name                        | Status<br>Fed/State<br>ESA<br>CDFW | Habitat Requirements  | Potential<br>to Occur | Rationale  |
|---|------------------------------------|---|-----------------------|--|
| <b>Amphibians</b>                                     |                                    |   |                       |  |
| <i>Rana boylei</i><br>foothill yellow-legged<br>frog  | None/SE<br>G3/S3<br>SSC            | Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.   | Not<br>Expected       | No suitable aquatic habitat is present within the Study Area.  |
| <i>Spea hammondi</i><br>western spadefoot             | None/None<br>G2G3/S3<br>SSC        | Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.   | Not<br>Expected       | Required breeding habitat is potentially present in tailwater basins, but water is only present intermittently throughout the year depending on agriculture activities. There are no known reported occurrences within 5 miles of the Project. Disturbance history of Study Area and lack of primary habitat further limits the possibility of occurrence. |
| <b>Reptiles</b>                                       |                                    |   |                       |  |
| <i>Anniella alexanderae</i><br>Temblor legless lizard | None/None<br>G1/S1<br>SSC          | Sandy soil at the southeast base of the Temblor Ranges, southwestern San Joaquin Valley, Kern County. Microhabitat of this species is poorly known. Other legless lizard species occur in sparsely vegetated areas with moist, loose soil. Often found underneath leaf litter, rocks, and logs.                           | Not<br>Expected       | No suitable habitat occurs within the Study Area. Disturbance history of Study Area limits the possibility of occurrence.  |
| <i>Anniella</i> spp.<br>California legless lizard     | None/None<br>G3G4/S3S4<br>SSC      | Contra Costa County south to San Diego, within a variety of open habitats. This element represents California records of <i>Anniella</i> not yet assigned to new species within the <i>Anniella pulchra</i> complex. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content. | Not<br>Expected       | No suitable habitat occurs within the Study Area. Disturbance history of Study Area limits the possibility of occurrence.  |
| <i>Emys marmorata</i><br>Western pond turtle          | None/None<br>G3G4/S3<br>SSC        | Fully aquatic habitats: ponds, marshes, rivers, streams, irrigation ditches, usually with aquatic vegetation.   | Not<br>Expected       | No suitable habitat occurs within the Study Area. Tailwater basins present, but usually dry with no connectivity to other aquatic features.  |

| Scientific Name<br>Common Name                                 | Status<br>Fed/State<br>ESA<br>CDFW | Habitat Requirements   | Potential<br>to Occur | Rationale   |
|--|------------------------------------|--|-----------------------|---|
| <i>Gambelia sila</i><br>blunt-nosed leopard<br>lizard          | FE/SE<br>G1/S1<br>FP               | Resident of sparsely vegetated alkali and desert scrub habitats, in areas of low topographic relief. Seeks cover in mammal burrows, under shrubs or structures such as fence posts; they do not excavate their own burrows.            | Not<br>Expected       | No suitable burrows to potentially use as refuge were observed within the Study Area. Disturbance history of Study Area limits the possibility of occurrence.   |
| <i>Masticophis flagellum ruddocki</i><br>San Joaquin coachwhip | None/None<br>G5T2T3/S2?<br>SSC     | Open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley. Needs mammal burrows for refuge and oviposition sites.  | Not<br>Expected       | No suitable burrows to potentially use as refuge were observed within the Study Area. Disturbance history of Study Area limits the possibility of occurrence.   |
| <b>Birds</b>   |                                    |  |                       |   |
| <i>Agelaius tricolor</i><br>tricolored blackbird               | None/ST<br>G2G3/S1S2<br>SSC        | Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.                | Moderate<br>Potential | Depending on available nearby water sources, this species could potentially be found foraging and within the active agriculture or fallow agriculture habitat, and potentially nesting within the orchard or fallow agriculture within the Project site. Ongoing agriculture activities and relatively low water source availability could potentially discourage the species from nesting within the Study Area. |
| <i>Asio otus</i><br>long-eared owl                             | None/None<br>G5/S3?<br>SSC         | Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding. | Not<br>expected       | Suitable nesting habitat is not present. Disturbance history of Study Area limits the possibility of occurrence and there are no reported occurrences within 5 miles of the Study Area.   |

| Scientific Name<br>Common Name             | Status<br>Fed/State<br>ESA<br>CDFW | Habitat Requirements   | Potential<br>to Occur | Rationale  |
|--|------------------------------------|--|-----------------------|--|
| <i>Athene cunicularia</i><br>burrowing owl | None/None<br>G4/S3<br>SSC          | Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.  | Not<br>Expected       | Burrows required for this species are not present. Very few rodent burrows observed on site that could attract this species to forage. Disturbance history of Study Area limits the possibility of occurrence. Multiple protocol level surveys across breeding and non-breeding season were negative for BUOW, potential dens, or sign.  |
| <i>Buteo swainsoni</i><br>Swainson's hawk  | None/ST<br>G5/S3                   | Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. | Low<br>Potential      | Species may occasionally use the site for foraging, however, ongoing active agriculture activities likely prevent suitable nesting habitat within the Study Area. Nesting habitat could potentially exist outside the Project site on trees or less likely on power poles. One individual observed flying over Study Area during field surveys; determined to be transitory and not indicative of foraging or nesting in area. |
| <i>Falco columbarius</i><br>merlin         | None/None<br>G5/S3S4<br>WL         | Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches. Clumps of trees or windbreaks are required for roosting in open country.   | Not<br>Expected       | Suitable nesting habitat is not present. Disturbance history of Study Area limits the possibility of occurrence and there are no reported occurrences within 5 miles of the Study Area.  |

| Scientific Name<br>Common Name                                       | Status<br>Fed/State<br>ESA<br>CDFW | Habitat Requirements   | Potential<br>to Occur | Rationale  |
|--|------------------------------------|--|-----------------------|--|
| <i>Falco mexicanus</i>   | None/None<br>G5/S4<br>WL           | Open deserts, grasslands, and agricultural fields. Nests on cliffsides.  | Low<br>Potential      | Species may occasionally use the site for foraging, however, ongoing active agriculture activities limit prey and lead to low-quality habitat.         |
| <i>Lanius ludovicianus</i><br>loggerhead shrike                      | None/None<br>G4/S4<br>SSC          | Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.   | Low<br>Potential      | Suitable nesting habitat for the species potentially exists within orchards, as well as tumbleweeds in fallow cropland.                                |
| <i>Toxostoma lecontei</i><br>Le Conte's thrasher                     | None/None<br>G4/S3<br>SSC          | Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground.   | Not<br>Expected       | Suitable nesting habitat is not present. Disturbance history of Study Area limits the possibility of occurrence.                                       |
| <i>Xanthocephalus xanthocephalus</i><br>yellow-headed blackbird      | None/None<br>G5/S3<br>SSC          | Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds. Nests only where large insects such as Odonata are abundant, nesting timed with maximum emergence of aquatic insects.   | Not<br>Expected       | Suitable nesting habitat is not present. Disturbance history of Study Area limits the possibility of occurrence.                                       |
| <b>Mammals</b>   |                                    |  |                       |  |
| <i>Ammospermophilus nelsoni</i><br>Nelson's antelope squirrel        | None/ST<br>G2G3/S2S3               | Occurs in Western San Joaquin Valley from 200-1200 feet elevation. Uses dry, sparsely vegetated areas with a variety of soils suitable for digging. Digs burrows or uses kangaroo rat or other small mammal burrows. Needs widely scattered shrubs, forbs, and grasses in broken terrain, often with gullies and washes. | Not<br>Expected       | Suitable habitat is not present and no potential burrow systems were detected. Disturbance history of Study Area limits the possibility of occurrence. |
| <i>Dipodomys nitratoideus brevinasus</i><br>short-nosed kangaroo rat | None/None<br>G3T1T2/S1S2<br>SSC    | Occurs along the western side of San Joaquin Valley in grassland and desert shrub associations, especially Atriplex. Can occur in highly alkaline soils among others, require friable soils for burrowing. Favors flat to gently sloping terrain.  | Not<br>Expected       | Suitable habitat is not present and no potential precincts were detected. Disturbance history of Study Area limits the possibility of occurrence.      |

| Scientific Name<br>Common Name                                   | Status<br>Fed/State<br>ESA<br>CDFW | Habitat Requirements   | Potential<br>to Occur | Rationale   |
|--|------------------------------------|--|-----------------------|---|
| <i>Eumops perotis californicus</i><br>western mastiff bat        | None/None<br>G5T4/S3S4<br>SSC      | Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.                         | Not<br>Expected       | The orchard habitat on site could provide some foraging habitat, however, ongoing active agriculture activities likely prevent suitable roosting habitat. Disturbance history of Study Area limits the possibility of occurrence. |
| <i>Onychomys torridus tularensis</i><br>Tulare grasshopper mouse | None/None<br>G5T1T2/S1S2<br>SSC    | Hot, arid valleys and scrub deserts in the southern San Joaquin Valley. Diet almost exclusively composed of arthropods, therefore needs abundant supply of insects.  | Not<br>Expected       | Suitable habitat is not present and no potential burrow systems were detected. Disturbance history of Study Area limits the possibility of occurrence.  |
| <i>Perognathus inornatus</i><br>San Joaquin pocket mouse         | None/None<br>G2G3/S2S3             | Grassland, oak savanna and arid scrubland in the southern Sacramento Valley, Salinas Valley, San Joaquin Valley and adjacent foothills, south to the Mojave Desert. Associated with fine-textured, sandy, friable soils. | Not<br>Expected       | Suitable habitat is not present and no potential burrow systems were detected. Disturbance history of Study Area limits the possibility of occurrence.  |
| <i>Taxidea taxus</i><br>American badger                          | None/None<br>G5/S3<br>SSC          | Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.     | Not<br>Expected       | No burrows of sufficient size were observed, and species was not detected during sit visit. Ongoing agricultural activities discourage occupancy and availability of preferred prey base.   |

| Scientific Name<br>Common Name                       | Status<br>Fed/State<br>ESA<br>CDFW | Habitat Requirements  | Potential<br>to Occur | Rationale  |
|--|------------------------------------|---|-----------------------|--|
| <i>Vulpes macrotis mutica</i><br>San Joaquin kit fox | FE/ST<br>G4T2/S2                   | Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base. | Low<br>Potential      | Suitable habitat was not observed within the Study Area. No suitable burrows were observed, and species was not detected during focused surveys. Site is within range, but ongoing agricultural activities discourage occupancy. Could potentially occur as a rare transient, however, coyote presence likely discourages presence of kit fox. |

Regional Vicinity refers to the 9 USGS quads surrounding the Project Site.

FT = Federally Threatened      SE = State Endangered

FC = Federal Candidate Species      ST = State Threatened

FE = Federally Endangered      SR = State Rare

FS = Federally Sensitive      SS = State Sensitive

G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDDB RareFind3

SC = CDFW Species of Special Concern

FP = Fully Protected

WL = Watch List

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# Appendix F

## **Cultural Resources and Tribal Cultural Resources**







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# County of Fresno

PUBLIC WORKS AND PLANNING  
STEVEN E. WHITE, DIRECTOR

February 4, 2022

Heather Airey  
Picayune Rancheria  
PO Box 2226  
Oakhurst, CA

Postage \$

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Cultural Resources Director  
Picayune Rancheria of the  
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Street: PO Box 2226  
City, St: Oakhurst CA 93644

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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Subject: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of Determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Ms. Airey:

The County of Fresno is acting as the Lead Agency in the preparation of Environmental Impact Report No. 8189 and Conditional Use Permit (CUP) Application No. 3734.

Under California state law, the project is subject to the California Environmental Quality Act (CEQA), and the County may have to prepare an environmental document consisting of a 1) Negative Declaration; 2) Mitigated Negative Declaration; or 3) Environmental Impact Report.

State law under Assembly Bill 52 (PRC Section 21080.3.1) allows California Native American tribes 30 days to request consultation regarding possible significant effects that implementation of the proposed project may have on tribal cultural resources. The request must be in writing to the County of Fresno and must identify a lead contact person. The County will begin the consultation process within 30 days of receiving the tribe's request for consultation. The consultation may include a discussion concerning the type of environmental review necessary for the project, the significance of tribal cultural resources discovered, the significance of the project's impacts on tribal cultural resources, and, if necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend.

A copy of the agency routing package prepared for the project is attached to this letter which includes the project description and contact information. The lead contact for this project is given below.

Pursuant to PRC § 21080.3.1, the County is providing you with this consultation, in writing, with

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2220 Tulare Street, Sixth Floor / Fresno  
The County of Fresno

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|--|---|
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| <p>1. Article Addressed to:</p> <p>Heather Airey<br/>Cultural Resources Director<br/>Picayune Rancheria of the<br/>Chukchansi Indians<br/>PO Box 2226<br/>Oakhurst CA 93644</p>  | <p>3. Service Type</p> <p><input type="checkbox"/> Adult Signature <input type="checkbox"/> Priority Mail Express®<br/> <input type="checkbox"/> Adult Signature Restricted Delivery <input type="checkbox"/> Registered Mail™<br/> <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Registered Mail Restricted Delivery<br/> <input checked="" type="checkbox"/> Certified Mail Restricted Delivery <input checked="" type="checkbox"/> Return Receipt for Merchandise<br/> <input type="checkbox"/> Collect on Delivery <input type="checkbox"/> Signature Confirmation™<br/> <input type="checkbox"/> Collect on Delivery Restricted Delivery <input type="checkbox"/> Signature Confirmation Restricted Delivery<br/> <input type="checkbox"/> Insured Mail <input type="checkbox"/> Signature Confirmation Restricted Delivery (over \$500)<br/> <input type="checkbox"/> Insured Mail Restricted Delivery (over \$500)</p> |
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# County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING  
STEVEN E. WHITE, DIRECTOR

February

Robert Ledger  
Dumna Wo Wah  
2191 W. Pico Avenue  
Fresno, CA 93705

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Robert Ledger  
Tribal Chairman  
Dumna Wo Wah Tribal Government  
2191 W. Pico Avenue  
Fresno CA 93705

Subject:

Environmental Quality Act, AB 52  
Project Application is  
Complete or Decision to Undertake a Project, and Notification of Consultation  
Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Dear Mr. Ledger:

The County of Fresno is acting as the Lead Agency in the preparation of Environmental Impact Report No. 8189 and Conditional Use Permit (CUP) Application No. 3734.

Under California state law, the project is subject to the California Environmental Quality Act (CEQA), and the County may have to prepare an environmental document consisting of a 1) Negative Declaration; 2) Mitigated Negative Declaration; or 3) Environmental Impact Report.

State law under Assembly Bill 52 (PRC Section 21080.3.1) allows California Native American tribes 30 days to request consultation regarding possible significant effects that implementation of the proposed project may have on tribal cultural resources. The request must be in writing to the County of Fresno and must identify a lead contact person. The County will begin the consultation process within 30 days of receiving the tribe's request for consultation. The consultation may include a discussion concerning the type of environmental review necessary for the project, the significance of tribal cultural resources discovered, the significance of the project's impacts on tribal cultural resources, and, if necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend.

A copy of the agency routing package prepared for the subject project is attached to this letter which includes the project description and contact information for the project lead contact for this project is given below.

Pursuant to PRC § 21080.3.1, you are invited to request consultation, in writing, with the County of Fresno regarding the project.

|  |  |   |  |
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# County of Fresno

PUBLIC WORKS AND PLANNING  
 STEVEN E. WHITE, DIRECTOR

February 4, 2017

Ruben Barrios  
 Santa Rosa Rancheria  
 Cultural Department  
 PO Box 8  
 Lemoore, CA

7020 3160 0000 6655 3217

Postmark  
 Here

CERTIFIED MAIL

Subject: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of Determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Mr. Barrios:

The County of Fresno is acting as the Lead Agency in the preparation of Environmental Impact Report No. 8189 and Conditional Use Permit (CUP) Application No. 3734.

Under California state law, the project is subject to the California Environmental Quality Act (CEQA), and the County may have to prepare an environmental document consisting of a 1) Negative Declaration; 2) Mitigated Negative Declaration; or 3) Environmental Impact Report.

State law under Assembly Bill 52 (PRC Section 21080.3.1) allows California Native American tribes 30 days to request consultation regarding possible significant effects that implementation of the proposed project may have on tribal cultural resources. The request must be in writing to the County of Fresno and must identify a lead contact person. The County will begin the consultation process within 30 days of receiving the tribe's request for consultation. The consultation may include a discussion concerning the type of environmental review necessary for the project, the significance of tribal cultural resources discovered, the significance of the project's impacts on tribal cultural resources, and, if necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend.

A copy of the agency routing letter which includes the project contact for this project is given.

Pursuant to PRC § 21080.3.1, consultation, in writing, with

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County of Fresno

OFFICE OF PUBLIC WORKS AND PLANNING  
STEVEN E. WHITE, DIRECTOR

February 4

Robert Pennell  
Tribal Cultural Resources Director  
Table Mountain Rancheria  
PO Box 410  
Friant, CA 93626

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Subject: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of Determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Mr. Pennell:

The County of Fresno is acting as the Lead Agency in the preparation of Environmental Impact Report No. 8189 and Conditional Use Permit (CUP) Application No. 3734.

Under California state law, the project is subject to the California Environmental Quality Act (CEQA), and the County may have to prepare an environmental document consisting of a 1) Negative Declaration; 2) Mitigated Negative Declaration; or 3) Environmental Impact Report.

State law under Assembly Bill 52 (PRC Section 21080.3.1) allows California Native American tribes 30 days to request consultation regarding possible significant effects that implementation of the proposed project may have on tribal cultural resources. The request must be in writing to the County of Fresno and must identify a lead contact person. The County will begin the consultation process within 30 days of receiving the tribe's request for consultation. The consultation may include a discussion concerning the type of environmental review necessary for the project, the significance of tribal cultural resources discovered, the significance of the project's impacts on tribal cultural resources, and, if necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend.

A copy of the agency routing package prepared for the project is attached to this letter which includes the project description and contact information. A copy of the routing package for this project is given to you.

Pursuant to PRC § 21080.3.1, you are required to provide written consultation, in writing, with the County of Fresno regarding the project.

DEVELOPMENT SERVICES  
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The County of Fresno

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**From:** [Samantha McCarty](#)  
**To:** [Shaw, Jeremy](#)  
**Cc:** [Shana Powers](#); [Paige Berggren](#); [Damion Cuara](#); [William K. Barrios](#); [Maria Gonzales](#)  
**Subject:** Environmental Impact Report No. 8189 and Conditional Use Permit Application No. 3734  
**Date:** Monday, February 14, 2022 4:37:25 PM

---

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Dear Jeremy,

Thank you for contacting the Santa Rosa Rancheria Tachi-Yokut Tribe regarding: EIR No. 8189 and CUP No. 3734. The Tribe is requesting to have tribal monitors on site for all ground disturbance related to the project and to have a curation agreement put into place. If you have any questions, comments, and or concerns please contact the Santa Rosa Rancheria Cultural Department. Thank you.

Sincerely,

*Samantha McCarty*

Santa Rosa Rancheria Tachi-Yokut Tribe

Cultural Specialist II

[SMcCarty@tachi-yokut-nsn.gov](mailto:SMcCarty@tachi-yokut-nsn.gov)

Office: (559) 924-1278 x 4091

Cell: (559) 633-6640

**\*PLEASE KEEP ALL CULTURAL STAFF IN EMAILS UNLESS STATED OTHERWISE**

# Appendix G

## **Geological and Paleontological Resources**



# Appendix G1

## **Geology and Geohazards Desktop Review**





# Key Energy Storage Project

## Geology and Geohazards Desktop Review

*prepared for*

**Key Energy Storage, LLC**  
700 Universe Boulevard  
Juno Beach, Florida 33408  
Attn: Virginia Thompson / Patti Murphy

*prepared by*

**Rincon Consultants, Inc.**  
7080 North Whitney Avenue, Suite 101  
Fresno, California 93720

**October 2022**





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# 1 Introduction

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The purpose of the Geology and Geohazards Desktop Review is to document the existing site conditions related to geology and geohazards for the Key Energy Storage Project (“Project”). This report is based upon the desktop review of publicly available published maps, professional publications, and reports pertaining to the geology, soils, and seismicity of the Project area. The following geologic hazards are considered in this evaluation:

- Faults, including Alquist-Priolo Earthquake Fault Zones
- Seismically induced ground shaking
- Fault rupture
- Seismic-related ground failure, including liquefaction
- Slope stability and landslides
- Erosion and loss of topsoil
- Unstable and expansive soils
- Soil adequacy to support use of septic tanks or alternative wastewater disposal systems

## 2 Project Description

---

### 2.1 Project Location

The Project site is in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles east of Interstate 5 (Figure 1). The Project site is located southwest of the Pacific Gas and Electric (PG&E) Gates Substation along West Jayne Avenue. The Project would be developed on up to 260 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2).

### 2.2 Project Description

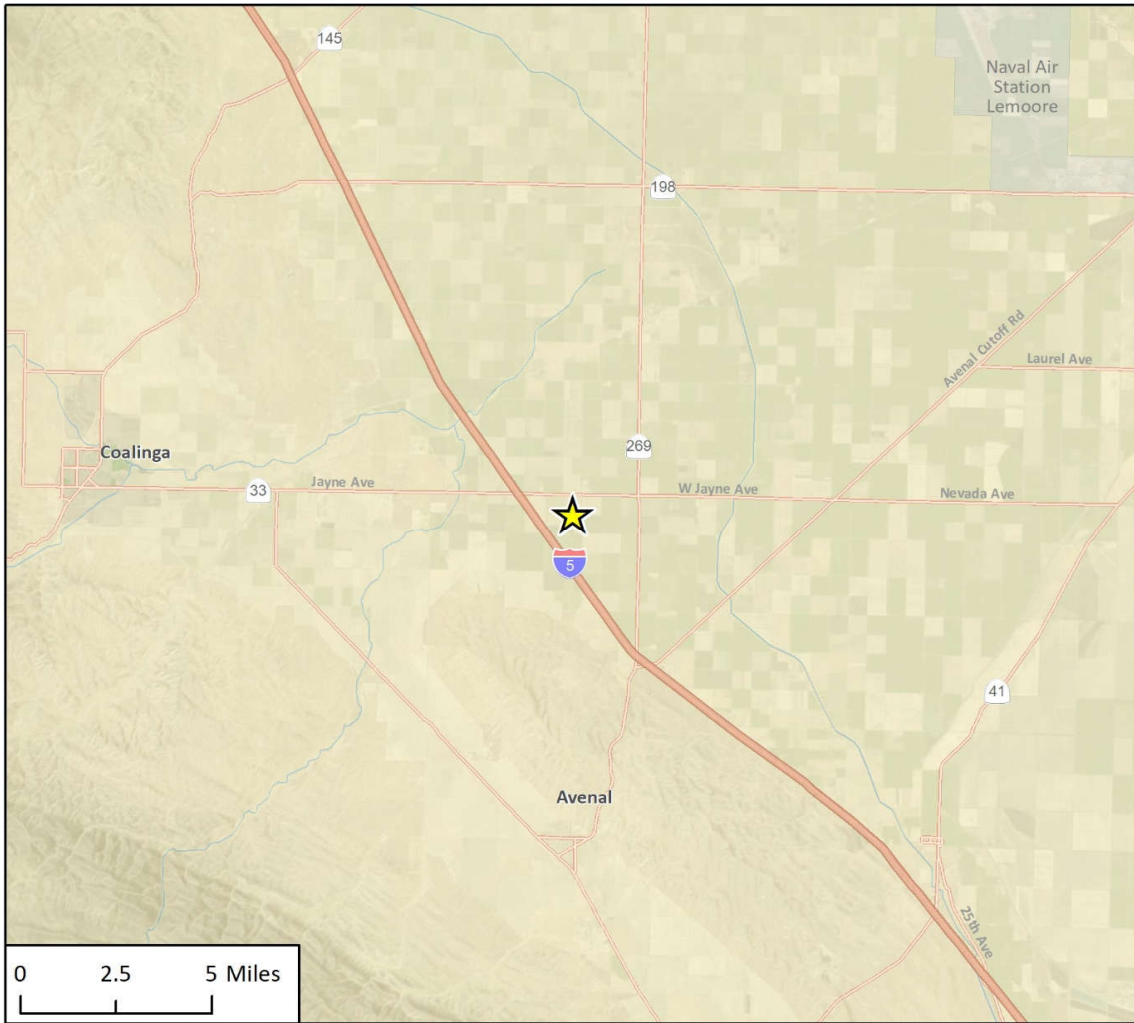
Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) on up to 260 acres within the 318-acre Study Area in unincorporated Fresno County. The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.<sup>1</sup> The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent PG&E Gates Substation. Buildout of the Project would occur in phases, with construction beginning in 2024. For the purposes of this analysis, Rincon Consultants, Inc. (Rincon) has assumed the Project will involve full buildout of the entire 260-acre Project site.

The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

---

<sup>1</sup>The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the Project may change, the overall size of the Project (up to 260 acres) would remain consistent.

Figure 1 Regional Location



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★ Project Location 

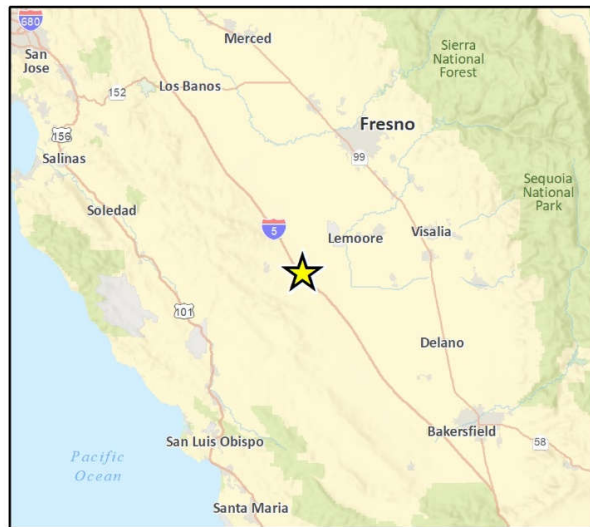
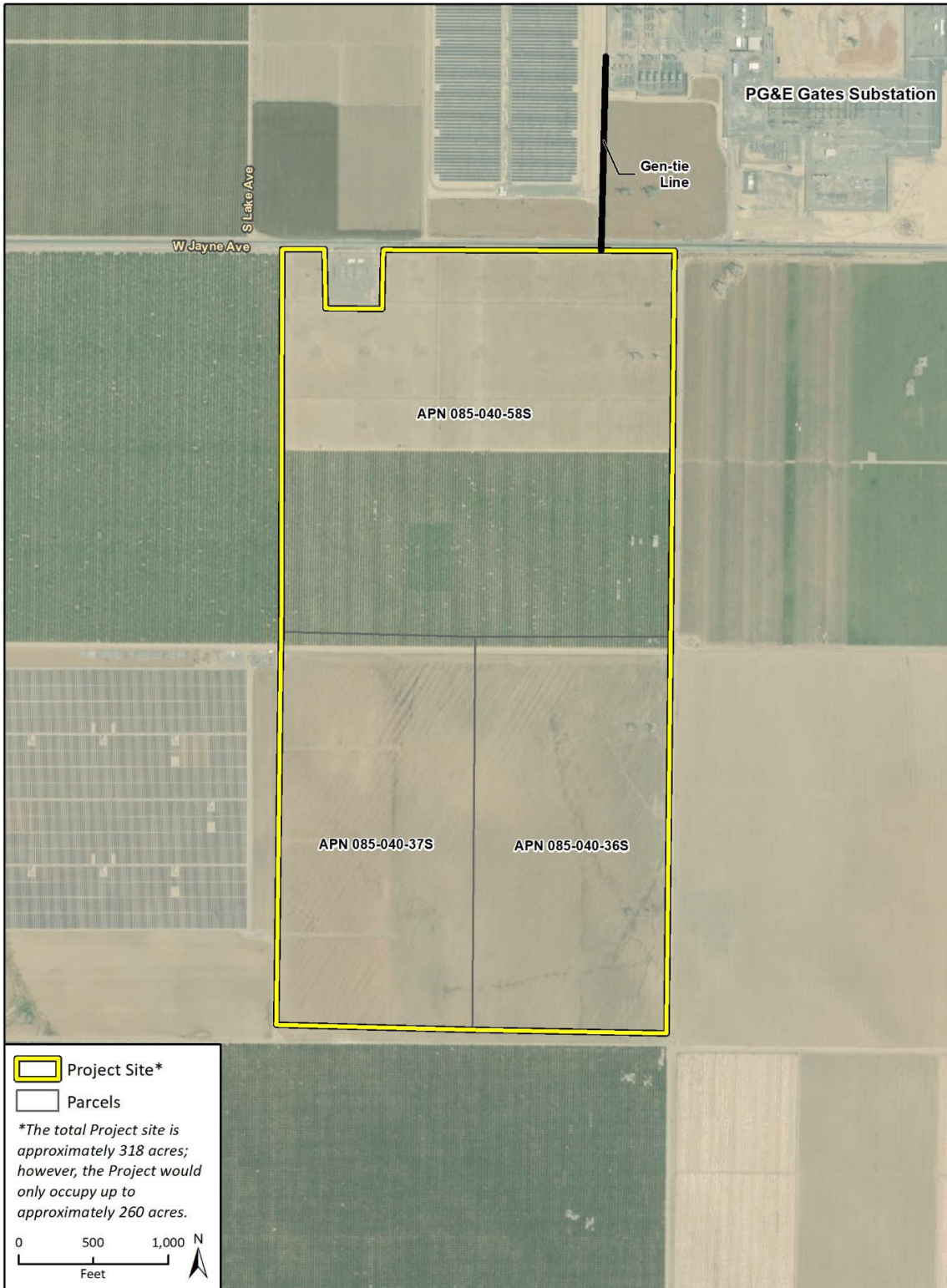


Fig 1 Regional Location

Figure 2 Project Location



### 3 Methodology

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As part of our scope of services, Rincon reviewed available on-line information to assess the potential geology and geohazards that could impact Project development. Our review included a review of information available from:

- Google Earth aerial imagery
- California Department of Conservation
- California Department of Water Resources (DWR)
- California Geological Survey
- County of Fresno General Plan
- State Water Resources Control Board (SWRCB)
- United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS)
- United States Geologic Survey (USGS)
- University of California at Davis (UC Davis)

The desktop review is preliminary and considers the following geology and geohazard conditions to the practical extent they can be determined from the above sources:

- Faults, including Alquist-Priolo Earthquake Fault Zones
- Seismically induced ground shaking
- Fault rupture
- Seismic-related ground failure, including liquefaction
- Slope stability and landslides
- Erosion and loss of topsoil
- Unstable and expansive soils
- Soil adequacy to support use of septic tanks or alternative wastewater disposal systems

## 4 Results

---

The results of the geology and geohazards desktop review for the Project site are included below.

### *Faults, including Alquist-Priolo Earthquake Fault Zones*

The Project site is not located within an Earthquake Fault Zone as designated by the Alquist-Priolo Earthquake Fault Zoning Act (California Geological Survey 2021). The closest Alquist-Priolo Fault Zones are the Nunez fault, located approximately 20 miles northwest of the Project site, and the San Andreas Fault, located approximately 30 miles to the west of the Project site.

The Nunez fault is a historically active and relatively minor oblique-slip fault that dips steeply eastward and is located in the southwest part of Fresno County. The Nunez fault experienced surface rupture during the 1983 Coalinga earthquake. The San Andreas Fault Zone is located within two miles of the San Luis Obispo County/Fresno County line along the southwest border (County of Fresno 2021). The most recent rupture event associated with the Cholame-Carrizo section of the San Andreas Fault occurred during the 1857 Fort Tejon earthquake. For a view of these fault lines on a map, refer to Figure 3.

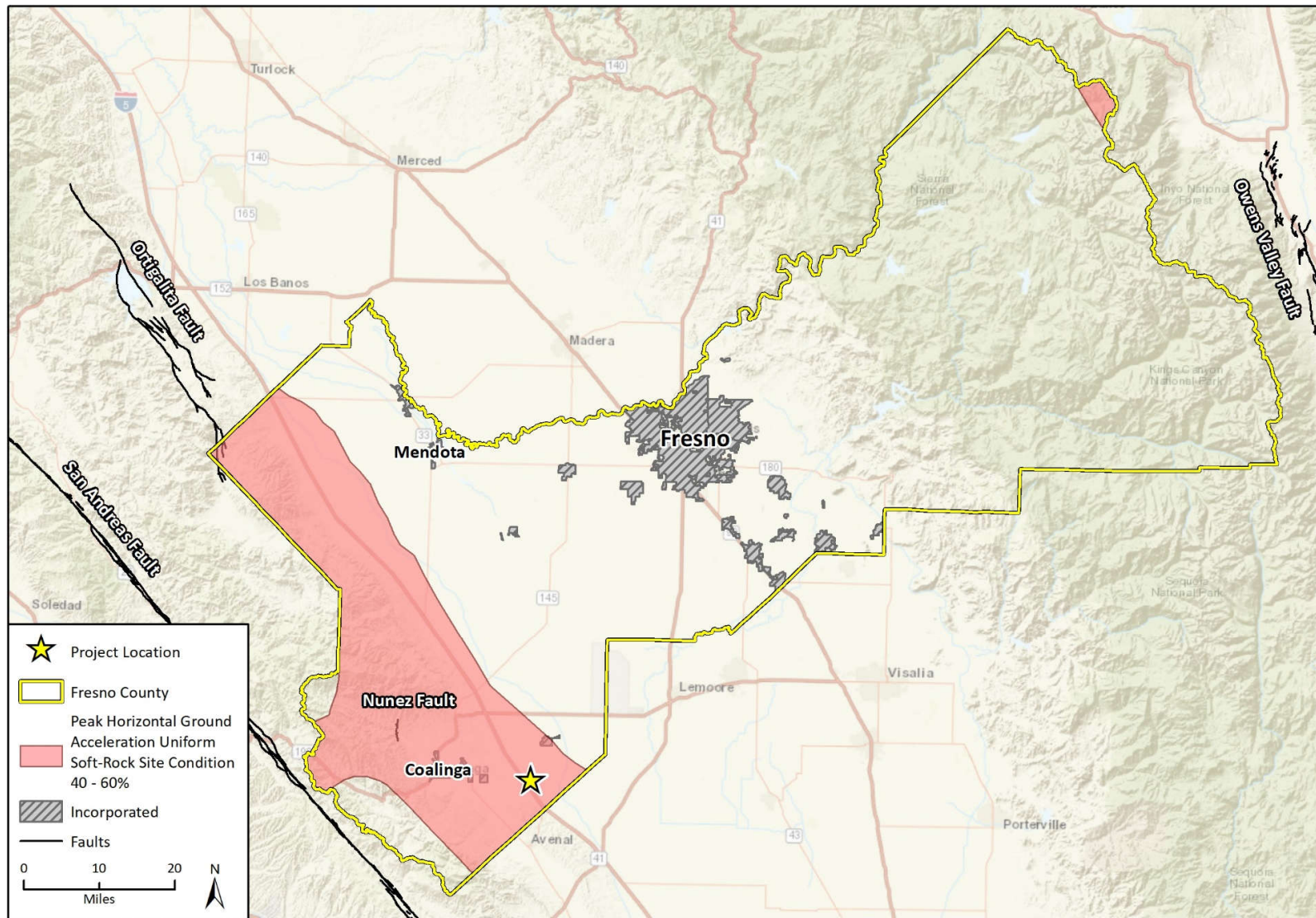
### *Seismically Induced Ground Shaking*

As with all of California, the Project site is located in an area with the potential for strong ground shaking. The intensity of ground motion depends upon the magnitude of an earthquake, distance from epicenter, and geology between epicenter and Project site. The western part of Fresno County, where the Project site is located, is most susceptible to ground shaking due to the quaternary alluvium which makes up its regional geology (California Department of Conservation 2018). Fault systems along the western and eastern boundaries of Fresno County have the potential to produce high magnitude earthquakes (County of Fresno 2021). The Fresno County General Plan estimates a peak horizontal ground acceleration of 40 to 60 percent of the acceleration of gravity (g-units) (i.e., 0.4 g to 0.6 g) at a 10% probability in 50 years for the Project site (County of Fresno 2000; Figure 3).

### *Ground Surface Fault Rupture*

Alquist-Priolo Fault Earthquake Fault Rupture hazard zones indicates active faults with a potential for fault rupture. Fault rupture refers to displacement of the ground surface along a fault, and generally occurs during earthquakes of approximately magnitude 5.0 or greater. Fault rupture can endanger life and property if structures are constructed on, or cross over, a fault. Fault rupture tends to occur along or near previous ruptures that define the fault zone. As discussed previously, the Project site is not located in an Earthquake Fault Rupture hazard zone as defined under the Alquist-Priolo Earthquake Fault Zoning Act, and no active or potentially active faults are mapped in the immediate vicinity of the Project site. Therefore, fault ruptures on the Project site are unlikely.

**Figure 3 Regional Faults and Peak Horizontal Ground Acceleration (10% Probability in 50 Years)**



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 Additional data provided by USGS, 2010.

Fig 3 Regional Faults and Peak Horizontal Ground Acceleration



## *Seismic-Related Ground Failure*

### **Liquefaction**

Liquefaction is a process during which saturated soil temporarily becomes fluid during intense and prolonged ground shaking or because of a sudden shock or strain. Liquefaction typically occurs in areas where the groundwater is less than 30 feet from the surface and where the soils are composed of low-density non-plastic soils. Liquefaction-induced lateral spreading is the finite, lateral displacement of gently sloping ground from pore-pressure buildup or liquefaction in a shallow underlying deposit during an earthquake. No specific assessments to identify liquefaction hazards have been completed in Fresno County (County of Fresno 2021).

Based on a review of the SWRCB GeoTracker database, Rincon identified a shallow-screened monitoring well approximately 12 miles to the northeast. The measured depth to groundwater at this well was 39.97 feet below ground surface (ft bgs) in October 2005 (SWRCB 2022). Rincon also reviewed the Department of Water Resources Sustainable Groundwater Management Act (SGMA) Data Viewer portal, but no production wells with shallow screens could be identified to evaluate water levels in the upper 50 feet (DWR 2022).

As shown in Figure 4, soils on the Project site were classified as Kimberlina sandy loam, Westhaven loam, and Wasco sandy loam (UC Davis 2021). Kimberlina is a coarse soil averaging 5 to 20 percent clay (USDA-NRCS 2003a), Westhaven averages 18 to 35 percent clay (USDA-NRCSb 2003), and Wasco is a coarse-loamy soil (USDA-NRCSc 2003a, 2003b, 2003c). These series represent a range of non to moderately plastic soils with mixed coarse-grained textures. Because the soils are well drained and groundwater is likely to be deeper than 30 ft bgs, the liquefaction risk for the Project site is low.

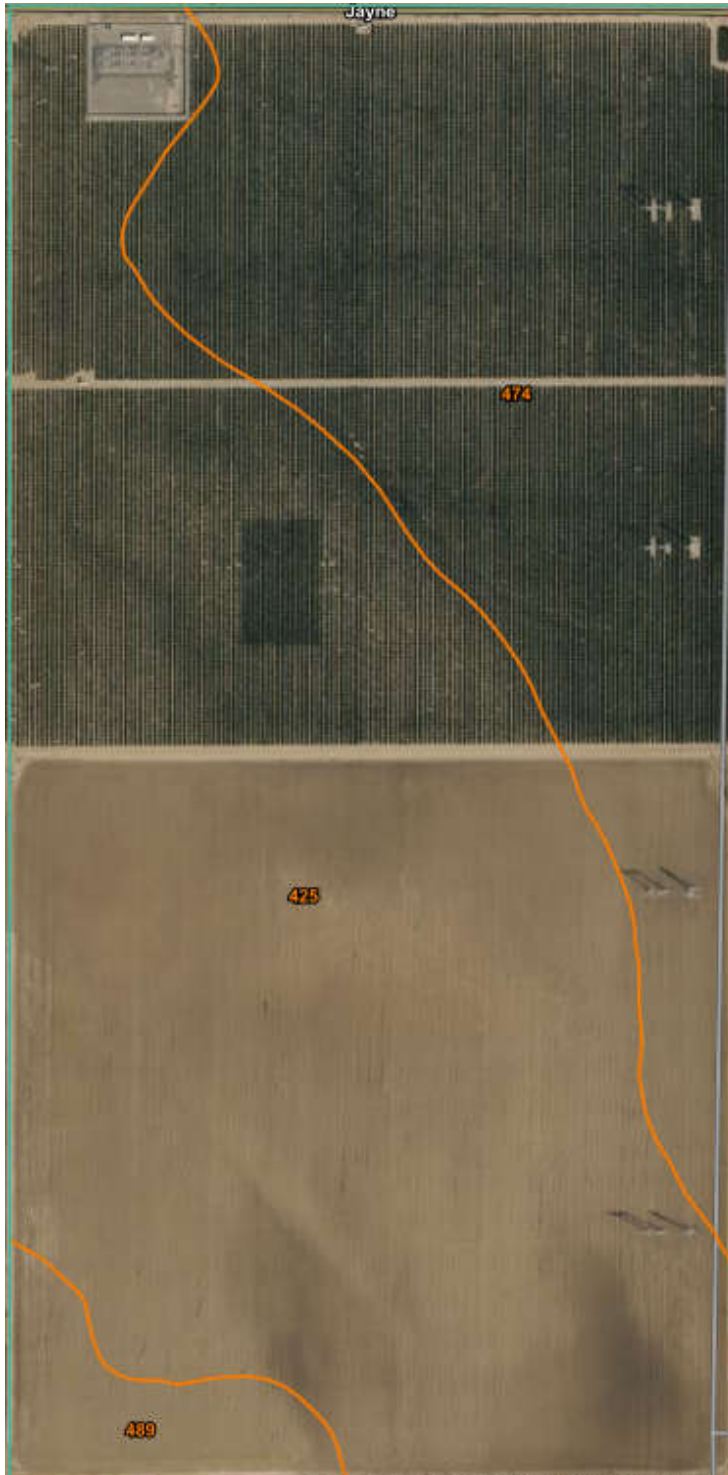
### **Settlement**

Settlement is the vertical movement of the ground in response to a load, can occur in poorly consolidated soils during compressive ground shaking of an earthquake (County of Fresno 2021). Differential settlement of sufficient magnitude to cause significant structural damage is normally associated with rapidly deposited alluvial soils or improper fill (County of Fresno 2021). According to the Coalinga and Guajarral Hills geologic quadrangle, the Project site overlays quaternary alluvial gravels and sands (Diblee Geologic Foundation 2007). Additionally, Kimberlina, Westhaven, and Wasco soils are found on alluvial fans and flood plains in the region. Therefore, the potential for soil settlement exists at the Project site; however, the relative risk cannot be assessed without a geotechnical evaluation of specific onsite soils.

### *Subsidence*

Similar to settlement, subsidence is the downward movement of the ground due to the collapse of soil pore space. In the Central Valley, the most common cause for subsidence is the over-pumping of groundwater, which reduces pore pressure and allows the soil substrate to compress and surface elevations to decrease. Subsidence is generally viewed as a regional change in surface elevation; however, localized differential displacements of the ground surface can damage foundations and structures as does settlement.

Based on a review of the United States Geological Survey's Central Valley Drought Indicators interactive map (USGS 2022), a subsidence of approximately 25 millimeters was observed at the site between 2008 and 2010.

**Figure 4 Soils on Project Site**

Source: USDA-NRCS, Web Soil Survey, accessed February 2, 2022

Note: Soil 474 corresponds to Westhaven loam, 0 to 2 percent slopes. Soil 425 corresponds to Kimberlina sandy loam, 0 to 2 percent slopes. Soil 489 corresponds to Wasco sandy loam, 2 to 5 percent slopes.

### *Slope Stability and Landslides*

Landslide hazard areas are found in the foothill and mountain areas of Fresno County near the Sierra Nevada mountain range (County of Fresno 2021) and in the Jacalitos and Alcalde Hills of the Coast Ranges to the west; however, landslides are not expected to be a concern due to the flat topography of the Project site and its immediate surroundings.

### *Erosion and Loss of Topsoil*

Erosion is a natural process whereby soil and highly weathered rock materials are worn away and transported, most commonly by wind or water. The Project site is not mapped within an Erosion Hazard Area (County of Fresno 2021). However, soils in the western part of Fresno County are susceptible to erosion due to human activity, and these soils are often associated with alluvial fans (County of Fresno 2021). The site has been mapped on alluvial deposits, and both Kimberlina and Westhaven soils form on alluvial fans.

Erosion factor K indicates the susceptibility of a soil to erode by sheet and rill erosion as a result of surface water flows. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by surface water flows. The northeastern portion of the Project site consists of Westhaven loam which has a K factor of 0.49, which indicates a moderately-high erosion potential. The southwestern portion of the Project site consists of Kimberlina sandy loam and Wasco sandy loam which indicates a moderately-low erosion potential (USDA-NRCS 2022).

### *Unstable and Expansive Soils*

Soils with relatively high clay content are considered expansive (County of Fresno 2021). However, the Project site is not mapped within an area with moderately high to high soil expansion potential (County of Fresno 2021). Kimberlina, Westhaven, and Wasco soils have clay content less than 50 percent, which classifies as a slight to moderate swelling potential (USGS 2021). Therefore, expansion is not expected to be a concern on the Project site.

### *Soil Adequacy to Support Use of Septic Tanks or Alternative Wastewater Disposal Systems*

Rincon understands that neither septic tanks nor alternative waste water disposal systems are included in the Project plans; however, Kimberlina, Westhaven, and Wasco soils are well drained and do not exhibit high swelling potential, which lowers the risk of effluent surfacing (Krenz, Lee, & Owens n.d.). Additionally, the flat topography would not be expected to present challenges to the construction or maintenance of septic tanks or alternative wastewater disposal systems.

## 5 Limitations

---

Rincon has performed our work in a manner consistent with the level of care and skill ordinarily exercised by other members of the environmental profession. We based our conclusions, opinions, and recommendations on a limited number of observations and data. Conditions could vary between or beyond the data evaluated. Rincon makes no other representation, guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

Our work was preliminary in nature and performed solely from a review of available public information. No interviews were conducted, regulatory agency personnel contacted or consulted, site reconnaissance performed, samples obtained, and no form of site or laboratory testing completed. Therefore, the term “desktop” strictly applies to the on-line research performed.

Although risk can never be eliminated, more detailed and extensive studies will yield more information, which may help understand and manage the level of risk involved. Since detailed study and analysis involves greater expense, our clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies could be performed to reduce these uncertainties. The Limitations of this report apply to any electronic data submitted to the client that is associated with this desktop review.

## 6 List of Prepares

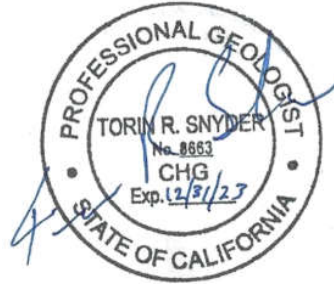
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### 6.1 Signatures

#### Rincon Consultants, Inc.



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Torin Snyder, PG, CHG  
Principal

*This document has  
been digitally signed  
and sealed by  
Torin Snyder, PG, CHG  
on 10/11/2022.*

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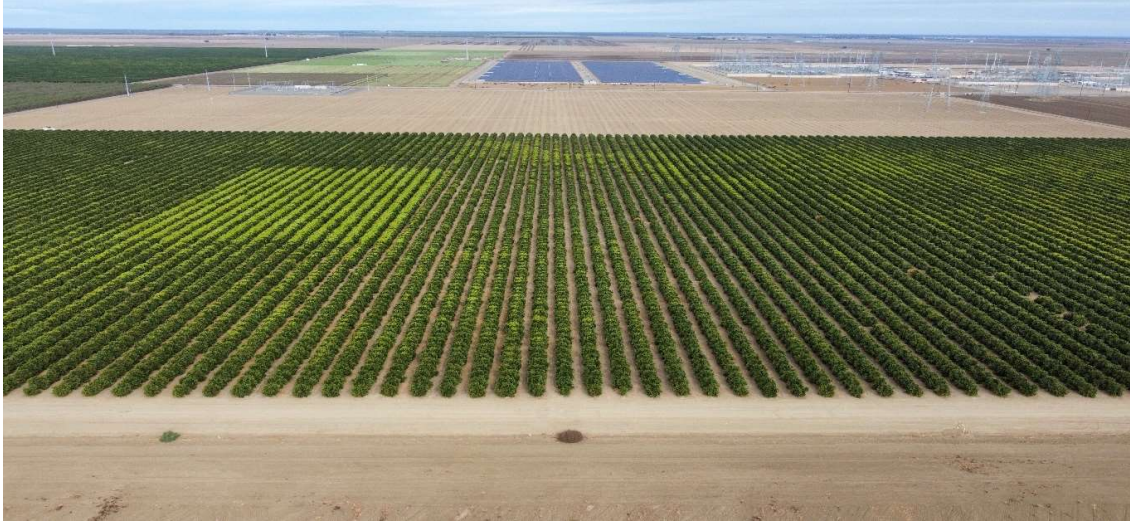
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# Appendix G2

## **Paleontological Resources Assessment Report**





# Key Energy Storage Project

## Paleontological Resources Assessment Report

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**March 2022**



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# Executive Summary

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## Purpose and Scope

Rincon Consultants, Inc. (Rincon) was retained to conduct a desktop paleontological resources assessment for the Key Energy Storage Project (“Project”) located in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles west of Interstate 5. This study includes a fossil locality search, literature review, paleontological sensitivity assessment, and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP) (2010).

## Results of Investigation

One geologic unit, Recent alluvial fan deposits (Qf), is mapped at the surface within the Project site (Dibblee and Minch 2006, 2007; Jefferson 2010; Jennings and Strand 1958). This geologic unit is Holocene in age and is assigned a low paleontological sensitivity because middle and late Holocene sediments (i.e., less than 5,000 years old) are considered too young to preserve paleontological resources per Society of Vertebrate Paleontology (SVP) guidelines (SVP 2010). A second geologic unit, Pleistocene (i.e., 11,700 to 2.6 million years ago) non-marine deposits (Qc), is mapped less than 200 feet south of the Project site, and may underlie, possibly at shallow depths, surface Qf deposits within the Project site (Dibblee and Minch 2006, 2007; Jefferson 2010; Jennings and Strand 1958). Pleistocene Qc deposits have produced fossils throughout California, including within Fresno County. Therefore, Qc is assigned high paleontological sensitivity. A formal fossil locality search from the Natural History Museum of Los Angeles recovered no known fossil localities within the Project site.

# 1 Introduction

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Rincon Consultants, Inc. (Rincon) conducted a desktop paleontological resource assessment for the Key Energy Storage Project (Project) in Fresno County, California. This assessment includes a fossil locality search, literature review, paleontological sensitivity assessment, and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP) (2010).

Paleontological resources (i.e., fossils) are the remains or traces of prehistoric life. Fossils are typically preserved in layered sedimentary rocks and the distribution of fossils across the landscape is controlled by the distribution and exposure of the fossiliferous sedimentary rock units at and near the surface. Construction related impacts that typically affect or have the potential to affect paleontological resources include mass excavation operations, drilling/borehole excavations, trenching/tunneling, and grading. Ground-disturbing construction activities would mainly consist of grading. This Paleontological Resources Assessment provides a list of the formations mapped at the surface within the Project site and formations that underlie those mapped at the surface which may be impacted by construction activities.

This Paleontological Resources Assessment also provides a description of the formations, including types of fossils known to occur within the formations (if any) and the paleontological sensitivity for each formation.

## 1.1 Project Location

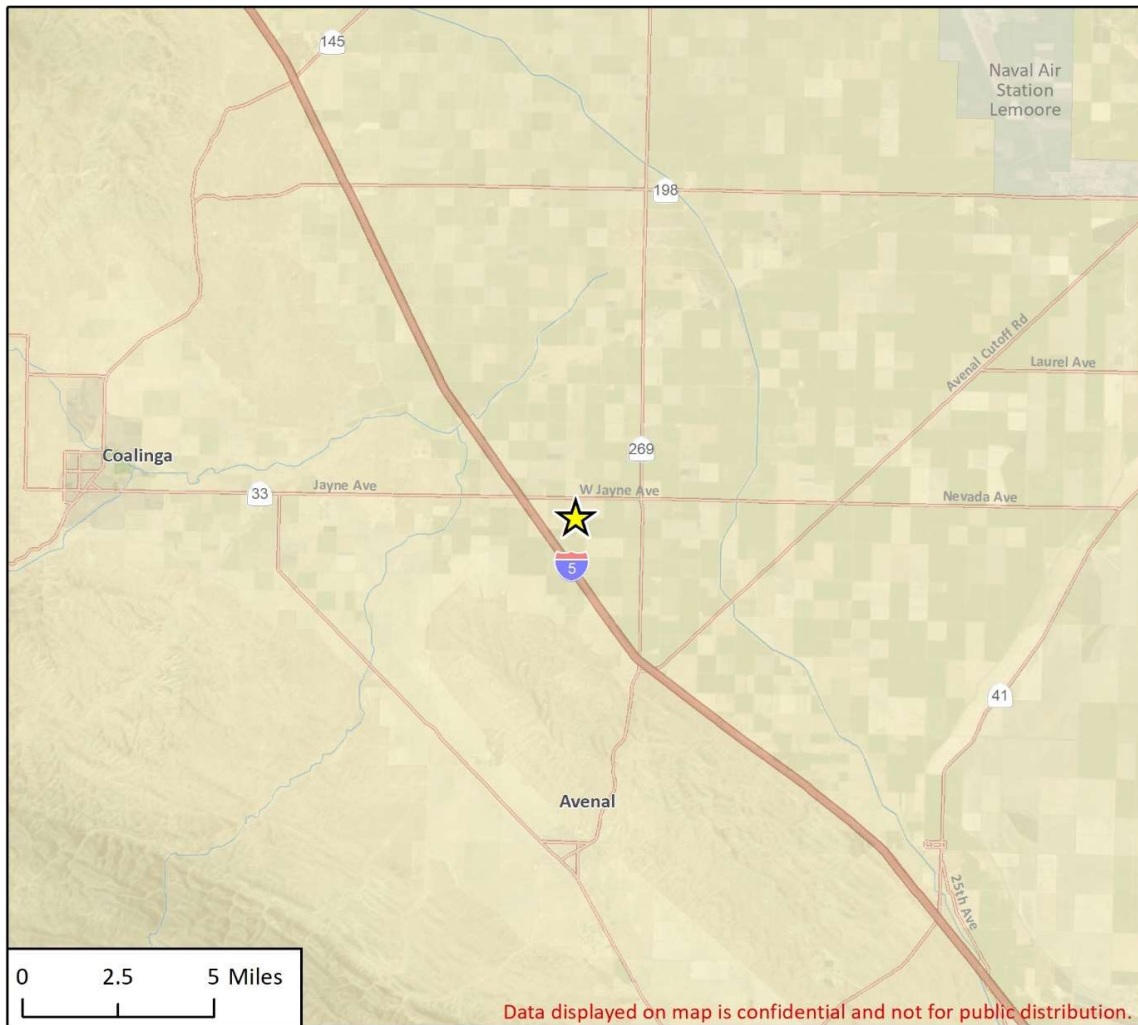
The Project site is in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles west of Interstate 5 (Figure 1). The Project site is located on the *Avenal* and *Guijarral Hills* 7.5-minute United States Geological Survey (USGS) topographic quadrangles. The Project site is located southwest of the Pacific Gas and Electric (PG&E) Gates Substation along West Jayne Avenue. The Project would be developed on up to 208 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2).

Adjacent land uses include agricultural fields in all directions, as well as a solar field directly to the west, and a PG&E substation to the north. The site currently consists of barren and active agricultural fields, including a mature orchard grove, and existing compacted dirt roads bordering on all sides.

## 1.2 Project Description

The Applicant proposes to construct and operate the Project on approximately 208 acres within the 318-acre Study Area in unincorporated Fresno County. The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control, data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of lithium-ion batteries with the potential to store approximately three (3)-gigawatt (GW) of

Figure 1 Regional Location



Imagery provided by Esri and its licensors © 2021.

★ Project Location

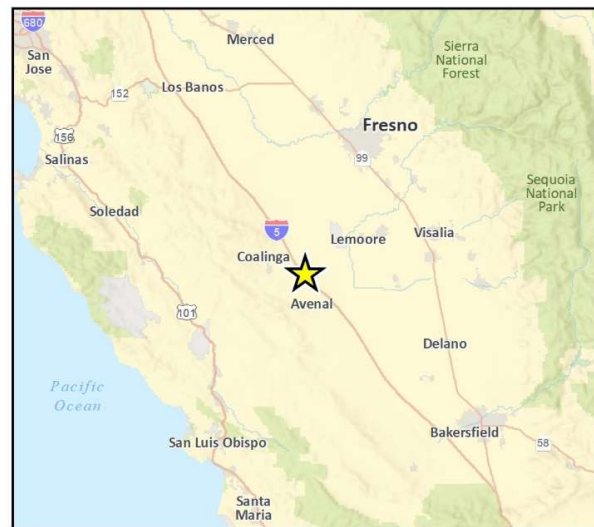
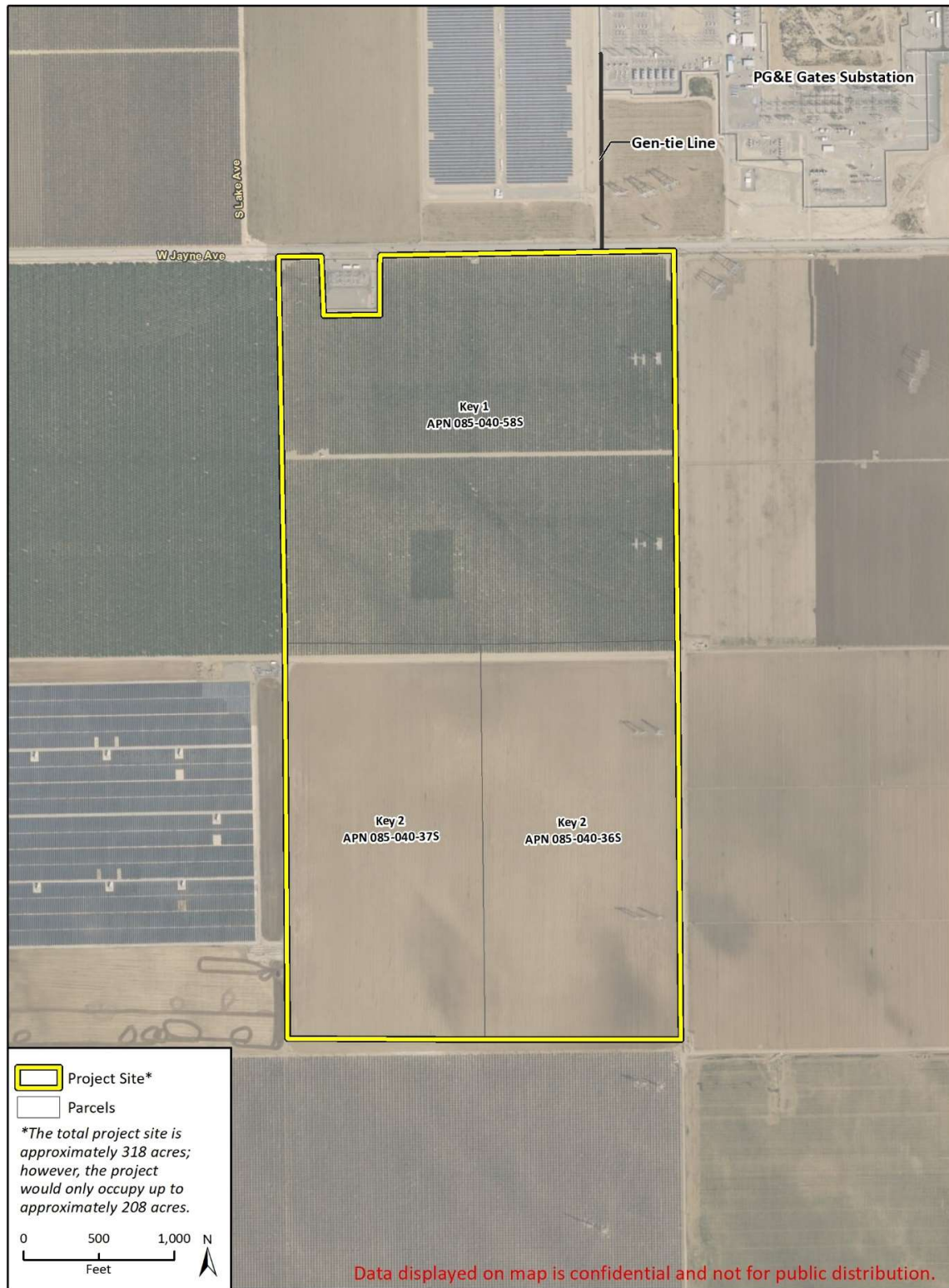


Fig 1 Regional Location

Figure 2 Project Site and Project Parcel Map



Imagery provided by Microsoft Bing and its licensors © 2021.  
Additional data provided by Fresno County, 2021.

Fig 2 Project Location

energy.<sup>1</sup> The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent PG&E Gates Substation.

Buildout of the Project would occur in phases, with Phase 1 expected to come online in 2025, and Phase 2 expected to come online by 2026. After that, Phases 3 and 4 are expected to come online between 1 to 3 years after the previous phase, based on the region's increasing demand for energy storage. The timing of when phases would be online is approximate.

The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

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<sup>1</sup> The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the Project may change, the overall size of the Project (up to approximately 208 acres) would remain consistent.

## 2 Regulations

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### 2.1 Federal Regulations

Federal regulatory protection for paleontological resources would apply if a specific project involves federally owned or managed lands, a federal license, permit, approval or funding, and/or crosses federal lands. The Project site does not cross federally owned or managed lands, thus, federal protection does not apply to the Project.

### 2.2 State Regulations

#### **California Environmental Quality Act – Paleontological Resources**

Paleontological resources are protected under CEQA, which states in part a project will “normally” have a significant effect on the environment if it, among other things, will disrupt or adversely affect a paleontological site except as part of a scientific study. Specifically, in Section VII(f) of Appendix G of the State CEQA Guidelines, the Environmental Checklist Form, the question is posed thus: “Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.” To determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). Therefore, CEQA mandates mitigation of adverse impacts, to the extent practicable, to paleontological resources.

CEQA does not define “a unique paleontological resource or site.” However, the Society of Vertebrate Paleontology (SVP) has defined a “significant paleontological resource” in the context of environmental review as follows:

Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information.

Paleontological resources are typically to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010).

The loss of paleontological resources meeting the criteria outlined above (i.e., a significant paleontological resource) would be a significant impact under CEQA, and the CEQA lead agency is responsible for ensuring that impacts to paleontological resources are mitigated, where practicable, in compliance with CEQA and other applicable statutes.

#### **California Public Resources Code**

Section 5097.5 of the Public Resources Code states:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here “public lands” means those owned by, or under the jurisdiction of, the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, and for permit actions (e.g., encroachment permits) undertaken by others.

## 2.3 Regional and Local Regulations

### **2000 Fresno County General Plan**

Fresno County addresses Paleontological Resources within the 2000 Fresno County General Plan, Open Space and Conservation Element, Section J, Historical, Cultural, and Geologic Resources (County of Fresno 2000). In areas of known paleontological resources, the County is to identify and protect these resources when feasible. The specific Open Space and Conservation Element goals and policies related to paleontological resources are:

**Goal OS-J:** To identify, protect, and enhance Fresno County’s important historical, archeological, paleontological, geological, and cultural sites and their contributing environment.

**Policy OS-J.1:** The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, paleontological, and cultural sites and their contributing environment from damage, destruction, and abuse to the maximum extent feasible. Project-level mitigation shall include accurate site surveys, consideration of project alternatives to preserve archeological and historic resources, and provision for resource recovery and preservation when displacement is unavoidable.



## 3 Paleontological Resources Assessment Guidelines

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Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under state and local laws and regulations. This Paleontological Resources Assessment satisfies Public Resources Code Section 5097.5 (Stats 1965, c 1136, p. 2792) requirements, follows guidelines and significance criteria specified by the Society of Vertebrate Paleontology (SVP) (2010).

### 3.1 Paleontological Sensitivity

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Since fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. Such impacts have the potential to be significant and, under the CEQA Guidelines, may require mitigation. Sensitivity is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the taxa, their radiometric age, evolutionary characteristics, depositional environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geological units having the potential to contain vertebrate fossils are considered the most sensitive.

### 3.2 Resource Assessment Criteria

The SVP outlines in its Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010) guidelines for categorizing paleontological sensitivity of geologic units within a project area. The SVP (2010) describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrates or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically, stratigraphically, taxonomically, or regionally. The paleontological sensitivity of the project site has been evaluated according to the following SVP (2010) categories:

- **High Potential (Sensitivity).** Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their

geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant. Full-time monitoring is typically recommended during any project-related ground disturbance in geologic units with high sensitivity.

- **Low Potential (Sensitivity).** Sedimentary rock units that are potentially fossiliferous but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic (processes affecting an organism following death, burial, and removal from the ground), phylogenetic species (evolutionary relationships among organisms), and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations.
- **Undetermined Potential (Sensitivity).** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.
- **No Potential.** Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources

## 4 Methods

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Rincon reviewed published geologic maps and primary literature to identify the geologic units present at and below the surface within the Project site boundaries (Dibblee and Minch 2006, 2007; Jefferson 2010; Jennings and Strand 1958). We based our determination on the paleontological sensitivity of the geologic units on the known fossil record for each geologic unit and assessed the potential impacts to non-renewable paleontological resources from Project construction based on the potential for groundwater to disturb high sensitivity geologic units.

Based on a review of aerial imagery, the Project site is generally flat, lacking any substantial topographic relief, and consists predominantly of active and fallow agricultural land. No bedrock is exposed at the surface within the Project site; therefore, no paleontological field survey was conducted for this analysis.

Rincon requested a formal paleontological locality search from the Natural History Museum of Los Angeles (NHMLA) on February 6, 2022. In addition, Rincon reviewed the online paleontological collections database of the University of California Museum of Paleontology (UCMP) and Paleobiology Database (PBDB) to identify known fossil localities in Fresno County from the same geologic units and ages as those identified within the Project site.

Paleontological sensitivity ratings of the geological formations were assigned based on the findings of the record search and literature review, and on the potential impact to nonrenewable paleontological resources from Project construction following SVP (2010) guidelines.

## 5 Description of Resources

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### 5.1 Geologic Setting

The Project site is located within the southern portion of the Great Valley geomorphic province, one of the eleven geomorphic provinces of California (California Geological Survey [CGS] 2002). The Great Valley is an elongate lowland approximately 50 miles wide and 400 miles long. It is bounded to the east by the Sierra Nevada Range and to the west by the Coast Range. A relatively undeformed basin, the Great Valley rises from about sea level to approximately 400 feet in elevation at the north and south ends. The northern portion of the valley, referred to as the Sacramento Valley, is drained by the Sacramento River, while the southern portion of the valley, referred to as the San Joaquin Valley, is drained by the San Joaquin River. Both rivers converge in the Central Valley and drain into San Francisco Bay. The Great Valley is predominantly alluvial, flood, and delta plains formed by these two major riversystems.

The sedimentary record in the Great Valley includes typically shallow water marine units from the late Jurassic and Cretaceous, thick units of marine sediments from the Miocene, and brackish and freshwater lake deposits from the late Cenozoic. The San Joaquin Valley was likely an open deepwater marine embayment throughout the Oligocene and Miocene (Addicott 1970), and the thickest sequences of Miocene marine sediments were likely deposited in narrow, deep seaways extending into the Pacific across the site of the Coast Range in the southern portion of the San Joaquin Valley (Bandy and Arnel 1969; Norris and Webb 1990). By the Pliocene the southern connection to the Pacific had closed and uplift had drained the San Joaquin Valley to the north through the Carquinez Strait. Pliocene-Pleistocene deposits consist of alluvial sediments including those associated with a number of ancient lake systems, Tulare Lake in the central San Joaquin Valley being the most recent of the ancient systems.

The Project site is located approximately two miles from the northern end of the Kettleman Hills and three miles west of the Gujarral Hills.

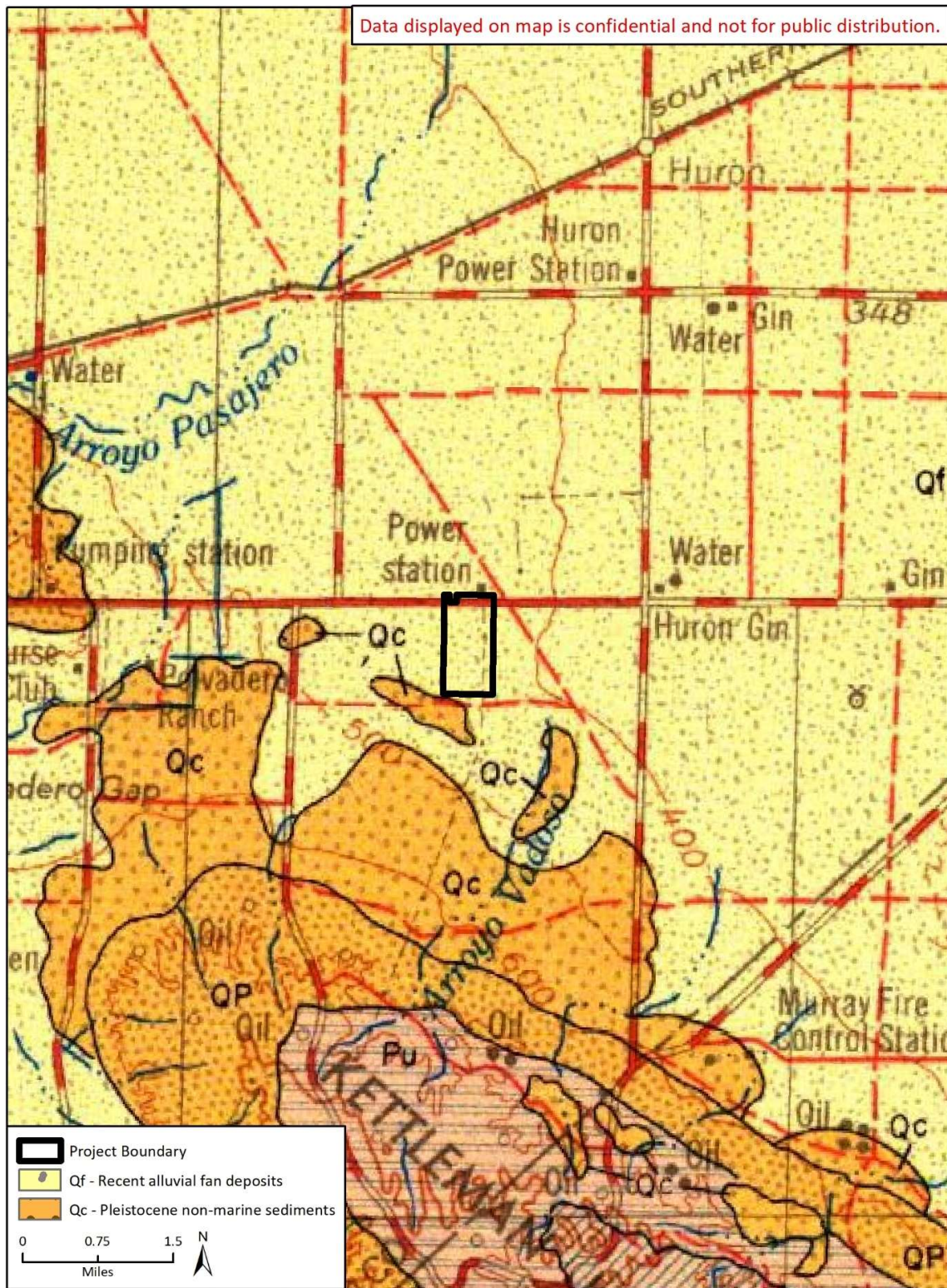
### 5.2 Geology of the Project Site

The Project site was mapped at a scale of 1:250,000 by Jennings and Strand (1958) who identified a single geologic unit underlying the Project site: Quaternary fan deposits (Qf) (Figure 3). However, Quaternary nonmarine sediments (Qc), are mapped less than 200 feet from the Project site, and may underlie surface Qf deposits, possibly at shallow depths, especially in the southern end of the Project site. Therefore, the lithology of both units is described below.

#### **Recent Alluvial Fan Deposits (Qf)**

The entire Project site is underlain by Recent alluvial fan deposits (Qf) (Figure 3). Qf consists of gravel, sand, and clay, that is found in valley areas (Dibblee and Minch 2006, 2007; Jennings and Strand 1958). Qf is Holocene in age, which is generally considered too young to preserve scientifically significant fossil resources (i.e., less than 5,000 years old) (SVP 2010). Therefore, Qf is assigned a **low paleontological sensitivity**.

Figure 3 Geologic Map of Project Site



Imagery provided by Jennings, C.W. and Strand, R.G. "Geologic Map of California - Santa Cruz sheet," 1958.

### Pleistocene Non-Marine Deposits (Qc)

Pleistocene (i.e., 1.8 to 2.6 million years ago) non-marine deposits (Qc) are found just south of the Project site (Figure 3), and may underlie surface Qf deposits, possibly at shallow depths, within the Project site. Qc consists of alluvial gravel, sand, and clay (Jennings and Strand 1958). When exposed at the surface, Qc exhibits a degree of soil development that suggests it is Pleistocene in age. Unnamed Pleistocene alluvial sediments are known to be fossiliferous in Fresno County, producing taxa such as bison (*Bison*), deer (*Cervus*, *Odocoileus*), hares (*Lepus*), fox (*Urocyon*, *Vulpes*), turtles (*Actinemys*), and snakes (*Crotalus*, *Charina*) (Jefferson 2010; PBDB 2022; UCMP 2022). Given the fossil productivity of similar units in Fresno County, Qc is assigned a **high paleontological sensitivity**.

## 5.3 Fossil Locality Search Results

A search of the paleontological records at NHMLA produced no previously recorded fossil localities in the Project site (Bell 2022). Two fossil localities, LACM VP 4087 and LACM VP 6701, both yielding mammoth (*Mammuthus*) fossils, were reported from unnamed Pleistocene terrestrial sediments. However, both localities are approximately 60 miles east of the Project site.

## **6 Conclusions**

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This paleontological resources assessment analyzed the paleontological sensitivity per SVP (2010) guidelines of the proposed site for the Key Energy Storage Project in Fresno County, California. The Project site is underlain by a single geologic unit at the surface, Recent alluvial fan deposits (Qf) (Figure 3; Jennings and Strand 1958). Qf is assigned low paleontological sensitivity due to its young age. A second geologic unit, Pleistocene non-marine deposits (Qc), is exposed at the surface just south of the Project site, suggesting that it is possible to encounter this unit at an unknown, possibly shallow, subsurface depth during grading activities associated with the proposed Project. Qc is assigned high paleontological sensitivity due to the fossil-producing history of similar sediments in Fresno County and throughout California (Jefferson 2010; PBDB 2022; UCMP 2022).

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# Appendix H

## **Phase I Environmental Site Assessment**





# Key Energy Storage Project

## Phase I Environmental Site Assessment

*prepared for*

**Key Energy Storage, LLC**

700 Universe Boulevard

Juno Beach, Florida 33408

Attn: Virginia Thompson / Patti Murphy

*prepared by*

**Rincon Consultants, Inc.**

7080 North Whitney Avenue, Suite 101

Fresno, California 93720

**October 2022**





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October 12, 2022  
Project No.: 20-10624

Patti Murphy  
Key Energy Storage, LLC  
700 Universe Boulevard  
Juno Beach, Florida 33408  
Via email: [Patti.Murphy@nexteraenergy.com](mailto:Patti.Murphy@nexteraenergy.com)

**Subject: Phase I Environmental Site Assessment, Key Energy Storage Project  
Fresno County, California**

Dear Ms. Murphy:

This report presents the findings of a Phase I Environmental Site Assessment (ESA) completed by Rincon Consultants, Inc. (Rincon) for the Key Energy Storage Project located in Fresno County, California.

The accompanying report presents our findings and provides an opinion regarding the presence of recognized environmental conditions in connection with the subject property. Our scope of services was intended to meet the guidelines outlined in the American Society for Testing and Materials (ASTM), Standard Practice for Environmental Site Assessments: *Phase I Environmental Site Assessment Process* (ASTM Standard E1527-13 and E1527-21). Pursuant to ASTM practice, it did not include any inquiries with respect to asbestos-containing building materials unrelated to releases into the environment; biological agents; cultural and historic resources; ecological resources; endangered species; health and safety; indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment; industrial hygiene; lead-based paint unrelated to releases into the environment; lead in drinking water; mold or microbial growth conditions; polychlorinated biphenyl-containing building materials (e.g., interior fluorescent light ballasts, paint, and caulk); naturally-occurring radon; regulatory compliance; substances not defined as hazardous substances (including some substances sometimes generally referred to as emerging contaminants) unless or until such substances are classified as a Comprehensive Environmental Response, Compensation, and Liability Act hazardous substance; and wetlands.

Thank you for selecting Rincon for this project. If you have any questions, or if we can be of any future assistance, please contact us.

Sincerely,  
**Rincon Consultants, Inc.**

Lauren Kodama Roenicke  
Project Manager, Due Diligence

Ryan Thacher, PhD, PE  
Director of Site Assessment and Remediation

Julie Lynne Welch  
Director of Due Diligence

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# Executive Summary

---

This report presents the findings of a Phase I Environmental Site Assessment (ESA) for the Key Energy Storage Project in Fresno County, California (subject property). The Phase I ESA was performed for Key Energy, LLC (applicant) by Rincon Consultants, Inc. (Rincon). The applicant has requested this assessment and will use the information for the purpose of purchasing and developing the subject property. The subject property is currently planted agricultural land, an orchard, and vacant land. Properties in the vicinity of the subject property include vacant land, agricultural land, solar arrays, and an electrical substation.

During the completion of this Phase I ESA, Rincon performed a site reconnaissance and interviews with the user of the report (the applicant) and owners of the subject property. In addition, Rincon reviewed potential vapor migration sources, online agency records, and historical records: including aerial photographs, topographic maps, and city directories. Fire insurance maps were also requested for the subject property, but were not available.

Also, the user and subject property owners completed questionnaires regarding the subject property and vicinity. Title reports for the parcels were also provided.

Deviations and/or data gaps were not encountered during the preparation of this report.

Based on the findings of this Phase I ESA, it is our opinion that no recognized environmental conditions were identified in connection with the subject property. Additionally, three Notable Findings in connection with the subject property were identified as summarized below.

## Notable Findings

1. Onsite natural gas pipeline and onsite petroleum and natural gas easements
2. Former onsite groundwater well
3. Onsite diesel aboveground storage tank (AST) with stained soil

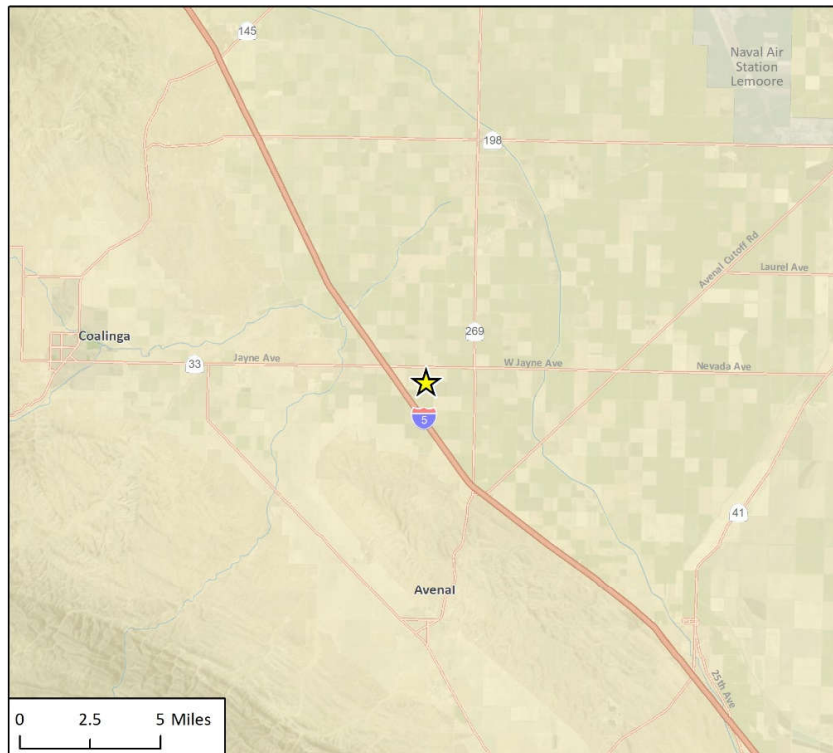
Rincon recommends confirming that the former onsite groundwater well has been properly abandoned if site redevelopment activities are planned in that area. Rincon also recommends that the utility companies are contacted for locations of the onsite pipelines. Additionally, if the diesel AST remains onsite, caution should be taken when working in the vicinity of the AST. If the AST is to be removed from the subject property, stained soil should also be removed and disposed appropriately.

# 1 Introduction

---

This report presents the findings of a Phase I Environmental Site Assessment (ESA) conducted for the Key Energy Storage Project in Fresno County, California (subject property; [Figure 1](#)). The Phase I ESA was performed by Rincon Consultants, Inc. (Rincon) for Key Energy, LLC (applicant) in general conformance with American Society for Testing and Materials (ASTM) E1527-13 and E1527-21. The following sections present our findings and provide our opinion as to the presence of recognized environmental conditions (REC) on the subject property.

**Figure 1 Vicinity**



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Map Regional Location



## 1.1 Purpose and Definitions

The applicant requested this assessment and will use the information for the purpose of purchasing the subject property. The purpose of this Phase I ESA was to determine if there are RECs on the subject property, taking into account commonly and reasonably ascertainable information and to qualify for Landowner Liability Protections under the Brownfields Amendments to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

### **Recognized Environmental Condition**

A REC is defined pursuant to ASTM E1527-21 as,

- “(1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment;
- (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or
- (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.”

As stated in ASTM E1527-21,

“likely is that which is neither certain nor proved, but can be expected or believed by a reasonable observer based on the logic and/or experience of the environmental professional, and/or available evidence, as stated in the report to support the opinions given therein.”

### **Controlled REC**

A Controlled REC is defined pursuant to ASTM E1527-21 as,

“recognized environmental condition affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations).”

### **Historical REC**

A Historical REC is defined pursuant to ASTM E1527-21 as,

“a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the subject property to any controls (for example, activity and use limitations or other property use limitations). A historical recognized environmental condition is not a recognized environmental condition.”

### **De minimis**

A *de minimis* condition is defined pursuant to ASTM E1527-21 as,

“a condition related to a release that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. A condition determined to be a *de minimis*

condition is not a recognized environmental condition nor a controlled recognized environmental condition.”

### **Property Use Limitation**

A Property Use Limitation (PUL) is defined pursuant to ASTM E1527-21 as,

“a limitation or restriction on current or future use of a property in connection with a response to a release, in accordance with the applicable regulatory authority or authorities that allows hazardous substances or petroleum products to remain in place at concentrations exceeding unrestricted use criteria.”

### **Significant Data Gap**

A Significant Data Gap is defined pursuant to ASTM E1527-21 as,

“a data gap that affects the ability of the environmental professional to identify a recognized environmental condition.”

### **Notable Finding**

Although not defined by ASTM E1527-13 or E1527-21, Rincon utilizes the term *Notable Finding* for potential environmental concerns present at or possibly present at a property that do not specifically fit one of the above ASTM-defined situations, yet may impact current or future use of the subject property.

## **1.2 Scope of Services**

The scope of services conducted during this study is outlined below:

- Performed a reconnaissance of the subject property to identify obvious indicators of the existence of hazardous materials.
- Observed adjacent or nearby properties from public thoroughfares in an attempt to see if such properties are likely to use, store, generate, or dispose of hazardous materials.
- Obtained and reviewed an environmental records database search to obtain information about the potential for hazardous materials to exist at the subject property or at properties located in the vicinity of the subject property.
- Reviewed files for the subject property and immediately adjacent properties as identified in the database report, as applicable.
- Reviewed the current United States Geological Survey (USGS) topographic map to obtain information about the subject property and regional topography and uses of the subject property and surrounding sites.
- Reviewed additional pertinent record sources (e.g., California Geologic Energy Management Division [CalGEM] records, online databases of hazardous substance release sites), as necessary, to identify the presence of RECs at the subject property.
- Reviewed the California State Water Resources Control Board (SWRCB) Statewide Per- and Polyfluoroalkyl Substances (PFAS) Investigation online Public Map Viewer regarding current PFAS orders issued to facilities located in the vicinity of the subject property.

- Reviewed reasonably ascertainable historical resources (e.g., aerial photographs, topographic maps, fire insurance maps, city directories) to assess the historical land use of the subject property and adjacent properties.
- Provided a user interview questionnaire to a representative of the applicant, the user of the Phase I ESA.
- Provided property owner interview questionnaires to the property owners or designated subject property representatives identified to Rincon by the applicant.
- Conducted interviews with other property representatives (e.g., key site manager, occupants), as applicable.
- Reviewed available applicant-provided information (e.g., previous environmental reports, title documentation).
- Requested Title Search Information Reports from the User of the report.

### 1.3 Significant Assumptions, Limitations, Deviations, Exceptions, Special Terms, and Conditions

This work is intended to adhere to good commercial, customary, and generally accepted environmental investigation practices for similar investigations conducted at this time and in this geographic area. No guarantee or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from a site reconnaissance, review of an environmental database report, specified regulatory records and historical sources, and comments made by interviewees. This report is not intended as a comprehensive site characterization and should not be construed as such. Standard data sources relied upon during the completion of Phase I ESAs may vary with regard to accuracy and completeness. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research.

Rincon has not found evidence that hazardous materials or petroleum products exist at the subject property at levels likely to warrant mitigation. Rincon does not under any circumstances warrant or guarantee that not finding evidence of hazardous materials or petroleum products means that hazardous materials or petroleum products do not exist on the subject property. Additional research, including surface or subsurface sampling and analysis, can reduce the applicant's risks, but no techniques commonly employed can eliminate these risks altogether.

In addition, pursuant to ASTM E1527-13 and E1527-21 practice, our scope of services did not include any inquiries with respect to asbestos-containing building materials unrelated to releases into the environment; biological agents; cultural and historic resources; ecological resources; endangered species; health and safety; indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment; industrial hygiene; lead-based paint unrelated to releases into the environment; lead in drinking water; mold or microbial growth conditions; polychlorinated biphenyl (PCB)-containing building materials (e.g., interior fluorescent light ballasts, paint, and caulk); naturally-occurring radon; regulatory compliance; substances not defined as hazardous substances (including some substances sometimes generally referred to as emerging contaminants) unless or until such substances are classified as a CERCLA hazardous substance; and wetlands.

## 1.4 ASTM Deviations

Deviations from ASTM E1527-13 and E1527-21 practice were not encountered during the completion of this Phase I ESA. A lien search was not completed as part of this assessment; however, one was requested from the user.

## 1.5 User Reliance

The applicant has requested this assessment and will use the information for the purpose of purchasing or acquiring and developing the subject property. This Phase I ESA was prepared for use solely and exclusively by the applicant and the County of Fresno. No other use or disclosure is intended or authorized by Rincon. Also, this report is issued with the understanding that it is to be used only in its entirety. It is intended for use only by the applicant and the County of Fresno, and no other person or entity may rely upon the report without the express written consent of Rincon.

## 1.6 Site Description

### Location

The subject property is a 309-acre property located southeast of the intersection of West Jayne Avenue and South Lake Avenue in Fresno County, California ([Figure 2](#)). The property is identified as Assessor Parcel Numbers (APNs) 085-040-58S (northern property) and APNs 085-040-36S and -37S (southern property).

### Subject Property and Vicinity General Characteristics

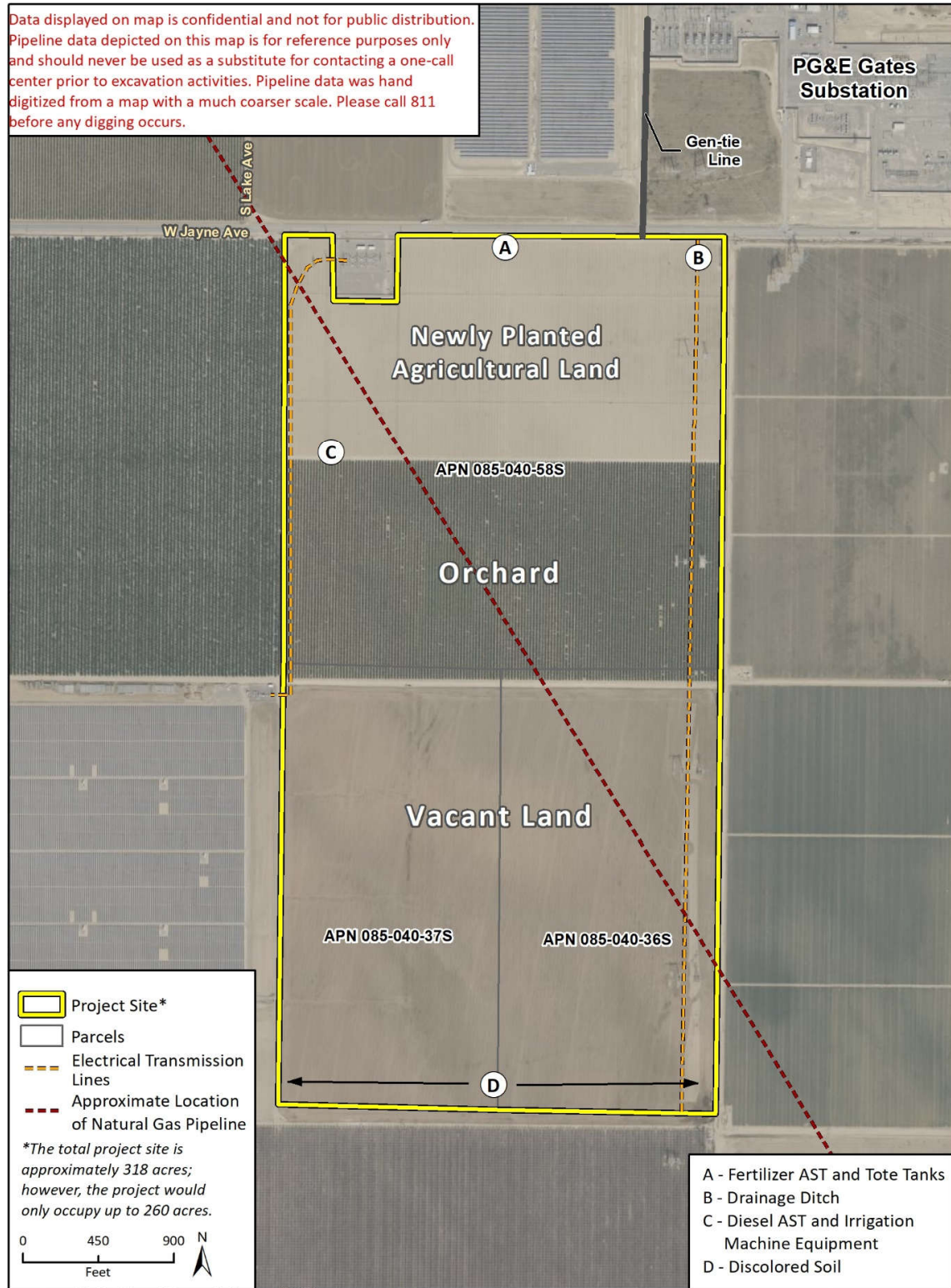
The northern property (APN 085-040-58S) is recently planted agricultural land and an orchard. The southern property (APNs 085-040-36S and -37S) is currently vacant land.

The subject property is located in an area that is primarily composed of agricultural, solar, electrical, and vacant land uses. Properties in the vicinity of the subject property include vacant land, agricultural land, solar arrays, and an electrical substation. The current adjacent land uses are described in [Table 1](#) and depicted on [Figure 3](#).

**Table 1 Current Uses of Adjacent Properties**

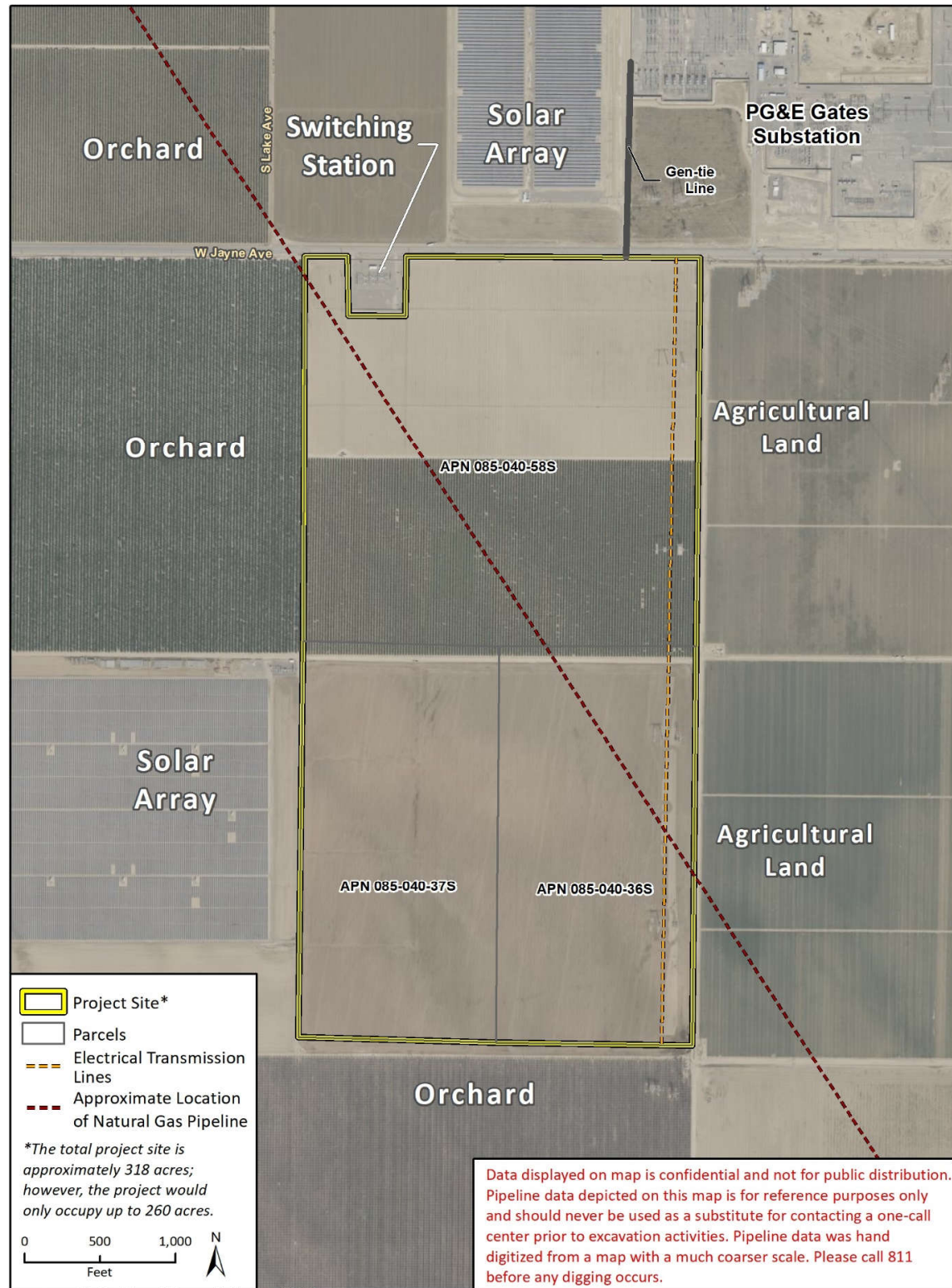
| Area                | Use   |
|---------------------|---|
| Northern Properties | West Jayne Avenue and an electrical substation followed by agricultural land, an orchard, a solar array, and the Pacific Gas & Electric (PG&E) Gates Substation |
| Eastern Properties  | Dirt road followed by agricultural and vacant land  |
| Southern Properties | Dirt road followed by agricultural land   |
| Western Properties  | Dirt road followed by agricultural land, solar array, and vacant land   |

**Figure 2 Subject Property**



Imagery provided by Microsoft Bing and its licensors © 2022. Additional data provided by Fresno County, 2021.

**Figure 3 Adjacent Land Use**



Imagery provided by Microsoft Bing and its licensors © 2022.  
 Additional data provided by Fresno County, 2021.

## **Descriptions of Structures, Roads, and Other Improvements on the Subject Property**

During the site reconnaissance, no structures, roads, or other improvements were observed on the subject property. Access to the subject property is available from a driveway on dirt roads branching off from West Jayne Avenue.

The following utility providers service the area in which the subject property is located:

- Electrical and Natural Gas Service – PG&E
- Water Service – Westlands Water District
- Sewer Service – Unknown
- Solid Waste Service – Mid Valley Disposal

## 2 User-Provided Information and Responsibilities

---

### 2.1 Review Land Title Records and Judicial Records for Environmental Liens and Activity and Use Limitations

Rincon requested title search information reports from the User of the report. Pursuant to ASTM E1527-21,

“the title search information reports shall identify environmental covenants, environmental easements, land use covenant and agreements, declaration of environmental land use restrictions, environmental land use controls, environmental use controls, environmental liens, or any other recorded instrument that restricts, affects, or encumbers the title to the subject property due to restrictions or encumbrances associated with the presence of hazardous substances or petroleum products. Title search information reports shall review land title records for documents recorded between 1980 and the present. If judicial records are not reviewed, the title search information report shall include a statement providing that the law or custom in the jurisdiction at issue does not require a search for judicial records in order to identify environmental liens.”

As stated in ASTM E1527-21 it is the “user’s responsibility to search for environmental liens and activity and land use limitations (AULs).” This is in “addition to the environmental professional’s search of institutional control and engineering control registries described in” ASTM E1527-21 Section 8.2.

A copy of the title search information records provided by the User is included in Appendix A.

### 2.2 User Questionnaires

As described in ASTM E1527-13 Section 6 and E1527-21 Section 6, User Questionnaires as provided by ASTM E1527-13 Appendix X3 and E1527-21 Appendix X3 were provided to the applicant. The purpose of the User Questionnaire is for the User of the Phase I ESA to provide actual knowledge pertaining to the subject property to help identify RECs. Completed questionnaires are included as Appendix A.

#### **Parcel 085-040-58S (Northern Property)**

Sean Wazlaw, Project Director for Key Energy Storage, LLC, completed the User Questionnaire pertaining to Parcel 085-040-58S (Northern Property) on February 10, 2022.

Based on our review of the completed questionnaire, Mr. Wazlaw indicated the following:

- The Phase I ESA is being conducted to fulfill County of Fresno permitting requirements and for due diligence purposes.
- A purchase transaction is planned for the parcel.



- The parcel is under the Williamson Act.
- The parcel has been used for agricultural purposes.

Based on our review of the completed questionnaire, Mr. Wazlaw reviewed the following sources of information and is unaware of information regarding the following:

- Recorded land title records (or judicial records, where appropriate) that identify any environmental liens filed or recorded against the subject property
- Title Report that identifies information pertaining to environmental cleanup liens or AULs for the subject property

Based on our review of the completed questionnaire, Mr. Wazlaw is unaware of information regarding the following:

- Specialized knowledge or experience related to the subject property or nearby properties
- Reduction in value for the subject property relative to any known environmental issues
- Obvious indicators that point to the presence or likely presence of releases at the subject property
- Pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the subject property
- Pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the subject property
- Notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products

The following document regarding Parcel 085-040-58S was provided by the applicant:

- *Condition of Title, Parcel 085-040-58* prepared by Fidelity National Title and dated May 7, 2021 – The following easements were identified:
  - “Two pipelines for transportation of oil, gas, water, and/or other substances” to Superior Oil Company
  - “An anchor and guy wires and cables for supporting a pole line” to PG&E
  - “A line of poles to PG&E
  - “Two independent lines of towers” to PG&E
  - “A pipeline for conveying gas” to PG&E
  - “Electric transmission lines, consisting of one or more lines of towers, poles, and/or other structures” to PG&E
  - “A line of poles, etc.” to PG&E

### **Parcels 085-040-36S and -37S (Southern Property)**

Sean Wazlaw, Project Director for Key Energy Storage, LLC, completed the User Questionnaire pertaining to Parcels 085-040-36S and -37S (Southern Property) on February 10, 2022.

Based on our review of the completed questionnaire, Mr. Wazlaw indicated the following:

- The Phase I ESA is being conducted to fulfill County of Fresno permitting requirements and for due diligence purposes.

- A purchase transaction is planned for the parcels.
- The parcels are under the Williamson Act.
- The purchase price is higher than the fair market value of the parcels.
- The parcels have been used for agricultural purposes.

Based on our review of the completed questionnaire, Mr. Wazlaw reviewed the following sources of information and is unaware of information regarding the following:

- Recorded land title records (or judicial records, where appropriate) that identify any environmental liens filed or recorded against the subject property
- Title Report that identifies information pertaining to environmental cleanup liens or AULs for the subject property

Based on our review of the completed questionnaire, Mr. Wazlaw is unaware of information regarding the following:

- Specialized knowledge or experience related to the subject property or nearby properties
- Reduction in value for the subject property relative to any known environmental issues
- Obvious indicators that point to the presence or likely presence of releases at the subject property
- Pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the subject property
- Pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the subject property
- Notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products

The following document regarding Parcels 085-040-36S and -37S was provided by Key Energy Storage, LLC:

- *Condition of Title, Parcels 085-040-36 and -37* prepared by Chicago Title Insurance Company and dated May 24, 2021 – The following easements were identified:
  - “Pipelines” to Shell Oil Company
  - “Pipelines and public utilities” to Super Oil and Company
  - “Maintenance for lines and wires” to PG&E
  - “Maintenance of pipelines” to PG&E
  - “Maintenance of piles and wires” to PG&E
  - “Maintenance of poles and wires” to PG&E
  - “Water pipes” to Westlands Water District
  - “Ingress and egress for repairs and maintenance” to Westlands Solar Farms, LLC

## 2.3 User-Provided Information of Concern

Based on the information obtained during our review of user-provided documents, the following conditions have the potential to impact the subject property:

- Onsite agricultural use
- Onsite petroleum and natural gas pipelines

## 3 Records Review

---

### 3.1 Physical Setting Sources

#### Topography

The current USGS topographic map (La Cima, Avenal, Guijarral Hills, Huron Quadrangles 2015) indicates that the subject property is situated at an elevation of approximately 440 feet above mean sea level with topography sloping down to the east. A copy of the current USGS topographic map is included in Appendix B (ERIS 2022, page 17).

#### Geology and Hydrogeology

According to the current USGS Geologic Map (Coalinga and Guijarral Hills Quadrangles 2007), the subject property is underlain by surficial sediments described as “alluvial gravel, sand, and clay of valley areas.”

During the preparation of this Phase I ESA, we reviewed the California SWRCB’s online GeoTracker database to determine groundwater flow direction in the vicinity of the subject property. Groundwater is reported to be expected at greater than 300 feet below ground surface at a site located 4.72 miles to the north-northeast of the subject property (Central Valley RWQCB 2016). Information pertaining to groundwater flow direction was not available.

### 3.2 Government Record Sources

Rincon obtained a regulatory database search from Environmental Risk Information Services (ERIS). The results of the regulatory database search include records of sites that generate, store, treat, or dispose of hazardous materials and sites for which a hazardous material release incident has occurred. The regulatory database search was conducted for the subject property and included data from surrounding sites within specified radii of the property. A copy of the database report, which specifies the ASTM E1527-13 and ASTM E1527-21 search distance for each public list, is included as Appendix B. As shown on the database report, federal, state, and county lists were reviewed as part of the research effort. Please refer to Appendix B for a complete listing of sites reported by ERIS and a description of the databases reviewed.

The Map Findings Summary, included in the database report, provides a summary of the databases searched, the number of reported facilities within the search radii, and whether the facility is located onsite or adjacent to the subject property. The following information is based on our review of the Map Findings Summary and the information contained in the database report.

#### Subject Property

The subject property was not listed on any of the regulatory databases reviewed.

#### Offsite Properties

Offsite properties listed in the database report fall under two general categories of databases: those reporting unauthorized releases of hazardous substances (e.g., Leaking Underground Storage Tank [LUST], National Priority List [a.k.a. Superfund sites], and corrective action facilities), and those

reported as businesses permitted to use hazardous materials or generate hazardous wastes, for which an unauthorized release has not been reported to a regulatory agency.

Rincon reviewed the database maps and select detailed listings to evaluate their potential to impact the subject property, based on the following factors:

- Reported distance of the facility from the subject property;
- The nature of the database on which the facility is listed, and/or whether the facility was listed on a database reporting unauthorized releases of hazardous materials, petroleum products, or hazardous wastes;
- Reported case type (e.g., soil only, failed underground storage tank [UST] test only);
- Reported substance released (e.g., chlorinated solvents, gasoline, metals);
- Reported regulatory agency status (e.g., case closed, “no further action”); and,
- Location of the facility with respect to the reported groundwater flow direction (discussed in the Geology and Hydrogeology section of this report)

Facilities/properties that were interpreted by Rincon to be of potential environmental concern to the subject property, based on one or more of the factors listed above, are summarized in [Table 2](#). In accordance with ASTM E1527-13 and E1527-21, contamination migration pathways in soil, groundwater, and soil vapor were considered in our analysis of offsite properties of potential environmental concern.

### **Orphan Listings**

No orphan or unmapped site listings were reported in the database report.

**Table 2 Database Listing Summary of Select Sites Within One-Eighth Mile of the Subject Property**

| Site Name   | Database Site ID | Site Address            | Distance from Subject Property | Database Reference | Comments  |
|---|------------------|-------------------------|--------------------------------|--------------------|---|
| <b>Adjacent Properties</b>  |                  |                         |                                |                    |   |
| Century Link – Huron / PG&E: West Gates Solar Station/Level 3 Communications, LLC | 1                | 18364 West Jayne Avenue | Adjacent Property – Northeast  | CERS HAZ           | Identified as a Chemical Storage Facility. Violations noted; all returned to compliance.                |
|   |                  |                         |                                | CUPA FRESNO        | Identified as a Small Hazardous Materials Handler   |
|   |                  |                         |                                | EMISSIONS          | No pertinent information provided.  |
| PG&E: Gates Substation  | 2                | 18336 West Jayne Avenue | Adjacent Property – Northeast  | AST SWRCB          | One 3,000-gallon aboveground storage tank (AST) listed in 2003, 2006, and 2007; contents not specified. |
|   |                  |                         |                                | DELISTED CTNK      | One delisted petroleum tank as of May 6, 2019   |

Regulatory agency information reviewed for the listings in the table above are summarized in the Review of Agency Files section of this report.

AST SWRCB: SWRCB Historical ASTs

CERS HAZ: California Environmental Reporting System (CERS) Hazardous Waste Sites

CUPA FRESNO: Certified Unified Program Agency of Fresno County

DELISTED CTNK: Delisted CERS Tanks

EMISSIONS: Toxic Pollutant Emissions Facilities

### 3.3 Review of Agency Files

As a follow-up to the database search, Rincon reviewed regulatory information for the subject property and facilities within the specified search radii that were interpreted to have the potential to impact the subject property, based on one or more factors previously discussed (e.g., distance, open case status, upgradient location, soil vapor migration).

The following is a summary of our review of regulatory information obtained from online sources (e.g., SWRCB GeoTracker database, Department of Toxic Substances Control [DTSC] EnviroStor database, local fire department) and/or files requested from the applicable regulatory agency, as described below.

#### **Subject Property**

The subject property was not listed in any of the databases searched or the online databases reviewed; therefore, records regarding the subject property were not requested from regulatory agencies.

#### **Adjacent Properties**

Two adjacent properties were listed in databases searched. However, based on the records reviewed and the lack of reported releases, these adjacent properties are not expected to impact the subject property.

#### **Nearby Properties**

No nearby properties were listed in databases searched.

### 3.4 Review of State of California Geologic Energy Management Division (CalGEM) Records

A review of the CalGEM Online Mapping System indicates that no oil wells are located on the subject property or adjacent properties, or within 0.25 mile of the subject property (CalGEM 2022). Additionally, the Gujarral Hills Oil Field is located approximately 1.5 miles to the west of the subject property.

### 3.5 Review of National Pipeline Mapping System Records

A review of the National Pipeline Mapping System (NPMS) online Public Map Viewer indicates that a natural gas transmission pipeline traverses the subject property, trending northwest to southeast. The pipeline is reported to be an active PG&E natural gas pipeline, and is reportedly 46.35 miles long (United States Department of Transportation [US DOT] 2022). In addition, a 9.71-mile active PG&E natural gas pipeline and a 67.49 mile active Crimson Pipeline crude oil pipeline are located approximately 330 feet north of the subject property (US DOT 2022).

### 3.6 Review of California Statewide PFAS Investigation

Beginning in 2019, the California SWRCB sent assessment requirements to property owners of sites that may be potential sources of PFAS. These sites currently include select landfills, airports, chrome plating facilities, publicly owned treatment works facilities, Department of Defense sites, and bulk fuel storage terminals and refineries. According to the SWRCB, “PFAS are a large group of human-made substances that do not occur naturally in the environment and are resistant to heat, water, and oil” (SWRCB 2022).

Our February 9, 2022, review of the California Statewide PFAS Investigation online Public Map Viewer indicates that there are no current chrome plating, airport, landfill, publicly owned treatment works or Department of Defense facilities with PFAS orders listed as located within 0.5 mile of the subject property (SWRCB 2022). Based on our review of the SWRCB’s March 12, 2021, Bulk Fuel Terminal/Refinery Investigative Order, the subject property is not listed on the Bulk Fuel Storage Terminals and Refineries List (Attachment 1 of the Order). In addition, none of the Bulk Fuel Storage Terminals or Refineries on the list are located within 0.5 mile of the subject property (SWRCB 2021).

Our February 9, 2022, review of the California Statewide Drinking Water System Quarterly Testing Results online Public Map Viewer indicates that drinking water wells within 40 miles of the subject property have not been tested for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) (SWRCB 2022).

### 3.7 Records Review Information of Concern

Based on the information obtained during our records review documented above, the following conditions have the potential to impact the subject property:

#### **Subject Property**

- Onsite active PG&E natural gas pipeline

#### **Nearby Properties**

- Nearby active PG&E natural gas pipeline and active Crimson crude oil pipeline



## 4 Historical Records

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The historical records review completed for this Phase I ESA includes aerial photographs, topographic maps, fire insurance maps, and city directories as detailed in the following sections. Copies of the historical resources reviewed are included in Appendix C. [Table 3](#) provides a summary of the historical use information available for the subject property and adjacent properties.

### 4.1 Methodology

#### **Review of Aerial Photographs**

Aerial photographs from ERIS's aerial photograph collection were obtained (1942-2020). In addition, a current aerial photograph from Google Earth was reviewed. The aerial photographs were reviewed on February 9, 2022.

#### **Review of Historical Topographic Maps**

Historical topographic maps from ERIS's map collection were obtained (1930-2015). The historical topographic maps were reviewed on February 9, 2022.

#### **Review of City Directory Listings**

ERIS was contracted to provide copies of city directory listings for the subject property. The city directory listings were reviewed on February 9, 2022.

#### **Review of Fire Insurance Maps**

As indicated in the attached report, fire insurance maps were not available for the subject property or adjacent properties.

#### **Review of City Building Permit Records**

Based on the sufficient amount of information obtained from the above sources, building permit records were not reviewed.

#### **Other Historical Sources**

Based on the sufficiency of historical information obtained for the purposes of this report, no additional historical sources were reviewed.

## 4.2 Summary of Subject Property and Adjacent Historical Uses

**Table 3 Historical Use of the Subject Property and Adjoining Properties**

| Year       | Source                 | Subject Property Use  | Adjoining Property Use  |
|------------|------------------------|---|---|
| 1930       | Topographic Map (TM)   | Southern boundary is vacant land with a dirt road. No coverage for remainder of subject property. | North (N): No coverage<br>East (E): Vacant land on southern portion<br>South (S): Vacant land<br>West (W): vacant land on southern portion  |
| 1933       | TM                     | No coverage for southern boundary. Remainder of subject property is vacant land with dirt road.   | N: Vacant land with dirt road<br>E: vacant land<br>S: No coverage<br>W: No coverage for southern portion. Remainder is vacant land  |
| 1934       | TM                     | Southern boundary is vacant land with a dirt road. No coverage for remainder of subject property. | N: No coverage<br>E: Vacant land on southern portion<br>S: Vacant land with dirt road (identified as The Washboard)<br>W: Southern portion is vacant land   |
| 1936, 1937 | TM                     | No coverage for southern boundary. Remainder of subject property is vacant land with dirt road.   | N: West Jayne Avenue followed by vacant land with dirt road<br>E: vacant land<br>S: No coverage<br>W: No coverage for southern portion. Remainder is vacant land  |
| 1942       | TM                     | Vacant land   | N: Road followed by vacant land with dirt road<br>E: Vacant land<br>S: Dirt road and vacant land (identified as The Washboard)<br>W: Vacant land  |
| 1942       | Aerial Photograph (AP) | Undeveloped land  | N: Road followed by undeveloped land with dirt road<br>E: Undeveloped land with dirt road<br>S: Undeveloped land with dirt road<br>W: Undeveloped land  |
| 1950, 1954 | TM                     | Southern boundary is vacant land with a dirt road. No coverage for remainder of subject property. | N: No coverage<br>E: Vacant land on southern portion (1954 TM shows one well and one AST to southeast)<br>S: Vacant land with dirt road (identified as The Washboard)<br>W: Southern portion is vacant land |
| 1955       | AP                     | <b>Agricultural land use</b> on northern portion; southern portion appears to be cleared land     | N: Road followed by agricultural and vacant land, substation visible to northeast<br>E: Agricultural and vacant land<br>S: Undeveloped land<br>W: Vacant land   |

| Year       | Source | Subject Property Use  | Adjoining Property Use  |
|------------|--------|---|---|
| 1956       | TM     | No coverage for southern boundary. Remainder of subject property is vacant land with dirt road extending south from West Jayne Avenue leading to a <b>well</b> . Electrical transmission lines are present along the eastern boundary trending in the north-south direction and leading to northeastern Gates Substation. | N: West Jayne Avenue followed by vacant land. Electrical transmission lines extending northeast to Gates Substation<br>E: Vacant land<br>S: No coverage<br>W: No coverage for southern portion. Remainder is vacant land identified as The Washboard  |
| 1965       | AP     | Northern portion is <b>agricultural land</b> . Southern portion is disturbed land. Electrical transmission lines visible along eastern boundary.  | N: Road followed by agricultural land use (appears to be dry farming). Electrical transmission lines visible on eastern portion<br>E: Northern portion is agricultural land. Southern portion is vacant land with inundated areas visible)<br>S: Vacant land. Nearby AST visible to southeast.<br>W: Majority is agricultural land (row crops) and small orchard on eastern boundary                        |
| 1971       | TM     | Vacant land with dirt road extending south from West Jayne Avenue leading to a <b>well</b> . Electrical transmission lines are present along the eastern boundary trending in the north-south direction and leading to northeastern Gates Substation.   | N: West Jayne Avenue followed by vacant land. Pipeline identified to northeast, and electrical transmission lines extending northeast to Gates Substation<br>E: Dirt road followed by vacant land<br>S: Vacant land with electrical transmission lines trending in the northeast-southwest direction. Well and tank to southeast. Identified as The Washboard<br>W: Vacant land identified as The Washboard |
| 1971       | AP     | <b>Agricultural land</b> . Electrical transmission lines visible on eastern portion.  | N: West Jayne Avenue followed by vacant land. Substation visible to northeast.<br>E: Agricultural and vacant land<br>S: Undeveloped land. AST visible to southeast.<br>W: Agricultural land and small orchard   |
| 1978       | TM     | Southern boundary is vacant land with electrical transmission line along eastern boundary. No coverage for remainder of subject property.   | N: No coverage<br>E: Southern portion is vacant land with dirt roads<br>S: Vacant land with electrical transmission lines trending in the northeast-southwest direction. Well and tank to southeast. Identified as The Washboard<br>W: Southern portion is vacant land  |
| 1981, 1994 | AP     | <b>Agricultural land (orchard)</b> is present in southwestern corner in 1994, electrical transmission lines are visible on eastern portion and <b>possible well area visible on western boundary</b> .  | N: West Jayne Avenue followed by vacant land. Substation visible to northeast.<br>E: Agricultural (orchard) and vacant land. Electrical transmission lines visible, trending southeast to northwest.<br>S: Undeveloped land. AST visible to southeast in 1981, removed by 1994.<br>W: Agricultural land   |

| Year             | Source         | Subject Property Use  | Adjoining Property Use   |
|------------------|----------------|---|--|
| 2004             | AP             | Northern portion is <b>agricultural</b> . Southern portion appears to be fallow. Electrical transmission lines visible on eastern boundary.   | N: West Jayne Avenue followed by agricultural land. Substation to northeast.<br>E: Agricultural land. Electrical transmission lines visible, trending southeast to northwest.<br>S: Vacant land<br>W: Agricultural and vacant land   |
| 2005, 2006       | AP             | <b>Agricultural land</b> . Electrical transmission lines visible on eastern boundary.   | N: West Jayne Avenue followed by agricultural land. Substation to northeast.<br>E: Agricultural land. Electrical transmission lines visible, trending southeast to northwest.<br>S: Agricultural land (vacant land in 2006)<br>W: Agricultural land  |
| 2010             | AP             | Northern portion is <b>agricultural</b> . Southern portion appears to be cleared. Electrical transmission lines visible on eastern boundary.  | N: West Jayne Avenue followed by agricultural land. Substation to northeast.<br>E: Agricultural land. Electrical transmission lines visible, trending southeast to northwest.<br>S: Agricultural land<br>W: Agricultural and vacant land   |
| 2012             | AP             | <b>Agricultural land</b> . Electrical transmission lines visible on eastern boundary.   | N: West Jayne Avenue followed by agricultural land. Substation to northeast.<br>E: Agricultural land. Electrical transmission lines visible, trending southeast to northwest.<br>S: Agricultural land<br>W: Agricultural land  |
| 2014             | AP             | Northern portion is <b>agricultural</b> . Southern portion appeared to be cleared. Inundated area visible, possibly for grazing animals. Electrical transmission lines visible on eastern boundary. | N: Substation visible south of West Jayne Avenue, followed by West Jayne Avenue, agricultural land, a solar array, and substation to the northeast (current configuration).<br>E: Agricultural land. Electrical transmission lines visible, trending southeast to northwest.<br>S: Agricultural land<br>W: Agricultural land on northern portion. Solar array on southern portion (current configuration). |
| 2016             | AP             | Similar to 2014 AP.   | N: Similar to 2014 AP<br>E: Fallow agricultural land. Electrical transmission lines visible, trending southeast to northwest.<br>S: Similar to 2014 AP<br>W: Similar to 2014 AP  |
| 2016             | City Directory | Not listed.   | N: PG&E<br>W: Westlands Solar Farm   |
| 2018, 2020, 2021 | AP             | Similar to 2016 AP.   | N: Similar to 2016 AP<br>E: Agricultural land. Electrical transmission lines visible, trending southeast to northwest.<br>S: Similar to 2016 AP<br>W: Similar to 2016 AP   |

\***Bold** listings indicate commercial/industrial uses with the potential to impact the subject property

### 4.3 Gaps in Historical Sources

Several gaps of greater than five years were identified in the historical records reviewed, from 1942 to 1950, from 1956 to 1965, from 1965 to 1971, from 1971 to 1978, from 1981 to 1994, and from 1994 to 2004. These gaps are considered insignificant because the subject property use appears to be similar prior to and following the gaps.

### 4.4 Historical Use Information of Concern

Based on [Table 3](#) above, the following historical uses of the subject property have the potential to impact the subject property:

- Agricultural land use
- Groundwater well

## 5 Interviews

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Rincon performed interviews regarding the subject property and surrounding areas. The purpose of the interviews was to discuss current and historical conditions and to obtain information indicating the presence of RECs in connection with the subject property.

### 5.1 Interview Summary

#### Interview with Owners

Interview questionnaires were provided to the property owners prior to the site reconnaissance. The following completed questionnaires were returned to Rincon.

##### *Parcels 085-040-36S and -37S*

Rebecca Kaser, Trustee for the Rebecca L Avellar Living Trust, completed the Owner Questionnaire. A copy of the completed questionnaire is included in Appendix A. The following information is based on our review of the completed questionnaire.

Ms. Kaser indicated the following:

- Parcels 085-040-36S and -37S were formerly used for farming and are currently fallow agricultural land.
- Adjacent properties have been used for agricultural and solar land use.
- Rebecca L Avellar Living Trust has owned Parcels 085-040-36S and -37S since April 1, 2021.
- Boyce Land Co., Inc. was the former subject property owner.
- As of April 1, 2021, all Product Use Reports for pesticide/herbicide application for Parcels 085-040-36S and -37S are on file with the county.

Ms. Kaser indicated that she is unaware of the presence of industrial drums, storage tanks (above or below ground), fill dirt, pits, ponds, lagoons, sumps, clarifiers, solvent degreasers, stained soil, vent pipes, fill pipes, or access ways, stained surfaces, private wells, non-public water systems, transformers, capacitors, or hydraulic equipment, or records indicating the presence of polychlorinated biphenyls.

Ms. Kaser indicated that she is not aware of any pending, threatened, or past litigation or administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the subject property. In addition, she is not aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products at the subject property.

Ms. Kaser provided the following document pertaining to Parcels 085-040-36S and -37S:

- *CLTA Standard Coverage Policy of Title Insurance* prepared by Old Republic National Title Insurance Company and dated April 1, 2021 – This document indicates that the following easements pertaining to hazardous materials or petroleum products are associated with Parcels 085-040-36S and -37S:
  - Shell Oil Company for “pipe lines”

- Superior Oil and Company for “pipe lines and public utilities”
- PG&E for “maintenance of lines and wires”
- PG&E for “maintenance of pipe lines”
- PG&E for “maintenance of poles and wires”
- Westlands Water District for “water pipes”
- Westlands Solar Farms, LLC for “ingress and egress for repairs and maintenance”

#### *Parcel 085-040-58S*

John Dresick, Vice President of Operations with Dresick Farms, Inc., completed the Owner Questionnaire. A copy of the completed questionnaire is included in Appendix A. The following information is based on our review of the completed questionnaire.

Mr. Dresick indicated the following:

- Parcel 085-040-58S was formerly and is currently used for farming.
- Adjacent properties have been used for agricultural and solar/substation land use.
- Ann Dresick Family Trust has owned Parcel 085-040-58S since 2000.
- Pesticides and/or herbicides are used on Parcel 085-040-58S for farming; a Material Use Report is available upon request.

Mr. Dresick indicated that he is unaware of the presence of industrial drums, storage tanks (above or below ground), fill dirt, pits, ponds, lagoons, sumps, clarifiers, solvent degreasers, stained soil, vent pipes, fill pipes, or access ways, stained surfaces, private wells, non-public water systems, transformers, capacitors, or hydraulic equipment, or records indicating the presence of polychlorinated biphenyls.

Mr. Dresick indicated that he is not aware of any pending, threatened, or past litigation or administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the subject property. In addition, he is not aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products at the subject property.

#### **Interview with Site Manager**

A site manager was not identified to Rincon.

#### **Interviews with Occupants**

Because the subject property is currently vacant and agricultural land, no occupants were interviewed as part of this research effort.

#### **Interviews with Local Government Officials**

Based on the sufficient information obtained from various sources, no local government officials were interviewed as part of this Phase I ESA.

#### **Interviews with Others**

Rincon did not attempt to interview neighboring property owners or others as part of this Phase I ESA.

## 5.2 Interview Information of Concern

Based on the information obtained during interviews, the following concerns have the potential to impact the subject property:

- Onsite agricultural use and use of pesticides/herbicides
- Onsite petroleum and natural gas pipelines



## 6 Site Reconnaissance

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Rincon performed an unaccompanied reconnaissance of the subject property on February 11, 2022. The purpose of the reconnaissance was to observe existing subject property conditions and to obtain information indicating the presence of RECs in connection with the subject property.

### 6.1 Methodology and Limiting Conditions

The site reconnaissance was conducted by:

1. Observing the subject property from public thoroughfares,
2. Observing the adjacent properties from public thoroughfares, and
3. Observing the subject property from driveways, roads, and walking paths.

Because of the large size of the subject property, several transects were completed across the subject property.

### 6.2 General Subject Property Information

#### **Current Use of the Property and Adjacent Properties**

The northern portion of Parcel 085-040-58S is currently newly planted agriculture, while the southern portion of Parcel 085-040-58S is currently an orchard. Parcels 085-040-36S and 085-040-37s are currently vacant land. Adjacent properties include orchards, a switching station, solar arrays, fallow agricultural land, and a PG&E substation.

#### **Past Use of the Property and Adjacent Properties**

Based on our site reconnaissance, past uses at the subject property and adjacent properties are not readily apparent.

#### **Current or Past Uses in the Surrounding Areas**

The subject property is surrounded by agricultural, vacant and industrial land uses as detailed in the Site Description section of this report. It appears that adjacent properties were formerly used for agricultural purposes.

#### **Geologic, Hydrogeologic, Hydrologic, and Topographic Conditions**

Geologic, hydrogeologic, hydrologic, and topographic information are as previously stated in the Physical Setting Sources section of this report.

#### **General Description of Structures**

There are currently no onsite structures.

## Roads

West Jayne Avenue is located to the north of the subject property. In addition, several dirt roads traverse the subject property in an east-west trending direction.

## Potable Water Supply

Westlands Water District supplies potable water to the subject property.

## Sewage Disposal System

No sewage disposal system is located at the subject property.

## Stormwater Runoff

Surface water runoff was not apparent at the subject property. However, a small ditch was observed in the northeastern corner of the subject property.

## 6.3 Observations

[Table 4](#) provides details regarding the observations noted during the site reconnaissance. Photographs 1 through 16 are shown below.

**Table 4 Observations**

| Item  | Observed | Photograph Number    | Description   |
|---|----------|----------------------|---|
| Hazardous Substances and Petroleum Products in Connection with Identified Uses                | Yes      | 6                    | One container of sulfuric acid 989 observed on Parcel 085-040-58S, along northern boundary of subject property. No staining was observed.<br><br>Two tote tanks (one labeled Soil Basics, plant food) observed on western portion of Parcel 085-040-58S, in the vicinity of Cal West Rain irrigation equipment. Slight staining was observed in the vicinity of the tote tanks. |
| Aboveground or Underground Storage Tanks  | Yes      | 5                    | One AST of diesel observed on Parcel 085-040-58S. Staining was observed in the vicinity of the diesel AST.  |
| Odors   | No       | Not Applicable (N/A) | None noted  |
| Pools of Liquid   | No       | N/A                  | None observed   |
| Drums   | No       | N/A                  | None observed   |
| Hazardous Substances and Petroleum Products Containers Not in Connection with Identified Uses | No       | N/A                  | None observed   |
| Unidentified Substance Containers   | No       | N/A                  | None observed   |
| Indications of PCBs   | Yes      | 4                    | Pole-mounted transformers observed on electric transmission line poles  |
| Heating/Cooling Systems   | No       | N/A                  | None observed   |

| Item                                     | Observed | Photograph Number | Description   |
|--|----------|-------------------|---|
| Stains or Corrosion                      | No       | N/A               | None observed   |
| Drains, Clarifiers, and Sumps            | No       | N/A               | None observed   |
| Degreasers/Parts Washers                 | No       | N/A               | None observed   |
| Pits, Ponds, and Lagoons                 | Yes      | 3                 | One ditch with municipal solid waste in the northeastern corner of subject property   |
| Stained Soil or Stained Pavement         | Yes      | 5, 11             | Staining observed in the vicinity of the diesel AST. Several areas of discolored soil observed on the southern boundary of the subject property. According to information provided by Rebecca Kaser in an email dated February 17, 2022, the discolored soil is ash from burning tumbleweeds. |
| Stressed Vegetation                      | No       | N/A               | None observed   |
| Solid Waste/Debris                       | Yes      | 3                 | Municipal solid waste observed in the drainage ditch in the northeastern corner of the subject property   |
| Wastewater                               | No       | N/A               | None observed   |
| Wells                                    | Yes      | N/A               | Irrigation well and machinery observed on western portion of Parcel 085-040-58S   |
| Septic Systems/Effluent Disposal Systems | No       | N/A               | None observed   |
| Soil Piles                               | No       | N/A               | None observed   |
| Fill Material                            | No       | N/A               | None observed   |

**Photographs 1-4**



**Photograph 1.** View of the northern portion of Parcel 085-040-58S.



**Photograph 2.** View of the electrical transmission lines along the eastern subject property boundary.



**Photograph 3.** View of the drainage ditch in the northeastern corner of the subject property.



**Photograph 4.** View of a pole-mounted transformer on the northwestern corner of the subject property.

**Photographs 5-8**



**Photograph 5.** View of the diesel AST and associated machinery observed on the western portion of Parcel 085-040-58S.



**Photograph 6.** View of the tote tanks, sulfuric acid AST, and associated irrigation equipment observed along the northern boundary of the subject property.



**Photograph 7.** View of orchards on southern portion of Parcel 085-040-58S.



**Photograph 8.** View of the Parcel 085-040-36S and the electrical transmission lines along the eastern boundary.

**Photographs 9-12**



**Photograph 9.** View of Parcel 085-040-36S.



**Photograph 10.** View of Parcel 085-040-37S.



**Photograph 11.** View of one of several areas of discolored soil observed on the southern boundary of Parcels 085-040-36S and 085-040-37S.



**Photograph 12.** View of Parcel 085-040-37S, facing east.

**Photographs 13-16**



**Photograph 13.** View of the northern adjacent PG&E substation, facing north across West Jayne Avenue.



**Photograph 14.** View of the eastern adjacent property, facing east.



**Photograph 15.** View of the southern adjacent orchard, facing south.



**Photograph 16.** View of the western adjacent solar array, facing west.

## 6.4 Site Reconnaissance Information of Concern

Based on the information obtained during the site reconnaissance, the following concerns have the potential to impact the subject property:

- Onsite agricultural use
- Onsite diesel AST and stained soil



## 7 Potential Vapor Migration

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The database report and other resources were reviewed to identify nearby known or suspect contaminated sites that have the potential for contaminated vapor originating from the nearby sites to migrate beneath the subject property. Based on the ASTM E2600-15, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*, the following minimum search distances were initially used to determine if contaminated soil vapors from a nearby known or suspect contaminated site have the potential to be migrating beneath the subject property:

- 1/10 mile (528 feet) for petroleum hydrocarbons
- 1/3 mile (1,760 feet) for other contaminants of concern (COC)

Groundwater depth and flow direction is also utilized to determine risk of vapor migration. Groundwater in the vicinity of the subject property is reportedly present at greater than 300 feet, with an unknown direction of flow (Section 3.1).

If known or suspect contaminated sites are located:

- Onsite or adjacent to the subject property,
- Within 100 feet, or
- Within the above referenced distances from the subject property and upgradient or cross-gradient to the subject property,

Then online resources are reviewed to determine the extent of the contaminated plume at those sites.

The following describes search distances for contaminated plumes of petroleum hydrocarbons (30 feet from the subject property) and other COCs (100 feet from the subject property). Per ASTM E2600-15, vapors associated with impacted soil or groundwater present within these distances have the potential to migrate beneath the subject property.

### 7.1 Petroleum Hydrocarbons

Based on our review of the database report and other information as indicated above, there are no known or suspect petroleum hydrocarbon-impacted sites within 528 feet of the subject property. Therefore, per ASTM E2600-15, as this distance exceeds the 30-foot distance considered the critical distance wherein such migration may pose a threat to the subject property, there are no potential threats to the subject property posed by the potential migration of petroleum hydrocarbon vapors from listed sites.

However, it should be noted that one natural gas pipeline traverses the subject property. Additionally, one natural gas pipeline and one crude oil pipeline are located nearby the subject property.

### 7.2 Other COCs

Based on our review of the database report, there are no known or suspect sites impacted with other COCs within 1,760 feet of the subject property. Therefore, per ASTM E2600-15, as this

distance exceeds the 100-foot distance considered the critical distance wherein such migration may pose a threat to the subject property, there are no potential threats to the subject property posed by the potential migration of other COC vapors from listed sites.

### 7.3 Vapor Intrusion Information of Concern

Based on the information above, there are no vapor intrusion threats from petroleum hydrocarbons within 30 feet or other COCs within 100 feet of the subject property.

## 8 Evaluation

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Rincon has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-13 and E1527-21 for the Key Energy Storage site in Fresno County, California. Any exceptions to, or deletions from, this practice are described in the Deviations section of this report. This assessment has revealed the following Notable Findings in connection with the subject property, as detailed below in [Table 5](#).

### 8.1 Significant Data Gaps

No significant data gaps were identified during the preparation of this report.

**Table 5 Findings, Opinions, and Conclusions**

| No. | Finding   | Opinion  | Conclusion      |
|-----|---|--|-----------------|
| 1   | Onsite agricultural use   | <p>According to the historical resources reviewed, the subject property and adjacent properties appear to have been used for agricultural purposes since at least 1955. Agriculture is typically associated with the use of pesticides, herbicides, insecticides, and arsenic. The legal and common application of such chemicals typically associated with historical agricultural uses may result in those compounds being present in soil and/or groundwater. Information regarding the possible historical use of herbicides and pesticides on the subject property was not available during this assessment. Therefore, if such chemicals were used and applied to land consistent with their intended use, this application is not considered a release and any residual environmental impact is exempt from CERCLA liability if the property remains used for agricultural or non-residential purposes. It is Rincon’s understanding that the subject property will be redeveloped as a solar facility with limited grading and no soil will be transported offsite. As such, the use of the subject property for agricultural purposes is considered <i>de minimis</i>.</p> <p>However, if future redevelopment of the subject property involves a change in land use, additional assessment may be warranted.</p> | De minimis      |
| 2   | Onsite natural gas pipeline, and onsite petroleum and natural gas easements | <p>According to the records reviewed, a natural gas pipeline traverses the subject property. Based on the proposed development of the subject property as a solar array, the onsite natural gas pipeline is considered a Notable Finding. Additionally, easements pertaining to petroleum and oil were identified in the Title Reports.</p>  | Notable Finding |
| 3   | Nearby natural gas and crude oil pipelines                                  | <p>According to the resources reviewed, a natural gas pipeline and crude oil pipeline are located nearby to the subject property. Because no releases have been reported, and based on the planned use of the subject property as a solar array with no planned habitable structures, the nearby pipelines are considered <i>de minimis</i>.</p>   | De minimis      |
| 4   | Onsite tote tanks with staining   | <p>During the site reconnaissance, two tote tanks were observed along the northern portion of the subject property. Staining was observed in the vicinity of the tote tanks; however, because it appears that the tote tanks are associated with SoilBasics, a plant food/fertilizer, minor releases to the soil are not expected to impact the subject property, and are considered <i>de minimis</i>.</p>  | De minimis      |

| No. | Finding                             | Opinion   | Conclusion      |
|-----|-------------------------------------|---|-----------------|
| 5   | Former onsite groundwater well      | According to the historical resources reviewed, a groundwater well was formerly located along the western boundary of the subject property. If the property is to be redeveloped (involving grading) in the vicinity of the former well, confirmation that the groundwater well has been property abandoned may be warranted. Therefore, the former onsite groundwater well is considered a Notable Finding.  | Notable Finding |
| 6   | Onsite diesel AST with stained soil | During the site reconnaissance, a diesel AST was observed on the western portion of northern Parcel 085-040-58S. Staining was observed in the vicinity of the diesel AST, indicative of minor releases associated with the diesel AST. Based on the proposed development of the subject property as a solar array, the diesel AST with stained soil is not expected to impact the subject property. However, if the AST and associated equipment is to be removed, impacted soil should also be removed from the subject property and disposed appropriately. | Notable Finding |

## 9 References

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- United State Geological Survey (USGS). Geologic Map. Coalinga and Guijarral Hills Quadrangles. 2007.

## 10 Signatures of Environmental Professionals

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The qualified environmental professionals that are responsible for preparing the report include Ryan Thacher, Julie Lynne Welch, and Lauren Kodama Roenicke. Their qualifications are summarized in the following section.

“We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.”

|                       |   |
|-----------------------|---|
| Signature             | Date                                      |
| Ryan Thacher, PhD, PE | Director, Site Assessment and Remediation |
| Name                  | Title                                     |

|                   |                         |
|-------------------|-------------------------|
| Signature         | Date                    |
| Julie Lynne Welch | Director, Due Diligence |
| Name              | Title                   |

|                        |                                |
|------------------------|--------------------------------|
| Signature              | Date                           |
| Lauren Kodama Roenicke | Project Manager, Due Diligence |
| Name                   | Title                          |

# 11 Qualifications of Environmental Consultants

The environmental consultants responsible for conducting this Phase I ESA and preparing the report include Ryan Thacher, Julie Lynne Welch, Lauren Kodama Roenicke, and Ethan Knox. Their qualifications are summarized below.

| Environmental Professional Qualifications | X2.1.1 (2) (i) - Professional Engineer or Professional Geologist License or Registration, and 3 years of full-time relevant experience | X2.1.1 (2) (ii) - Licensed or certified by the Federal Government, State, Tribe, or U.S. Territory to perform environmental inquiries | X2.1.1 (2) (iii) – Baccalaureate or Higher Degree from and accredited institution of higher education in a discipline of engineering or science and the equivalent of 5 years of full-time relevant experience | X2.1.1 (2) (iii) – Equivalent of 10 years of full-time relevant experience |
|---|--|---|--|--|
| Ryan Thacher                              | PE   |   | PhD Environmental Engineering  | 12 years   |
| Julie Lynne Welch                         |  |   | BS Environmental Engineering   | 26 years   |
| Lauren Kodama Roenicke                    |  |   | BS Environmental Studies   | 9 years  |
| Ethan Knox                                |  |   | BS Environmental Management and Protection   | 4 months   |

**Dr. Ryan Thacher, PE**, is a Director of Site Assessment and Remediation with Rincon Consultants. He holds a Bachelor of Science degree in Chemical Engineering from the University of California, Santa Barbara and a Doctorate degree in Environmental Engineering from the University of Southern California. He has 12 years of experience conducting research related to chemical contaminant fate and transport in soil and groundwater and developing and implementing site assessments and remediation for contaminated sites in California, including the preparation of Phase I and Phase II Environmental Site Assessments. Dr. Thacher is a Professional Engineer (#87757) with the State of California.

**Julie Lynne Welch** serves as the Director of Rincon’s Due Diligence team, which involves the execution of hundreds of Phase I and II ESAs annually. Ms. Welch has 26 years of professional experience in the field of environmental science and assessment, during which time she has managed and contributed to a variety of successful land use, water and energy planning, and residential, commercial, industrial and infrastructure projects.

She holds a Bachelor of Science degree in environmental engineering from Rensselaer Polytechnic Institute, Troy, New York, a Hazardous Materials Management Certificate from the University of California, Santa Barbara Extension program, and a Business Management Certificate from the University of California, San Diego Extension program.

Ms. Welch is also a member of the ASTM Committee E50 on Environmental Assessment, Risk Management and Corrective Action (2021) and continuously attends webinars and conferences regarding ASTM E1527-13 and the proposed 2021 Phase I ESA ASTM updates.

**Lauren G. Kodama Roenicke** is a Project Manager with Rincon Consultants. She holds a Bachelor of Science degree in Environmental Studies with an outside concentration of Ecology, Evolution, and Marine Biology from the University of California, Santa Barbara. Ms. Roenicke has experience



working on Phase I ESAs for a variety of commercial, rural, and industrial properties. In addition, Ms. Roenicke has been involved in working on large scale, multi-site projects for developers, banks, regulatory agencies, and other public and private clients. Ms. Roenicke's responsibilities at Rincon include implementation of Phase I and Phase II ESA reports, which involve soil, groundwater, and soil vapor assessments.

**Ethan Knox** is an Environmental Planner with Rincon Consultants. He holds a Bachelor of Science degree in Environmental Management and Protection from California Polytechnic State University, San Luis Obispo. Mr. Knox has experience preparing multiple types of CEQA documentation including Initial Studies, Negative/Mitigated Negative Declarations, and Environmental Impact Reports at a project and programmatic level. His experience also includes preparing geologic desktop reviews, Mitigation Monitoring and Reporting programs, and addendums to Environmental Impact Reports. Ethan has assisted with the preparation of Initial Studies and Mitigated Negative Declarations for various solar projects in California.

# Appendix A

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Interview Documentation

## User Questionnaire

**Rincon Project Number:** 20-10624

**Site Name and Full Address:** Key Energy Storage Project, Key 2, APN 085-040-36S and -37S, Fresno County, California

To qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the “Brownfields Amendments”), the user must provide the following information to the environmental professional. Failure to conduct these inquiries could result in a determination that “all appropriate inquiries” is not complete.

We respectfully request that you fill out this form and email it to Lauren Roenicke at [LRoenicke@Rinconconsultants.com](mailto:LRoenicke@Rinconconsultants.com) within one week from the date of this transmittal.

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### Project Description

1. Why is the Phase I ESA required or being performed?

Required by County for Use Permit and for our own due diligence

2. What type of property transaction is planned? (i.e. sale, purchase, exchange)

Purchase

3. What is the entire site address?

N/A

4. What is the Assessor’s Parcel Number(s)?

APN 085-040-36S and APN 085-040-37S

5. Are any considerations beyond the requirements of Practice E1527 to be considered? (i.e. lien search, asbestos & lead based paint, radon)

No



Rincon Project Number: 20-10624  
Site Name and Full Address: Key Energy Storage Project, Key 2, APN 085-040-36S and -37S, Fresno County, California

**6. Identify all parties who will rely on the Phase I report.**

Key Energy Storage, LLC  
County of Fresno

**7. Identify the Site Manager/Contact and how the contact can be reached.**

Virginia Thompson  
916-402-8912

**8. Identify the Site Owner and how the owner can be reached.**

Key Energy Storage, LLC  
Project Director Contact: Virginia Thompson, (916) 402-8912

**9. Do you have copies of any available prior environmental site assessment reports, documents, correspondence, etc., concerning any other knowledge or experience with the property that may be pertinent to the environmental professional (i.e. lien search, title report, chain of title, previous Ph I and II ESAs, Environmental Impact Studies)?**

Title report



Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APN 085-040-36S and -37S, Fresno County, California

### Subject Property Information

1. Did a search of recorded land title records (or judicial records, where appropriate) identify any environmental liens filed or recorded against the property?

Please mark the box with the most appropriate response:

- I **have not** reviewed the records and **do not know** if there are any filed or recorded environmental liens.
- I **have** reviewed the records, and **No, there aren't any** filed or recorded environmental liens.
- I **have** reviewed the records, and **Yes, there are** environmental liens. Explain:

2. Did a search of recorded land title records (or judicial records, where appropriate) identify any activity and land use limitations (AULs), such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law?

Please mark the box with the most appropriate response:

- I **have not** reviewed the records and **do not know** if there are any filed/recorded AULs or any AULs in place at the site.
- I **have** reviewed the records, and **No, there aren't any** filed/recorded AULs or any AULs in place at the site.
- I **have** reviewed the records, and **Yes, there are** AULs filed, recorded, and/or in place at the site. Explain:

This property is under the Williamson Act

3. Does the Title Report provide any information pertaining to environmental cleanup liens or activity and use limitations (AULs) for the subject property?

Please mark the box with the most appropriate response:

- I **have not** reviewed the Title Report and **do not know** if it provides environmental cleanup liens or AULs information.
- I **have** reviewed the Title Report, and **No, it does not provide** environmental cleanup liens or AULs information..
- I **have** reviewed the Title Report, and **Yes, it does provide** environmental cleanup liens or AULs information. Explain:

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APN 085-040-36S and -37S, Fresno County, California

4. Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

Please mark the box with the most appropriate response:

**No, I do not** have any specialized knowledge and/or experience related to the property or nearby properties.

Yes, I **do** have specialized knowledge and/or experience related to the property or nearby properties. Explain:

5. As the user of this ESA, based on your knowledge and experience related to the property, are you aware of any information pertaining to a reduction in value for the subject property relative to any known environmental issues?

Please mark the box with the most appropriate response:

**No, I do not** have any information about a reduction in property value relative to environmental issues.

**Yes, I do** have information about a reduction in property value relative to environmental issues. Explain:

6. Does the purchase price being paid for this property reasonably reflect the fair market value of the property?

Please mark the box with the most appropriate response:

**Yes, I do** believe the purchase price being paid for this property reasonably reflects the fair market value of the property. Skip to question #7.

**No, I do not** believe the purchase price being paid for this property reasonably reflects the fair market value of the property. Proceed to question #6a.

- a. If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property? (40 CFR 312.29)

Please mark the box with the most appropriate response

**No, I have not** considered the idea that known or believed contamination at the site has caused the lower purchase price.

**Yes, I have** considered the idea that known or believed contamination at the site has caused the lower purchase price. Explain:

Purchase price is higher than fair market value of Property

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APN 085-040-36S and -37S, Fresno County, California

7. Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:

Please mark the box with the most appropriate response:

- a. Do you know the past uses of the property?

I **do not** know.

I **do** know. Explain:

Agriculture

- b. Do you know of specific chemicals are present or once were present at the property?

I **do not** know.

I **do** know. Explain:

- c. Do you know of any spills or other chemical releases that have taken place at the property?

I **do not** know.

I **do** know. Explain:

- d. Do you know of any environmental cleanups have taken place at the property?

I **do not** know.

I **do** know. Explain:

8. Based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of releases at the property?

Please mark the box with the most appropriate response:

**No**, I do not know and/or do not have any experience with any obvious indicators that point to the presence or likely presence of contamination at the property.

**Yes**, I do know of and/or do have experience with obvious indicators that point to the presence or likely presence of contamination at the property. Explain:

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APN 085-040-36S and -37S, Fresno County, California

**9. Are you aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the site?**

Please mark the box with the most appropriate response:

- No**, I am not aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the site.
- Yes**, I am aware of pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site. Explain:

**10. Are you aware of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site?**

Please mark the box with the most appropriate response:

- No**, I am not aware of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site.
- Yes**, I am aware of pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site. Explain:

**11. Are you aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?**

Please mark the box with the most appropriate response:

- No**, I am not aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products..
- Yes**, I am aware of a notice, or notices, from a government entity (or multiple government entities) regarding a possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products. Explain:





**Rincon Project Number:** 20-10624  
**Site Name and Full Address:** Key Energy Storage Project, Key 2, APN 085-040-36S and -37S, Fresno County, California

**This questionnaire was completed by (please print)**


Name Sean Wazlaw  
 Title Project Director  
 Firm Key Energy Storage, LLC  
 Street Address 1 California Street, Suite 1600  
 City, State, Zip Code San Francisco, CA 94111  
 Phone Number 619-372-6142  
 Fax Number \_\_\_\_\_

What is the Preparer’s relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.)? Project Director

**Copies of the completed questionnaire should be faxed, emailed (preferably) or mailed to:**

Rincon Consultants, Inc.  
 Attention: Environmental Site Assessment Division  
 2215 Faraday Avenue, Suite A  
 Carlsbad, CA 92008  
 Fax: (760) 918-9444  
 Email: LRoenicke@rinconconsultants.com

Preparer represents that to the best of the preparer’s knowledge the above statements and facts are true and correct and to the best of the preparer’s knowledge no material facts have been suppressed or misstated.

Signature Sean Wazlaw  Digitally signed by Sean Wazlaw  
 Date: 2022.02.10 10:16:30 -08'00' Date \_\_\_\_\_

# Property Owner Interview Questionnaire

**Rincon Project Number:** 20-10624

**Site Name and Full Address:** Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

This questionnaire should be completed by the current property owner or a designated representative of the current property owner. We respectfully request that you fill out and return this form via fax at (760) 918-9444 or email to us at LRoenicke@rinconconsultants.com within one week from the date of this transmittal.

**1. Was the subject property or any adjoining property ever used as:**

- |  |   |
|--|---|
| <input type="checkbox"/> an airport                          | <input type="checkbox"/> a Department of Defense facility or training area                      |
| <input type="checkbox"/> a fire training area                | <input type="checkbox"/> a junkyard or landfill   |
| <input type="checkbox"/> a gasoline or other fueling station | <input type="checkbox"/> a waste treatment, storage, disposal, processing or recycling facility |
| <input type="checkbox"/> a motor vehicle repair facility     | <input type="checkbox"/> a machine shop   |
| <input type="checkbox"/> a commercial printing facility      | <input type="checkbox"/> a manufacturing facility   |
| <input type="checkbox"/> a dry cleaners                      | <input type="checkbox"/> an oil production facility (including oil wells)                       |
| <input type="checkbox"/> a photo developing laboratory       | <input type="checkbox"/> any other industrial use   |
| <input type="checkbox"/> a metal plating facility            |   |
| <input checked="" type="checkbox"/> a farm                   |   |

Please check all that apply above and describe:

To my knowledge as of April 1, 2021, the parcels have been used for farming.

**2. Please describe the current land uses of the subject property and those surrounding your property. Please indicate all businesses/companies located on property.**

**2a. Current Use of Subject Property:**

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Agriculture |
|---|---|

**2b. Current Use of Northern Adjoining Properties:**

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Agriculture |
|---|---|



Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

**2c. Current Use of Eastern Adjoining Properties:**

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Agriculture |
|---|---|

**2d. Current Use of Southern Adjoining Properties:**

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Agriculture |
|---|---|

**2e. Current Use of Western Adjoining Properties:**

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input checked="" type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Solar |
|---|---|

**3. Please describe the previous land uses of your property and those surrounding your property. Include property ownership and dates of operation if known.**

**3a. Previous Use of Subject Property:**

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Current ownership as of April 1, 2021.<br>Agriculture (fallow land) on property |
|---|---|

**3b. Previous Use of Northern Adjoining Properties:**

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Agriculture, orchards |
|---|---|



**Rincon Project Number:** 20-10624  
**Site Name and Full Address:** Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

**3c. Previous Use of Eastern Adjoining Properties:**

|   |  |
|---|--|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Agriculture, unknown |
|---|--|

**3d. Previous Use of Southern Adjoining Properties:**

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Agriculture, orchards |
|---|---|

**3e. Previous Use of Western Adjoining Properties:**

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Solar |
|---|---|

**4. Who is the current owner of the property?**

The Rebecca L Avellar Living Trust

**5. When did current ownership begin?**

April 1, 2021

**6. What is the age of the on-site facility?**

n/a

**7. Who is the previous owner of the property?**

Boyce Land Co. Inc.

**8. Please indicate the property's current:**

|                              |                          |
|------------------------------|--------------------------|
| Electrical service provider  | n/a                      |
| Natural Gas service provider | n/a                      |
| Water service provider       | Westlands Water District |
| Sewer service provider       | n/a                      |
| Solid waste hauler           | Mid Valley Disposal      |



Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

9. To the best of your knowledge, has your facility previously or does your facility currently store or use any of the following in individual containers larger than 5 gallons in volume or 50 gallons in the aggregate? (if Yes or Unknown, include how many, type, and size)

|  |  |
|--|--|
| <input type="checkbox"/> Damaged or discarded automotive or industrial batteries |  |
| <input type="checkbox"/> Paints  |  |
| <input type="checkbox"/> Oils or solvents  |  |
| <input type="checkbox"/> Motor vehicle fleet                                     |  |
| <input type="checkbox"/> Pesticides or herbicides                                |  |
| <input type="checkbox"/> Other chemicals or hazardous substances                 |  |

10. Please indicate any wastes generated at the facility:

| Hazardous Waste | Quantity | Disposal Method |
|-----------------|----------|-----------------|
|                 |          |                 |
|                 |          |                 |
|                 |          |                 |
|                 |          |                 |
|                 |          |                 |

11. Are there currently or to the best of your knowledge have there been previously, any industrial drums (typically 55 gallon) or sacks of chemicals located on the property or at the facility?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No<br><input type="checkbox"/> Unknown | If Yes or Unknown, please describe: |
|--|-------------------------------------|

12. Are there currently or to the best of your knowledge have there been previously, any evidence of fill dirt having been brought onto the property that originated from a contaminated site or that is of an unknown origin?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No<br><input type="checkbox"/> Unknown | If Yes or Unknown, please describe: |
|--|-------------------------------------|



Rincon Project Number: 20-10624  
Site Name and Full Address: Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

13. Are there currently or to the best of your knowledge have there been previously, any pits, ponds or lagoons located on the property in connection with waste treatment or waste disposal?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No<br><input type="checkbox"/> Unknown | If Yes or Unknown, please describe: |
|--|-------------------------------------|

14. Are there currently or to the best of your knowledge have there been previously, any sumps, clarifiers, or solvent degreasers on the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No<br><input type="checkbox"/> Unknown | If Yes or Unknown, please describe: |
|--|-------------------------------------|

15. Are there currently or to the best of your knowledge have there been previously, any stained soil on the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No<br><input type="checkbox"/> Unknown | If Yes or Unknown, please describe: |
|--|-------------------------------------|

16. Are there currently or to the best of your knowledge have there been previously, any storage tanks (above or below ground) located on the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No<br><input type="checkbox"/> Unknown | If Yes or Unknown, please describe: |
|--|-------------------------------------|

17. Are there currently or to the best of your knowledge have there been previously, any vent pipes, fill pipes, or access ways (etc.) indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No<br><input type="checkbox"/> Unknown | If Yes or Unknown, please describe: |
|--|-------------------------------------|

18. If the property is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system or has the well been designated as contaminated by any government agency?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No<br><input type="checkbox"/> Unknown | If Yes or Unknown, please describe: |
|--|-------------------------------------|



**Rincon Project Number:** 20-10624  
**Site Name and Full Address:** Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

**19. Are there currently or to the best of your knowledge have there been previously, any flooring, drains, or walls located within the facility that are stained by substances other than water, or are emitting foul odors?**

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

**20. To the best of your knowledge has your facility previously or does your facility currently, discharge wastewater on or adjacent to the property other than storm water into a sanitary sewer system?**

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

**21. Have any of the following ever been dumped above grade, buried and/or burned on the property? (please check all that apply and describe if possible)**

|  |  |
|--|--|
| <input type="checkbox"/> Hazardous substances                    |  |
| <input type="checkbox"/> Petroleum products                      |  |
| <input type="checkbox"/> Unidentified waste materials            |  |
| <input type="checkbox"/> Tires                                   |  |
| <input type="checkbox"/> Automotive or industrial batteries      |  |
| <input type="checkbox"/> Other waste materials (please describe) |  |

**22. Are there currently or to the best of your knowledge have there been previously, a transformer, capacitor or any hydraulic equipment on the property?**

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

**23. Are there currently or to the best of your knowledge have there been previously any records indicating the presence of PCBs?**

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |



Rincon Project Number: 20-10624  
Site Name and Full Address: Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

**24. Are there currently or to the best of your knowledge have there been previously any records indicating the presence of pesticides or herbicides?**

|   |  |
|---|--|
| <input checked="" type="checkbox"/> Yes | If Yes or Unknown, please describe:<br>Since current ownership as of April 1, 2021, all Product Use Reports are on file with the county. |
| <input type="checkbox"/> No             |  |
| <input type="checkbox"/> Unknown        |  |

**25. Do you have any knowledge of environmental liens that may have been recorded against the property or governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property?**

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

**26. Do you have any knowledge of activity and use limitations (AULs) such as engineering controls, deed restrictions, land use restrictions, or institutional controls that may have been recorded against the property?**

|   |  |
|---|--|
| <input checked="" type="checkbox"/> Yes | If Yes or Unknown, please describe:<br>See attached title report |
| <input type="checkbox"/> No             |  |
| <input type="checkbox"/> Unknown        |  |

**27. Have you been informed of the past or current existence of hazardous substances, petroleum products, or environmental violations with respect to the property or any facility located on the property?**

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

**28. Do you have any knowledge of any environmental site assessments of the property or facility?**

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

**29. Do you know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release of any hazardous substances or petroleum products involving the property by any owner or occupant of the property?**

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |





**Rincon Project Number:** 20-10624  
**Site Name and Full Address:** Key Energy Storage Project, Key 2, APNs 085-040-36S and -37S, Fresno County, California

**30. Are there any site-specific geotechnical or geologic reports available for the subject property?**

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No<br><input type="checkbox"/> Unknown | If Yes or Unknown, please describe: |
|--|-------------------------------------|

**31. Is there a Title Report available for the subject property?**

|  |  |
|--|--|
| <input checked="" type="checkbox"/> Yes<br><input type="checkbox"/> No<br><input type="checkbox"/> Unknown | If Yes or Unknown, please describe:<br>Title Report for Escrow |
|--|--|

**This questionnaire was completed by (please print)**

Name Rebecca Kaser  
 Title Trustee  
 Firm The Rebecca L Avellar Living Trust  
 Street Address 466 W Fallbrook Ave, Ste 107  
 City, State, Zip Code Fresno, CA 93711  
 Phone Number 559-313-5588  
 Fax Number 559-981-2458

What is the Preparer's relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.)? Trustee

**Copies of the completed questionnaire should be faxed, emailed (preferably) or mailed to:**

Rincon Consultants, Inc.  
 Attention: Environmental Site Assessment Division  
 2215 Faraday Avenue, Suite A  
 Carlsbad, CA 92008  
 Fax: (760) 918-9444  
 Email: LRoenicke@rinconconsultants.com

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's knowledge no material facts have been suppressed or misstated.

Signature \_\_\_\_\_ Date \_\_\_\_\_



# Property Owner Interview Questionnaire

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

This questionnaire should be completed by the current property owner or a designated representative of the current property owner. We respectfully request that you fill out and return this form via fax at (760) 918-9444 or email to us at LRoenicke@rinconconsultants.com within one week from the date of this transmittal.

**1. Was the subject property or any adjoining property ever used as:**

- |  |   |
|--|---|
| <input type="checkbox"/> an airport                          | <input type="checkbox"/> a Department of Defense facility or training area                      |
| <input type="checkbox"/> a fire training area                | <input type="checkbox"/> a junkyard or landfill   |
| <input type="checkbox"/> a gasoline or other fueling station | <input type="checkbox"/> a waste treatment, storage, disposal, processing or recycling facility |
| <input type="checkbox"/> a motor vehicle repair facility     | <input type="checkbox"/> a machine shop   |
| <input type="checkbox"/> a commercial printing facility      | <input type="checkbox"/> a manufacturing facility   |
| <input type="checkbox"/> a dry cleaners                      | <input type="checkbox"/> an oil production facility (including oil wells)                       |
| <input type="checkbox"/> a photo developing laboratory       | <input type="checkbox"/> any other industrial use   |
| <input type="checkbox"/> a metal plating facility            |   |
| <input checked="" type="checkbox"/> a farm                   |   |

Please check all that apply above and describe:

2012-2020 = Citrus 156 Ac, 2021 = Citrus 78 Ac (S2) & Pistachio 78 Ac (N2)

**2. Please describe the current land uses of the subject property and those surrounding your property. Please indicate all businesses/companies located on property.**

**2a. Current Use of Subject Property:**

|   |  |
|---|--|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Citrus & Pistachio |
|---|--|

**2b. Current Use of Northern Adjoining Properties:**

|   |  |
|---|--|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Fallow (Row Crops) & PG&E Solar/Substation |
|---|--|



Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

2c. Current Use of Eastern Adjoining Properties:

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Farming - Row Crops |
|---|---|

2d. Current Use of Southern Adjoining Properties:

|   |  |
|---|--|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Fallow |
|---|--|

2e. Current Use of Western Adjoining Properties:

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Farming - Almonds |
|---|---|

3. Please describe the previous land uses of your property and those surrounding your property. Include property ownership and dates of operation if known.

3a. Previous Use of Subject Property:

|   |  |
|---|--|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Farming - Citrus |
|---|--|

3b. Previous Use of Northern Adjoining Properties:

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Farming (Row crops) & PG&E Solar/Substation |
|---|---|



**Rincon Project Number:** 20-10624  
**Site Name and Full Address:** Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

**3c. Previous Use of Eastern Adjoining Properties:**

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Farming - Row Crops |
|---|---|

**3d. Previous Use of Southern Adjoining Properties:**

|   |  |
|---|--|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Fallow |
|---|--|

**3e. Previous Use of Western Adjoining Properties:**

|   |   |
|---|---|
| Please check all that apply:<br><input type="checkbox"/> Commercial (retail, offices, etc.)<br><input type="checkbox"/> Residential (single family or apartments)<br><input type="checkbox"/> Industrial (manufacturing, warehousing, processing)<br><input checked="" type="checkbox"/> Other- Please Describe | Please include a brief description of current operation:<br>Farming - Almonds |
|---|---|

**4. Who is the current owner of the property?**

Ann Dresick Family Trust

**5. When did current ownership begin?**

2000

**6. What is the age of the on-site facility?**

Citrus (S2) = 10 years & Pistachio (N2) = 1 Year

**7. Who is the previous owner of the property?**

n/a

**8. Please indicate the property's current:**

|                              |  |
|------------------------------|--|
| Electrical service provider  | <u>Pacific Gas &amp; Electric (PG&amp;E)</u>     |
| Natural Gas service provider | <u>n/a</u>                                       |
| Water service provider       | <u>Westlands Water District &amp; Well Water</u> |
| Sewer service provider       | <u>n/a</u>                                       |
| Solid waste hauler           | <u>n/a</u>                                       |



Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

9. To the best of your knowledge, has your facility previously or does your facility currently store or use any of the following in individual containers larger than 5 gallons in volume or 50 gallons in the aggregate? (if Yes or Unknown, include how many, type, and size)

|  |     |
|--|-----|
| <input type="checkbox"/> Damaged or discarded automotive or industrial batteries | n/a |
| <input type="checkbox"/> Paints  | n/a |
| <input type="checkbox"/> Oils or solvents  | n/a |
| <input type="checkbox"/> Motor vehicle fleet                                     | n/a |
| <input type="checkbox"/> Pesticides or herbicides                                | n/a |
| <input type="checkbox"/> Other chemicals or hazardous substances                 | n/a |

10. Please indicate any wastes generated at the facility:

| Hazardous Waste | Quantity | Disposal Method |
|-----------------|----------|-----------------|
| n/a             |          |                 |
|                 |          |                 |
|                 |          |                 |
|                 |          |                 |
|                 |          |                 |

11. Are there currently or to the best of your knowledge have there been previously, any industrial drums (typically 55 gallon) or sacks of chemicals located on the property or at the facility?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No<br><input type="checkbox"/> Unknown | If Yes or Unknown, please describe: |
|--|-------------------------------------|

12. Are there currently or to the best of your knowledge have there been previously, any evidence of fill dirt having been brought onto the property that originated from a contaminated site or that is of an unknown origin?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> No<br><input type="checkbox"/> Unknown | If Yes or Unknown, please describe: |
|--|-------------------------------------|



Rincon Project Number: 20-10624  
Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

13. Are there currently or to the best of your knowledge have there been previously, any pits, ponds or lagoons located on the property in connection with waste treatment or waste disposal?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

14. Are there currently or to the best of your knowledge have there been previously, any sumps, clarifiers, or solvent degreasers on the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

15. Are there currently or to the best of your knowledge have there been previously, any stained soil on the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

16. Are there currently or to the best of your knowledge have there been previously, any storage tanks (above or below ground) located on the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

17. Are there currently or to the best of your knowledge have there been previously, any vent pipes, fill pipes, or access ways (etc.) indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

18. If the property is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system or has the well been designated as contaminated by any government agency?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |



Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

19. Are there currently or to the best of your knowledge have there been previously, any flooring, drains, or walls located within the facility that are stained by substances other than water, or are emitting foul odors?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

20. To the best of your knowledge has your facility previously or does your facility currently, discharge wastewater on or adjacent to the property other than storm water into a sanitary sewer system?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

21. Have any of the following ever been dumped above grade, buried and/or burned on the property? (please check all that apply and describe if possible)

|  |     |
|--|-----|
| <input type="checkbox"/> Hazardous substances                    | n/a |
| <input type="checkbox"/> Petroleum products                      | n/a |
| <input type="checkbox"/> Unidentified waste materials            | n/a |
| <input type="checkbox"/> Tires                                   | n/a |
| <input type="checkbox"/> Automotive or industrial batteries      | n/a |
| <input type="checkbox"/> Other waste materials (please describe) | n/a |

22. Are there currently or to the best of your knowledge have there been previously, a transformer, capacitor or any hydraulic equipment on the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

23. Are there currently or to the best of your knowledge have there been previously any records indicating the presence of PCBs?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |



Rincon Project Number: 20-10624  
Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

24. Are there currently or to the best of your knowledge have there been previously any records indicating the presence of pesticides or herbicides?

|   |  |
|---|--|
| <input checked="" type="checkbox"/> Yes | If Yes or Unknown, please describe:<br>Used applicable to crops. Material Use Report available, upon request |
| <input type="checkbox"/> No             |  |
| <input type="checkbox"/> Unknown        |  |

25. Do you have any knowledge of environmental liens that may have been recorded against the property or governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

26. Do you have any knowledge of activity and use limitations (AULs) such as engineering controls, deed restrictions, land use restrictions, or institutional controls that may have been recorded against the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

27. Have you been informed of the past or current existence of hazardous substances, petroleum products, or environmental violations with respect to the property or any facility located on the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

28. Do you have any knowledge of any environmental site assessments of the property or facility?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

29. Do you know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release of any hazardous substances or petroleum products involving the property by any owner or occupant of the property?

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |





Rincon Project Number: 20-10624  
 Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

**30. Are there any site-specific geotechnical or geologic reports available for the subject property?**

|  |                                     |
|--|-------------------------------------|
| <input type="checkbox"/> Yes           | If Yes or Unknown, please describe: |
| <input checked="" type="checkbox"/> No |                                     |
| <input type="checkbox"/> Unknown       |                                     |

**31. Is there a Title Report available for the subject property?**

|   |                                     |
|---|-------------------------------------|
| <input checked="" type="checkbox"/> Yes | If Yes or Unknown, please describe: |
| <input type="checkbox"/> No             |                                     |
| <input type="checkbox"/> Unknown        |                                     |

**This questionnaire was completed by (please print)**


Name John Dresick  
 Title VP - Operations  
 Firm Dresick Farms, Inc.  
 Street Address 19536 Jayne Ave (P O Box 1260)  
 City, State, Zip Code Huron, CA 93234  
 Phone Number 559-945-2513  
 Fax Number n/a

What is the Preparer's relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.)? Manager

**Copies of the completed questionnaire should be faxed, emailed (preferably) or mailed to:**

Rincon Consultants, Inc.  
 Attention: Environmental Site Assessment Division  
 2215 Faraday Avenue, Suite A  
 Carlsbad, CA 92008  
 Fax: (760) 918-9444  
 Email: LRoenicke@rinconconsultants.com

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's knowledge no material facts have been suppressed or misstated.

Signature  Date 4/11/22

## User Questionnaire

**Rincon Project Number:** 20-10624

**Site Name and Full Address:** Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

To qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the “Brownfields Amendments”), the user must provide the following information to the environmental professional. Failure to conduct these inquiries could result in a determination that “all appropriate inquiries” is not complete.

We respectfully request that you fill out this form and email it to Lauren Roenicke at [LRoenicke@Rinconconsultants.com](mailto:LRoenicke@Rinconconsultants.com) within one week from the date of this transmittal.

---

### Project Description

1. Why is the Phase I ESA required or being performed?

Required by County for Use Permit and for our own due diligence

2. What type of property transaction is planned? (i.e. sale, purchase, exchange)

Purchase

3. What is the entire site address?

18364 W Jayne Ave, Coalinga, CA 93210

4. What is the Assessor’s Parcel Number(s)?

085-040-58S

5. Are any considerations beyond the requirements of Practice E1527 to be considered? (i.e. lien search, asbestos & lead based paint, radon)

No



Rincon Project Number: 20-10624  
Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

**6. Identify all parties who will rely on the Phase I report.**

Key Energy Storage, LLC  
County of Fresno

**7. Identify the Site Manager/Contact and how the contact can be reached.**

Virginia Thompson  
916-402-8912

**8. Identify the Site Owner and how the owner can be reached.**

Key Energy Storage, LLC  
Project Director Contact: Virginia Thompson, (916) 402-8912

**9. Do you have copies of any available prior environmental site assessment reports, documents, correspondence, etc., concerning any other knowledge or experience with the property that may be pertinent to the environmental professional (i.e. lien search, title report, chain of title, previous Ph I and II ESAs, Environmental Impact Studies)?**

Title report



Rincon Project Number: 20-10624  
Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

### Subject Property Information

1. Did a search of recorded land title records (or judicial records, where appropriate) identify any environmental liens filed or recorded against the property?

Please mark the box with the most appropriate response:

I **have not** reviewed the records and **do not know** if there are any filed or recorded environmental liens.

I **have** reviewed the records, and **No, there aren't any** filed or recorded environmental liens.

I **have** reviewed the records, and **Yes, there are** environmental liens. Explain:

2. Did a search of recorded land title records (or judicial records, where appropriate) identify any activity and land use limitations (AULs), such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law?

Please mark the box with the most appropriate response:

I **have not** reviewed the records and **do not know** if there are any filed/recorded AULs or any AULs in place at the site.

I **have** reviewed the records, and **No, there aren't any** filed/recorded AULs or any AULs in place at the site.

I **have** reviewed the records, and **Yes, there are** AULs filed, recorded, and/or in place at the site. Explain:

This property is under the Williamson Act

3. Does the Title Report provide any information pertaining to environmental cleanup liens or activity and use limitations (AULs) for the subject property?

Please mark the box with the most appropriate response:

I **have not** reviewed the Title Report and **do not know** if it provides environmental cleanup liens or AULs information.

I **have** reviewed the Title Report, and **No, it does not provide** environmental cleanup liens or AULs information..

I **have** reviewed the Title Report, and **Yes, it does provide** environmental cleanup liens or AULs information. Explain:

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

4. Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

Please mark the box with the most appropriate response:

**No, I do not** have any specialized knowledge and/or experience related to the property or nearby properties.

Yes, I **do** have specialized knowledge and/or experience related to the property or nearby properties. Explain:

5. As the user of this ESA, based on your knowledge and experience related to the property, are you aware of any information pertaining to a reduction in value for the subject property relative to any known environmental issues?

Please mark the box with the most appropriate response:

**No, I do not** have any information about a reduction in property value relative to environmental issues.

**Yes, I do** have information about a reduction in property value relative to environmental issues. Explain:

6. Does the purchase price being paid for this property reasonably reflect the fair market value of the property?

Please mark the box with the most appropriate response:

**Yes, I do** believe the purchase price being paid for this property reasonably reflects the fair market value of the property. Skip to question #7.

**No, I do not** believe the purchase price being paid for this property reasonably reflects the fair market value of the property. Proceed to question #6a.

- a. If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property? (40 CFR 312.29)

Please mark the box with the most appropriate response

**No, I have not** considered the idea that known or believed contamination at the site has caused the lower purchase price.

**Yes, I have** considered the idea that known or believed contamination at the site has caused the lower purchase price. Explain:

Purchase price is higher than fair market value of Property



Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

7. Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:

Please mark the box with the most appropriate response:

a. Do you know the past uses of the property?

I **do not** know.

I **do** know. Explain:  
Agriculture

b. Do you know of specific chemicals are present or once were present at the property?

I **do not** know.

I **do** know. Explain:

c. Do you know of any spills or other chemical releases that have taken place at the property?

I **do not** know.

I **do** know. Explain:

d. Do you know of any environmental cleanups have taken place at the property?

I **do not** know.

I **do** know. Explain:

8. Based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of releases at the property?

Please mark the box with the most appropriate response:

**No**, I do not know and/or do not have any experience with any obvious indicators that point to the presence or likely presence of contamination at the property.

**Yes**, I do know of and/or do have experience with obvious indicators that point to the presence or likely presence of contamination at the property. Explain:

Rincon Project Number: 20-10624

Site Name and Full Address: Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

**9. Are you aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the site?**

Please mark the box with the most appropriate response:

**No**, I am not aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products, in, on, or from the site.

**Yes**, I am aware of pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site. Explain:

**10. Are you aware of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site?**

Please mark the box with the most appropriate response:

**No**, I am not aware of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site.

**Yes**, I am aware of pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the site. Explain:

**11. Are you aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?**

Please mark the box with the most appropriate response:

**No**, I am not aware of any notice from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products..

**Yes**, I am aware of a notice, or notices, from a government entity (or multiple government entities) regarding a possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products. Explain:



**Rincon Project Number:** 20-10624  
**Site Name and Full Address:** Key Energy Storage Project, Key 1, APN 085-040-58S, Fresno County, California

**This questionnaire was completed by (please print)**

Name Sean Wazlaw  
 Title Project Director  
 Firm Key Energy Storage, LLC  
 Street Address 1 California Street, Suite 1600  
 City, State, Zip Code San Francisco, CA 94111  
 Phone Number 619-372-6142  
 Fax Number \_\_\_\_\_

What is the Preparer’s relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.)? Project Director

**Copies of the completed questionnaire should be faxed, emailed (preferably) or mailed to:**

Rincon Consultants, Inc.  
 Attention: Environmental Site Assessment Division  
 2215 Faraday Avenue, Suite A  
 Carlsbad, CA 92008  
 Fax: (760) 918-9444  
 Email: LRoenicke@rinconconsultants.com

Preparer represents that to the best of the preparer’s knowledge the above statements and facts are true and correct and to the best of the preparer’s knowledge no material facts have been suppressed or misstated.

Signature Sean Wazlaw Digitally signed by Sean Wazlaw  
Date: 2022.02.10 10:14:13 -08'00' Date \_\_\_\_\_



# Appendix B

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Regulatory Records Search



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# DATABASE REPORT

**Project Property:** *Key Energy Storage Site  
Key Energy Storage Site  
Coalinga CA*

**Project No:** *20-10624*

**Report Type:** *Database Report*

**Order No:** *22020200451*

**Requested by:** *Rincon Consultants, Inc.*

**Date Completed:** *February 3, 2022*

**Environmental Risk Information Services**  
*A division of Glacier Media Inc.*  
1.866.517.5204 | [info@erisinfo.com](mailto:info@erisinfo.com) | [erisinfo.com](http://erisinfo.com)

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# Executive Summary

## Property Information:

**Project Property:** *Key Energy Storage Site  
Key Energy Storage Site Coalinga CA*

**Project No:** *20-10624*

**Coordinates:**

**Latitude:** *36.13050486*  
**Longitude:** *-120.13319482*  
**UTM Northing:** *4,002,230.90*  
**UTM Easting:** *757,985.03*  
**UTM Zone:** *UTM Zone 10S*

**Elevation:** *422 FT*

## Order Information:

**Order No:** *22020200451*  
**Date Requested:** *February 2, 2022*  
**Requested by:** *Rincon Consultants, Inc.*  
**Report Type:** *Database Report*

## Historicals/Products:

**Aerial Photographs** *Historical Aerials (with Project Boundaries)*  
**City Directory Search** *CD - 2 Street Search*  
**ERIS Xplorer** [\*ERIS Xplorer\*](#)  
**Excel Add-On** *Excel Add-On*  
**Fire Insurance Maps** *US Fire Insurance Maps*  
**Physical Setting Report (PSR)** *Physical Setting Report (PSR)*  
**Topographic Map** *Topographic Maps*

# Executive Summary: Report Summary

| Database                              | Searched | Search Radius | Project Property | Within 0.12mi | 0.125mi to 0.25mi | 0.25mi to 0.50mi | 0.50mi to 1.00mi | Total |
|---------------------------------------|----------|---------------|------------------|---------------|-------------------|------------------|------------------|-------|
| <b>Standard Environmental Records</b> |          |               |                  |               |                   |                  |                  |       |
| <b>Federal</b>                        |          |               |                  |               |                   |                  |                  |       |
| DOE FUSRAP                            | Y        | 1             | 0                | 0             | 0                 | 0                | 0                | 0     |
| NPL                                   | Y        | 1             | 0                | 0             | 0                 | 0                | 0                | 0     |
| PROPOSED NPL                          | Y        | 1             | 0                | 0             | 0                 | 0                | 0                | 0     |
| DELETED NPL                           | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| SEMS                                  | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| ODI                                   | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| SEMS ARCHIVE                          | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| CERCLIS                               | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| IODI                                  | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| CERCLIS NFRAP                         | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| CERCLIS LIENS                         | Y        | PO            | 0                | -             | -                 | -                | -                | 0     |
| RCRA CORRACTS                         | Y        | 1             | 0                | 0             | 0                 | 0                | 0                | 0     |
| RCRA TSD                              | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| RCRA LQG                              | Y        | 0.25          | 0                | 0             | 0                 | -                | -                | 0     |
| RCRA SQG                              | Y        | 0.25          | 0                | 0             | 0                 | -                | -                | 0     |
| RCRA VSQG                             | Y        | 0.25          | 0                | 0             | 0                 | -                | -                | 0     |
| RCRA NON GEN                          | Y        | 0.25          | 0                | 0             | 0                 | -                | -                | 0     |
| RCRA CONTROLS                         | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| FED ENG                               | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| FED INST                              | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| LUCIS                                 | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| ERNS 1982 TO 1986                     | Y        | PO            | 0                | -             | -                 | -                | -                | 0     |
| ERNS 1987 TO 1989                     | Y        | PO            | 0                | -             | -                 | -                | -                | 0     |
| ERNS                                  | Y        | PO            | 0                | -             | -                 | -                | -                | 0     |
| FED BROWNFIELDS                       | Y        | 0.5           | 0                | 0             | 0                 | 0                | -                | 0     |
| FEMA UST                              | Y        | 0.25          | 0                | 0             | 0                 | -                | -                | 0     |
| FRP                                   | Y        | 0.25          | 0                | 0             | 0                 | -                | -                | 0     |

| <b>Database</b>   | <b>Searched</b> | <b>Search Radius</b> | <b>Project Property</b> | <b>Within 0.12mi</b> | <b>0.125mi to 0.25mi</b> | <b>0.25mi to 0.50mi</b> | <b>0.50mi to 1.00mi</b> | <b>Total</b> |
|-------------------|-----------------|----------------------|-------------------------|----------------------|--------------------------|-------------------------|-------------------------|--------------|
| HIST GAS STATIONS | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| REFN              | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| BULK TERMINAL     | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| SEMS LIEN         | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| SUPERFUND ROD     | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| <b>State</b>      |                 |                      |                         |                      |                          |                         |                         |              |
| RESPONSE          | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| ENVIROSTOR        | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| DELISTED ENVS     | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| SWF/LF            | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| SWRCB SWF         | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| WMUD              | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| HWP               | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| SWAT              | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| C&D DEBRIS RECY   | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| RECYCLING         | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| PROCESSORS        | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| CONTAINER RECY    | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| LDS               | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| LUST              | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| DELISTED LST      | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| UST               | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| UST CLOSURE       | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| HHSS              | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| UST SWEEPS        | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| AST               | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| AST SWRCB         | Y               | 0.25                 | 0                       | 0                    | 1                        | -                       | -                       | 1            |
| TANK OIL GAS      | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| DELISTED TNK      | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| CERS TANK         | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| DELISTED CTNK     | Y               | 0.25                 | 0                       | 0                    | 1                        | -                       | -                       | 1            |
| HIST TANK         | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| LUR               | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| CALSITES          | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |

| <b>Database</b>                         | <b>Searched</b> | <b>Search Radius</b> | <b>Project Property</b> | <b>Within 0.12mi</b> | <b>0.125mi to 0.25mi</b> | <b>0.25mi to 0.50mi</b> | <b>0.50mi to 1.00mi</b> | <b>Total</b> |
|---|-----------------|----------------------|-------------------------|----------------------|--------------------------|-------------------------|-------------------------|--------------|
| HLUR                                    | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| DEED                                    | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| VCP                                     | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| CLEANUP SITES                           | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| DELISTED COUNTY                         | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| <b>Tribal</b>                           |                 |                      |                         |                      |                          |                         |                         |              |
| INDIAN LUST                             | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| INDIAN UST                              | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| DELISTED ILST                           | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| DELISTED IUST                           | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| <b>County</b>                           |                 |                      |                         |                      |                          |                         |                         |              |
| CUPA FRESNO                             | Y               | 0.25                 | 0                       | 2                    | 0                        | -                       | -                       | 2            |
| <b>Additional Environmental Records</b> |                 |                      |                         |                      |                          |                         |                         |              |
| <b>Federal</b>                          |                 |                      |                         |                      |                          |                         |                         |              |
| FINDS/FRS                               | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| TRIS                                    | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| PFAS TRI                                | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| PFAS NPL                                | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| PFAS WATER                              | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| PFAS SSEHRI                             | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| HMIRS                                   | Y               | 0.125                | 0                       | 0                    | -                        | -                       | -                       | 0            |
| NCDL                                    | Y               | 0.125                | 0                       | 0                    | -                        | -                       | -                       | 0            |
| TSCA                                    | Y               | 0.125                | 0                       | 0                    | -                        | -                       | -                       | 0            |
| HIST TSCA                               | Y               | 0.125                | 0                       | 0                    | -                        | -                       | -                       | 0            |
| FTTS ADMIN                              | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| FTTS INSP                               | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| PRP                                     | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| SCRD DRYCLEANER                         | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| ICIS                                    | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| FED DRYCLEANERS                         | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| DELISTED FED DRY                        | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| FUDS                                    | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| FORMER NIKE                             | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| PIPELINE INCIDENT                       | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |

| <b>Database</b>      | <b>Searched</b> | <b>Search Radius</b> | <b>Project Property</b> | <b>Within 0.12mi</b> | <b>0.125mi to 0.25mi</b> | <b>0.25mi to 0.50mi</b> | <b>0.50mi to 1.00mi</b> | <b>Total</b> |
|----------------------|-----------------|----------------------|-------------------------|----------------------|--------------------------|-------------------------|-------------------------|--------------|
| MLTS                 | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| HIST MLTS            | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| MINES                | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| SMCRA                | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| MRDS                 | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| URANIUM              | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| ALT FUELS            | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| SSTS                 | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| PCB                  | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| <b>State</b>         |                 |                      |                         |                      |                          |                         |                         |              |
| DRYCLEANERS          | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| DELISTED DRYCLEANERS | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| DRYC GRANT           | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| PFAS                 | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| PFAS GW              | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| HWSS CLEANUP         | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| TOXIC PITS           | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| DTSC HWF             | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| INSP COMP ENF        | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| SCH                  | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| CHMIRS               | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| HIST CHMIRS          | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| HAZNET               | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| HIST MANIFEST        | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| HW TRANSPORT         | Y               | 0.125                | 0                       | 0                    | -                        | -                       | -                       | 0            |
| WASTE TIRE           | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| MEDICAL WASTE        | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |
| HIST CORTESE         | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| CDO/CAO              | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| CERS HAZ             | Y               | 0.125                | 0                       | 2                    | -                        | -                       | -                       | 2            |
| DELISTED HAZ         | Y               | 0.5                  | 0                       | 0                    | 0                        | 0                       | -                       | 0            |
| GEOTRACKER           | Y               | 0.125                | 0                       | 0                    | -                        | -                       | -                       | 0            |
| MINE                 | Y               | 1                    | 0                       | 0                    | 0                        | 0                       | 0                       | 0            |
| LIEN                 | Y               | PO                   | 0                       | -                    | -                        | -                       | -                       | 0            |
| WASTE DISCHG         | Y               | 0.25                 | 0                       | 0                    | 0                        | -                       | -                       | 0            |



| Database  | Searched | Search Radius | Project Property | Within 0.12mi | 0.125mi to 0.25mi | 0.25mi to 0.50mi | 0.50mi to 1.00mi | Total |
|-----------|----------|---------------|------------------|---------------|-------------------|------------------|------------------|-------|
| EMISSIONS | Y        | 0.25          | 0                | 3             | 0                 | -                | -                | 3     |
| CDL       | Y        | 0.125         | 0                | 0             | -                 | -                | -                | 0     |

Tribal ***No Tribal additional environmental record sources available for this State.***

County ***No County additional environmental databases were selected to be included in the search.***

---

|               |  |  |   |   |   |   |   |   |
|---------------|--|--|---|---|---|---|---|---|
| <b>Total:</b> |  |  | 0 | 7 | 2 | 0 | 0 | 9 |
|---------------|--|--|---|---|---|---|---|---|

\* PO – Property Only

\* 'Property and adjoining properties' database search radii are set at 0.25 miles.

## Executive Summary: Site Report Summary - Project Property

| <i>Map<br/>Key</i> | <i>DB</i> | <i>Company/Site Name</i> | <i>Address</i> | <i>Direction</i> | <i>Distance<br/>(mi/ft)</i> | <i>Elev Diff<br/>(ft)</i> | <i>Page<br/>Number</i> |
|--------------------|-----------|--------------------------|----------------|------------------|-----------------------------|---------------------------|------------------------|
|--------------------|-----------|--------------------------|----------------|------------------|-----------------------------|---------------------------|------------------------|

No records found in the selected databases for the project property.

## Executive Summary: Site Report Summary - Surrounding Properties

| <i>Map Key</i>    | <i>DB</i>     | <i>Company/Site Name</i>       | <i>Address</i>                            | <i>Direction</i> | <i>Distance (mi/ft)</i> | <i>Elev Diff (ft)</i> | <i>Page Number</i> |
|-------------------|---------------|--------------------------------|---|------------------|-------------------------|-----------------------|--------------------|
| <a href="#">1</a> | CUPA FRESNO   | CENTURY LINK-HURON CA03        | 18364 W JAYNE AVE<br>HURON CA 93234       | N                | 0.08 /<br>414.27        | 2                     | <a href="#">18</a> |
| <a href="#">1</a> | CUPA FRESNO   | PG&E WEST GATES SOLAR STATION  | 18364 W JAYNE AVE<br>HURON CA 93234       | N                | 0.08 /<br>414.27        | 2                     | <a href="#">18</a> |
| <a href="#">1</a> | CERS HAZ      | CENTURYLINK - HURON - HURNCA03 | 18364 W JAYNE AVE<br>HURON CA 93234       | N                | 0.08 /<br>414.27        | 2                     | <a href="#">18</a> |
| <a href="#">1</a> | CERS HAZ      | PG&E: West Gates Solar Station | 18364 W JAYNE AVE<br>HURON CA 93234       | N                | 0.08 /<br>414.27        | 2                     | <a href="#">21</a> |
| <a href="#">1</a> | EMISSIONS     | LEVEL 3 COMMUNICATIONS LLC     | 18364 W JAYNE<br>HURON CA                 | N                | 0.08 /<br>414.27        | 2                     | <a href="#">23</a> |
| <a href="#">1</a> | EMISSIONS     | WILTEL COMMUNICATIONS LLC      | 18364 W JAYNE<br>HURON CA                 | N                | 0.08 /<br>414.27        | 2                     | <a href="#">24</a> |
| <a href="#">1</a> | EMISSIONS     | LEVEL 3 COMMUNICATIONS LLC     | 18364 W JAYNE<br>HURON CA 93234           | N                | 0.08 /<br>414.27        | 2                     | <a href="#">24</a> |
| <a href="#">2</a> | DELISTED CTNK | PG&E: Gates Substation         | 18336 WEST JAYNE AVENUE<br>HURON CA 93234 | NE               | 0.20 /<br>1,054.74      | -9                    | <a href="#">29</a> |
| <a href="#">2</a> | AST SWRCB     | GATES SUBSTATION               | 18336 W. JAYNE AVE.<br>HURON CA 93234     | NE               | 0.20 /<br>1,054.74      | -9                    | <a href="#">30</a> |

## Executive Summary: Summary by Data Source

### **Standard**

#### **State**

##### **AST SWRCB - SWRCB Historical Aboveground Storage Tanks**

A search of the AST SWRCB database, dated Dec 1, 2007 has found that there are 1 AST SWRCB site(s) within approximately 0.25 miles of the project property.

| <b><u>Lower Elevation</u></b> | <b><u>Address</u></b>                 | <b><u>Direction</u></b> | <b><u>Distance (mi/ft)</u></b> | <b><u>Map Key</u></b> |
|-------------------------------|---------------------------------------|-------------------------|--------------------------------|-----------------------|
| GATES SUBSTATION              | 18336 W. JAYNE AVE.<br>HURON CA 93234 | NE                      | 0.20 / 1,054.74                | <a href="#">2</a>     |

##### **DELISTED CTNK - Delisted California Environmental Reporting System (CERS) Tanks**

A search of the DELISTED CTNK database, dated Dec 8, 2021 has found that there are 1 DELISTED CTNK site(s) within approximately 0.25 miles of the project property.

| <b><u>Lower Elevation</u></b> | <b><u>Address</u></b>                     | <b><u>Direction</u></b> | <b><u>Distance (mi/ft)</u></b> | <b><u>Map Key</u></b> |
|-------------------------------|---|-------------------------|--------------------------------|-----------------------|
| PG&E: Gates Substation        | 18336 WEST JAYNE AVENUE<br>HURON CA 93234 | NE                      | 0.20 / 1,054.74                | <a href="#">2</a>     |

#### **County**

##### **CUPA FRESNO - Fresno County - CUPA/Solid Waste Programs Resource List**

A search of the CUPA FRESNO database, dated Apr 9, 2021 has found that there are 2 CUPA FRESNO site(s) within approximately 0.25 miles of the project property.

| <b><u>Equal/Higher Elevation</u></b> | <b><u>Address</u></b>               | <b><u>Direction</u></b> | <b><u>Distance (mi/ft)</u></b> | <b><u>Map Key</u></b> |
|--------------------------------------|-------------------------------------|-------------------------|--------------------------------|-----------------------|
| PG&E WEST GATES SOLAR STATION        | 18364 W JAYNE AVE<br>HURON CA 93234 | N                       | 0.08 / 414.27                  | <a href="#">1</a>     |
| CENTURY LINK-HURON CA03              | 18364 W JAYNE AVE<br>HURON CA 93234 | N                       | 0.08 / 414.27                  | <a href="#">1</a>     |

### **Non Standard**

#### **State**

##### **CERS HAZ - California Environmental Reporting System (CERS) Hazardous Waste Sites**

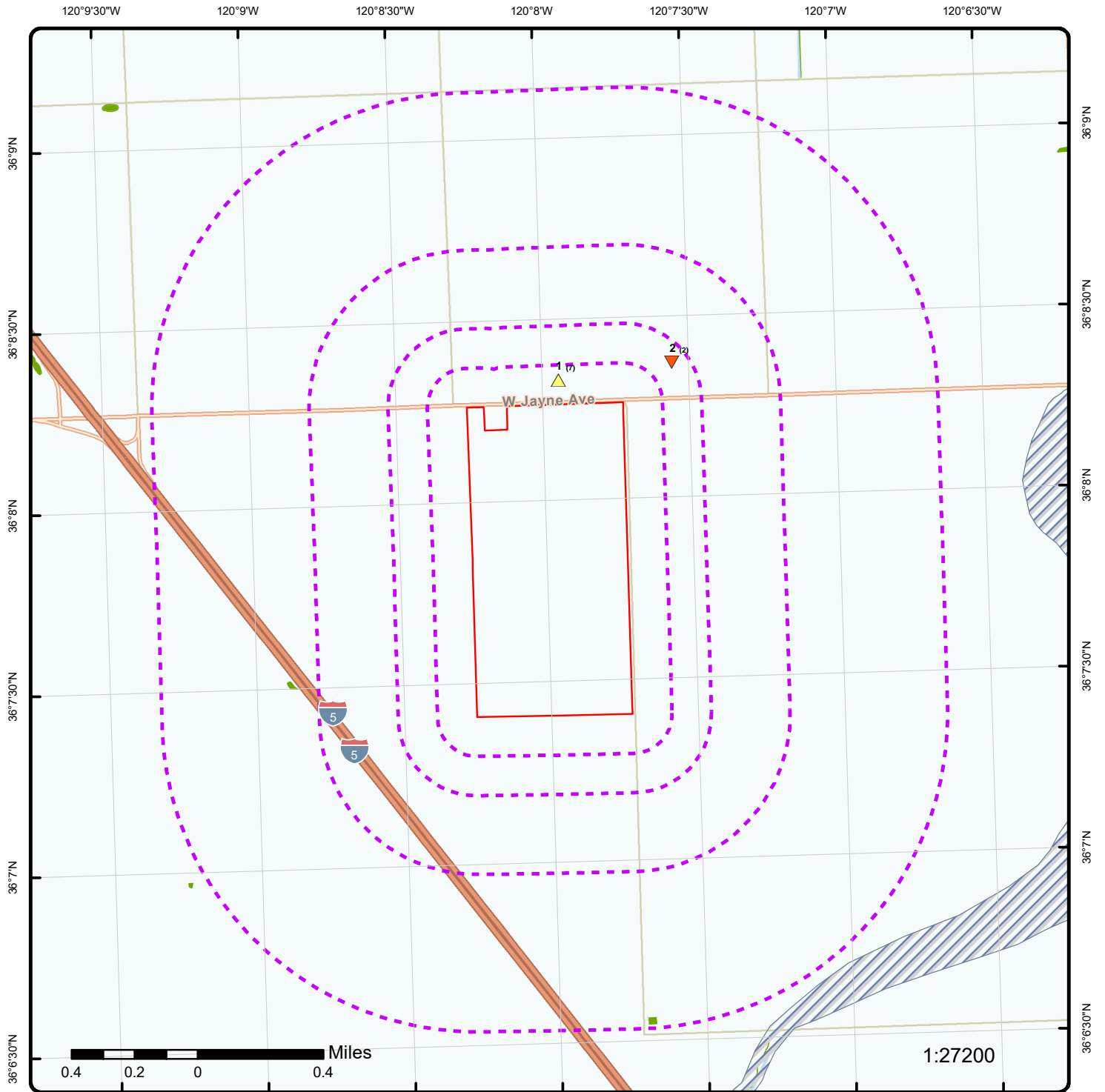
A search of the CERS HAZ database, dated Dec 8, 2021 has found that there are 2 CERS HAZ site(s) within approximately 0.12 miles of the project property.

| <u>Equal/Higher Elevation</u>  | <u>Address</u>                      | <u>Direction</u> | <u>Distance (mi/ft)</u> | <u>Map Key</u>    |
|--------------------------------|-------------------------------------|------------------|-------------------------|-------------------|
| CENTURYLINK - HURON - HURNCA03 | 18364 W JAYNE AVE<br>HURON CA 93234 | N                | 0.08 / 414.27           | <a href="#">1</a> |
| PG&E: West Gates Solar Station | 18364 W JAYNE AVE<br>HURON CA 93234 | N                | 0.08 / 414.27           | <a href="#">1</a> |

### **EMISSIONS - Toxic Pollutant Emissions Facilities**

A search of the EMISSIONS database, dated Dec 31, 2019 has found that there are 3 EMISSIONS site(s) within approximately 0.25 miles of the project property.

| <u>Equal/Higher Elevation</u> | <u>Address</u>                  | <u>Direction</u> | <u>Distance (mi/ft)</u> | <u>Map Key</u>    |
|-------------------------------|---------------------------------|------------------|-------------------------|-------------------|
| LEVEL 3 COMMUNICATIONS LLC    | 18364 W JAYNE<br>HURON CA 93234 | N                | 0.08 / 414.27           | <a href="#">1</a> |
| WILTEL COMMUNICATIONS LLC     | 18364 W JAYNE<br>HURON CA       | N                | 0.08 / 414.27           | <a href="#">1</a> |
| LEVEL 3 COMMUNICATIONS LLC    | 18364 W JAYNE<br>HURON CA       | N                | 0.08 / 414.27           | <a href="#">1</a> |



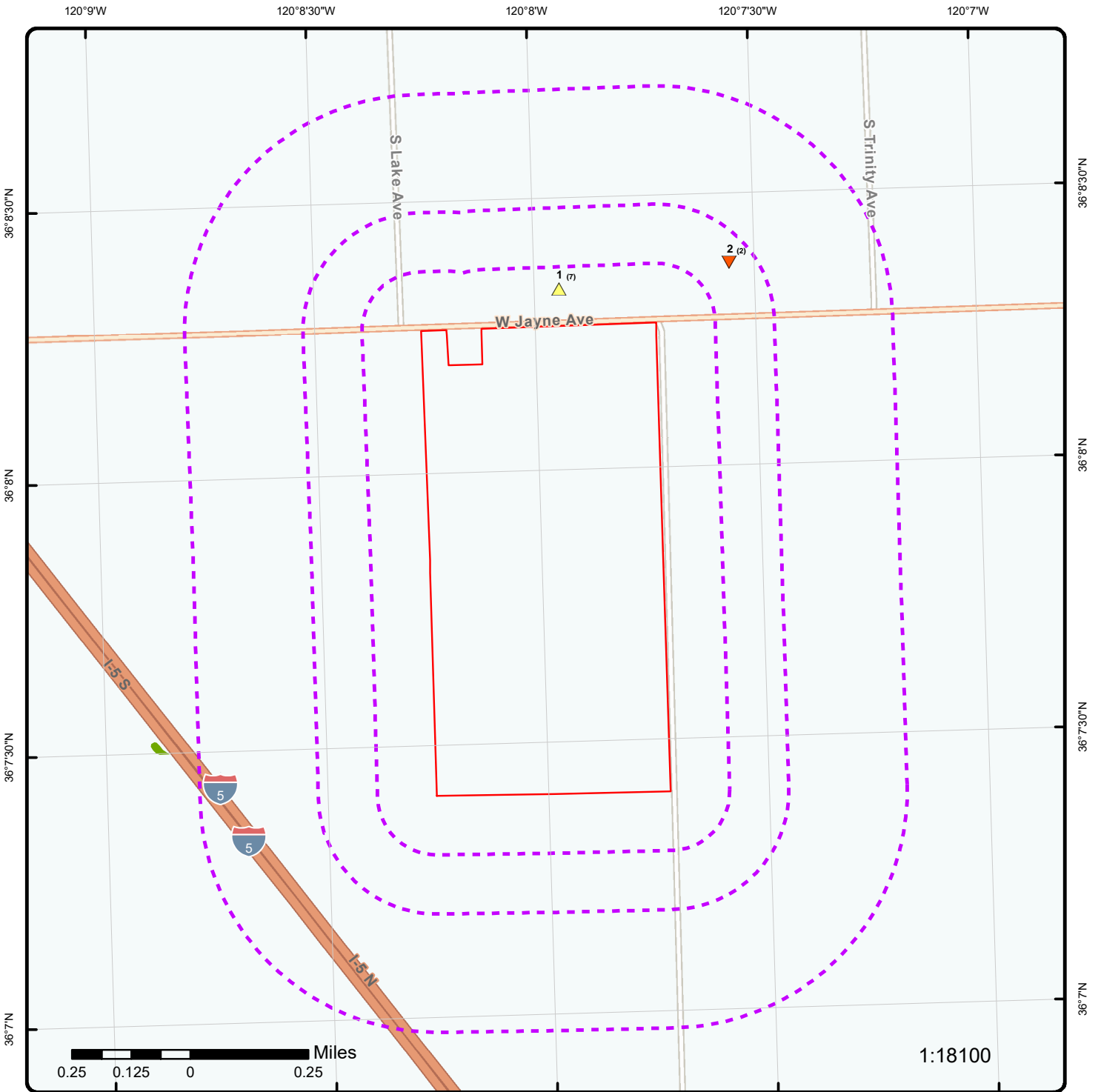
**Map: 1.0 Mile Radius**

Order Number: 22020200451

Address: Key Energy Storage Site, Coalinga, CA



- |                                   |                        |                              |                     |                               |
|-----------------------------------|------------------------|------------------------------|---------------------|-------------------------------|
| Project Property                  | Buffer Outline         | Freeways; Highways           | State               | FWS Special Designation Areas |
| Eris Sites with Higher Elevation  | Traffic Circle; Ramp   | Country                      | Plume               |                               |
| Eris Sites with Same Elevation    | Major & Minor Arterial | National Priority List Sites | National Wetland    |                               |
| Eris Sites with Lower Elevation   | Traffic Circle; Ramp   | Indian Reserve Land          | 100 Year Flood Zone |                               |
| Eris Sites with Unknown Elevation | Local Road             | Historic Fill                | 500 Year Flood Zone |                               |
| Eris Areas with Higher Elevation  | Rail                   |                              |                     |                               |
| Eris Areas with Same Elevation    |                        |                              |                     |                               |
| Eris Areas with Lower Elevation   |                        |                              |                     |                               |
| Eris Areas with Unknown Elevation |                        |                              |                     |                               |



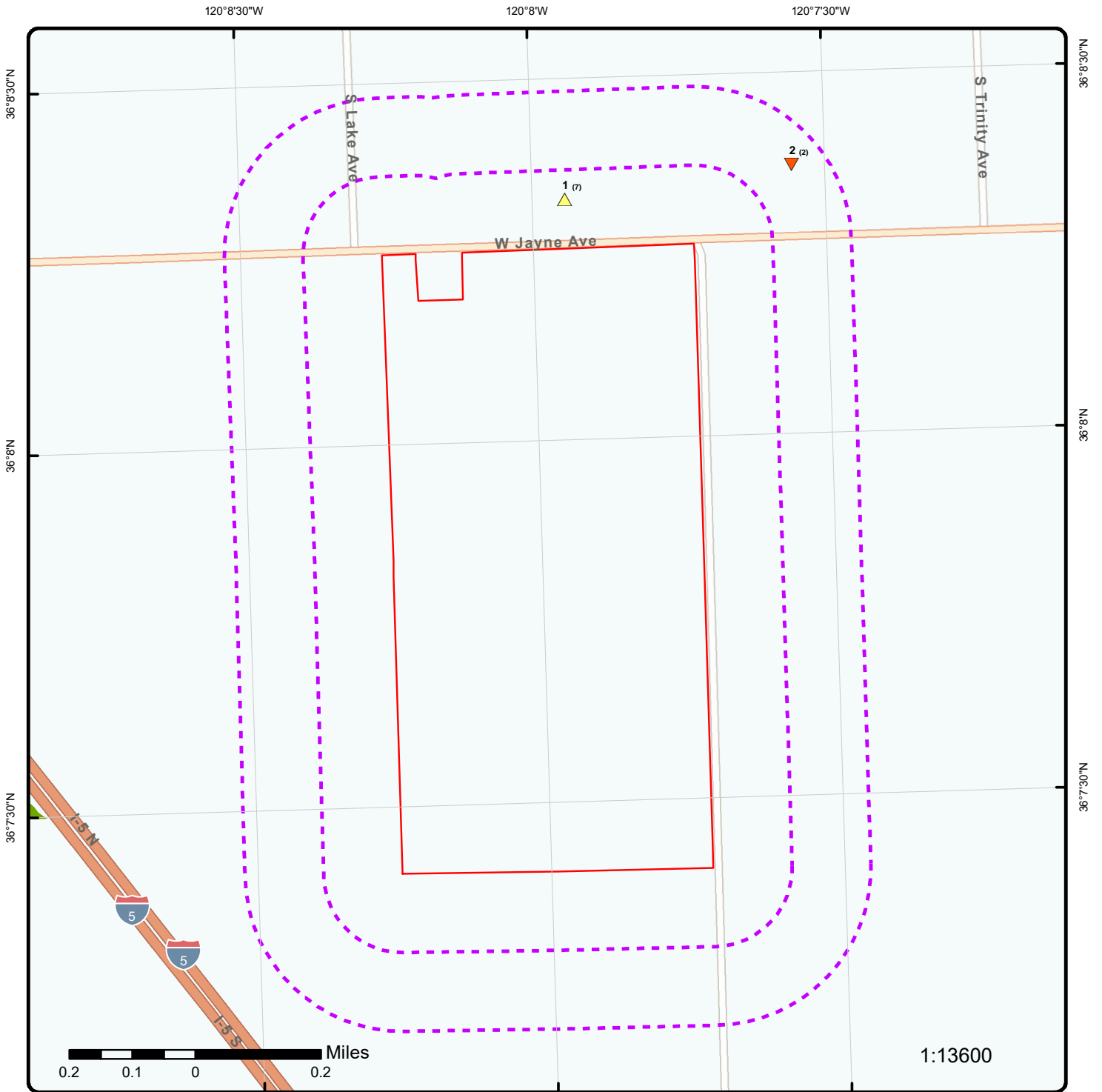
**Map: 0.5 Mile Radius**

Order Number: 22020200451

Address: Key Energy Storage Site, Coalinga, CA



- |                                   |                        |                              |       |                               |
|-----------------------------------|------------------------|------------------------------|-------|-------------------------------|
| Project Property                  | Buffer Outline         | Freeways; Highways           | State | FWS Special Designation Areas |
| Eris Sites with Higher Elevation  | Freeways; Highways     | Country                      | Plume |                               |
| Eris Sites with Same Elevation    | Traffic Circle; Ramp   | National Priority List Sites |       |                               |
| Eris Sites with Lower Elevation   | Major & Minor Arterial | National Wetland             |       |                               |
| Eris Sites with Unknown Elevation | Traffic Circle; Ramp   | Indian Reserve Land          |       |                               |
| Eris Areas with Higher Elevation  | Local Road             | Historic Fill                |       |                               |
| Eris Areas with Same Elevation    | Rail                   | 100 Year Flood Zone          |       |                               |
| Eris Areas with Lower Elevation   |                        | 500 Year Flood Zone          |       |                               |
| Eris Areas with Unknown Elevation |                        |                              |       |                               |



**Map: 0.25 Mile Radius**

Order Number: 22020200451

Address: Key Energy Storage Site, Coalinga, CA



- |                                   |                        |                              |       |                               |
|-----------------------------------|------------------------|------------------------------|-------|-------------------------------|
| Project Property                  | Buffer Outline         | Freeways; Highways           | State | FWS Special Designation Areas |
| Eris Sites with Higher Elevation  | Traffic Circle; Ramp   | Country                      | Plume |                               |
| Eris Sites with Same Elevation    | Major & Minor Arterial | National Priority List Sites |       |                               |
| Eris Sites with Lower Elevation   | Traffic Circle; Ramp   | National Wetland             |       |                               |
| Eris Sites with Unknown Elevation | Local Road             | Indian Reserve Land          |       |                               |
| Eris Areas with Higher Elevation  | Rail                   | Historic Fill                |       |                               |
| Eris Areas with Same Elevation    |                        | 100 Year Flood Zone          |       |                               |
| Eris Areas with Lower Elevation   |                        | 500 Year Flood Zone          |       |                               |
| Eris Areas with Unknown Elevation |                        |                              |       |                               |



120°8'30"W

120°8"W

120°7'30"W

36°8'N

36°8'N

36°7'30"N

36°7'30"N



1:10000

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Aerial** Year: 2021

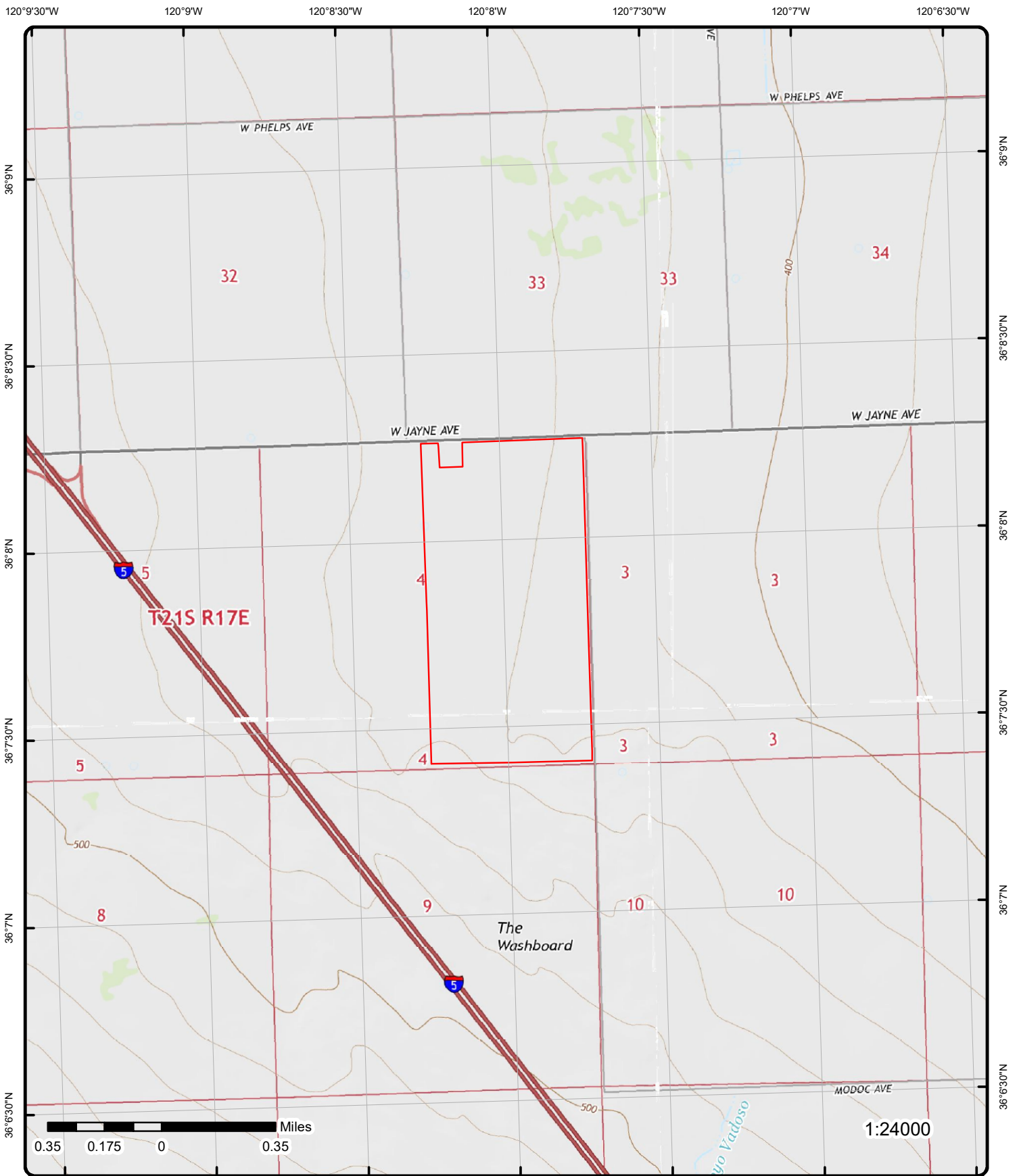
Address: Key Energy Storage Site, Coalinga, CA

Source: ESRI World Imagery

Order Number: 22020200451



© ERIS Information Inc.



**Topographic Map** Year: 2015

Order Number: 22020200451

Address: Key Energy Storage Site, CA



Quadrangle(s): La Cima, CA; Avenal, CA; Gujarral Hills, CA; Huron, CA

© ERIS Information Inc.

Source: USGS Topographic Map

# Detail Report

| Map Key           | Number of Records | Direction | Distance (mi/ft) | Elev/Diff (ft) | Site   | DB          |
|-------------------|-------------------|-----------|------------------|----------------|--|-------------|
| <a href="#">1</a> | 1 of 7            | N         | 0.08 /<br>414.27 | 423.86 /<br>2  | CENTURY LINK-HURON CA03<br>18364 W JAYNE AVE<br>HURON CA 93234 | CUPA FRESNO |

|              |            |                |             |
|--------------|------------|----------------|-------------|
| Facility ID: | FA0278134  | Zip:           | 93234       |
| CERS ID:     | 10669456   | GIS Longitude: | -120.127172 |
| SWIS No:     |            | GIS Latitude:  | 36.13908    |
| APN:         | 07506018SU | Cross Street:  |             |

**Detail(s)**

**Program Element:** SMALL HAZARDOUS MATERIALS HANDLER  
**Program Identifier:**

|                   |        |   |                  |               |   |             |
|-------------------|--------|---|------------------|---------------|---|-------------|
| <a href="#">1</a> | 2 of 7 | N | 0.08 /<br>414.27 | 423.86 /<br>2 | PG&E WEST GATES SOLAR<br>STATION<br>18364 W JAYNE AVE<br>HURON CA 93234 | CUPA FRESNO |
|-------------------|--------|---|------------------|---------------|---|-------------|

|              |            |                |           |
|--------------|------------|----------------|-----------|
| Facility ID: | FA0283130  | Zip:           | 93234     |
| CERS ID:     | 10449898   | GIS Longitude: | -120.1327 |
| SWIS No:     |            | GIS Latitude:  | 36.1388   |
| APN:         | 07506045SU | Cross Street:  |           |

**Detail(s)**

**Program Element:** SMALL HAZARDOUS MATERIALS HANDLER  
**Program Identifier:**

|                   |        |   |                  |               |  |          |
|-------------------|--------|---|------------------|---------------|--|----------|
| <a href="#">1</a> | 3 of 7 | N | 0.08 /<br>414.27 | 423.86 /<br>2 | CENTURYLINK - HURON -<br>HURNCA03<br>18364 W JAYNE AVE<br>HURON CA 93234 | CERS HAZ |
|-------------------|--------|---|------------------|---------------|--|----------|

|            |             |
|------------|-------------|
| Site ID:   | 396490      |
| Latitude:  | 36.137796   |
| Longitude: | -120.132742 |
| County:    |             |

**Regulated Programs**

|               |          |                        |                             |
|---------------|----------|------------------------|-----------------------------|
| <b>EI ID:</b> | 10669456 | <b>EI Description:</b> | Chemical Storage Facilities |
|---------------|----------|------------------------|-----------------------------|

**Violations**

|                           |  |                            |   |
|---------------------------|--|----------------------------|---|
| <b>Violation Date:</b>    | 10/04/2013   | <b>Violation Source:</b>   | CERS                                      |
| <b>Violation Program:</b> | HMRRP  | <b>Violation Division:</b> | Fresno County Department of Public Health |
| <b>Citation:</b>          | HSC 6.95 25504(c) - California Health and Safety Code, Chapter 6.95, Section(s) 25504(c) |                            |   |
| <b>Violation Notes:</b>   |  |                            |   |

Returned to compliance on 12/03/2013. Operator to submit proof of employee training documentation.

**Violation Description:**

| <b>Map Key</b> | <b>Number of Records</b> | <b>Direction</b> | <b>Distance (mi/ft)</b> | <b>Elev/Diff (ft)</b> | <b>Site</b> | <b>DB</b> |
|----------------|--------------------------|------------------|-------------------------|-----------------------|-------------|-----------|
|----------------|--------------------------|------------------|-------------------------|-----------------------|-------------|-----------|

Failure to include an adequate training program in the business plan, which is reasonable and appropriate for the size of the business and the nature of the hazardous material handled.

**Violations**

**Violation Date:** 01/27/2017 **Violation Source:** CERS  
**Violation Program:** HMRRP **Violation Division:** Fresno County Department of Public Health  
**Citation:** HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)  
**Violation Notes:**

Returned to compliance on 02/26/2017.

**Violation Description:**

Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.

**Violations**

**Violation Date:** 01/27/2017 **Violation Source:** CERS  
**Violation Program:** HMRRP **Violation Division:** Fresno County Department of Public Health  
**Citation:** HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
**Violation Notes:**

Returned to compliance on 02/26/2017.

**Violation Description:**

Failure to complete and electronically submit a site map with all required content.

**Violations**

**Violation Date:** 10/04/2013 **Violation Source:** CERS  
**Violation Program:** HMRRP **Violation Division:** Fresno County Department of Public Health  
**Citation:** HSC 6.95 25504(b) - California Health and Safety Code, Chapter 6.95, Section(s) 25504(b)  
**Violation Notes:**

Returned to compliance on 12/03/2013. Operator to provide spill control equipment/supplies.

**Violation Description:**

Failure to include adequate emergency response procedures in the business plan for a release or threatened release.

**Evaluations**

**Eval Date:** 01/27/2017  
**Violations Found:** Yes  
**Eval General Type:** Compliance Evaluation Inspection  
**Eval Type:** Routine done by local agency  
**Eval Division:** Fresno County Department of Public Health  
**Eval Program:** HMRRP  
**Eval Source:** CERS  
**Eval Notes:**

**Eval Date:** 10/04/2013  
**Violations Found:** Yes  
**Eval General Type:** Compliance Evaluation Inspection  
**Eval Type:** Routine done by local agency  
**Eval Division:** Fresno County Department of Public Health  
**Eval Program:** HMRRP

| <b>Map Key</b> | <b>Number of Records</b> | <b>Direction</b> | <b>Distance (mi/ft)</b> | <b>Elev/Diff (ft)</b> | <b>Site</b> | <b>DB</b> |
|----------------|--------------------------|------------------|-------------------------|-----------------------|-------------|-----------|
|----------------|--------------------------|------------------|-------------------------|-----------------------|-------------|-----------|

**Eval Source:** CERS  
**Eval Notes:**

**Affiliations**

**Affil Type Desc:** Document Preparer  
**Entity Name:** Robert Gurdikian  
**Entity Title:**  
**Address:**  
**City:**  
**State:**  
**Country:**  
**Zip Code:**  
**Phone:**

**Affil Type Desc:** Environmental Contact  
**Entity Name:** Robert Gurdikian  
**Entity Title:**  
**Address:** 700 W Mineral Avenue, UT D25.09  
**City:** Littleton  
**State:** CO  
**Country:**  
**Zip Code:** 80120  
**Phone:**

**Affil Type Desc:** Facility Mailing Address  
**Entity Name:** Mailing Address  
**Entity Title:**  
**Address:** 700 W Mineral Avenue, UT D25.09  
**City:** Littleton  
**State:** CO  
**Country:**  
**Zip Code:** 80120  
**Phone:**

**Affil Type Desc:** CUPA District  
**Entity Name:** Fresno County Community Health Department  
**Entity Title:**  
**Address:** 1221 Fulton St., 3rd Floor P.O. Box 11867  
**City:** Fresno  
**State:** CA  
**Country:**  
**Zip Code:** 93775  
**Phone:** (559) 600-3271

**Affil Type Desc:** Operator  
**Entity Name:** CenturyLink Communications  
**Entity Title:**  
**Address:**  
**City:**  
**State:**  
**Country:**  
**Zip Code:**  
**Phone:** (720) 888-0676

**Affil Type Desc:** Parent Corporation  
**Entity Name:** CenturyLink  
**Entity Title:**  
**Address:**  
**City:**  
**State:**  
**Country:**  
**Zip Code:**  
**Phone:**

**Affil Type Desc:** Legal Owner  
**Entity Name:** CenturyLink Communications

| Map Key | Number of Records | Direction | Distance (mi/ft) | Elev/Diff (ft) | Site | DB |
|---------|-------------------|-----------|------------------|----------------|------|----|
|---------|-------------------|-----------|------------------|----------------|------|----|

**Entity Title:**  
**Address:** 1025 Eldorado Blvd.  
**City:** Broomfield  
**State:** CO  
**Country:** United States  
**Zip Code:** 80021  
**Phone:** (720) 888-1000  
  
**Affil Type Desc:** Identification Signer  
**Entity Name:** Robert Gurdikian  
**Entity Title:** Regional EHS Manager III  
**Address:**  
**City:**  
**State:**  
**Country:**  
**Zip Code:**  
**Phone:**

**Coordinates**

**Env Int Type Code:** HMBP  
**Program ID:** 10669456  
**Latitude:** 36.137800  
  
**Longitude:** -120.132740  
**Coord Name:**  
**Ref Point Type Desc:** Center of a facility or station.

|          |        |   |               |            |   |          |
|----------|--------|---|---------------|------------|---|----------|
| <u>1</u> | 4 of 7 | N | 0.08 / 414.27 | 423.86 / 2 | PG&E: West Gates Solar Station<br>18364 W JAYNE AVE<br>HURON CA 93234 | CERS HAZ |
|----------|--------|---|---------------|------------|---|----------|

**Site ID:** 143567  
**Latitude:** 36.137796  
**Longitude:** -120.132742  
**County:**

**Regulated Programs**

**EI ID:** 10449898  
**EI Description:** Chemical Storage Facilities

**Evaluations**

**Eval Date:** 01/08/2015  
**Violations Found:** No  
**Eval General Type:** Compliance Evaluation Inspection  
**Eval Type:** Routine done by local agency  
**Eval Division:** Fresno County Department of Public Health  
**Eval Program:** HMRRP  
**Eval Source:** CERS  
**Eval Notes:**

FOGGY day heading to Huron. met Mike Martin & Bob Holsinger.; Note: data in [EVAL Notes] field for some records is truncated from the source.

**Affiliations**

**Affil Type Desc:** Environmental Contact  
**Entity Name:** Michael Martin  
**Entity Title:**  
**Address:** 33755 Old Mill Road  
**City:** Auberry  
**State:** CA  
**Country:**  
**Zip Code:** 93602  
**Phone:**

**Affil Type Desc:** Identification Signer

| <b>Map Key</b>          | <b>Number of Records</b> | <b>Direction</b> | <b>Distance (mi/ft)</b> | <b>Elev/Diff (ft)</b> | <b>Site</b>                                       | <b>DB</b> |
|-------------------------|--------------------------|------------------|-------------------------|-----------------------|---|-----------|
| <b>Entity Name:</b>     |                          |                  |                         |                       | Sam Garcia  |           |
| <b>Entity Title:</b>    |                          |                  |                         |                       | Environmental Manager                             |           |
| <b>Address:</b>         |                          |                  |                         |                       |   |           |
| <b>City:</b>            |                          |                  |                         |                       |   |           |
| <b>State:</b>           |                          |                  |                         |                       |   |           |
| <b>Country:</b>         |                          |                  |                         |                       |   |           |
| <b>Zip Code:</b>        |                          |                  |                         |                       |   |           |
| <b>Phone:</b>           |                          |                  |                         |                       |   |           |
| <b>Affil Type Desc:</b> |                          |                  |                         |                       | Operator  |           |
| <b>Entity Name:</b>     |                          |                  |                         |                       | Pacific Gas & Electric Company                    |           |
| <b>Entity Title:</b>    |                          |                  |                         |                       |   |           |
| <b>Address:</b>         |                          |                  |                         |                       |   |           |
| <b>City:</b>            |                          |                  |                         |                       |   |           |
| <b>State:</b>           |                          |                  |                         |                       |   |           |
| <b>Country:</b>         |                          |                  |                         |                       |   |           |
| <b>Zip Code:</b>        |                          |                  |                         |                       |   |           |
| <b>Phone:</b>           |                          |                  |                         |                       | (559) 263-5035                                    |           |
| <b>Affil Type Desc:</b> |                          |                  |                         |                       | Document Preparer                                 |           |
| <b>Entity Name:</b>     |                          |                  |                         |                       | Michael Martin                                    |           |
| <b>Entity Title:</b>    |                          |                  |                         |                       |   |           |
| <b>Address:</b>         |                          |                  |                         |                       |   |           |
| <b>City:</b>            |                          |                  |                         |                       |   |           |
| <b>State:</b>           |                          |                  |                         |                       |   |           |
| <b>Country:</b>         |                          |                  |                         |                       |   |           |
| <b>Zip Code:</b>        |                          |                  |                         |                       |   |           |
| <b>Phone:</b>           |                          |                  |                         |                       |   |           |
| <b>Affil Type Desc:</b> |                          |                  |                         |                       | Parent Corporation                                |           |
| <b>Entity Name:</b>     |                          |                  |                         |                       | PG&E  |           |
| <b>Entity Title:</b>    |                          |                  |                         |                       |   |           |
| <b>Address:</b>         |                          |                  |                         |                       |   |           |
| <b>City:</b>            |                          |                  |                         |                       |   |           |
| <b>State:</b>           |                          |                  |                         |                       |   |           |
| <b>Country:</b>         |                          |                  |                         |                       |   |           |
| <b>Zip Code:</b>        |                          |                  |                         |                       |   |           |
| <b>Phone:</b>           |                          |                  |                         |                       |   |           |
| <b>Affil Type Desc:</b> |                          |                  |                         |                       | Facility Mailing Address                          |           |
| <b>Entity Name:</b>     |                          |                  |                         |                       | Mailing Address                                   |           |
| <b>Entity Title:</b>    |                          |                  |                         |                       |   |           |
| <b>Address:</b>         |                          |                  |                         |                       | PO Box 7640                                       |           |
| <b>City:</b>            |                          |                  |                         |                       | San Francisco                                     |           |
| <b>State:</b>           |                          |                  |                         |                       | CA  |           |
| <b>Country:</b>         |                          |                  |                         |                       |   |           |
| <b>Zip Code:</b>        |                          |                  |                         |                       | 94120   |           |
| <b>Phone:</b>           |                          |                  |                         |                       |   |           |
| <b>Affil Type Desc:</b> |                          |                  |                         |                       | Legal Owner                                       |           |
| <b>Entity Name:</b>     |                          |                  |                         |                       | Pacific Gas & Electric Company                    |           |
| <b>Entity Title:</b>    |                          |                  |                         |                       |   |           |
| <b>Address:</b>         |                          |                  |                         |                       | c/o Environmental Services, 3401 Crow Canyon Road |           |
| <b>City:</b>            |                          |                  |                         |                       | San Ramon   |           |
| <b>State:</b>           |                          |                  |                         |                       | CA  |           |
| <b>Country:</b>         |                          |                  |                         |                       | United States                                     |           |
| <b>Zip Code:</b>        |                          |                  |                         |                       | 94583   |           |
| <b>Phone:</b>           |                          |                  |                         |                       | (415) 973-7000                                    |           |
| <b>Affil Type Desc:</b> |                          |                  |                         |                       | CUPA District                                     |           |
| <b>Entity Name:</b>     |                          |                  |                         |                       | Fresno County Community Health Department         |           |
| <b>Entity Title:</b>    |                          |                  |                         |                       |   |           |
| <b>Address:</b>         |                          |                  |                         |                       | 1221 Fulton St., 3rd Floor P.O. Box 11867         |           |
| <b>City:</b>            |                          |                  |                         |                       | Fresno  |           |
| <b>State:</b>           |                          |                  |                         |                       | CA  |           |
| <b>Country:</b>         |                          |                  |                         |                       |   |           |
| <b>Zip Code:</b>        |                          |                  |                         |                       | 93775   |           |
| <b>Phone:</b>           |                          |                  |                         |                       | (559) 600-3271                                    |           |

| Map Key            | Number of Records | Direction | Distance (mi/ft) | Elev/Diff (ft) | Site                 | DB                               |
|--------------------|-------------------|-----------|------------------|----------------|----------------------|----------------------------------|
| <b>Coordinates</b> |                   |           |                  |                |                      |                                  |
| Env Int Type Code: | HMBP              |           |                  |                | Longitude:           | -120.132740                      |
| Program ID:        | 10449898          |           |                  |                | Coord Name:          |                                  |
| Latitude:          | 36.137800         |           |                  |                | Ref Point Type Desc: | Center of a facility or station. |

|          |        |   |               |            |   |           |
|----------|--------|---|---------------|------------|---|-----------|
| <u>1</u> | 5 of 7 | N | 0.08 / 414.27 | 423.86 / 2 | LEVEL 3 COMMUNICATIONS LLC<br>18364 W JAYNE<br>HURON CA | EMISSIONS |
|----------|--------|---|---------------|------------|---|-----------|

**2006 Criteria Data**

|                    |                         |            |   |
|--------------------|-------------------------|------------|---|
| Facility ID:       | 3805                    | CERR Code: |   |
| Facility SIC Code: | 4813                    | TOGT:      | .00083978722866852157284570335843193498267  |
| CO:                | 10                      | ROGT:      | .000702649974226952                         |
| Air Basin:         | SJV                     | COT:       | .000729949973225594                         |
| District:          | SJU                     | NOXT:      | .0172691993665695                           |
| COID:              | FRE                     | SOXT:      | .000462149983048439                         |
| DISN:              | SAN JOAQUIN VALLEY APCD | PMT:       | .001107530697080932377049180327868852459016 |
| CHAPIS:            |                         | PM10T:     | .00108094996035099                          |

**2006 Toxic Data**

|                             |      |            |                         |
|-----------------------------|------|------------|-------------------------|
| Facility ID:                | 3805 | COID:      | FRE                     |
| Facility SIC Code:          | 4813 | DISN:      | SAN JOAQUIN VALLEY APCD |
| CO:                         | 10   | CHAPIS:    |                         |
| Air Basin:                  | SJV  | CERR Code: |                         |
| District:                   | SJU  |            |                         |
| TS:                         |      |            |                         |
| Health Risk Asmt:           |      |            |                         |
| Non-Cancer Chronic Haz Ind: |      |            |                         |
| Non-Cancer Acute Haz Ind:   |      |            |                         |

**2007 Criteria Data**

|                    |                         |            |   |
|--------------------|-------------------------|------------|---|
| Facility ID:       | 3805                    | CERR Code: |   |
| Facility SIC Code: | 4813                    | TOGT:      | .000113487556074502569618740289231504720927 |
| CO:                | 10                      | ROGT:      | .0000949550381675363                        |
| Air Basin:         | SJV                     | COT:       | .0000986443180963397                        |
| District:          | SJU                     | NOXT:      | .00233373307496309                          |
| COID:              | FRE                     | SOXT:      | .00000186220796406269                       |
| DISN:              | SAN JOAQUIN VALLEY APCD | PMT:       | .00014966999711163422131147540983606557377  |
| CHAPIS:            |                         | PM10T:     | .000146077917180955                         |

**2007 Toxic Data**

|                             |      |            |                         |
|-----------------------------|------|------------|-------------------------|
| Facility ID:                | 3805 | COID:      | FRE                     |
| Facility SIC Code:          | 4813 | DISN:      | SAN JOAQUIN VALLEY APCD |
| CO:                         | 10   | CHAPIS:    |                         |
| Air Basin:                  | SJV  | CERR Code: |                         |
| District:                   | SJU  |            |                         |
| TS:                         |      |            |                         |
| Health Risk Asmt:           |      |            |                         |
| Non-Cancer Chronic Haz Ind: |      |            |                         |



| Map Key                          | Number of Records | Direction | Distance (mi/ft) | Elev/Diff (ft) | Site  | DB        |
|----------------------------------|-------------------|-----------|------------------|----------------|---|-----------|
| <b>Non-Cancer Acute Haz Ind:</b> |                   |           |                  |                |   |           |
| <u>1</u>                         | 6 of 7            | N         | 0.08 / 414.27    | 423.86 / 2     | WITEL COMMUNICATIONS LLC<br>18364 W JAYNE<br>HURON CA | EMISSIONS |

**2004 Criteria Data**

**Facility ID:** 3805  
**Facility SIC Code:** 4813  
**CO:** 10  
**Air Basin:** SJV  
**District:** SJU  
**COID:** FRE  
**DISN:** SAN JOAQUIN VALLEY APCD  
**CHAPIS:**

**CERR Code:**  
**TOGT:** .001059423956596624835663917772200310744592  
**ROGT:** .000886420024484396  
**COT:** .000920860025435686  
**NOXT:** .021785760601759  
**SOXT:** .000583020016103983  
**PMT:** .001397192661543606557377049180327868852459  
**PM10T:** .00136366003766656

**2004 Toxic Data**

**Facility ID:** 3805  
**Facility SIC Code:** 4813  
**CO:** 10  
**Air Basin:** SJV  
**District:** SJU  
**TS:**  
**Health Risk Asmt:**  
**Non-Cancer Chronic Haz Ind:**  
**Non-Cancer Acute Haz Ind:**

**COID:** FRE  
**DISN:** SAN JOAQUIN VALLEY APCD  
**CHAPIS:**  
**CERR Code:**

**2005 Criteria Data**

**Facility ID:** 3805  
**Facility SIC Code:** 4813  
**CO:** 10  
**Air Basin:** SJV  
**District:** SJU  
**COID:** FRE  
**DISN:** SAN JOAQUIN VALLEY APCD  
**CHAPIS:**

**CERR Code:**  
**TOGT:** .001059423956596624835663917772200310744592  
**ROGT:** .000886420024484396  
**COT:** .000920860025435686  
**NOXT:** .021785760601759  
**SOXT:** .000583020016103983  
**PMT:** .001397192661543606557377049180327868852459  
**PM10T:** .00136366003766656

**2005 Toxic Data**

**Facility ID:** 3805  
**Facility SIC Code:** 4813  
**CO:** 10  
**Air Basin:** SJV  
**District:** SJU  
**TS:**  
**Health Risk Asmt:**  
**Non-Cancer Chronic Haz Ind:**  
**Non-Cancer Acute Haz Ind:**

**COID:** FRE  
**DISN:** SAN JOAQUIN VALLEY APCD  
**CHAPIS:**  
**CERR Code:**

|          |        |   |               |            |   |           |
|----------|--------|---|---------------|------------|---|-----------|
| <u>1</u> | 7 of 7 | N | 0.08 / 414.27 | 423.86 / 2 | LEVEL 3 COMMUNICATIONS LLC<br>18364 W JAYNE | EMISSIONS |
|----------|--------|---|---------------|------------|---|-----------|

| Map Key | Number of Records | Direction | Distance (mi/ft) | Elev/Diff (ft) | Site | DB |
|---------|-------------------|-----------|------------------|----------------|------|----|
|---------|-------------------|-----------|------------------|----------------|------|----|

HURON CA 93234

2008 Criteria Data

|                           |                         |                   |   |
|---------------------------|-------------------------|-------------------|---|
| <b>Facility ID:</b>       | 3805                    | <b>CERR Code:</b> |   |
| <b>Facility SIC Code:</b> | 4813                    | <b>TOGT:</b>      | .000189145926790837815226485000597585753556 |
| <b>CO:</b>                | 10                      | <b>ROGT:</b>      | .000158258396945894                         |
| <b>Air Basin:</b>         | SJV                     | <b>COT:</b>       | .000164407196827233                         |
| <b>District:</b>          | SJU                     | <b>NOXT:</b>      | .00388955512493849                          |
| <b>COID:</b>              | FRE                     | <b>SOXT:</b>      | .00000310367994010448                       |
| <b>DISN:</b>              | SAN JOAQUIN VALLEY APCD | <b>PMT:</b>       | .000249449995186057377049180327868852459016 |
| <b>CHAPIS:</b>            |                         | <b>PM10T:</b>     | .000243463195301592                         |

2008 Toxic Data

|                                    |      |                   |                         |
|------------------------------------|------|-------------------|-------------------------|
| <b>Facility ID:</b>                | 3805 | <b>COID:</b>      | FRE                     |
| <b>Facility SIC Code:</b>          | 4813 | <b>DISN:</b>      | SAN JOAQUIN VALLEY APCD |
| <b>CO:</b>                         | 10   | <b>CHAPIS:</b>    |                         |
| <b>Air Basin:</b>                  | SJV  | <b>CERR Code:</b> |                         |
| <b>District:</b>                   | SJU  |                   |                         |
| <b>TS:</b>                         |      |                   |                         |
| <b>Health Risk Asmt:</b>           |      |                   |                         |
| <b>Non-Cancer Chronic Haz Ind:</b> |      |                   |                         |
| <b>Non-Cancer Acute Haz Ind:</b>   |      |                   |                         |

2009 Criteria Data

|                           |                         |                   |   |
|---------------------------|-------------------------|-------------------|---|
| <b>Facility ID:</b>       | 3805                    | <b>CERR Code:</b> |   |
| <b>Facility SIC Code:</b> | 4813                    | <b>TOGT:</b>      | .002267425671421070873670371698338711605115 |
| <b>CO:</b>                | 10                      | <b>ROGT:</b>      | .00189715505927801                          |
| <b>Air Basin:</b>         | SJV                     | <b>COT:</b>       | .00197086506158113                          |
| <b>District:</b>          | SJU                     | <b>NOXT:</b>      | .0466268414568901                           |
| <b>COID:</b>              | FRE                     | <b>SOXT:</b>      | .000037206001162529                         |
| <b>DISN:</b>              | SAN JOAQUIN VALLEY APCD | <b>PMT:</b>       | .002990333085238442622950819672131147540984 |
| <b>CHAPIS:</b>            |                         | <b>PM10T:</b>     | .00291856509119272                          |

2009 Toxic Data

|                                    |      |                   |                         |
|------------------------------------|------|-------------------|-------------------------|
| <b>Facility ID:</b>                | 3805 | <b>COID:</b>      | FRE                     |
| <b>Facility SIC Code:</b>          | 4813 | <b>DISN:</b>      | SAN JOAQUIN VALLEY APCD |
| <b>CO:</b>                         | 10   | <b>CHAPIS:</b>    |                         |
| <b>Air Basin:</b>                  | SJV  | <b>CERR Code:</b> |                         |
| <b>District:</b>                   | SJU  |                   |                         |
| <b>TS:</b>                         |      |                   |                         |
| <b>Health Risk Asmt:</b>           |      |                   |                         |
| <b>Non-Cancer Chronic Haz Ind:</b> |      |                   |                         |
| <b>Non-Cancer Acute Haz Ind:</b>   |      |                   |                         |

2010 Toxic Data

|                           |      |                   |                         |
|---------------------------|------|-------------------|-------------------------|
| <b>Facility ID:</b>       | 3805 | <b>COID:</b>      | FRE                     |
| <b>Facility SIC Code:</b> | 4813 | <b>DISN:</b>      | SAN JOAQUIN VALLEY APCD |
| <b>CO:</b>                | 10   | <b>CHAPIS:</b>    |                         |
| <b>Air Basin:</b>         | SJV  | <b>CERR Code:</b> |                         |

| Map Key                     | Number of Records       | Direction | Distance (mi/ft) | Elev/Diff (ft) | Site       | DB  |
|-----------------------------|-------------------------|-----------|------------------|----------------|------------|---|
| District:                   | SJU                     |           |                  |                |            |   |
| TS:                         |                         |           |                  |                |            |   |
| Health Risk Asmt:           |                         |           |                  |                |            |   |
| Non-Cancer Chronic Haz Ind: |                         |           |                  |                |            |   |
| Non-Cancer Acute Haz Ind:   |                         |           |                  |                |            |   |
| <b>2011 Criteria Data</b>   |                         |           |                  |                |            |   |
| Facility ID:                | 3805                    |           |                  |                | CERR Code: |   |
| Facility SIC Code:          | 4813                    |           |                  |                | TOGT:      | .000189145926790837815226485000597585753556 |
| CO:                         | 10                      |           |                  |                | ROGT:      | .000158258396945894                         |
| Air Basin:                  | SJV                     |           |                  |                | COT:       | .000164407196827233                         |
| District:                   | SJU                     |           |                  |                | NOXT:      | .00388955512493849                          |
| COID:                       | FRE                     |           |                  |                | SOXT:      | .00000310367994010448                       |
| DISN:                       | SAN JOAQUIN VALLEY APCD |           |                  |                | PMT:       | .000249449995186057377049180327868852459016 |
| CHAPIS:                     |                         |           |                  |                | PM10T:     | .000243463195301592                         |
| <b>2011 Toxic Data</b>      |                         |           |                  |                |            |   |
| Facility ID:                | 3805                    |           |                  |                | COID:      | FRE   |
| Facility SIC Code:          | 4813                    |           |                  |                | DISN:      | SAN JOAQUIN VALLEY APCD                     |
| CO:                         | 10                      |           |                  |                | CHAPIS:    |   |
| Air Basin:                  | SJV                     |           |                  |                | CERR Code: |   |
| District:                   | SJU                     |           |                  |                |            |   |
| TS:                         |                         |           |                  |                |            |   |
| Health Risk Asmt:           |                         |           |                  |                |            |   |
| Non-Cancer Chronic Haz Ind: |                         |           |                  |                |            |   |
| Non-Cancer Acute Haz Ind:   |                         |           |                  |                |            |   |
| <b>2012 Criteria Data</b>   |                         |           |                  |                |            |   |
| Facility ID:                | 3805                    |           |                  |                | CERR Code: |   |
| Facility SIC Code:          | 4813                    |           |                  |                | TOGT:      | .000189145926790837815226485000597585753556 |
| CO:                         | 10                      |           |                  |                | ROGT:      | .000158258396945894                         |
| Air Basin:                  | SJV                     |           |                  |                | COT:       | .000164407196827233                         |
| District:                   | SJU                     |           |                  |                | NOXT:      | .00388955512493849                          |
| COID:                       | FRE                     |           |                  |                | SOXT:      | .00000310367994010448                       |
| DISN:                       | SAN JOAQUIN VALLEY APCD |           |                  |                | PMT:       | .000249449995186057377049180327868852459016 |
| CHAPIS:                     |                         |           |                  |                | PM10T:     | .000243463195301592                         |
| <b>2012 Toxic Data</b>      |                         |           |                  |                |            |   |
| Facility ID:                | 3805                    |           |                  |                | COID:      | FRE   |
| Facility SIC Code:          | 4813                    |           |                  |                | DISN:      | SAN JOAQUIN VALLEY APCD                     |
| CO:                         | 10                      |           |                  |                | CHAPIS:    |   |
| Air Basin:                  | SJV                     |           |                  |                | CERR Code: |   |
| District:                   | SJU                     |           |                  |                |            |   |
| TS:                         |                         |           |                  |                |            |   |
| Health Risk Asmt:           |                         |           |                  |                |            |   |
| Non-Cancer Chronic Haz Ind: |                         |           |                  |                |            |   |
| Non-Cancer Acute Haz Ind:   |                         |           |                  |                |            |   |
| <b>2013 Criteria Data</b>   |                         |           |                  |                |            |   |
| Facility ID:                | 3805                    |           |                  |                | CERR Code: |   |

| Map Key                            | Number of Records       | Direction | Distance (mi/ft) | Elev/Diff (ft)    | Site                    | DB   |
|------------------------------------|-------------------------|-----------|------------------|-------------------|-------------------------|--|
| <b>Facility SIC Code:</b>          | 4813                    |           |                  | <b>TOGT:</b>      | .                       | 000240182128628343767785998861696072851451   |
| <b>CO:</b>                         | 10                      |           |                  | <b>ROGT:</b>      | .                       | .000211                                      |
| <b>Air Basin:</b>                  | SJV                     |           |                  | <b>COT:</b>       | .                       | .000219                                      |
| <b>District:</b>                   | SJU                     |           |                  | <b>NOXT:</b>      | .                       | .00519                                       |
| <b>COID:</b>                       | FRE                     |           |                  | <b>SOXT:</b>      | .                       | .00000414                                    |
| <b>DISN:</b>                       | SAN JOAQUIN VALLEY APCD |           |                  | <b>PMT:</b>       | .                       | 00033299180327868852459016393442629508197    |
| <b>CHAPIS:</b>                     |                         |           |                  | <b>PM10T:</b>     | .                       | .000325                                      |
| <b>2013 Toxic Data</b>             |                         |           |                  |                   |                         |  |
| <b>Facility ID:</b>                | 3805                    |           |                  | <b>COID:</b>      | FRE                     |  |
| <b>Facility SIC Code:</b>          | 4813                    |           |                  | <b>DISN:</b>      | SAN JOAQUIN VALLEY APCD |  |
| <b>CO:</b>                         | 10                      |           |                  | <b>CHAPIS:</b>    |                         |  |
| <b>Air Basin:</b>                  | SJV                     |           |                  | <b>CERR Code:</b> |                         |  |
| <b>District:</b>                   | SJU                     |           |                  |                   |                         |  |
| <b>TS:</b>                         |                         |           |                  |                   |                         |  |
| <b>Health Risk Asmt:</b>           |                         |           |                  |                   |                         |  |
| <b>Non-Cancer Chronic Haz Ind:</b> |                         |           |                  |                   |                         |  |
| <b>Non-Cancer Acute Haz Ind:</b>   |                         |           |                  |                   |                         |  |
| <b>2014 Criteria Data</b>          |                         |           |                  |                   |                         |  |
| <b>Facility ID:</b>                | 3805                    |           |                  | <b>CERR Code:</b> |                         |  |
| <b>Facility SIC Code:</b>          | 4813                    |           |                  | <b>TOGT:</b>      | .                       | 00006004871824924826408651109846328969834946 |
| <b>CO:</b>                         | 10                      |           |                  | <b>ROGT:</b>      | .                       | .0000527527989819646                         |
| <b>Air Basin:</b>                  | SJV                     |           |                  | <b>COT:</b>       | .                       | .0000548023989424109                         |
| <b>District:</b>                   | SJU                     |           |                  | <b>NOXT:</b>      | .                       | .0012965183749795                            |
| <b>COID:</b>                       | FRE                     |           |                  | <b>SOXT:</b>      | .                       | .00000103455998003483                        |
| <b>DISN:</b>                       | SAN JOAQUIN VALLEY APCD |           |                  | <b>PMT:</b>       | .                       | 0000831499983953525614754098360655737704918  |
| <b>CHAPIS:</b>                     |                         |           |                  | <b>PM10T:</b>     | .                       | .0000811543984338641                         |
| <b>2014 Toxic Data</b>             |                         |           |                  |                   |                         |  |
| <b>Facility ID:</b>                | 3805                    |           |                  | <b>COID:</b>      | FRE                     |  |
| <b>Facility SIC Code:</b>          | 4813                    |           |                  | <b>DISN:</b>      | SAN JOAQUIN VALLEY APCD |  |
| <b>CO:</b>                         | 10                      |           |                  | <b>CHAPIS:</b>    |                         |  |
| <b>Air Basin:</b>                  | SJV                     |           |                  | <b>CERR Code:</b> |                         |  |
| <b>District:</b>                   | SJU                     |           |                  |                   |                         |  |
| <b>TS:</b>                         |                         |           |                  |                   |                         |  |
| <b>Health Risk Asmt:</b>           |                         |           |                  |                   |                         |  |
| <b>Non-Cancer Chronic Haz Ind:</b> |                         |           |                  |                   |                         |  |
| <b>Non-Cancer Acute Haz Ind:</b>   |                         |           |                  |                   |                         |  |
| <b>2015 Criteria Data</b>          |                         |           |                  |                   |                         |  |
| <b>Facility ID:</b>                | 3805                    |           |                  | <b>CERR Code:</b> |                         |  |
| <b>Facility SIC Code:</b>          | 4813                    |           |                  | <b>TOGT:</b>      | .                       | 00058281161070005691519635742743312464428    |
| <b>CO:</b>                         | 10                      |           |                  | <b>ROGT:</b>      | .                       | .000512                                      |
| <b>Air Basin:</b>                  | SJV                     |           |                  | <b>COT:</b>       | .                       | .000531                                      |
| <b>District:</b>                   | SJU                     |           |                  | <b>NOXT:</b>      | .                       | .01258                                       |
| <b>COID:</b>                       | FRE                     |           |                  | <b>SOXT:</b>      | .                       | .00001004                                    |
| <b>DISN:</b>                       | SAN JOAQUIN VALLEY APCD |           |                  | <b>PMT:</b>       | .                       | 000807377049180327868852459016393442622951   |
| <b>CHAPIS:</b>                     |                         |           |                  | <b>PM10T:</b>     | .                       | .000788                                      |

| Map Key | Number of Records | Direction | Distance (mi/ft) | Elev/Diff (ft) | Site | DB |
|---------|-------------------|-----------|------------------|----------------|------|----|
|---------|-------------------|-----------|------------------|----------------|------|----|

**2015 Toxic Data**

|                             |      |  |  |  |            |                         |
|-----------------------------|------|--|--|--|------------|-------------------------|
| Facility ID:                | 3805 |  |  |  | CERR Code: | FRE                     |
| Facility SIC Code:          | 4813 |  |  |  |            | SAN JOAQUIN VALLEY APCD |
| CO:                         | 10   |  |  |  |            |                         |
| Air Basin:                  | SJV  |  |  |  |            |                         |
| District:                   | SJU  |  |  |  |            |                         |
| TS:                         |      |  |  |  |            |                         |
| Health Risk Asmt:           |      |  |  |  |            |                         |
| Non-Cancer Chronic Haz Ind: |      |  |  |  |            |                         |
| Non-Cancer Acute Haz Ind:   |      |  |  |  |            |                         |

**2016 Criteria Data**

|                    |                         |  |  |  |            |  |
|--------------------|-------------------------|--|--|--|------------|--|
| Facility ID:       | 3805                    |  |  |  | CERR CODE: |  |
| Facility SIC Code: | 4813                    |  |  |  | TOGT:      | .                                      |
|                    |                         |  |  |  |            | 00055776892430278884462151394422310756 |
|                    |                         |  |  |  |            | 9721                                   |
| CO:                | 10                      |  |  |  | ROGT:      | .00049                                 |
| Air Basin:         | SJV                     |  |  |  | COT:       | .000509                                |
| District:          | SJU                     |  |  |  | NOXT:      | .012                                   |
| COID:              | FRE                     |  |  |  | SOXT:      | .00000961                              |
| DISN:              | SAN JOAQUIN VALLEY APCD |  |  |  | PMT:       | .                                      |
|                    |                         |  |  |  |            | 00077254098360655737704918032786885245 |
|                    |                         |  |  |  |            | 9016                                   |
| CHAPIS:            |                         |  |  |  | PM10T:     | .000754                                |

**2016 Toxic Data**

|                    |                         |  |  |  |            |     |
|--------------------|-------------------------|--|--|--|------------|-----|
| Facility ID:       | 3805                    |  |  |  | TS:        |     |
| Facility SIC Code: | 4813                    |  |  |  | HRA:       |     |
| CERR CODE:         |                         |  |  |  | CH Index:  |     |
| COID:              | FRE                     |  |  |  | AH Index:  |     |
| CO:                | 10                      |  |  |  | Air Basin: | SJV |
| DISN:              | SAN JOAQUIN VALLEY APCD |  |  |  | District:  | SJU |
| CHAPIS:            |                         |  |  |  |            |     |

**2017 Criteria Data**

|                    |                         |  |  |  |            |  |
|--------------------|-------------------------|--|--|--|------------|--|
| Facility ID:       | 3805                    |  |  |  | CERR Code: |  |
| Facility SIC Code: | 4813                    |  |  |  | TOGT:      | .                                      |
|                    |                         |  |  |  |            | 00055776892430278884462151394422310756 |
|                    |                         |  |  |  |            | 9721                                   |
| CO:                | 10                      |  |  |  | ROGT:      | .000185                                |
| Air Basin:         | SJV                     |  |  |  | COT:       | .000192                                |
| District:          | SJU                     |  |  |  | NOXT:      | .00454                                 |
| COID:              | FRE                     |  |  |  | SOXT:      | .00000362                              |
| DISN:              | SAN JOAQUIN VALLEY APCD |  |  |  | PMT:       | .                                      |
|                    |                         |  |  |  |            | 00077254098360655737704918032786885245 |
|                    |                         |  |  |  |            | 9016                                   |
| CHAPIS:            |                         |  |  |  | PM10T:     | .000284                                |

**2017 Toxic Data**

|                             |      |  |  |  |            |                         |
|-----------------------------|------|--|--|--|------------|-------------------------|
| Facility ID:                | 3805 |  |  |  | CERR Code: | FRE                     |
| Facility SIC Code:          | 4813 |  |  |  |            | SAN JOAQUIN VALLEY APCD |
| CO:                         | 10   |  |  |  |            |                         |
| Air Basin:                  | SJV  |  |  |  |            |                         |
| District:                   | SJU  |  |  |  |            |                         |
| TS:                         |      |  |  |  |            |                         |
| Health Risk Asmt:           |      |  |  |  |            |                         |
| Non-Cancer Chronic Haz Ind: |      |  |  |  |            |                         |

| Map Key | Number of Records | Direction | Distance (mi/ft) | Elev/Diff (ft) | Site | DB |
|---------|-------------------|-----------|------------------|----------------|------|----|
|---------|-------------------|-----------|------------------|----------------|------|----|

**Non-Cancer Acute Haz Ind:**

**2018 Criteria Data**

|                           |                         |                   |   |
|---------------------------|-------------------------|-------------------|---|
| <b>Facility ID:</b>       | 3805                    | <b>CERR Code:</b> |   |
| <b>Facility SIC Code:</b> | 4813                    | <b>TOGT:</b>      | 00022538417757541263517359134889015367103 |
| <b>CO:</b>                | 10                      | <b>ROGT:</b>      | .000198                                   |
| <b>Air Basin:</b>         | SJV                     | <b>COT:</b>       | .000206                                   |
| <b>District:</b>          | SJU                     | <b>NOXT:</b>      | .00486                                    |
| <b>COID:</b>              | FRE                     | <b>SOXT:</b>      | .00000388                                 |
| <b>DISN:</b>              | SAN JOAQUIN VALLEY APCD | <b>PMT:</b>       | 00030583501006036217303822937625754527163 |
| <b>CHAPIS:</b>            |                         | <b>PM10T:</b>     | .000304                                   |

**2018 Toxic Data**

|                                    |      |                   |                         |
|------------------------------------|------|-------------------|-------------------------|
| <b>Facility ID:</b>                | 3805 | <b>COID:</b>      | FRE                     |
| <b>Facility SIC Code:</b>          | 4813 | <b>DISN:</b>      | SAN JOAQUIN VALLEY APCD |
| <b>CO:</b>                         | 10   | <b>CHAPIS:</b>    |                         |
| <b>Air Basin:</b>                  | SJV  | <b>CERR Code:</b> |                         |
| <b>District:</b>                   | SJU  |                   |                         |
| <b>TS:</b>                         |      |                   |                         |
| <b>Health Risk Asmt:</b>           |      |                   |                         |
| <b>Non-Cancer Chronic Haz Ind:</b> |      |                   |                         |
| <b>Non-Cancer Acute Haz Ind:</b>   |      |                   |                         |

**2019 Criteria Data**

|                           |   |                   |            |
|---------------------------|---|-------------------|------------|
| <b>CO:</b>                | 10  | <b>CHAPIS:</b>    |            |
| <b>Air Basin:</b>         | SJV   | <b>CERR Code:</b> |            |
| <b>Facility ID:</b>       | 3805  | <b>ROGT:</b>      | .0001482   |
| <b>District:</b>          | SJU   | <b>COT:</b>       | .0001538   |
| <b>Facility SIC Code:</b> | 4813  | <b>NOXT:</b>      | .00363     |
| <b>CO ID:</b>             | FRE   | <b>SOXT:</b>      | .000002898 |
| <b>DISN:</b>              | SAN JOAQUIN VALLEY APCD                     |                   |            |
| <b>PM10T:</b>             | .0002269                                    |                   |            |
| <b>TOGT:</b>              | .000168696642003414911781445645987478656801 |                   |            |
| <b>PMT:</b>               | .000228269617706237424547283702213279678068 |                   |            |

**2019 Toxic Data**

|                           |                         |                           |  |
|---------------------------|-------------------------|---------------------------|--|
| <b>CO:</b>                | 10                      | <b>CHAPIS:</b>            |  |
| <b>Air Basin:</b>         | SJV                     | <b>CERR Code:</b>         |  |
| <b>Facility ID:</b>       | 3805                    | <b>TS:</b>                |  |
| <b>District:</b>          | SJU                     | <b>Health Risk Asmt:</b>  |  |
| <b>Facility SIC Code:</b> | 4813                    | <b>NonCncrChrnHazInd</b>  |  |
| <b>COID:</b>              | FRE                     | <b>:</b>                  |  |
| <b>DISN:</b>              | SAN JOAQUIN VALLEY APCD | <b>NonCncrActeHazInd:</b> |  |

|                         |               |             |                        |                    |  |                          |
|-------------------------|---------------|-------------|------------------------|--------------------|--|--------------------------|
| <b>2</b>                | <b>1 of 2</b> | <b>NE</b>   | <b>0.20 / 1,054.74</b> | <b>412.38 / -9</b> | <b>PG&amp;E: Gates Substation<br/>18336 WEST JAYNE AVENUE<br/>HURON CA 93234</b> | <b>DELISTED<br/>CTNK</b> |
| <b>Site ID:</b>         | 399443        |             |                        | <b>Latitude:</b>   |  |                          |
| <b>County:</b>          |               |             |                        | <b>Longitude:</b>  |  |                          |
| <b>Tank Type:</b>       |               |             |                        |                    |  |                          |
| <b>Original Source:</b> |               | CTNK        |                        |                    |  |                          |
| <b>Record Date:</b>     |               | 06-MAY-2019 |                        |                    |  |                          |

| <i>Map Key</i>    | <i>Number of Records</i> | <i>Direction</i> | <i>Distance (mi/ft)</i> | <i>Elev/Diff (ft)</i> | <i>Site</i>   | <i>DB</i> |
|-------------------|--------------------------|------------------|-------------------------|-----------------------|---|-----------|
| <a href="#">2</a> | 2 of 2                   | NE               | 0.20 /<br>1,054.74      | 412.38 /<br>-9        | GATES SUBSTATION<br>18336 W. JAYNE AVE.<br>HURON CA 93234 | AST SWRCB |

**Total Gals:**

3000

**Owner Name:**

PG & E

**Data Source:**

SWRCB Aboveground Storage Tanks Listing 2003;SWRCB Aboveground Storage Tanks Listing 2005;SWRCB Aboveground Storage Tanks Listing 2006;SWRCB Aboveground Storage Tanks Listing 2007

# Unplottable Summary

Total: 0 Unplottable sites

| DB | Company Name/Site Name | Address | City | Zip | ERIS ID |
|----|------------------------|---------|------|-----|---------|
|----|------------------------|---------|------|-----|---------|

No unplottable records were found that may be relevant for the search criteria.



# Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

# Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13 and E1527-21, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

## Standard Environmental Record Sources

### Federal

#### Formerly Utilized Sites Remedial Action Program:

DOE FUSRAP

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

Government Publication Date: Mar 4, 2017

#### National Priority List:

NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Dec 30, 2021

#### National Priority List - Proposed:

PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Dec 30, 2021

#### Deleted NPL:

DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Dec 30, 2021

#### SEMS List 8R Active Site Inventory:

SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Dec 30, 2021

#### Inventory of Open Dumps, June 1985:

ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

**SEMS List 8R Archive Sites:**

[SEMS ARCHIVE](#)

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

**Government Publication Date: Dec 30, 2021**

**Comprehensive Environmental Response, Compensation and Liability Information System -**

[CERCLIS](#)

**CERCLIS:**

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

**Government Publication Date: Oct 25, 2013**

**EPA Report on the Status of Open Dumps on Indian Lands:**

[IODI](#)

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

**Government Publication Date: Dec 31, 1998**

**CERCLIS - No Further Remedial Action Planned:**

[CERCLIS NFRAP](#)

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

**Government Publication Date: Oct 25, 2013**

**CERCLIS Liens:**

[CERCLIS LIENS](#)

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

**Government Publication Date: Jan 30, 2014**

**RCRA CORRACTS-Corrective Action:**

[RCRA CORRACTS](#)

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

**Government Publication Date: Nov 17, 2021**

**RCRA non-CORRACTS TSD Facilities:**

[RCRA TSD](#)

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

**Government Publication Date: Nov 17, 2021**

**RCRA Generator List:**

[RCRA LQG](#)

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

**Government Publication Date: Nov 17, 2021**

**RCRA Small Quantity Generators List:**

[RCRA SQG](#)

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

**Government Publication Date: Nov 17, 2021**

**RCRA Very Small Quantity Generators List:**

[RCRA VSQG](#)

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

**Government Publication Date: Nov 17, 2021**

**RCRA Non-Generators:**

[RCRA NON GEN](#)

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

**Government Publication Date: Nov 17, 2021**

**RCRA Sites with Controls:**

[RCRA CONTROLS](#)

List of Resource Conservation and Recovery Act (RCRA) facilities with institutional controls in place. RCRA gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

**Government Publication Date: Nov 17, 2021**

**Federal Engineering Controls-ECs:**

[FED ENG](#)

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

**Government Publication Date: Dec 30, 2021**

**Federal Institutional Controls- ICs:**

[FED INST](#)

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

**Government Publication Date: Dec 30, 2021**

**Land Use Control Information System:**

[LUCIS](#)

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

**Government Publication Date: Sep 1, 2006**

**Emergency Response Notification System:**

[ERNS 1982 TO 1986](#)

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

**Government Publication Date: 1982-1986**

**Emergency Response Notification System:**

ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

**Government Publication Date: 1987-1989**

**Emergency Response Notification System:**

ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

**Government Publication Date: Jul 26, 2021**

**The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database:**

FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

**Government Publication Date: Aug 20, 2021**

**FEMA Underground Storage Tank Listing:**

FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

**Government Publication Date: Dec 31, 2017**

**Facility Response Plan:**

FRP

List of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

**Government Publication Date: Dec 2, 2020**

**Historical Gas Stations:**

HIST GAS STATIONS

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

**Government Publication Date: Jul 1, 1930**

**Petroleum Refineries:**

REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

**Government Publication Date: Jul 10, 2020**

**Petroleum Product and Crude Oil Rail Terminals:**

BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

**Government Publication Date: Apr 28, 2020**

**LIEN on Property:**

SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

**Government Publication Date: Dec 30, 2021**

**Superfund Decision Documents:**

**SUPERFUND ROD**

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

**Government Publication Date: Nov 16, 2021**

**State**

**State Response Sites:**

**RESPONSE**

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

**Government Publication Date: Jan 6, 2022**

**EnviroStor Database:**

**ENVIROSTOR**

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

**Government Publication Date: Jan 6, 2022**

**Delisted State Response Sites:**

**DELISTED ENVS**

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

**Government Publication Date: Jan 6, 2022**

**Solid Waste Information System (SWIS):**

**SWF/LF**

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

**Government Publication Date: Nov 2, 2021**

**Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels:**

**SWRCB SWF**

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

**Government Publication Date: Sep 20, 2006**

**Waste Management Unit Database:**

**WMUD**

The Waste Management Unit Database System tracks and inventories waste management units. CCR Title 27 contains criteria stating that Waste Management Units are classified according to their ability to contain wastes. Containment shall be determined by geology, hydrology, topography, climatology, and other factors relating to the ability of the Unit to protect water quality. Water Code Section 13273.1 requires that operators submit a water quality solid waste assessment test (SWAT) report to address leak status. The WMUDS was last updated by the State Water Resources control board in 2000.

**Government Publication Date: Jan 1, 2000**

**EnviroStor Hazardous Waste Facilities:**

**HWP**

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

**Government Publication Date: Jan 6, 2022**

**Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report:**

**SWAT**

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

**Government Publication Date: Dec 31, 1995**

**Construction and Demolition Debris Recyclers:**

**C&D DEBRIS RECY**

This listing of Construction and Demolition Debris Recyclers is maintained by the California Intergrated Waste Management Board-common C&D materials include lumber, drywall, metals, masonry (brick, concrete, etc.), carpet, plastic, pipe, rocks, dirt, paper, cardboard, or green waste related to land development.

**Government Publication Date: Jun 20, 2018**

**Recycling Centers:**

**RECYCLING**

This list of Certified Recycling Centers that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

**Government Publication Date: Dec 17, 2021**

**Listing of Certified Processors:**

**PROCESSORS**

This list of Certified Processors that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

**Government Publication Date: Dec 20, 2021**

**Listing of Certified Dropoff, Collection, and Community Service Programs:**

**CONTAINER RECY**

This list of Certified Dropoff, Collection, and Community Service Programs (non-buyback) operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

**Government Publication Date: Dec 17, 2021**

**Land Disposal Sites:**

**LDS**

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

**Government Publication Date: Oct 20, 2021**

**Leaking Underground Fuel Tank Reports:**

**LUST**

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

**Government Publication Date: Jun 22, 2021**

**Delisted Leaking Storage Tanks:**

**DELISTED LST**

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

**Government Publication Date: Jun 22, 2021**

**Permitted Underground Storage Tank (UST) in GeoTracker:**

**UST**

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

**Government Publication Date: Jan 3, 2022**

**Proposed Closure of Underground Storage Tank Cases:**

**UST CLOSURE**

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

**Government Publication Date: May 5, 2021**

**Historical Hazardous Substance Storage Information Database:**

**HHSS**

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

**Government Publication Date: Aug 27, 2015**

**Statewide Environmental Evaluation and Planning System:**

**UST SWEEPS**

The Statewide Environmental Evaluation and Planning System (SWEEPS) is a historical listing of active and inactive underground storage tanks made available by the California State Water Resources Control Board (SWRCB).

**Government Publication Date:** Oct 1, 1994

**Aboveground Storage Tanks:**

AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

**Government Publication Date:** Aug 31, 2009

**SWRCB Historical Aboveground Storage Tanks:**

AST SWRCB

A list of aboveground storage tanks made available by the California State Water Resources Control Board (SWRCB). Effective January 1, 2008, the Certified Unified Program Agencies (CUPAs) are vested with the responsibility and authority to implement the Aboveground Petroleum Storage Act (APSA).

**Government Publication Date:** Dec 1, 2007

**Oil and Gas Facility Tanks:**

TANK OIL GAS

Locations of oil and gas tanks that fall under the jurisdiction of the Geologic Energy Management Division of the California Department of Conservation (CalGEM) (CCR 1760). CalGEM was formerly the Division of Oil, Gas, and Geothermal Resources (DOGGR).

**Government Publication Date:** Dec 9, 2021

**Delisted Storage Tanks:**

DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

**Government Publication Date:** Jan 3, 2022

**California Environmental Reporting System (CERS) Tanks:**

CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

**Government Publication Date:** Dec 8, 2021

**Delisted California Environmental Reporting System (CERS) Tanks:**

DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

**Government Publication Date:** Dec 8, 2021

**Historical Hazardous Substance Storage Container Information - Facility Summary:**

HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in the 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

**Government Publication Date:** May 27, 1988

**Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions:**

LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

**Government Publication Date:** Jan 6, 2022

**CALSITES Database:**

CALSITES

This historical database was maintained by the Department of Toxic Substance Control (DTSC) for more than a decade. CALSITES contains information on Brownfield properties with confirmed or potential hazardous contamination. In 2006, DTSC introduced EnviroStor as the latest Brownfields site database.

**Government Publication Date:** May 1, 2004

**Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions:**

HLUR



The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

**Government Publication Date: Feb 18, 2021**

**Deed Restrictions and Land Use Restrictions:**

[DEED](#)

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

**Government Publication Date: Oct 20, 2021**

**Voluntary Cleanup Program:**

[VCP](#)

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

**Government Publication Date: Jan 6, 2022**

**GeoTracker Cleanup Program Sites:**

[CLEANUP SITES](#)

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

**Government Publication Date: Jun 22, 2021**

**Delisted County Records:**

[DELISTED COUNTY](#)

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

**Government Publication Date: Jan 19, 2022**

**Tribal**

**Leaking Underground Storage Tanks (LUSTs) on Indian Lands:**

[INDIAN LUST](#)

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

**Government Publication Date: Apr 8, 2020**

**Underground Storage Tanks (USTs) on Indian Lands:**

[INDIAN UST](#)

USTs on Tribal/Indian Lands in Region 9, which includes California.

**Government Publication Date: Apr 8, 2020**

**Delisted Tribal Leaking Storage Tanks:**

[DELISTED ILST](#)

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

**Government Publication Date: Apr 14, 2020**

**Delisted Tribal Underground Storage Tanks:**

[DELISTED IUST](#)

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

**Government Publication Date: Apr 14, 2020**

**County**

**Fresno County - CUPA/Solid Waste Programs Resource List:**

[CUPA FRESNO](#)

A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in Fresno County. This list is made available by Fresno County Department of Environmental Health Division which is approved by Cal-EPA as CUPA for the County.

**Government Publication Date: Apr 9, 2021**

## **Additional Environmental Record Sources**

### **Federal**

#### **Facility Registry Service/Facility Index:**

[FINDS/FRS](#)

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the Environmental Protection Agency (US EPA).

**Government Publication Date: Nov 2, 2020**

#### **Toxics Release Inventory (TRI) Program:**

[TRIS](#)

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

**Government Publication Date: Aug 24, 2021**

#### **Perfluorinated Alkyl Substances (PFAS) Releases:**

[PFAS TRI](#)

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

**Government Publication Date: Aug 24, 2021**

#### **PFOA/PFOS Contaminated Sites:**

[PFAS NPL](#)

List of sites where PFOA or PFOS contaminants have been found in drinking water or soil. Made available by the Federal Environmental Protection Agency (EPA).

**Government Publication Date: Sep 17, 2021**

#### **Perfluorinated Alkyl Substances (PFAS) Water Quality:**

[PFAS WATER](#)

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances.

**Government Publication Date: Jul 20, 2020**

#### **SSEHRI PFAS Contamination Sites:**

[PFAS SSEHRI](#)

This PFAS Contamination Site Tracker database is compiled by the Social Science Environmental Health Research Institute (SSEHRI) at Northeastern University. According to the SSEHRI, the database records qualitative and quantitative data from each known site of PFAS contamination, including timeline of discovery, sources, levels, health impacts, community response, and government response. The goal of this database is to compile information and support public understanding of the rapidly unfolding issue of PFAS contamination. All data presented was extracted from government websites, news articles, or publicly available documents, and this is cited in the tracker. Disclaimer: The source conveys this database undergoes regular updates as new information becomes available, some sites may be missing and/or contain information that is incorrect or outdated, as well as their information represents all contamination sites SSEHRI is aware of, not all possible contamination sites. This data is not intended to be used for legal purposes. Limited location details are available with this data. Access the following for the most current informations <https://pfasproject.com/pfas-contamination-site-tracker/>

**Government Publication Date: Dec 12, 2019**

#### **Hazardous Materials Information Reporting System:**

[HMIRS](#)

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

**Government Publication Date: Sep 1, 2020**

#### **National Clandestine Drug Labs:**

[NCDL](#)

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

**Toxic Substances Control Act:**

[TSCA](#)

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Apr 11, 2019

**Hist TSCA:**

[HIST TSCA](#)

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

**FTTS Administrative Case Listing:**

[FTTS ADMIN](#)

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

**FTTS Inspection Case Listing:**

[FTTS INSP](#)

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

**Potentially Responsible Parties List:**

[PRP](#)

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Oct 20, 2021

**State Coalition for Remediation of Drycleaners Listing:**

[SCRD DRYCLEANER](#)

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

**Integrated Compliance Information System (ICIS):**

[ICIS](#)

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Oct 14, 2021

**Drycleaner Facilities:**

[FED DRYCLEANERS](#)

A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) online search. The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: May 5, 2021

**Delisted Drycleaner Facilities:**

[DELISTED FED DRY](#)

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

**Government Publication Date: May 5, 2021**

**Formerly Used Defense Sites:**

**FUDS**

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

**Government Publication Date: May 26, 2021**

**Former Military Nike Missile Sites:**

**FORMER NIKE**

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

**Government Publication Date: Dec 2, 1984**

**PHMSA Pipeline Safety Flagged Incidents:**

**PIPELINE INCIDENT**

A list of flagged pipeline incidents made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types.

**Government Publication Date: Jul 7, 2020**

**Material Licensing Tracking System (MLTS):**

**MLTS**

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

**Government Publication Date: May 11, 2021**

**Historic Material Licensing Tracking System (MLTS) sites:**

**HIST MLTS**

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

**Government Publication Date: Jan 31, 2010**

**Mines Master Index File:**

**MINES**

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

**Government Publication Date: Nov 2, 2021**

**Surface Mining Control and Reclamation Act Sites:**

**SMCRA**

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of Abandoned Mine Land (AML) impacts, as well as information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

**Government Publication Date: Dec 18, 2020**

**Mineral Resource Data System:**

**MRDS**

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MLS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

**Government Publication Date: Mar 15, 2006**

**Uranium Mill Tailings Radiation Control Act Sites:**

[URANIUM](#)

The Legacy Management Office of the Department of Energy (DOE) manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The L.M. Office manages this database of sites registered under the Uranium Mill Tailings Control Act (UMTRCA).

**Government Publication Date: Mar 4, 2017**

**Alternative Fueling Stations:**

[ALT FUELS](#)

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

**Government Publication Date: Dec 21, 2021**

**Registered Pesticide Establishments:**

[SSTS](#)

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

**Government Publication Date: Apr 13, 2021**

**Polychlorinated Biphenyl (PCB) Notifiers:**

[PCB](#)

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

**Government Publication Date: Jan 20, 2022**

**State**

**Dry Cleaning Facilities:**

[DRYCLEANERS](#)

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

**Government Publication Date: Dec 20, 2021**

**Delisted Drycleaners:**

[DELISTED DRYCLEANERS](#)

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

**Government Publication Date: Dec 20, 2021**

**Non-Toxic Dry Cleaning Incentive Program:**

[DRYC GRANT](#)

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

**Government Publication Date: Feb 28, 2018**

**Per- and Polyfluoroalkyl Substances (PFAS):**

[PFAS](#)

List of sites from the State Water Resources Control Board (SWRCB)'s GeoTracker at which one or more of the potential contaminants of concern are in the PFAS Master List of PFAS Substances made available by the Environmental Protection Agency (US EPA).

**Government Publication Date: Jun 22, 2021**

**PFOA/PFOS Groundwater:**

[PFAS GW](#)

A list of water wells from the Groundwater Ambient Monitoring and Assessment Program (GAMA) Groundwater Information System with the groundwater chemical perfluorooctanoic acid (PFOA) (NL = 0.014 UG/L) or perfluorooctanoic sulfonate (PFOS) (NL = 0.013 UG/L). The GAMA Groundwater Information System search is made available by California Water Boards.

**Government Publication Date: Oct 22, 2020**

**Hazardous Waste and Substances Site List - Site Cleanup:**

HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

**Government Publication Date: May 20, 2021**

**Toxic Pit Cleanup Act Sites:**

TOXIC PITS

The Toxic Pits Cleanup Act (TPCA) list identifies sites suspected of containing hazardous substances where cleanup has not yet been completed. This list was maintained by the State Water Resources Control Board (SWRCB), is no longer maintained, and updates are not planned.

**Government Publication Date: Jul 1, 1995**

**List of Hazardous Waste Facilities Subject to Corrective Action:**

DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

**Government Publication Date: Jul 18, 2016**

**EnviroStor Inspection, Compliance, and Enforcement:**

INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

**Government Publication Date: Apr 29, 2021**

**School Property Evaluation Program Sites:**

SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

**Government Publication Date: Jan 6, 2022**

**California Hazardous Material Incident Report System (CHMIRS):**

CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

**Government Publication Date: Aug 1, 2021**

**Historical California Hazardous Material Incident Report System (CHMIRS):**

HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

**Government Publication Date: Jan 1, 1993**

**Hazardous Waste Manifest Data:**

HAZNET

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

**Government Publication Date: Oct 24, 2016**

**Historical Hazardous Waste Manifest Data:**

HIST MANIFEST

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

**Government Publication Date: Dec 31, 1992**

**DTSC Registered Hazardous Waste Transporters:**

HW TRANSPORT

The California Department of Toxic Substances Control (DTSC) maintains this list of Registered Hazardous Waste Transporters.

**Government Publication Date: Oct 19, 2020**

**Registered Waste Tire Haulers:**

WASTE TIRE

This list of registered waste tire haulers is maintained by the California Department of Resources Recycling and Recovery.

**Government Publication Date: Dec 17, 2021**

**California Medical Waste Management Program Facility List:**

**MEDICAL WASTE**

This list of Medical Waste Management Program Facilities is maintained by the California Department of Public Health. The Medical Waste Management Program (MWMP) regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the Medical Waste Management Act (MWMA). The MWMP permits and inspects all medical waste off-site treatment facilities, medical waste transporters, and medical waste transfer stations. This list contains transporters, treatment, and transfer facilities.

**Government Publication Date: Dec 31, 2020**

**Historical Cortese List:**

**HIST CORTESE**

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

**Government Publication Date: Nov 13, 2008**

**Cease and Desist Orders and Cleanup and Abatement Orders:**

**CDO/CAO**

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

**Government Publication Date: Dec 6, 2021**

**California Environmental Reporting System (CERS) Hazardous Waste Sites:**

**CERS HAZ**

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

**Government Publication Date: Dec 8, 2021**

**Delisted Environmental Reporting System (CERS) Hazardous Waste Sites:**

**DELISTED HAZ**

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

**Government Publication Date: Nov 29, 2018**

**Sites in GeoTracker:**

**GEOTRACKER**

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

**Government Publication Date: Jun 22, 2021**

**Mines Listing:**

**MINE**

This list includes mine site locations extracted from the Mines Online database, maintained by the California Department of Conservation. Mines Online (MOL) is an interactive web map designed with GIS features that provide information such as the mine name, mine status, commodity sold, location, and other mine specific data. Please note: Mine location information is provided to assist experts in determining the location of mine operators in accordance with California Civil Code section 1103.4 and reflects information reported by mine operators in annual reports provided under Public Resources Code section 2207. While the Division of Mine Reclamation (DMR) attempts to populate MOL with accurate location information, the DMR cannot guarantee the accuracy of operator reported location information.

**Government Publication Date: Dec 17, 2021**

**Recorded Environmental Cleanup Liens:**

**LIEN**

The California Department of Toxic Substance Control (DTSC) maintains this list of liens placed upon real properties. A lien is utilized by the DTSC to obtain reimbursement from responsible parties for costs associated with the remediation of contaminated properties.

**Government Publication Date: Dec 15, 2021**

**Waste Discharge Requirements:**

**WASTE DISCHG**

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

**Government Publication Date: Oct 20, 2021**

**Toxic Pollutant Emissions Facilities:**

**EMISSIONS**

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

**Government Publication Date: Dec 31, 2019**

**Clandestine Drug Lab Sites:**

**CDL**

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/ clandestine drug laboratories.

**Government Publication Date: Jan 19, 2021**

**Tribal**

**No Tribal additional environmental record sources available for this State.**

**County**

**No County additional environmental databases were selected to be included in the search.**



# Definitions

**Database Descriptions:** This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

**Detail Report:** This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

**Distance:** The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

**Direction:** The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

**Elevation:** The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

**Executive Summary:** This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

**Map Key:** The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

**Unplottables:** These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

# Appendix C

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Historical Research Documentation



# TOPOGRAPHIC MAPS

**Project Property:** Key Energy Storage Site  
Key Energy Storage Site  
Coalinga CA None

**Project No:** 20-10624

**Requested By:** Rincon Consultants, Inc.

**Order No:** 22020200451

**Date Completed:** February 03, 2022

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We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

| Year | Map Series |
|------|------------|
| 2015 | 7.5        |
| 1978 | 7.5        |
| 1971 | 7.5        |
| 1963 | 7.5        |
| 1956 | 7.5        |
| 1954 | 7.5        |
| 1950 | 7.5        |
| 1937 | 7.5        |
| 1936 | 7.5        |
| 1934 | 7.5        |
| 1933 | 7.5        |
| 1930 | 7.5        |
| 1942 | 15         |

**Topographic Map Symbology for the maps may be available in the following documents:**

*Pre-1947*

[Page 223 of 1918 Topographic Instructions](#)

[Page 130 of 1928 Topographic Instructions](#)

*1947-2009*

[Topographic Map Symbols](#)

*2009-present*

[US Topo Map Symbols](#)

Topographic Maps included in this report are produced by the USGS and are to be used for research purposes including a phase I report. Maps are not to be resold as commercial property.

No warranty of Accuracy or Liability for ERIS: The information contained in this report has been produced by ERIS Information Inc.(in the US) and ERIS Information Limited Partnership (in Canada), both doing business as 'ERIS', using Topographic Maps produced by the USGS.

This maps contained herein does not purport to be and does not constitute a guarantee of the accuracy of the information contained herein.

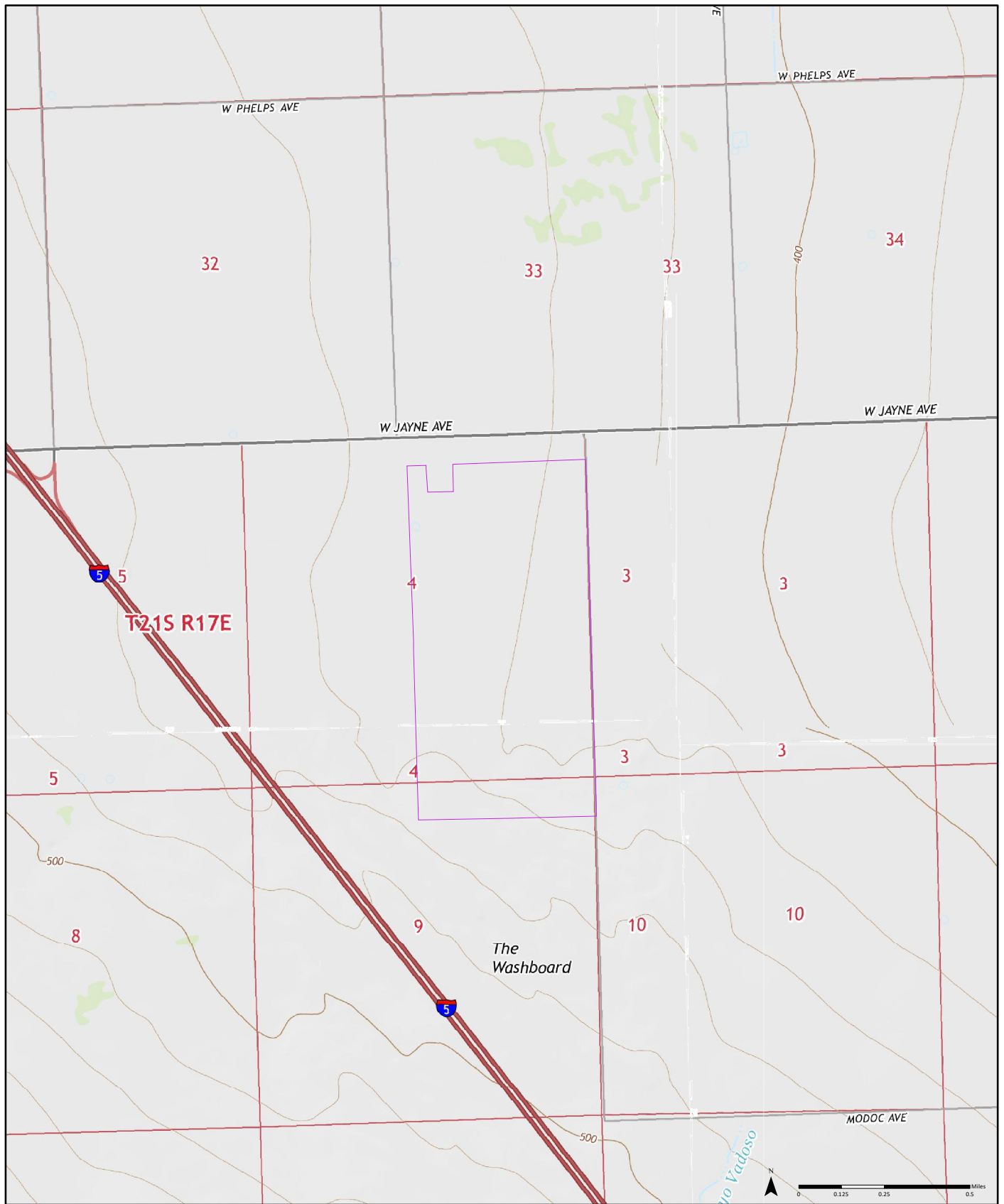
Although ERIS has endeavored to present you with information that is accurate, ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of ERIS is limited to the monetary value paid for this report.

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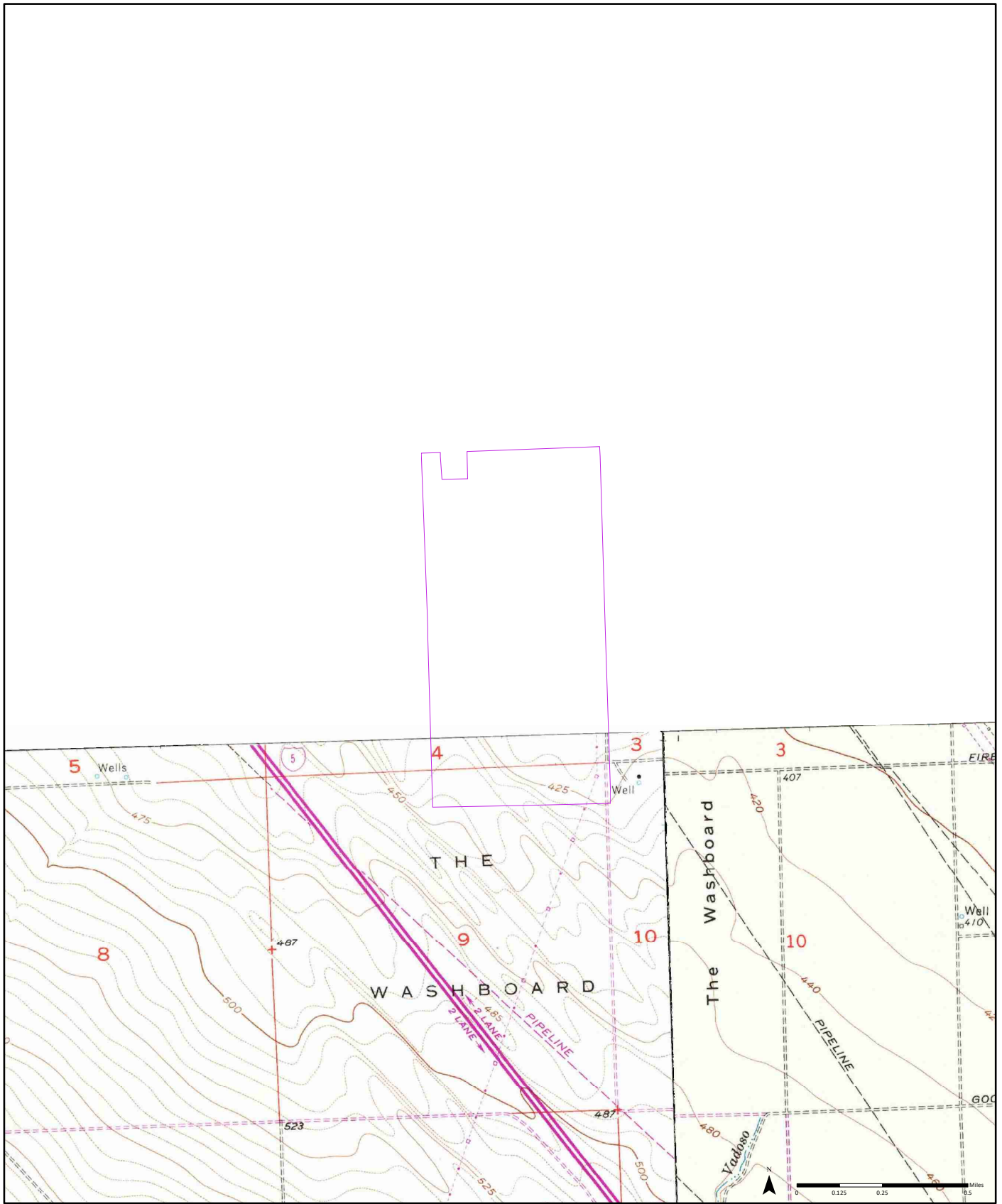
**2015**

**Quadrangle(s): Gujarral Hills, CA; La Cima, CA; Avenal, CA; Huron, CA**

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map





**1978**

<sup>(1)</sup> Aerial Photo Year: 1971  
Photo Revision Year: 1971

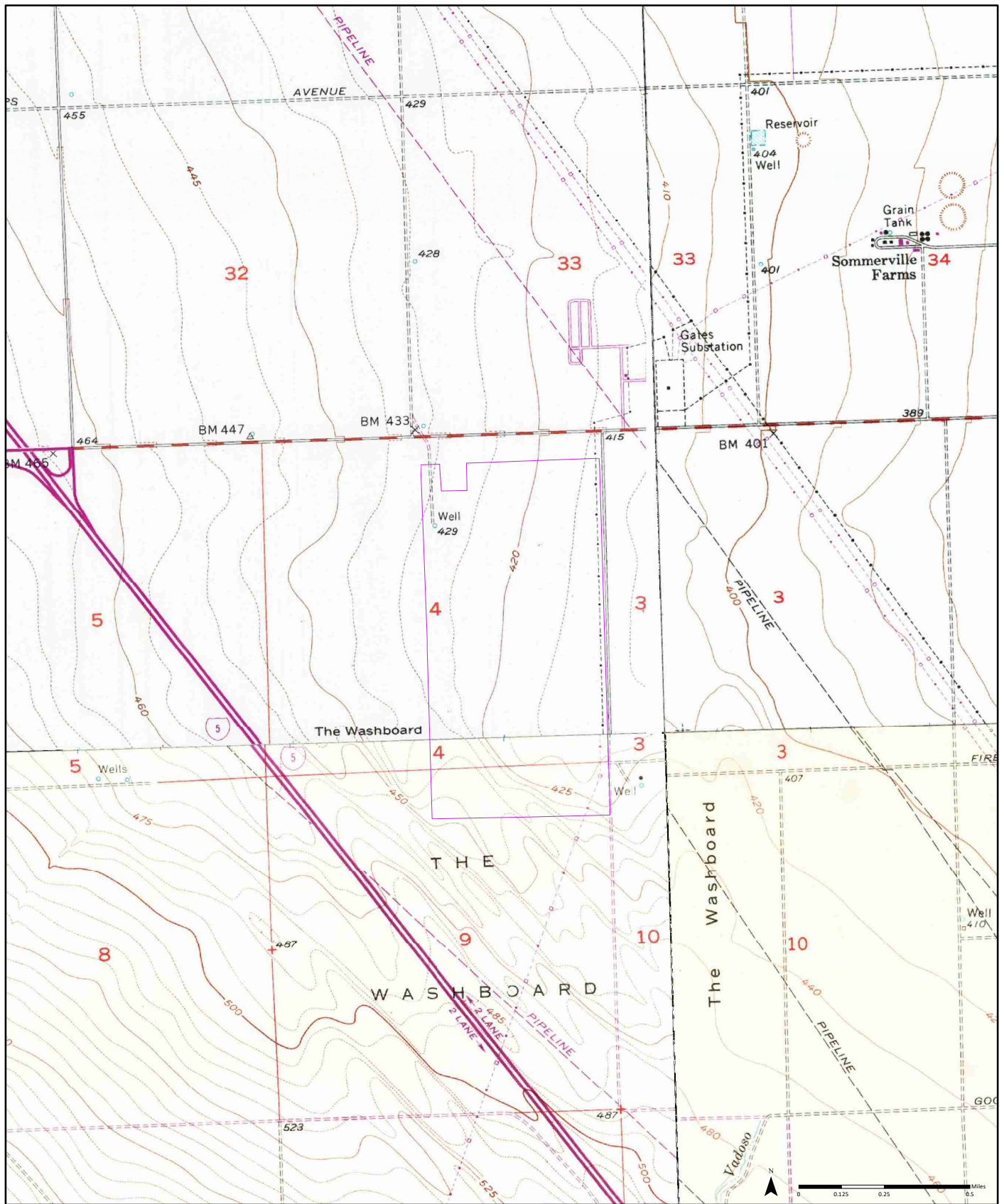
<sup>(2)</sup> Aerial Photo Year: 1978  
Photo Revision Year: 1971

Quadrangle(s): Avenal, CA<sup>(1)</sup>; La Cima, CA<sup>(2)</sup>

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map





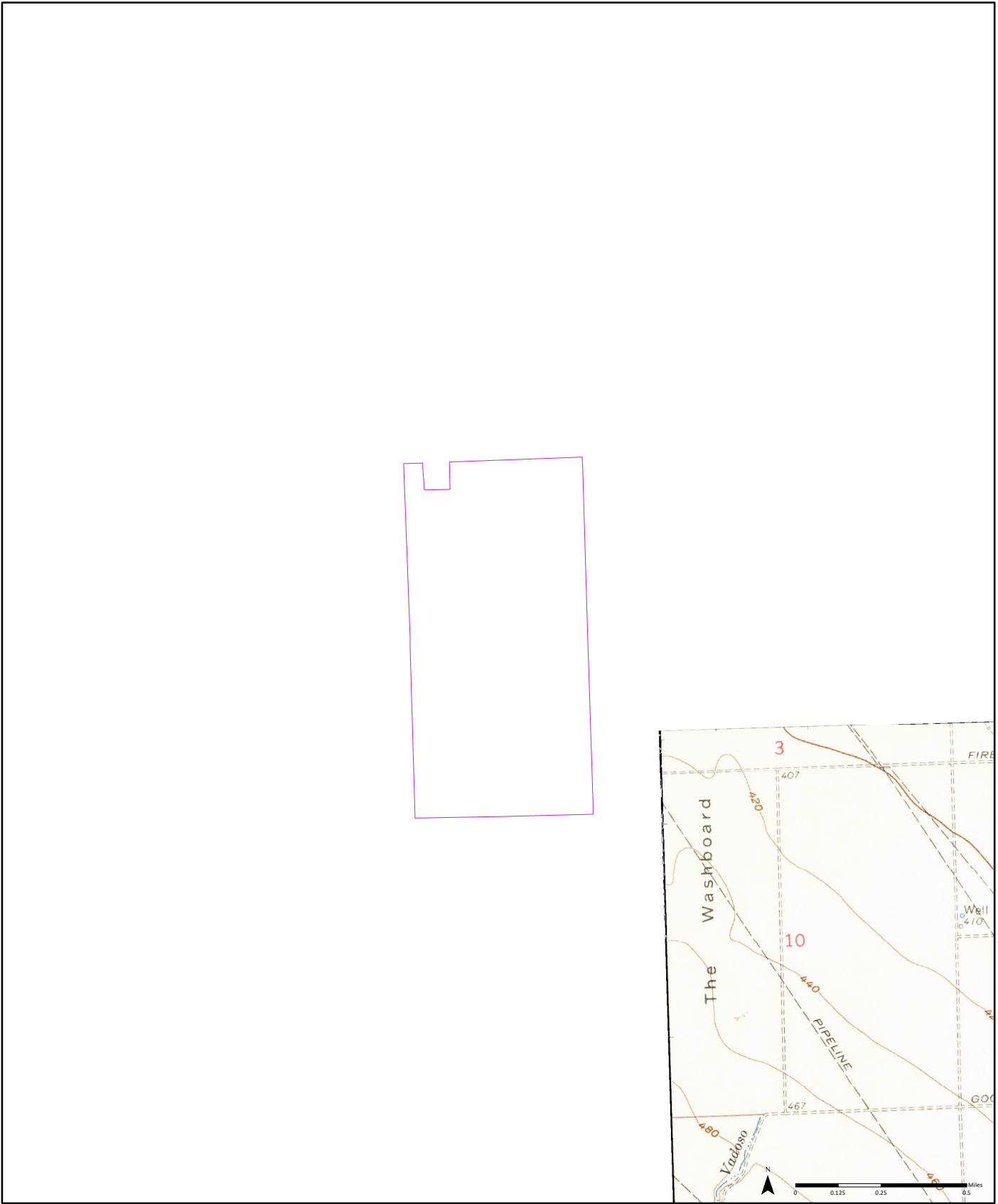
**1971** (1) Aerial Photo Year: 1971 Photo Revision Year: 1971 (2) Aerial Photo Year: 1971 Photo Revision Year: 1971 (3) Aerial Photo Year: 1971 Photo Revision Year: 1971 (4) Aerial Photo Year: 1971 Photo Revision Year: 1971

Quadrangle(s): Avenal, CA(1); Huron, CA(2); La Cima, CA(3); Gujarral Hills, CA(4)

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map





**1963** <sup>(1)</sup>  
Aerial Photo Year: 1962

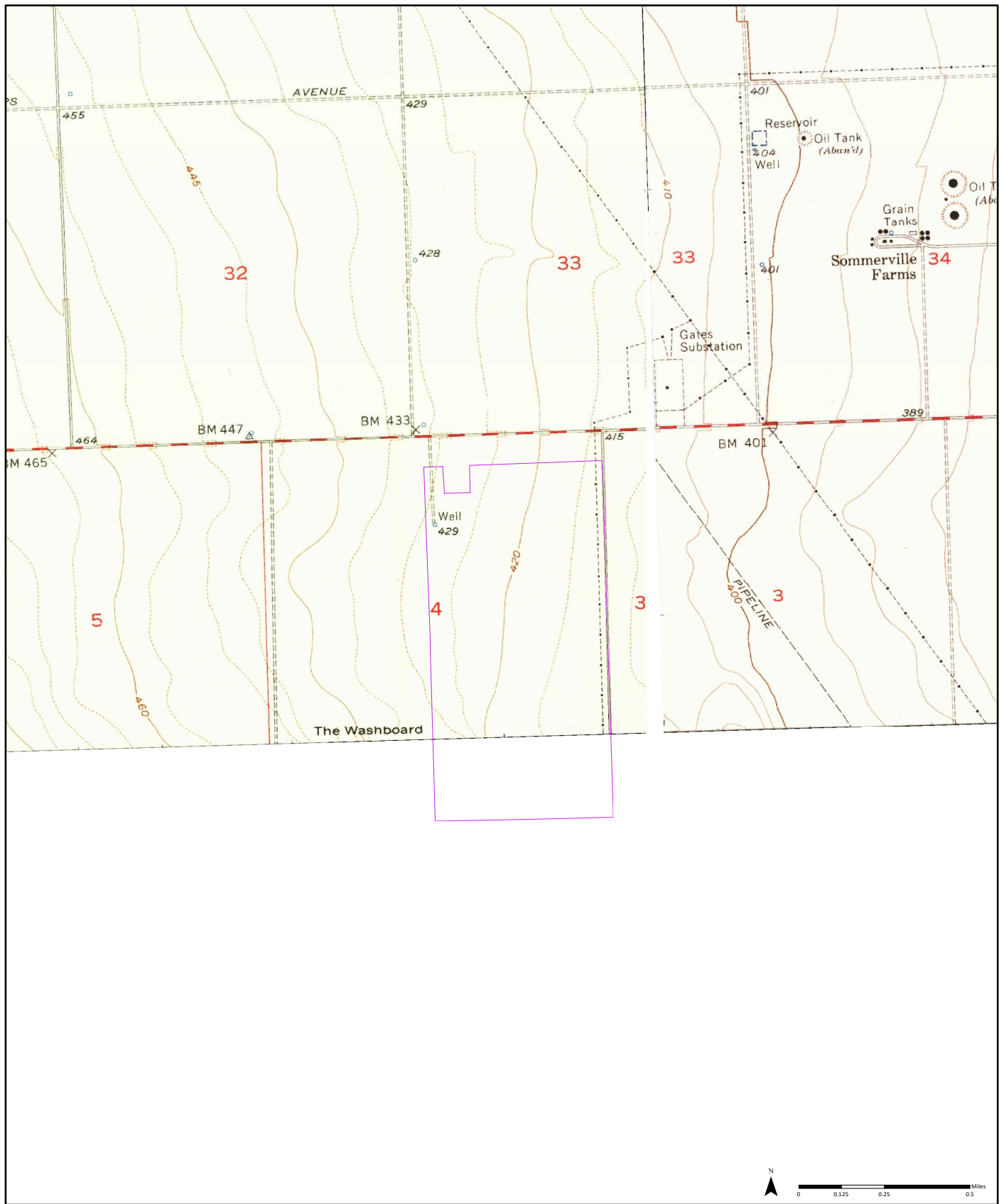
**Quadrangle(s): La Cima, CA(4)**

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map







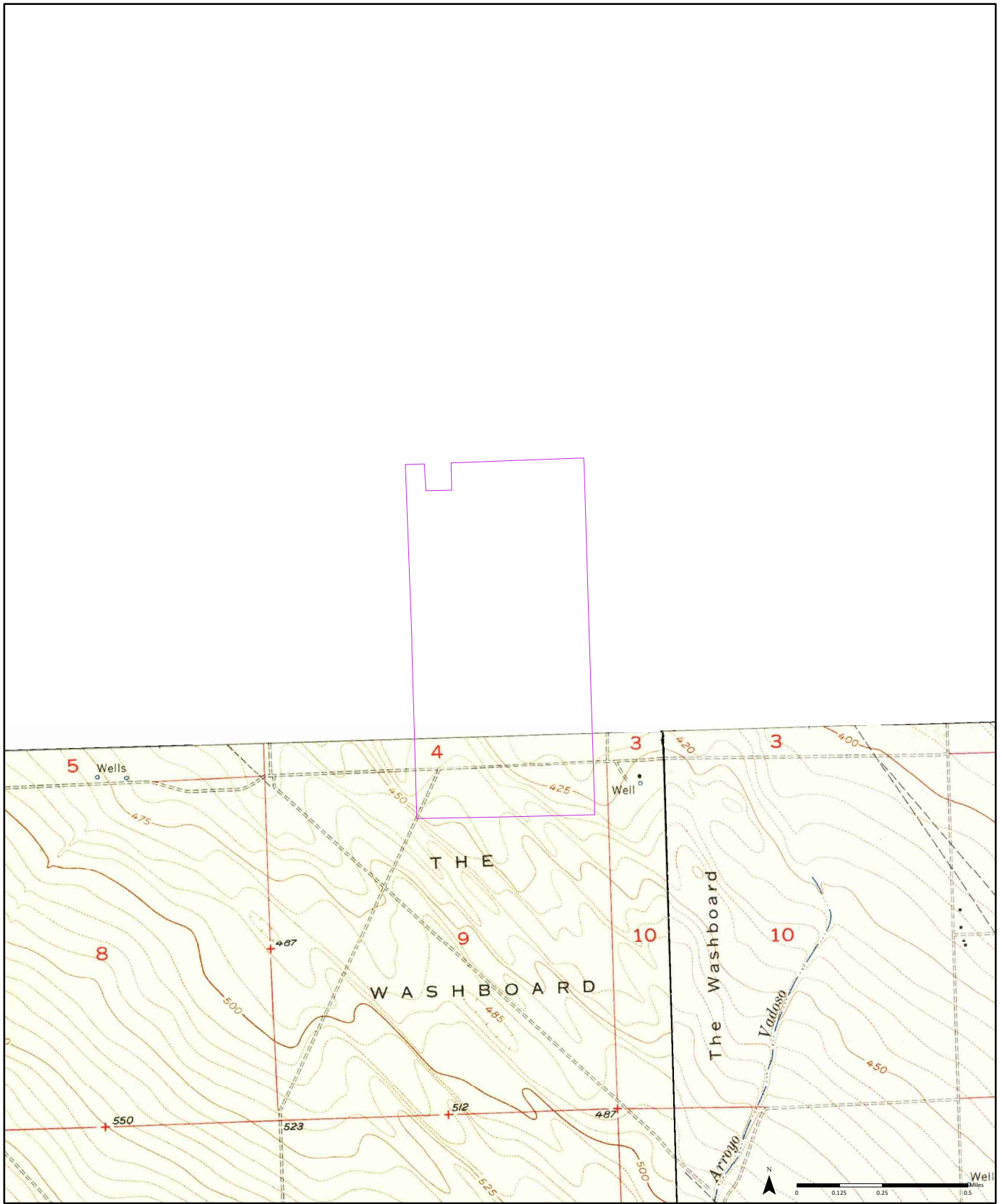
**1956** <sup>(1)</sup> Aerial Photo Year: 1955 <sup>(2)</sup> Aerial Photo Year: 1955

**Quadrangle(s): Huron, CA(1); Gujarral Hills, CA(2)**

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map





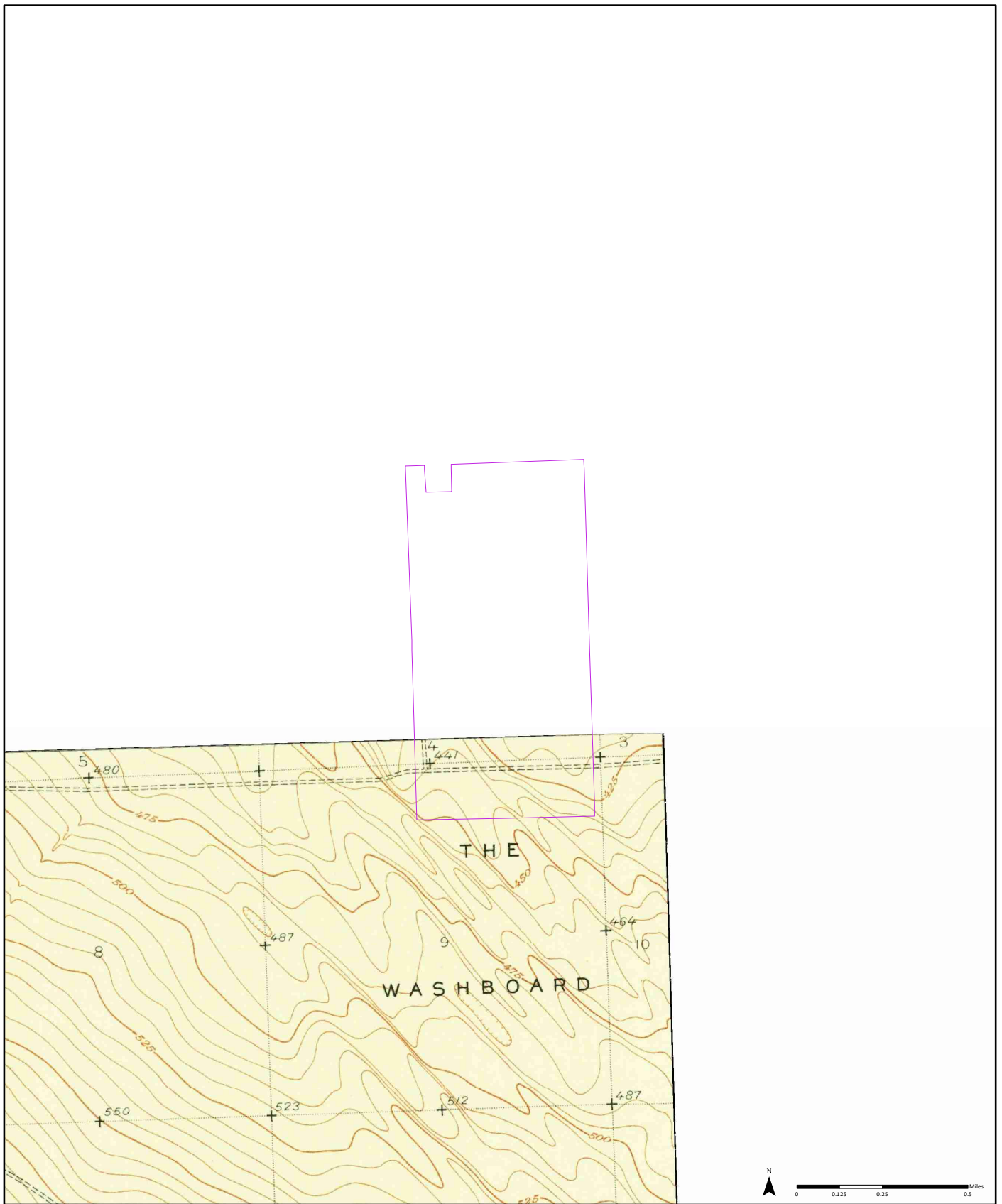
**1954** <sup>(1)</sup> Aerial Photo Year: 1950 <sup>(2)</sup> Aerial Photo Year: 1950

Quadrangle(s): La Cima, CA<sub>(1)</sub>; Avenal, CA<sub>(2)</sub>

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map





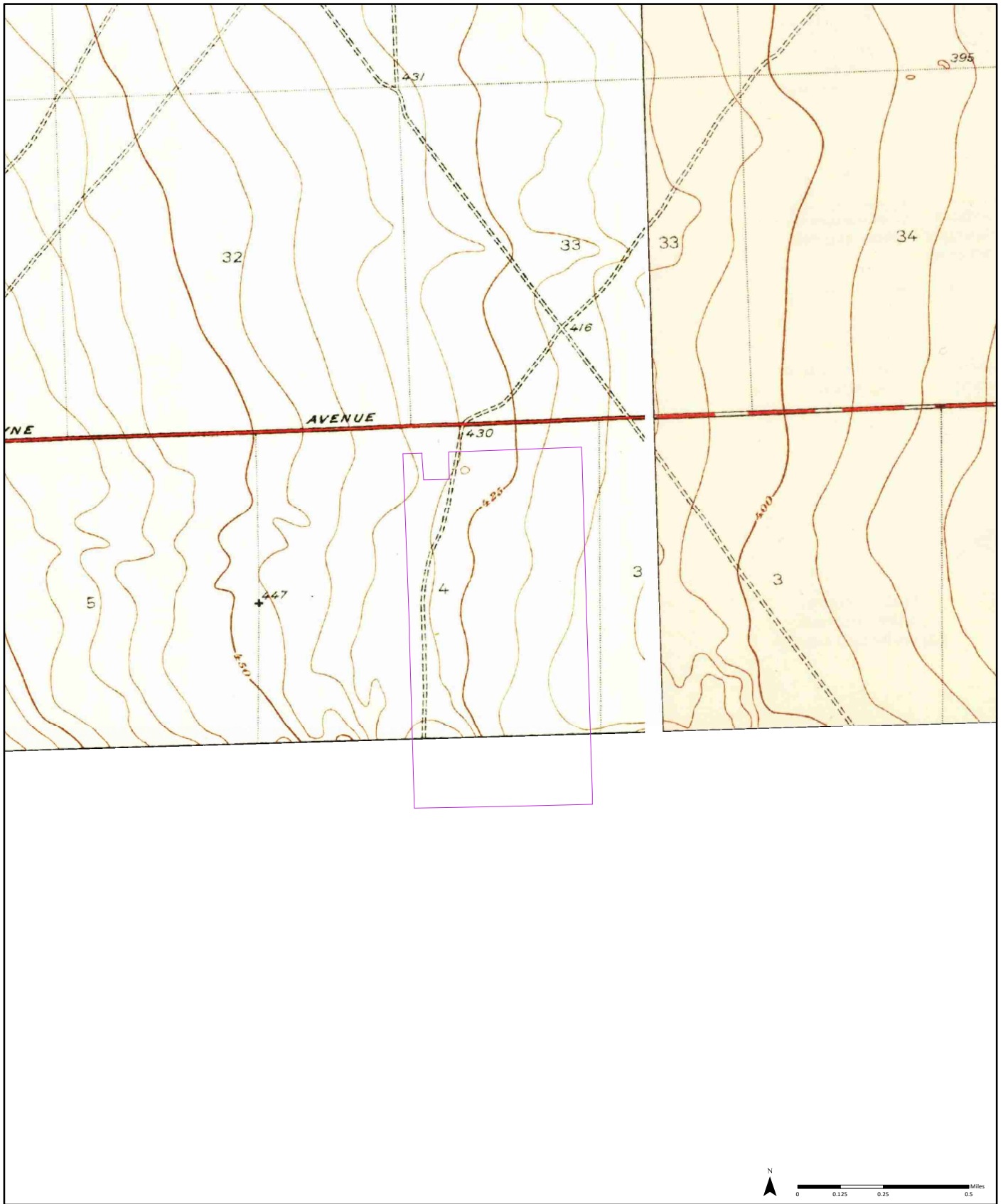
**1950**

**Quadrangle(s): Canoas Creek, CA**

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map





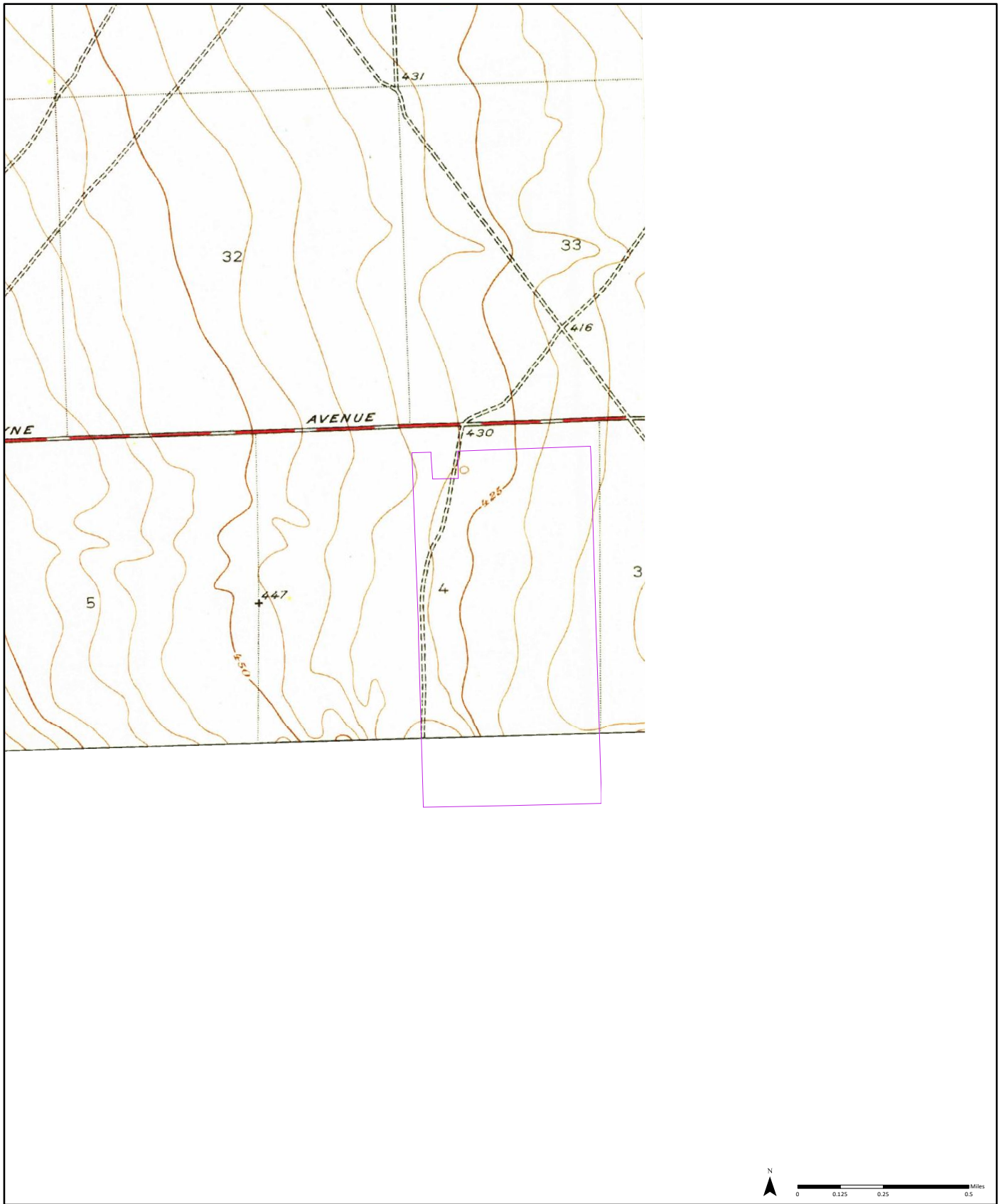
**1937**

**Quadrangle(s): Huron, CA; Gujarral Hills, CA**

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map





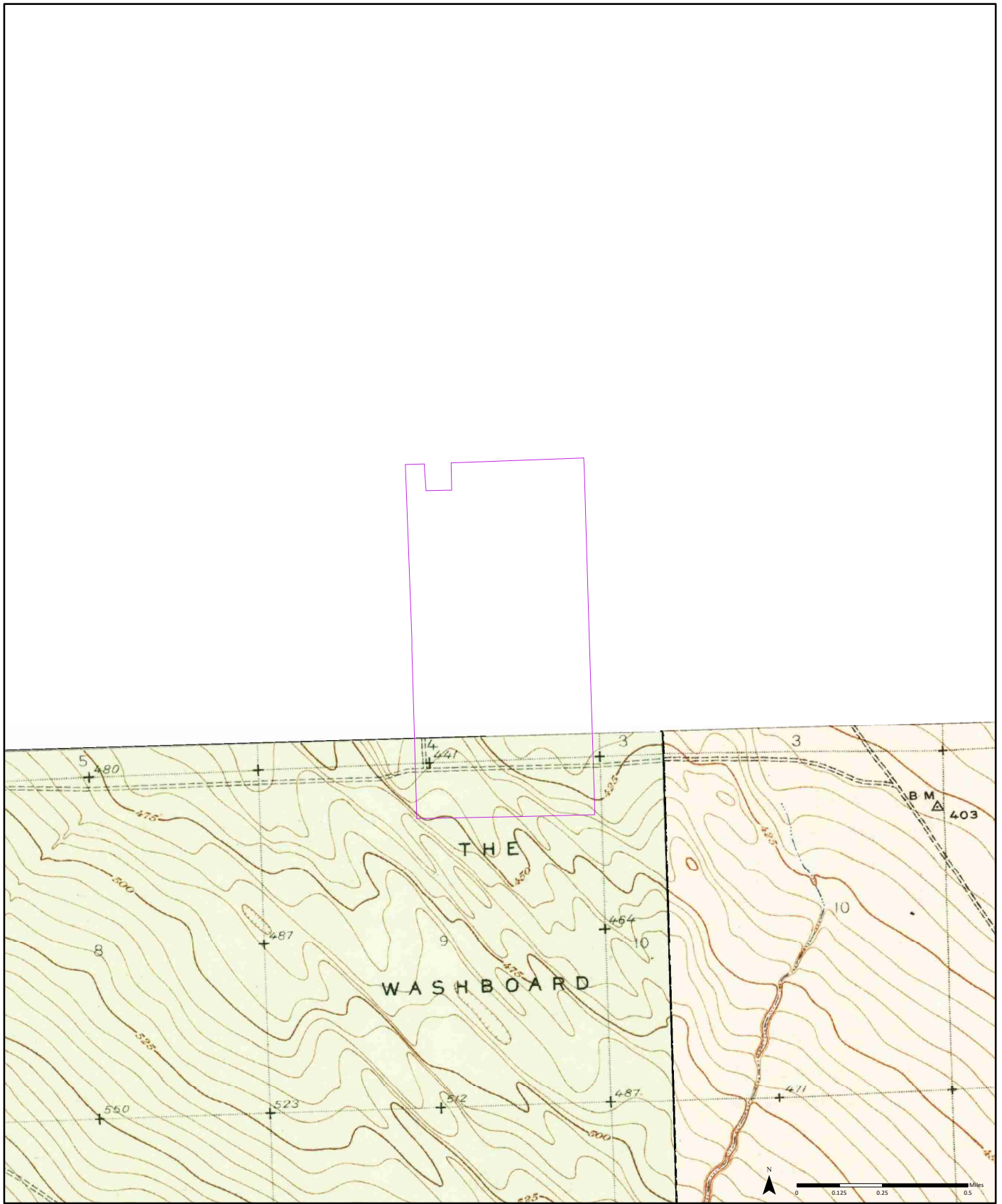
**1936**

**Quadrangle(s): Gujarral Hills, CA**

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map





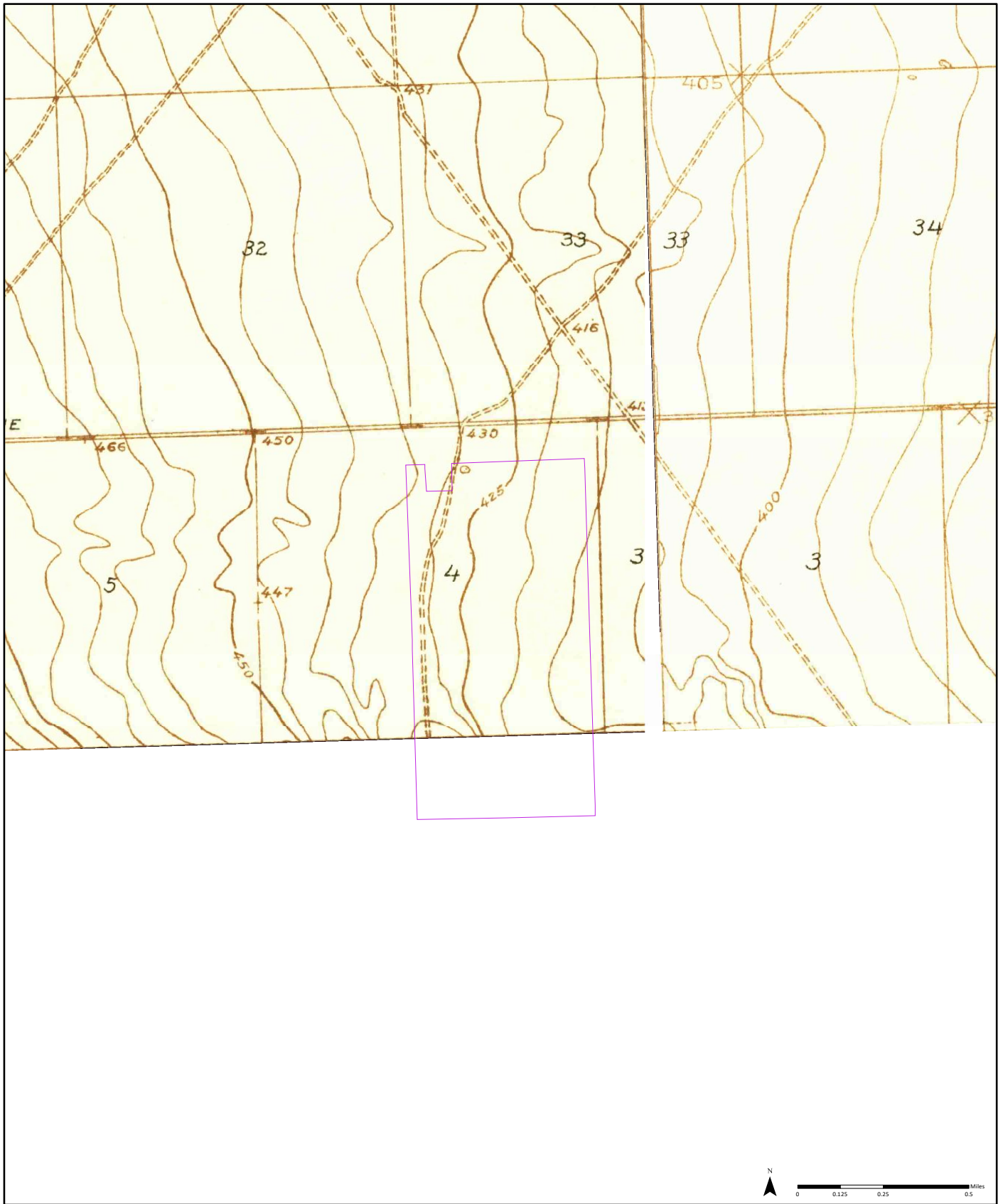
**1934**

**Quadrangle(s): Canoas Creek, CA; La Cima, CA**

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map





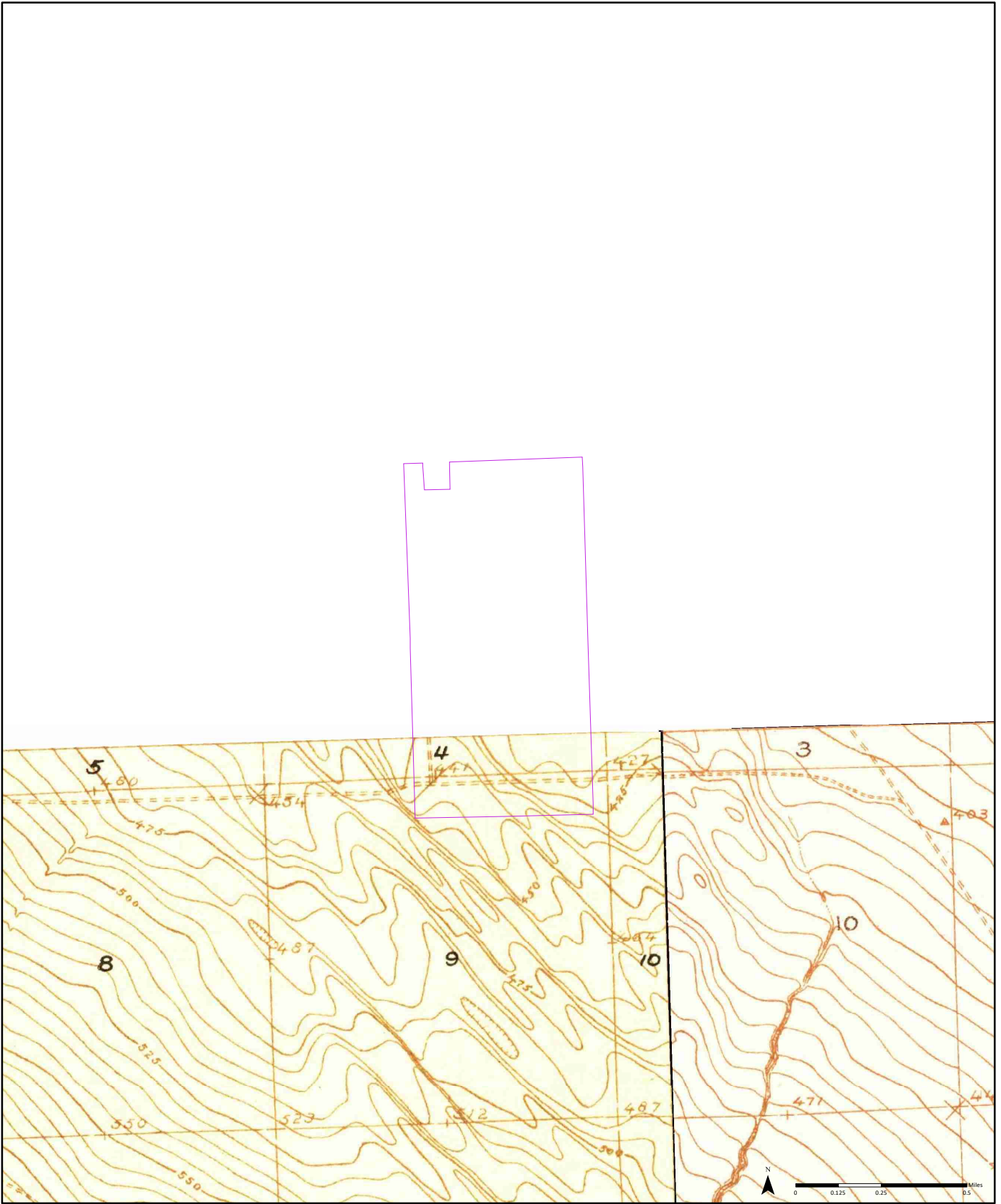
**1933**

**Quadrangle(s): Huron, CA; Guijarral Hills, CA**

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map





**1930**

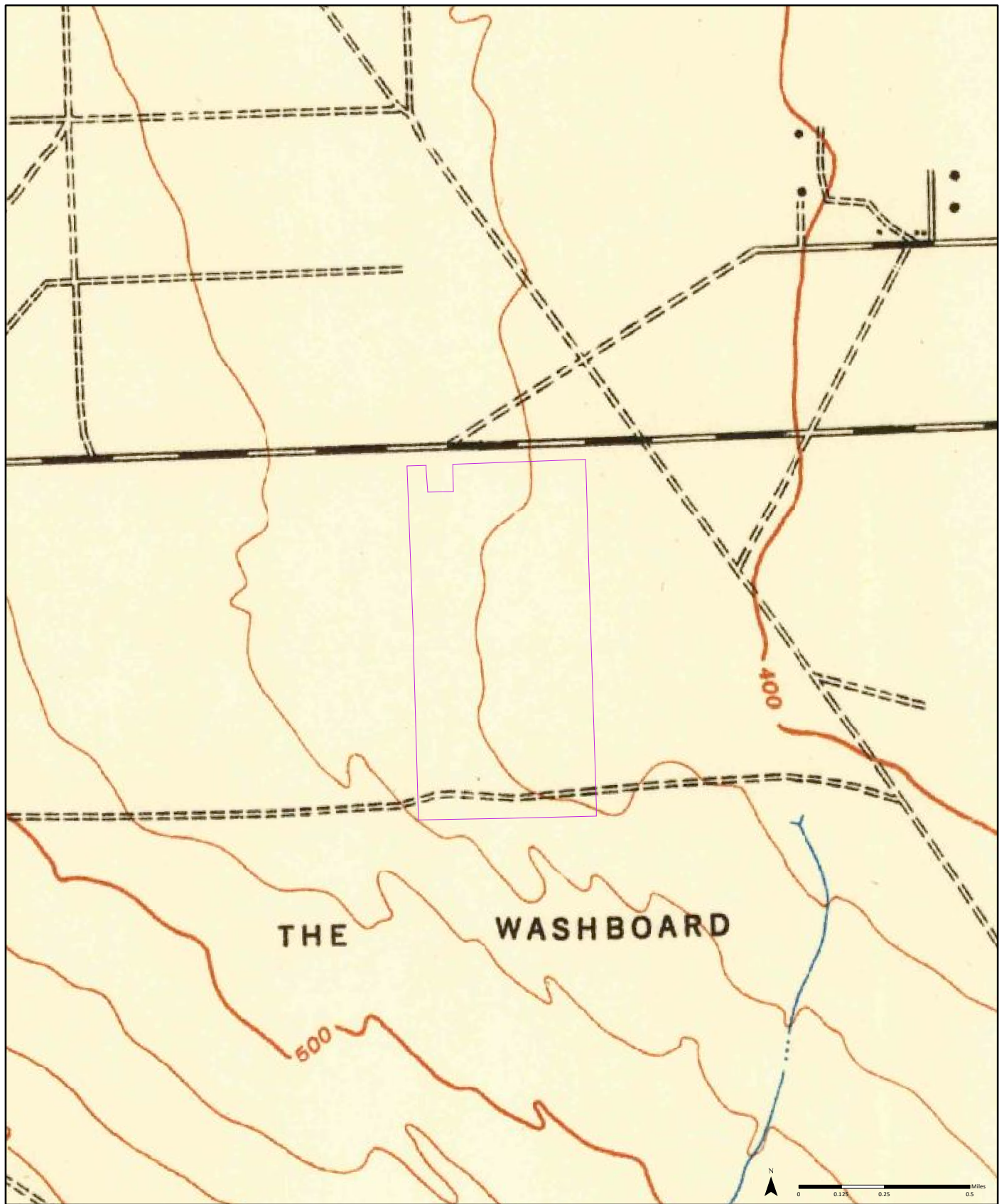
**Quadrangle(s): Discovery Well, CA; Canoas Creek, CA**

Order No. 22020200451

Source: USGS 7.5 Minute Topographic Map







**1942** <sup>(1)</sup> Aerial Photo Year: 1940

**Quadrangle(s): Polvadero Gap, CA(1)**

Order No. 22020200451

Source: USGS 15 Minute Topographic Map





—  
FIRE  
INSURANCE  
MAPS

**Project Property:** Key Energy Storage Site  
Key Energy Storage Site  
Coalinga CA

**Project No:** 20-10624

**Requested By:** Rincon Consultants, Inc.

**Order No:** 22020200451

**Date Completed:** February 03, 2022

---

**Please note that no information was found for your site or adjacent properties.**

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CITY  
**DIRECTORY**

**Project Property:** *Key Energy Storage Site  
Key Energy Storage Site  
Huron, CA 93210*

**Project No:** *20-10624*

**Requested By:** *Rincon Consultants, Inc.*

**Order No:** *22020200451*

**Date Completed:** *February 4, 2022*

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February 4, 2022  
RE: CITY DIRECTORY RESEARCH  
Key Energy Storage Site  
Key Energy Storage Site Huron, CA

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

**Search Criteria:**

18330-19940 of West Jayne Avenue  
of S Lake Avenue

**Search Results Summary**

| Date | Source                     | Comment |
|------|----------------------------|---------|
| 2020 | DIGITAL BUSINESS DIRECTORY |         |
| 2016 | DIGITAL BUSINESS DIRECTORY |         |
| 2012 | DIGITAL BUSINESS DIRECTORY |         |
| 2008 | DIGITAL BUSINESS DIRECTORY |         |
| 2004 | DIGITAL BUSINESS DIRECTORY |         |
| 2000 | DIGITAL BUSINESS DIRECTORY |         |
| 1995 | HAINES                     |         |
| 1995 | HAINES                     |         |
| 1990 | HAINES                     |         |
| 1990 | HAINES                     |         |
| 1985 | HAINES                     |         |
| 1985 | HAINES                     |         |
| 1980 | HAINES                     |         |
| 1980 | HAINES                     |         |
| 1975 | HAINES                     |         |
| 1975 | HAINES                     |         |
| 1972 | HAINES                     |         |

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NO LISTING FOUND FOR THIS YEAR...

- 19935 DANDY COOLING CO LLC...*Restaurant Equipment & Supplies (whis)*
- 19935 DANDY COOLING CO LLC...*Air Conditioning Contractors & Systems*
- 19935 DRESICK COOLING CO...*Warehousescold Storage*
- 19935 DRESICK COOLING CO...*Precooling*

NO LISTING FOUND FOR THIS YEAR...

- 18336 PACIFIC GAS & ELECTRIC CO...*Electric Companies*
- 18393 WESTLANDS SOLAR FARMS...*Farms*
- 19536 BHN RESEARCH...*Research Service*
- 19935 DANDY COOLING CO LLC...*Air Conditioning Contractors & Systems*
- 19935 DRESICK COOLING CO...*Precooling*

NO LISTING FOUND FOR THIS YEAR...

NO LISTING FOUND FOR THIS YEAR...

NO LISTING FOUND FOR THIS YEAR...

NO LISTING FOUND FOR THIS YEAR...



NO LISTING FOUND FOR THIS YEAR...

NO LISTING FOUND FOR THIS YEAR...

NO LISTING FOUND FOR THIS YEAR...

NO LISTING FOUND FOR THIS YEAR...

STREET NOT LISTED

|       |                      |          |
|-------|----------------------|----------|
| 16980 | *AMER COOLING        | 945-4001 |
| 19435 | *K G M HARVESTING CO | 945-9274 |
| 19500 | XXXX                 | 00       |
| 19536 | *DRESICK FARMS INC   | 945-2513 |
|       | *FRESH WESTERN MRKTG | 945-9410 |
| 19935 | *DRESICK COOLING CO  | 945-2254 |
|       | * 9 BUS              | 5 RES    |
|       |                      | 1 NEW    |

STREET NOT LISTED

|       |   |                   |          |       |
|-------|---|-------------------|----------|-------|
| 19435 | ★ | CUSTOM COOLING CO | 945-2254 | +     |
| 19500 |   | XXXX              | 00       |       |
| 19536 | ★ | D&H FARMS INC     | 945-2513 |       |
|       | ★ | 7 BUS             | 7 RES    | 1 NEW |

STREET NOT LISTED

|       |                     |          |
|-------|---------------------|----------|
| 19500 | XXXX                | 00       |
| 19536 | D&H FARMS INC       | 945-2513 |
|       | HERNANDEZ MOSIES    | 945-2751 |
|       | PEREZ IMELDA J      | 945-2841 |
| NO #  | GREEN LARRY         | 945-2373 |
| NO #  | THOMAS VERNON L INC | 864-3074 |
| NO #  | THOMAS VERNON L INC | 945-2001 |
|       | ★ 7 BUS             | 11 RES   |
|       |                     | 1 NEW    |

STREET NOT LISTED

|       |                     |          |
|-------|---------------------|----------|
| 15531 | XXXX                | 00       |
| 19536 | PRO AG INC          | 945-2155 |
|       | WESTWOOD FARMS      | 945-2155 |
| NO #  | GREEN LARRY         | 945-2373 |
| NO #  | THOMAS VERNON L INC | 945-2001 |
| NO #  | THOMAS VERNON L INC | 864-3074 |
| ★     | 6 BUS               | 7 RES    |
|       |                     | 1 NEW    |

STREET NOT LISTED

19536\*PRO AG INC 945-2155+  
 NO #\*ANDERSON C&CO 945-2153+  
 NO # BOREHAM GARY 945-2300+  
 NO # BURROWS LUTHER 945-2609+  
 NO # GARZA RAMIRO 945-2683+  
 NO # GREEN LARRY 945-2373  
 NO # SCHWARTZ VERN 945-2785  
 NO #\*THOMAS VERNON L INC 945-2001  
 NO # THOMAS VERNON L 945-2156  
 \* 3 BUS 6 RES 5 NEW

STREET NOT LISTED

NO # ESPARZA JOSE 945-2489  
 NO # MCCRAY RUFFUS 945-2183  
 NO # OLSON VERNON F 945-2106  
 NO #\*SAN JOAQUIN CTTN OIL 945-2153  
 NO # THOMAS VERNON L 945-2156  
 NO #\*THOMAS V RNCH FREMN 945-2451  
 NO #\*THOMAS VERNON L INC 864-3074  
 NO #\*THOMAS VERNON L INC 945-2001  
 NO # UPTON RONALD 945-2478  
 \* 4 BUS 5 RES







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# HISTORICAL AERIALS

**Project Property:** Key Energy Storage Site  
Key Energy Storage Site  
Coalinga CA

**Project No:** 20-10624

**Requested By:** Rincon Consultants, Inc.

**Order No:** 22020200451

**Date Completed:** February 04,2022

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| <b>Date</b> | <b>Source</b>                                 | <b>Scale</b> | <b>Comments</b> |
|-------------|---|--------------|-----------------|
| 2020        | United States Department of Agriculture       | 1" = 800'    |                 |
| 2018        | United States Department of Agriculture       | 1" = 800'    |                 |
| 2016        | United States Department of Agriculture       | 1" = 800'    |                 |
| 2014        | United States Department of Agriculture       | 1" = 800'    |                 |
| 2012        | United States Department of Agriculture       | 1" = 800'    |                 |
| 2010        | United States Department of Agriculture       | 1" = 800'    |                 |
| 2006        | United States Department of Agriculture       | 1" = 800'    |                 |
| 2005        | United States Department of Agriculture       | 1" = 800'    |                 |
| 2004        | United States Department of Agriculture       | 1" = 800'    |                 |
| 1994        | United States Geological Survey               | 1" = 800'    |                 |
| 1981        | United States Geological Survey               | 1" = 800'    |                 |
| 1971        | United States Geological Survey               | 1" = 800'    |                 |
| 1965        | Cartwright Aerial Surveys                     | 1" = 800'    |                 |
| 1955        | United States Geological Survey               | 1" = 800'    |                 |
| 1942        | Agricultural Stabilization & Conserv. Service | 1" = 800'    |                 |



Year: 2020  
Source: USDA  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451





Year: 2018  
Source: USDA  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451



one inch



Year: 2016  
Source: USDA  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451



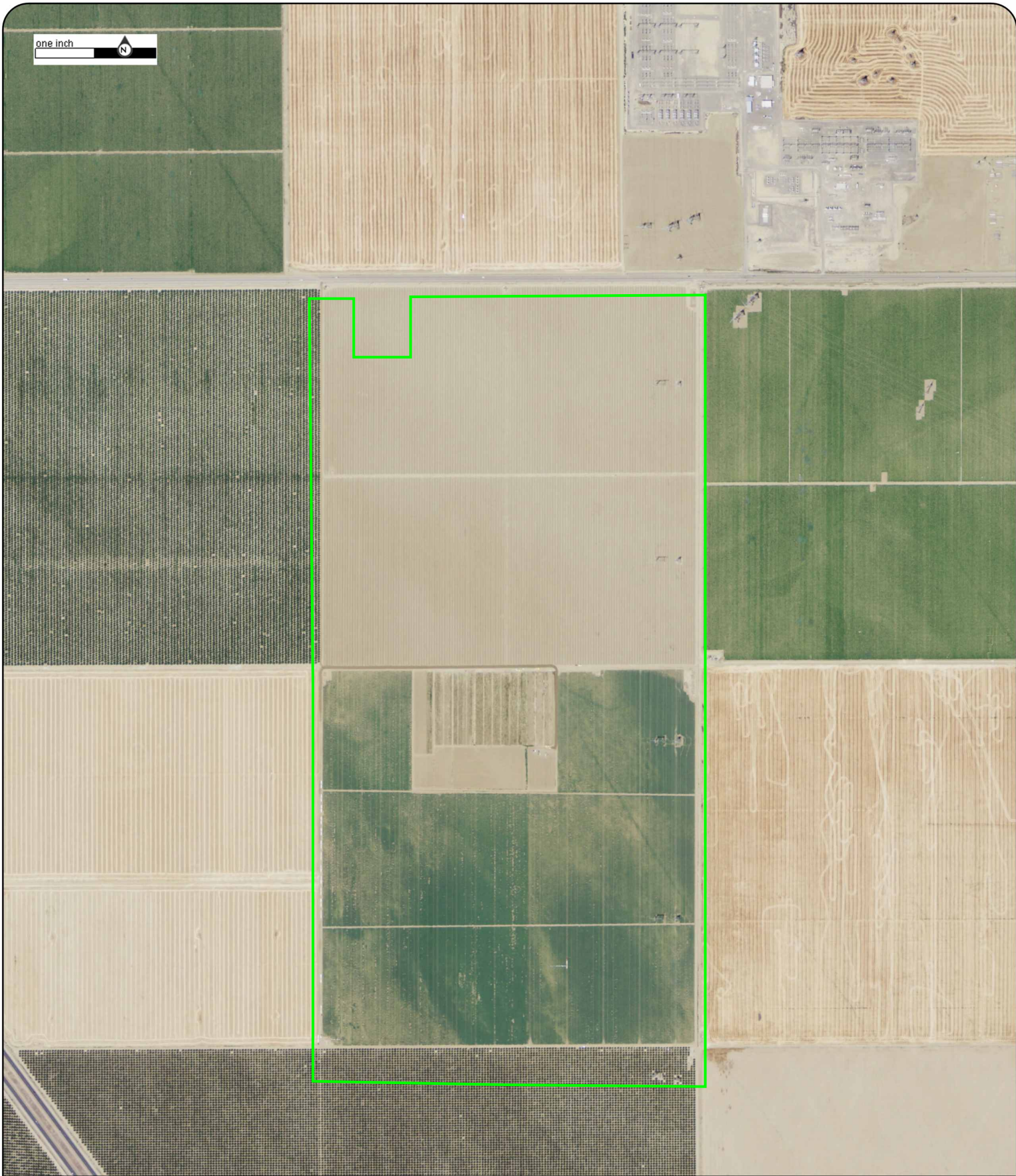


Year: 2014  
Source: USDA  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451





Year: 2012  
Source: USDA  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451







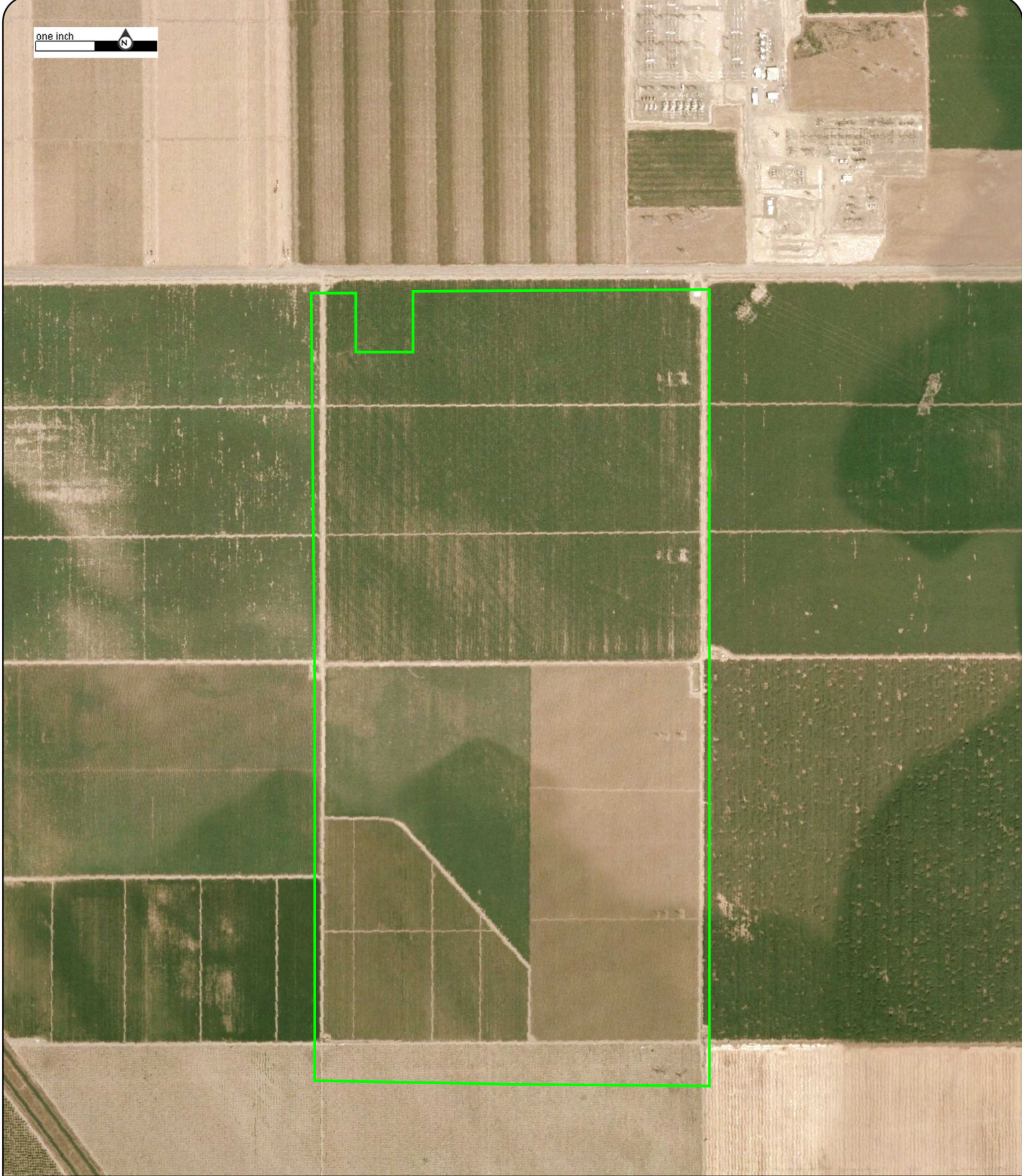
Year: 2010  
Source: USDA  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451



one inch



Year: 2006  
Source: USDA  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451



one inch




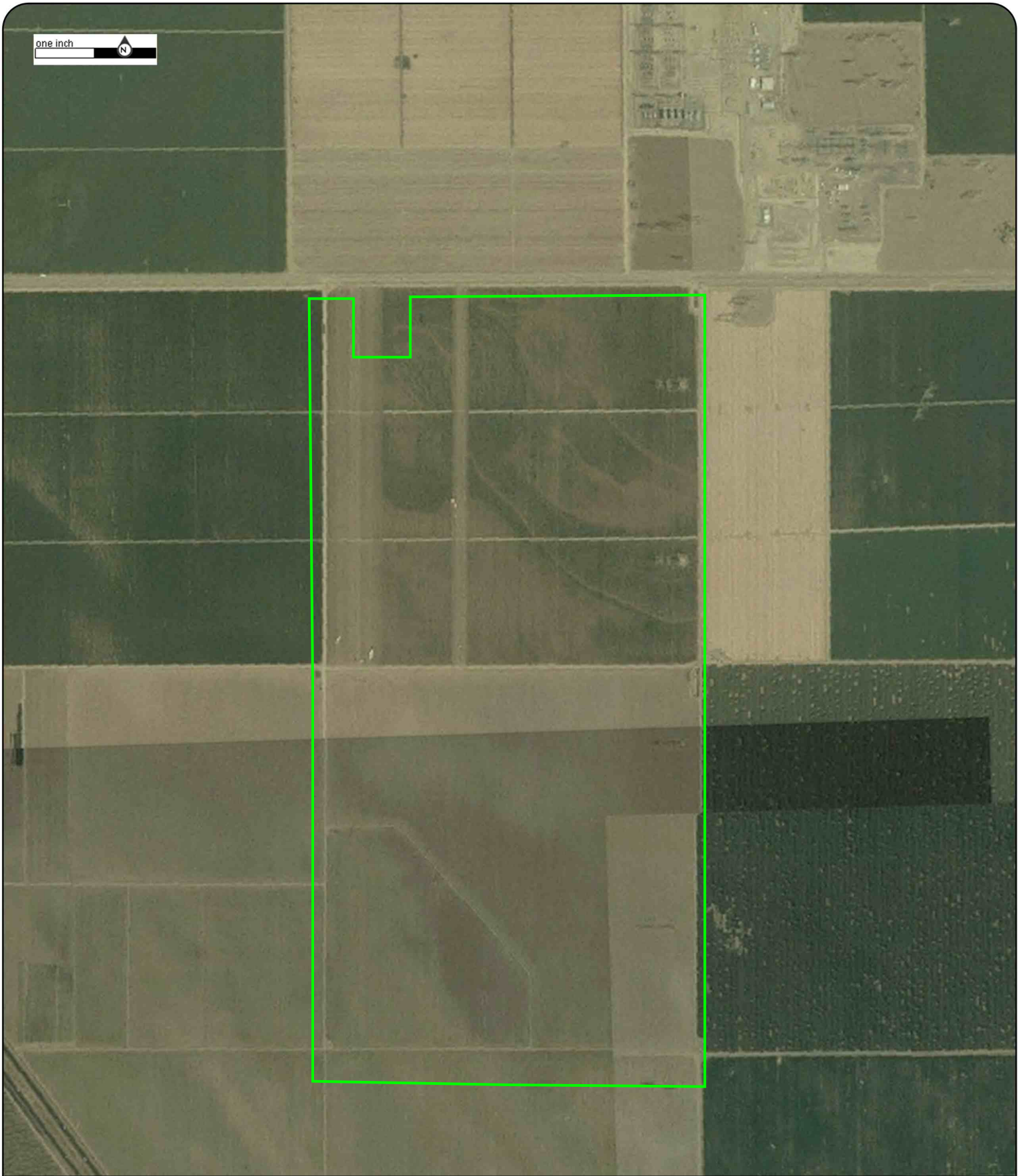
Year: 2005  
Source: USDA  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451



one inch 



Year: 2004  
Source: USDA  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451



one inch



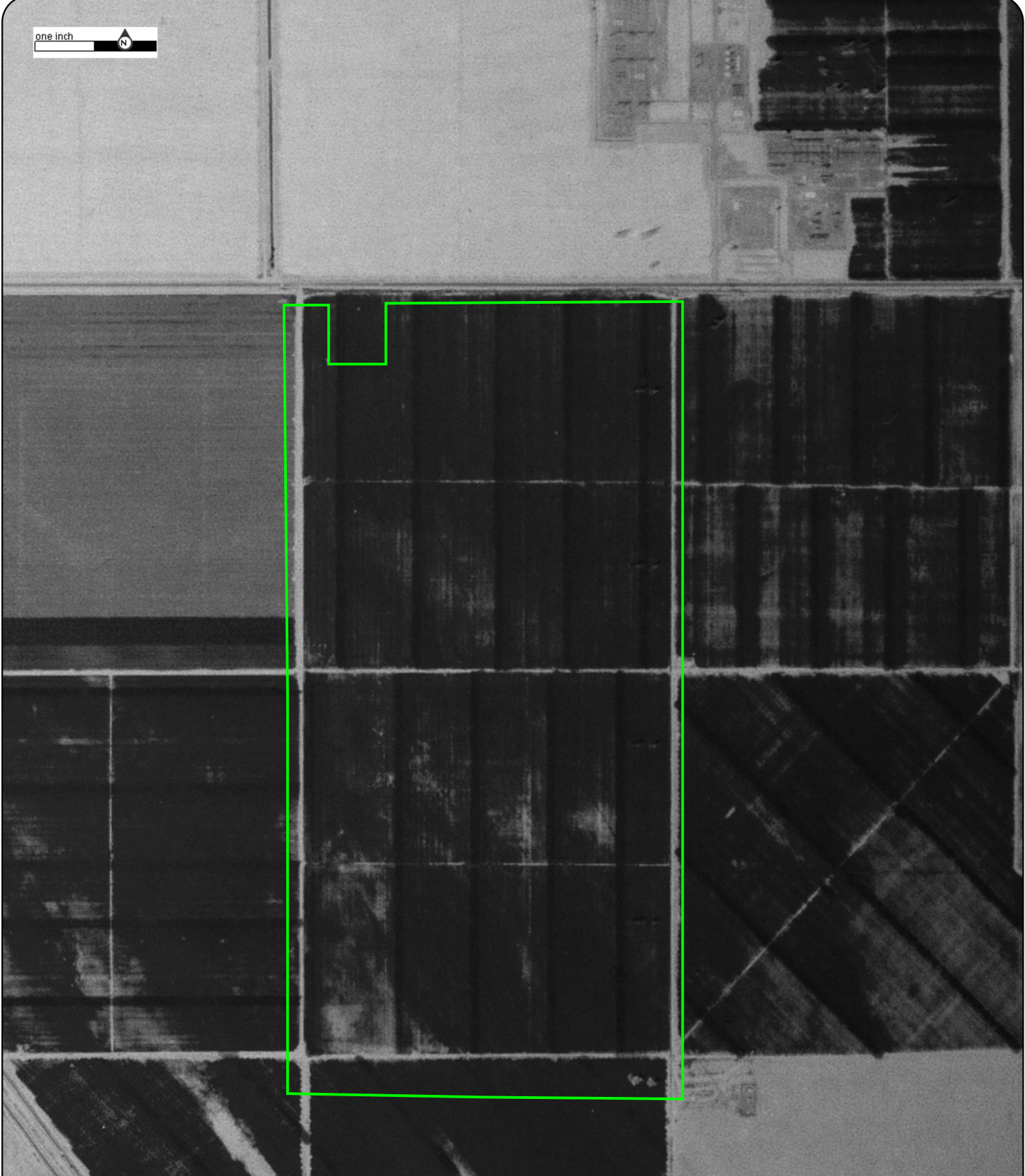
Year: 1994  
Source: USGS  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451



one inch



Year: 1981  
Source: USGS  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451





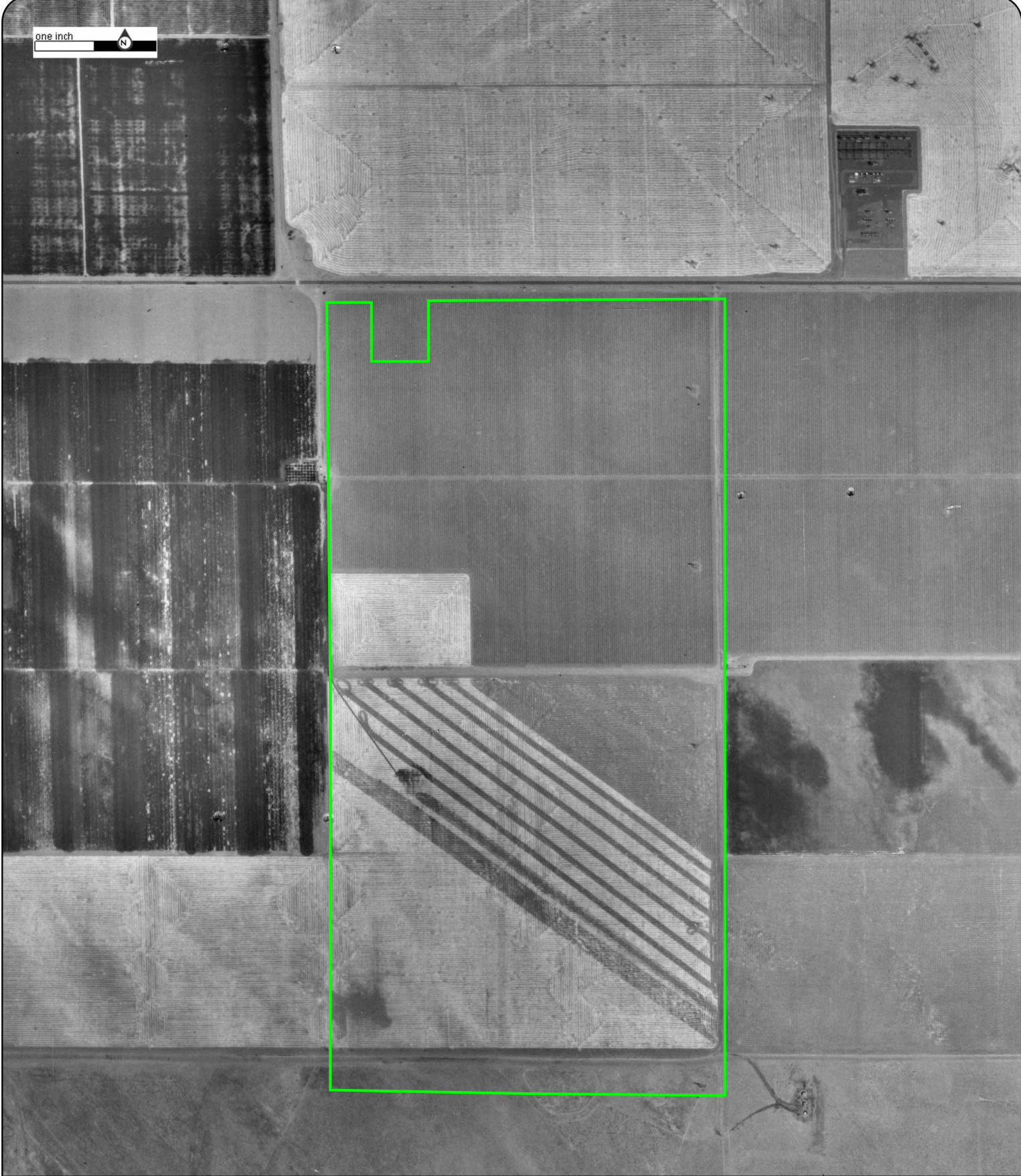
Year: 1971  
Source: USGS  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451



one inch



Year: 1965  
Source: CAS  
Scale: 1" = 800'  
Comment:

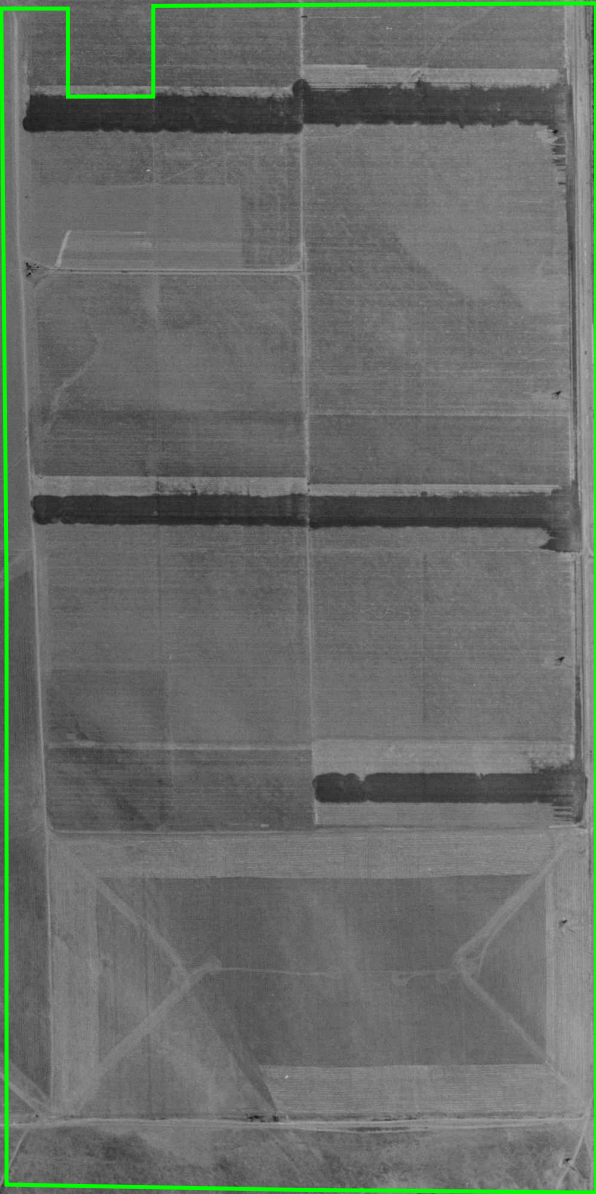
Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451





one inch



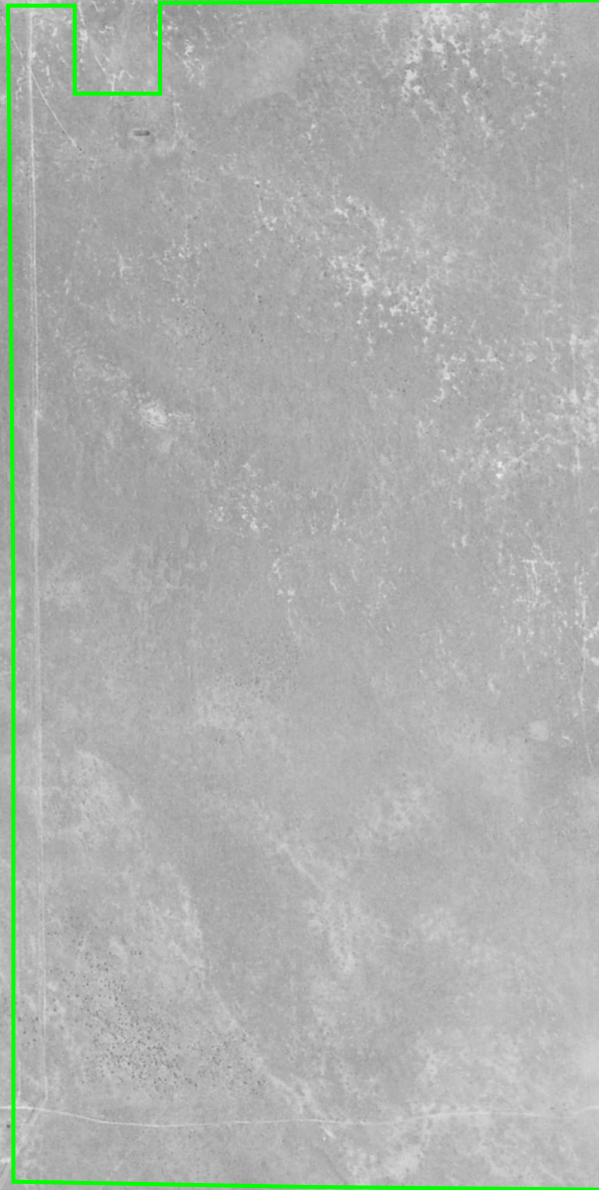
Year: 1955  
Source: USGS  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451



one inch



Year: 1942  
Source: ASCS  
Scale: 1" = 800'  
Comment:

Address: Key Energy Storage Site, Coalinga, CA  
Approx Center: -120.13319482,36.13050486

Order No: 22020200451



# Appendix I

## Land Use and Planning



# Appendix I1

## **Consistency with Fresno County General Plan**



# APPENDIX I1

## Consistency with Fresno County General Plan

### I.1 Approach to Analysis

Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15125(d), this analysis describes applicable general plans and regional plans and policies and the manner in which they apply to the Key Energy Storage Project (the Project), and then evaluates the consistency of the Project with these plans and policies. Each environmental resource section in Chapter 3, *Environmental Analysis*, identifies the applicable statutes, regulations, ordinances, plans, policies, and standards that pertain to that resource. The following analysis specifically addresses the Project’s consistency with the Fresno County General Plan. The consistency analysis for other applicable plans, policies, and regulations is provided in the pertinent topical sections of Chapter 3, in the context of the subject resource area. **Table II-1** provides an index of such discussions, listing both CEQA significance criteria and location in this document where the reader can find the impact evaluation.

The Fresno County General Plan contains seven policy elements that guide physical development within the County: Economic Development; Agriculture and Land Use; Transportation and Circulation; Public Facilities and Services; Open Space and Conservation; Health and Safety; and Housing. Consistent with CEQA Guidelines section 15125(d), General Plan policies that are not relevant to the Project are not discussed here. For example, policies guiding County review of specific plans or policies related to land use designations that are not present within the Project boundary are not addressed.

Because the policy language found in a general plan is susceptible to varying interpretations, it is often difficult to determine whether a proposed project is consistent or inconsistent with such policies. Furthermore, because plans often contain numerous policies emphasizing differing legislative goals, a project may be consistent with a general plan, taken as a whole, even though it may appear to be inconsistent with specific policies within the plan. The board or commission that enacted the plan or policy generally determines the meaning of such policies; these interpretations prevail if they are “reasonable,” even though other reasonable interpretations may also exist. In light of these considerations, the consistency evaluation in this Draft EIR reflects the County’s determination that, as a whole, that the Project is consistent with applicable plans and policies.<sup>1</sup> Finally, the Project is compared to policies in each of the General Plan elements.

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<sup>1</sup> Direct and indirect physical impacts resulting from Project implementation are not addressed in this section, but in the appropriate technical sections of this Draft EIR (See Chapter 4, *Environmental Analysis*). Any conflict between the Project and General Plan policies that relates to physical environmental issues are discussed in Chapter 4. The compatibility of the Project with Fresno County General Plan policies that do not relate to physical environmental issues

**TABLE I1-1  
CEQA SIGNIFICANCE CRITERIA REQUIRING EVALUATION OF  
CONSISTENCY WITH PLANS AND POLICIES**

| <b>Significance Criteria (from Appendix G of the CEQA Guidelines)</b>  | <b>EIR Section</b>                                     |
|--|--|
| Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state or locally designated scenic highway   | Section 3.2, <i>Aesthetics</i>                         |
| Conflict with existing zoning for agricultural use, or a Williamson Act contract   | Section 3.3, <i>Agriculture and Forestry Resources</i> |
| Conflict with or obstruct implementation of the applicable air quality plan  | Section 3.4, <i>Air Quality</i>                        |
| Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance  | Section 3.5, <i>Biological Resources</i>               |
| Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.  | Section 3.5, <i>Biological Resources</i>               |
| Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.  | Section 3.9, <i>Greenhouse Gas Emissions</i>           |
| Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.  | Section 3.12, <i>Land Use and Planning</i>             |
| Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan   | Section 3.13, <i>Mineral Resources</i>                 |
| Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies  | Section 3.14, <i>Noise and Acoustics</i>               |
| Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. | Section 3.18, <i>Transportation</i>                    |
| Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.  | Section 3.18, <i>Transportation</i>                    |

Tables I1-2 through I1-6 summarizes the Project’s consistency with applicable objectives, goals, and policies of the Fresno County General Plan is discussed below. As shown in the table, after the implementation of the various mitigation measures identified in this Draft EIR, the Project would be consistent with applicable objectives, goals, and policies.

## **I.2 Consistency with the Fresno County General Plan Agriculture and Land Use Element**

The Agriculture and Land Use Element describes the Countywide land use concept and is intended to help the County achieve integrated and coordinated land use, open space, and transportation by defining areas of intended growth and areas that should be preserved.

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will be considered by decision-makers as part of their decision about whether to approve or deny the Project. Any potential conflicts identified as part of the process would not alter the physical environmental effects of the Project.

The Project site is zoned AE40, Exclusive Agricultural with a minimum lot size of 40 acres (Fresno County 2011). As indicated in Section 816 of the Fresno County Zoning Code, permitted uses in AE districts include raising livestock, poultry, and plant crops; single-family residences and accessory and farm buildings; and other agricultural and home occupation uses. Electrical transmission and distribution substations are allowed in AE districts subject to director review and approval (Section 816.2(D)). Additionally, Fresno County processes PV solar facilities through the Unclassified Conditional Use Permit process based on Section 853.B(14) of the Zoning Ordinance. Although the Project would occupy land designated as agriculture, it would not conflict with the County’s preservation and conservation objectives. The Project’s physical environmental impacts on habitat, recreation, scenic values, mineral resource extraction, and natural resource preservation are discussed in Chapter 3 of this Draft EIR. **Table I1-2** evaluates the Project’s consistency with the Countywide agriculture and land use policies.

**TABLE I1-2  
FRESNO COUNTY GENERAL PLAN AGRICULTURE AND LAND USE ELEMENT POLICIES**

| Goal/Objective/Policy Text  | Project Consistency Evaluation  |
|---|---|
| <p><b>Policy LU-A.1:</b> The County shall maintain agriculturally-designated areas for agriculture use and shall direct urban growth away from valuable agricultural lands to cities, unincorporated communities, and other areas planned for such development where public facilities and infrastructure are available.</p>  | <p><b>Consistent.</b> The Project site is zoned AE40 (Exclusive Agricultural, 40-acre minimum). As indicated in Section 816.2(D) of the Fresno County Zoning Code, permitted uses in AE districts include electrical transmission and distribution.</p> |
| <p><b>Policy LU-A.2:</b> The County shall allow by right in areas designated Agriculture activities related to the production of food and fiber and support uses incidental and secondary to the on-site agricultural operation. Uses listed in Table LU-3 are illustrative of the range of uses allowed in areas designated Agriculture.</p>   | <p><b>Consistent.</b> The Project site is AE40 (Exclusive Agricultural, 40-acre minimum). As indicated in Section 816.2(D) of the Fresno County Zoning Code, permitted uses in AE districts include electrical transmission and distribution.</p>       |
| <p><b>Policy LU-A.3:</b> The County may allow by discretionary permit in areas designated Agriculture, special agricultural uses and agriculturally-related activities, including value added processing facilities, and certain non-agricultural uses listed in Table LU-3. Approval of these and similar uses in areas designated Agriculture shall be subject to the following applicable criteria:</p> <ol style="list-style-type: none"> <li>a. The use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics;</li> <li>b. The use should not be sited on productive agricultural lands if less productive land is available in the vicinity;</li> <li>c. The operational or physical characteristics of the use shall not have a detrimental impact on water resources or the use or management of surrounding properties within at least one-quarter (1/4) mile radius;</li> <li>d. A probable workforce should be located nearby or be readily available</li> </ol> | <p><b>Not applicable.</b> The policies pertain to County policy actions that are not related to the Project or review of its associated permit applications.</p>  |
| <p><b>Policy LU-A.4:</b> The County shall require that the recovery of mineral resources and the exploration and extraction of oil and natural gas in areas designated Agriculture comply with the Mineral Resources Section of the Open Space and Conservation Element.</p>  | <p><b>Not Applicable.</b> The Project does not include mineral resources recovery of oil and natural gas extraction.</p>  |
| <p><b>Policy LU-A.5:</b> The County shall allow the Agricultural Commercial (AC) center zone district to remain in areas designated Agriculture if the land was so zoned prior to September 20, 1990. Commercial uses legally established prior to that date shall be deemed conforming, but expansion or the addition of new commercial uses shall require a discretionary permit as provided in Policy LU-A.3.</p>  | <p><b>Not Applicable.</b> The Project site is zoned AE40, Exclusive Agricultural.</p>   |

**TABLE 11-2 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN AGRICULTURE AND LAND USE ELEMENT POLICIES**

| Goal/Objective/Policy Text  | Project Consistency Evaluation   |
|---|--|
| <p><b>Policy LU-A.6:</b> The County shall maintain twenty (20) acres as the minimum permitted parcel size in areas designated Agriculture, except as provided in Policies LU-A.9, LUA. 10, and LU-A.11. The County may require parcel sizes larger than twenty (20) acres based on zoning, local agricultural conditions, and to help ensure the viability of agricultural operations.</p>  | <p><b>Not Applicable.</b> The Project does not include subdivision of land into smaller parcels.</p> |
| <p><b>Policy LU-A.7:</b> The County shall generally deny requests to create parcels less than the minimum size specified in Policy LU-A.6 based on concerns that these parcels are less viable economic farming units, and that the resultant increase in residential density increases the potential for conflict with normal agricultural practices on adjacent parcels. Evidence that the affected parcel may be an uneconomic farming unit due to its current size, soil conditions, or other factors shall not alone be considered a sufficient basis to grant an exception. The decision-making body shall consider the negative incremental and cumulative effects such land divisions have on the agricultural community.</p>   | <p><b>Not Applicable.</b> The Project does not include subdivision of land into smaller parcels.</p> |
| <p><b>Policy LU-A.8:</b> The County shall allow by right on each parcel designated Agriculture and zoned for agricultural use one (1) single family residential unit. One (1) additional single family residential unit shall be allowed for each twenty (20) acres in excess of twenty (20) acres where the required minimum parcel size is twenty (20) acres. One (1) additional single family residential unit shall be allowed for each forty (40) acres in excess of forty (40) acres where the required minimum parcel size is forty (40) acres. The County may, by discretionary permit, allow a second unit on parcels otherwise limited by this policy to a single unit.</p>   | <p><b>Not Applicable.</b> The Project does not propose any dwelling units.</p>                       |
| <p><b>Policy LU-A.9:</b> The County may allow creation of homesite parcels smaller than the minimum parcel size required by Policy LU-A.6, if the parcel involved in the division is at least twenty (20) acres in size, subject to the following criteria: a. The minimum lot size shall be sixty thousand (60,000) square feet of gross area, except that a lesser area shall be permitted when the owner submits evidence satisfactory to the Health Officer that the soils meet the Water Quality Control Board Guidelines for liquid waste disposal, but in no event shall the lot be less than one (1) gross acre; and b. One of the following conditions exists: 1. A lot less than twenty (20) acres is required for financing construction of a residence to be owned and occupied by the owner of abutting property; or 2. The lot or lots to be created are intended for use by persons involved in the farming operation and related to the owner by adoption, blood, or marriage within the second degree of consanguinity, there is only one (1) lot per related person, and there is no more than one (1) gift lot per twenty (20) acres; or 3. The present owner owned the property prior to the date these policies were implemented and wishes to retain his/her homesite and sell the remaining acreage for agricultural purposes. Each homesite created pursuant to this policy shall reduce by one (1) the number of residential units otherwise authorized on the remainder parcel created from the original parcel. The remainder parcel shall be entitled to no less than one residential unit.</p> | <p><b>Not Applicable.</b> The Project does not propose homesites.</p>                                |
| <p><b>Policy LU-A.10:</b> The County may allow by discretionary permit creation of substandard lots when necessary for the development of an agricultural commercial center pursuant to Policy LU-A.3 or in conjunction with development within a designated commercial interchange within the Westside Freeway Corridor Overlay. Approval of such parcels shall take into consideration the proposed use of the property, surrounding uses, and the potential for abandonment of the planned commercial use at a future date. Appropriate conditions shall be applied to minimize adverse impacts on surrounding agricultural operations. Parcels for agricultural commercial centers shall in no case be less than one (1) gross acre.</p>  | <p><b>Not Applicable.</b> The Project does not propose an agricultural commercial center.</p>        |



**TABLE I1-2 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN AGRICULTURE AND LAND USE ELEMENT POLICIES**

| Goal/Objective/Policy Text   | Project Consistency Evaluation   |
|--|--|
| <p><b>Policy LU-A.11:</b> The County may allow by discretionary permit creation of substandard size lots when such action is deemed necessary by the Board of Supervisors for the recovery of mineral resources and the exploration and extraction of oil and gas in accordance with the policies of Section OS-C, Mineral Resources, of the Open Space and Conservation Element. In no case shall such action result in creation of lots less than five (5) gross acres in size.</p>  | <p><b>Not Applicable.</b> The Project does not include mineral resources recovery of oil and natural gas extraction.</p>   |
| <p><b>Policy LU-A.12:</b> In adopting land uses policies, regulations and programs, the County shall seek to protect agricultural activities from encroachment of incompatible land uses.</p>  | <p><b>Consistent.</b> This policy is intended to address compatibility between agricultural activities and other land uses within the County. The Project would maintain a buffer between the Project and adjacent agricultural operations and would implement a reclamation plan to return the site to a state of readiness for agricultural use after Project decommissioning.</p> <p>This Draft EIR documents the County's process of evaluating the Project's impacts to the environment, infrastructure, and services, and the County will consider its impacts to the agricultural activities when making decisions regarding approval or disapproval of the permit applications. Section 3.3, <i>Agriculture and Forestry Resources</i>, discusses potential impacts to agricultural resources.</p> |
| <p><b>Policy LU-A.13:</b> The County shall protect agricultural operations from conflicts with nonagricultural uses by requiring buffers between proposed non-agricultural uses and adjacent agricultural operations.</p>  | <p><b>Consistent.</b> The Project would maintain a buffer between the Project and adjacent agricultural operations and would implement a reclamation plan to return the site to a state of readiness for agricultural use after Project decommissioning. The Project would be subject to review as part of the unclassified conditional use permit (UCUP) process. Section 3.3, <i>Agriculture and Forestry Resources</i>, discusses potential impacts to agricultural resources.</p>  |
| <p><b>Policy LU-A.14:</b> The County shall ensure that the review of discretionary permits includes an assessment of the conversion of productive agricultural land and that mitigation be required where appropriate.</p>   | <p><b>Consistent.</b> The Project site is zoned AE40, Exclusive Agricultural. As indicated in Section 816.2(D) of the Fresno County Zoning Code, permitted uses in AE districts include electrical transmission and distribution substations.</p>  |
| <p><b>Policy LU-A.15:</b> The County shall generally condition discretionary permits for residential development within or adjacent to agricultural areas upon the recording of a Right-to-Farm Notice, which is an acknowledgment that residents in the area should be prepared to accept the inconveniences and discomfort associated with normal farming activities and that an established agricultural operation shall not be considered a nuisance due to changes in the surrounding area.</p>   | <p><b>Consistent.</b> Although the Project does not include residential development, the Applicant would be required to record with the County recorder a Right-to-Farm Notice indicating that adjacent agricultural operations shall not become a nuisance due to the changed condition of the Project site.</p>  |
| <p><b>Policy LU-A.16:</b> The County should consider the use of agricultural land preservation programs that improve the competitive capabilities of farms and ranches, thereby ensuring long-term conservation of viable agricultural operations. Examples of programs to be considered should include: land trusts; conservation easements; dedication incentives; new and continued Williamson Act contracts; Farmland Security Act contracts; the California Farmland Conservancy Program Fund; agricultural education programs; zoning regulations; agricultural mitigation fee program; urban growth boundaries; transfer of development rights; purchase of development rights; and agricultural buffer policies.</p> | <p><b>Not Applicable.</b> The Project does not conflict with the County's ability to establish agricultural preservation programs. Owners of property enrolled in the Williamson Act program are free to unenroll subject to the process requirements summarized in Section 3.3, <i>Agriculture and Forestry Resources</i>.</p>  |

**TABLE 11-2 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN AGRICULTURE AND LAND USE ELEMENT POLICIES**

| Goal/Objective/Policy Text   | Project Consistency Evaluation   |
|--|--|
| <p><b>Policy LU-A.17:</b> The County shall accept California Land Conservation contracts on all designated agricultural land subject to location, acreage, and use limitations established by the County.</p>  | <p><b>Not Applicable.</b> The Project site owners are not offering to enter into a California Land Conservation Act contract.</p>  |
| <p><b>Policy LU-A.18:</b> The County shall encourage land improvement programs to increase soil productivity in areas containing lesser quality agricultural soils.</p>  | <p><b>Not Applicable.</b> The Project would not conflict with the County's ability to encourage land improvement programs.</p>   |
| <p><b>Policy LU-A.19:</b> The County shall encourage landowners to participate in programs that reduce soil erosion and increase soil productivity. To this end, the County shall promote coordination between the Natural Resources Conservation Service, Resource Conservation Districts, UC Cooperative Extension, and other agencies and organizations.</p>  | <p><b>Consistent.</b> Section 3.8, <i>Geology, Soils, and Paleontological Resources</i>, includes an evaluation of potential erosion-related impacts. The Project would comply with a Construction General Permit, and implementation of a Stormwater Pollution Prevention Plan (SWPPP) would limit the impact of construction-related soil erosion by enacting best management practices (BMPs) to address sediment control and limit erosion, such as installation of silt fencing and implementation of temporary sediment disposal measures. In addition, the Applicant-proposed erosion and sediment control and pollution prevention measures described in Draft EIR Section 2.5.9.3 would be enforced during construction to reduce the possibility that substantial erosion or loss of topsoil could result. Operation of the Project would not include activities that are likely to cause erosion.</p> |
| <p><b>Policy LU-A.20: Water Resources.</b> The County shall adopt and support policies and programs that seek to protect and enhance surface water and groundwater resources critical to agriculture.</p>  | <p><b>Consistent.</b> The impact of the Project on surface water quality would be less than significant with mitigation incorporated, surface water movement and infiltration is not expected to change significantly. Mitigation would ensure that any contaminated soils caused or encountered by the Project would be properly removed and disposed of in accordance with all applicable federal, state, and local regulations. This would prevent adverse water quality effects from the management of contaminated materials. Additionally, the Project would have a less than significant impact on groundwater supplies and groundwater recharge which is summarized in Section 3.11, <i>Hydrology and Water Quality</i>.</p>   |
| <p><b>Program LU-A.C:</b> The County shall develop and implement guidelines for design and maintenance of buffers to be required when new non-agricultural uses are approved in agricultural areas. Buffer design and maintenance guidelines shall include, but not be limited to, the following:</p> <ol style="list-style-type: none"> <li>a. Buffers shall be physically and biologically designed to avoid conflicts between agriculture and non-agricultural uses.</li> <li>b. Buffers shall be located on the parcel for which a permit is sought and shall protect the maximum amount of farmable land,</li> <li>c. Buffers generally shall consist of a physical separation between agricultural and non-agricultural uses. The appropriate width shall be determined on a site-by-site basis taking into account the type of existing agricultural uses, the nature of the proposed development, the natural features of the site, and any other factors that affect the specific situation.</li> </ol> | <p><b>Consistent.</b> A Pest Management Plan would be implemented to control the introduction or establishment of pests or weeds during Project activities. Implementation of this plan would prevent the Project site from becoming a nuisance to adjacent agricultural operations through the introduction of pests or weeds. Consistent with the Fresno County Solar Facility guidelines and as summarized in Section 2.5.4.3 of the Project Description, the Project would include a sufficient buffer to minimize impacts of the operation to adjacent properties.</p>  |

**TABLE I1-2 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN AGRICULTURE AND LAND USE ELEMENT POLICIES**

| Goal/Objective/Policy Text   | Project Consistency Evaluation   |
|--|--|
| <p>d. Appropriate types of land uses for buffers include compatible agriculture, open space and recreational uses such as parks and golf courses, industrial uses, and cemeteries.</p> <p>e. The County may condition its approval of a project on the ongoing maintenance of buffers.</p> <p>f. A homeowners' association or other appropriate entity shall be required to maintain buffers to control litter, fire hazards, pests, and other maintenance problems.</p> <p>g. Buffer restrictions may be removed if agricultural uses on all adjacent parcels have permanently ceased. (See Policy LU-A.16)</p> |  |
| <p><b>Program LU-A.E:</b> The County shall continue to implement the County's Right-to-Farm Ordinance, and will provide information to the local real estate industry to help make the public aware of the right-to-farm provisions in their area. (See Policy LU-A.15)</p>  | <p><b>Consistent.</b> The Applicant would be required to record with the County recorder a Right-to-Farm Notice indicating that adjacent agricultural operations shall not become a nuisance due to the changed condition of the Project site.</p> |
| <p><b>Policies LU-B.1 – LU-B.14</b></p>  | <p><b>Not Applicable.</b> The Project is not Located within the Westside Rangelands Area.</p>  |
| <p><b>Policies LU-C.1 – LU-C.10</b></p>  | <p><b>Not Applicable.</b> The Project is not Located within the River Influence Areas.</p>   |
| <p><b>Policies LU-D.1 – LU-D.7</b></p>   | <p><b>Not Applicable.</b> The Project is not Located within the Westside Freeway Corridor.</p>   |
| <p><b>Policies LU-E.1 – LU-E.28</b></p>  | <p><b>Not Applicable.</b> The Project does not include Rural Residential development.</p>  |
| <p><b>Policies LU-F.1 – LU-F.42</b></p>  | <p><b>Not Applicable.</b> The Project does not include Urban Transit, Residential, Commercial, or Industrial development.</p>  |
| <p><b>Policies LU-G.1 – LU-G.23</b></p>  | <p><b>Not Applicable.</b> The Project is not Located within the incorporated or City fringe areas or an unincorporated community.</p>  |

## I.3 Consistency with Other Elements of the Fresno County General Plan

### I.3.1 Transportation and Circulation Element

Fresno County's General Plan includes policies regarding access and safety standards of roadway facilities, bike facilities, and public transit. Although the General Plan seeks to coordinate multiple forms of transportation, including cars, commercial vehicles, buses, transit, bicycles, and pedestrian traffic, the General Plan does not contain specific policies governing pedestrian traffic. Fresno County also has adopted a Regional Bicycle and Recreational Trails Master Plan (Fresno County 2013) that addresses non-motorized transportation systems and identifies barriers to trails and bikeways. Fresno County and The Fresno Council of Governments are in the process of developing the 2020 Fresno County Regional Trails Plan. The Plan is intended to create a vision and recommendations for the ongoing development of new trail connections that create a safe, comfortable, and connected network for walking/hiking, off-road biking, and horseback riding.

Since the 2020 Fresno County Regional Trails Plan is not yet final, the Draft EIR relies on the 2013 plan.

Section 3.18, *Transportation*, evaluates potential impacts of the Project relative to the significance criteria provided in the CEQA Guidelines Appendix G environmental checklist. Project consistency with specific Transportation and Circulation Element policies is presented in **Table I1-3** below.

**TABLE I1-3  
 FRESNO COUNTY GENERAL PLAN TRANSPORTATION AND CIRCULATION ELEMENT POLICIES**

| Goal/Objective/Policy Text  | Project Consistency Evaluation  |
|---|---|
| <p><b>Policy TR-A.3:</b> The County shall require that new or modified access to property abutting a roadway and to intersecting roads conform to access specifications in the Circulation Diagram and Standards section. Exceptions to the access standards may be permitted in the manner and form prescribed in the Fresno County Zoning and Subdivision Ordinances, provided that the designed safety and operational characteristics of the existing and planned roadway facility will not be substantially diminished.</p>  | <p><b>Consistent.</b> Project related traffic would have a less than significant impact related to local roadways abutting the Project site after the implementation of Mitigation Measure 3.18-1. Design and construction of Project access road intersections would conform with Fresno County standards (per General Plan Policies). Among the applicable requirements are rights-of-way and setback requirements.</p> |
| <p><b>Policy TR-A.5:</b> The County shall require dedication of right-of-way or dedication and construction of planned road facilities as a condition of land development, and require an analysis of impacts of traffic from all land development projects including impacts from truck traffic. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project. The County may allow a project to fund a fair share of improvements that provide significant benefit to others through traffic impact fees.</p> | <p><b>Consistent.</b> An assessment of potential traffic impacts, including truck traffic, is provided in Section 3.18.</p>   |
| <p><b>Policy TR-A.8:</b> The County shall ensure that land development that affects roadway use or operation or requires roadway access to plan, dedicate, and construct required improvements consistent with the criteria in the Circulation Diagram and Standards section of this element.</p>   | <p><b>Consistent.</b> Section 3.18, <i>Transportation</i>, notes that design and construction of Project access road intersections would be required to conform with Fresno County standards. This would ensure that Project elements would not increase transportation-related hazards.</p>  |

### I.3.2 Public Facilities and Services Element

The Public Facilities and Services Element of the Fresno County General Plan contains goals, policies, and implementation program measures to ensure public facilities and services are adequately available and accessible in a timely fashion to serve new development. The Project’s impacts with respect to public services, including police, fire, and education services, are primarily addressed in Sections 3.16, *Public Services*. Project consistency with specific Public Facilities and Services Element policies is presented in **Table I1-4** below.

**TABLE I1-4  
 FRESNO COUNTY GENERAL PLAN PUBLIC FACILITIES AND SERVICES ELEMENT POLICIES**

| Goal/Objective/Policy Text  | Project Consistency Evaluation   |
|---|--|
| <p><b>Policy PF-C.3:</b> To reduce demand on the County’s groundwater resources, the County</p> | <p><b>Consistent.</b> The Project would have a less than significant impact to groundwater resources. Groundwater extraction associated with</p> |

|   |  |
|---|--|
| <p>shall encourage the use of surface water to the maximum extent feasible.</p>   | <p>construction, operation, and decommissioning would not cause substantial depletion of the groundwater basin. An analysis of the Project's impact to groundwater resources is provided in Section 3.11, <i>Hydrology and Water Quality</i>.</p>  |
| <p><b>Policy PF-C.25:</b> The County shall require that all new development within the County use water conservation technologies, methods, and practices as established by the County.</p>   | <p><b>Consistent.</b> The Project would comply with the Fresno County Water Conservation Ordinance (Effective October 30, 2014). The Project would comply with water conservation measures outlined in the ordinance, as necessary.</p>  |
| <p><b>Policy PF-D.6:</b> The County shall permit individual on-site sewage disposal systems on parcels that have the area, soils, and other characteristics that permit installation of such disposal facilities without threatening surface or groundwater quality or posing any other health hazards and where community sewer service is not available and cannot be provided.</p> | <p><b>Consistent.</b> The Project would use portable restrooms during construction and decommissioning. During operation and maintenance, restrooms and a kitchen would be located within the O&amp;M building. Wastewater from these facilities is expected to be disposed of using a septic tank or a wastewater removal service. The capacity of the septic tank would be determined based on site-specific soil conditions among other factors, as required by the Fresno County Local Agency Management Program.</p>  |
| <p><b>Policy PF-E.7:</b> The County shall require new development to pay its fair share of the costs of Fresno County storm drainage and flood control improvements within unincorporated areas.</p>  | <p><b>Consistent.</b> During construction, stormwater facilities including a drainage swale and two retention basins would be constructed. These stormwater facilities would be designed to meet Fresno County and State Water Resources Control Board requirements. Development fees could be imposed as a condition of permit approval.</p>  |
| <p><b>Policy PF-E.11:</b> The County shall encourage project designs that minimize drainage concentrations and maintain, to the extent feasible, natural site drainage patterns.</p>  | <p><b>Consistent.</b> As discussed in Section 3.11, <i>Hydrology and Water Quality</i>, the Project would not substantially alter the existing drainage pattern of the area. The Project would be designed to minimize substantial alterations to drainage patterns on the Project site and would restore the site upon site decommissioning. See Draft EIR Appendix B1, <i>Draft Reclamation Plan</i>.</p>  |
| <p><b>Policy PF-E.13:</b> The County shall encourage the use of natural storm water drainage systems to preserve and enhance natural drainage features.</p>   | <p><b>Consistent.</b> The Project is not located in an area with an existing or planned stormwater drainage system. As discussed in Section 3.19, <i>Utilities and Service Systems</i>, water conveyance infrastructure on the Project site consists of agricultural ditches in some locations; other than these ditches, no drainage facilities that have connectivity to any natural water features are located on-site. As explained in the Basin Plan, direct precipitation typically percolates into valley groundwater if not lost through consumptive use, evapotranspiration, or evaporation.</p>  |
| <p><b>Policy PF-E.14:</b> The County shall encourage the use of retention-recharge basins for the conservation of water and the recharging of the groundwater supply.</p>   | <p><b>Consistent.</b> Design measures, including bioswales and detention basins are proposed, which would collect stormwater flows, facilitate infiltration, and slow the rate of runoff, consistent with low impact development standards. The proposed stormwater collection and infiltration systems are shown on the site plans in Appendix B3.</p>  |
| <p><b>Policy PF-E.21:</b> The County shall require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities, and shall encourage the urban storm drainage systems and agricultural activities to use BMPs.</p>   | <p><b>Consistent.</b> None of the new impervious surfaces would be adjacent to or otherwise directly connected to a stream. A storm water pollution prevention program (SWPPP) would be required for the Project and include best management practices (BMPs) to be implemented during construction, including erosion control, sediment control, and good housekeeping measures. The BMPs would include dewatering procedures, stormwater runoff quality control measures, concrete waste management, watering for dust control, and construction of perimeter silt fences, as needed.</p>  |
| <p><b>Policy PF-F.1:</b> The County shall continue to promote maximum use of solid waste source reduction, reuse, recycling, composting, and environmentally-safe transformation of wastes.</p>   | <p><b>Consistent.</b> The Project would be required to comply with Fresno County's Construction and Demolition (C&amp;D) Debris Recycling Program which requires a Waste Management Plan for recycling a minimum of 50 percent of all non-hazardous waste. Wooden construction waste would be sold, recycled, or chipped and spread on the Project site for weed control as appropriate. Other compostable materials, such as vegetation, might also be composted off-site. Operation and maintenance activities would produce negligible volumes of solid and liquid wastes that would be disposed of in accordance with all applicable requirements.</p> |

**TABLE 11-4 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN PUBLIC FACILITIES AND SERVICES ELEMENT POLICIES**

| Goal/Objective/Policy Text   | Project Consistency Evaluation  |
|--|---|
| <p><b>Policy PF-F.4:</b> The County shall ensure that all new development complies with applicable provisions of the County Integrated Waste Management Plan.</p>  | <p><b>Consistent.</b> The Project would generate solid waste during construction, operation and maintenance, and decommissioning activities. All handling and processing of construction, demolition, and inert debris would be in accordance with applicable regulatory requirements. Landfill waste generated by the Project would not exceed its permitted daily tonnage or deplete substantial long-term capacity.</p>  |
| <p><b>Policy PF-J.3:</b> The County shall require all new residential development along with new urban commercial and industrial development to underground utility lines onsite.</p>  | <p><b>Not Applicable.</b> The Project is not a new residential or urban development.</p>  |
| <p><b>Goal PF-G.</b> To protect life and property by deterring crime and ensuring the prompt and efficient provision of law enforcement service and facility needs to meet the growing demand for police services associated with an increasing population.</p>  | <p><b>Consistent.</b> The Project would not conflict with the County's ability to provide efficient law enforcement services. Police protection primarily may be required for incidents such as the theft of construction equipment and/or vandalism of the Project. To ensure Facility security, offsite security personnel could be dispatched during nighttime hours or could be onsite. In addition, appropriate security measures would be implemented to ensure control of site access and minimize security risks.</p> |
| <p><b>Policy PF-G.2:</b> The County shall strive to maintain a staffing ratio of two (2) sworn officers serving unincorporated residents per 1,000 residents served. (This count of officers includes all ranks of deputy sheriff personnel and excludes all support positions and all sworn officers serving county wide population interests such as bailiffs, and sworn officers serving contract cities and grant specific populations).</p> | <p><b>Consistent.</b> The Project would not conflict with the County's ability to meet the desired staffing ratio; the Project would not result in new residents that could contribute to the demand for police services.</p>   |
| <p><b>Policy PF-G.6:</b> The County shall promote the incorporation of safe design features (e.g., lighting, adequate view from streets into parks) into new development by providing Sheriff Department review of development proposals.</p>  | <p><b>Consistent.</b> Nighttime lighting for site security or maintenance requirements would be directed downward and shielded to focus illumination on the desired work areas only, and to prevent light spillage onto adjacent properties.</p>  |
| <p><b>Goal PF-H.</b> To ensure the prompt and efficient provision of fire and emergency medical facility and service needs, to protect residents of and visitors to Fresno County from injury and loss of life, and to protect property from fire.</p>   | <p><b>Consistent.</b> Temporary construction- or decommissioning-related increases in demand on fire protection services would not affect the ability of Fresno County Fire Protection District to respond to incidents within the recommended time periods. Operation personnel would not contribute to a significant population increase and would not result in an increase to the demand for fire protection services or require new or altered facilities.</p>   |
| <p><b>Policy PF-H.1:</b> The County shall work cooperatively with local fire protection districts to ensure the provision of effective fire and emergency medical services to unincorporated areas within the county.</p>  | <p><b>Consistent.</b> The Project would not conflict with the County's ability to provide effective emergency services. The Project would not result in new residents that could contribute to the demand for police services, and would incorporate onsite security measures.</p>  |
| <p><b>Implementation Program PF-H.B:</b> The County shall work with the California Department of Forestry and Fire Protection, local fire protection agencies, and city fire departments to maximize the use of resources to develop functional and/or operational consolidations and standardization of services and to maximize the efficient use of fire protection resources. (See Policy PF-H.1).</p>                                       | <p><b>Consistent.</b> The Project would not affect the County's ability to develop interagency coordination.</p>  |

**TABLE I1-4 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN PUBLIC FACILITIES AND SERVICES ELEMENT POLICIES**

| Goal/Objective/Policy Text   | Project Consistency Evaluation  |
|--|---|
| <p><b>Policy PF-H.2:</b> Prior to the approval of development projects, the County shall determine the need for fire protection services. New development in unincorporated areas of the County shall not be approved unless adequate fire protection facilities are provided.</p>   | <p><b>Consistent.</b> Increases in long-term demand for fire protection services typically are associated with substantial increases in population. Once operational, up to 7 workers could be on the site at any one time which would not contribute to a significant population increase, and would not result in an increase to the demand for fire protection services or require new or altered facilities.</p>  |
| <p><b>Policy PF-H.5:</b> The County shall require that new development be designed to maximize safety and minimize fire hazard risks to life and property.</p>   | <p><b>Consistent.</b> Section 3.20, <i>Wildfire</i>, includes an evaluation of potential fire hazards. The Project is not located in a zone of very high fire severity hazard as defined by CAL FIRE. Regardless, best management practice/ fire prevention measures would be implemented to minimize fire risk.</p>  |
| <p><b>Policy PF-H.8:</b> The County shall encourage local fire protection agencies in the County to maintain the following as minimum standards for average first alarm response times to emergency calls:</p> <ul style="list-style-type: none"> <li>a. 5 minutes in urban areas;</li> <li>b. 15 minutes in suburban areas; and</li> <li>c. 20 minutes in rural areas.</li> </ul> | <p><b>Consistent.</b> Temporary construction- or decommissioning-related increases in demand on fire protection services would not affect the Fresno County Fire Protection District's ability to respond to incidents within the recommended time periods.</p>   |
| <p><b>Policy PF-H.10:</b> The County shall ensure that all proposed developments are reviewed for compliance with fire safety standards by responsible local fire agencies per the Uniform Fire Code and other State and local ordinances.</p>   | <p><b>Consistent.</b> Section 3.20 includes an evaluation of potential fire hazards. The Project is not located in a zone of very high fire severity hazard as defined by CAL FIRE. Regardless, best management practice/ fire prevention measures would be implemented in order to minimize fire risk.</p>   |
| <p><b>Policy PF-H.11:</b> The County shall encourage local fire protection agencies to provide and maintain advanced levels of emergency medical services (EMS) to the public, consistent with current practice.</p>   | <p><b>Consistent.</b> The Project would not affect emergency response agencies' ability to provide and maintain advanced emergency services. Construction and operation would result in a less than significant impact with mitigation incorporated to minimize the impact of any road closure necessitated to install the powerline across west Jayne Avenue. See Section 3.10, <i>Hazards and Hazardous Materials</i>, and Section 3.18, <i>Transportation</i>.</p> |
| <p><b>Goal PF-I.</b> To provide for the educational needs of Fresno County and provide libraries for the educational, recreational, and literary needs of Fresno County residents.</p>   | <p><b>Consistent.</b> No residences are proposed as part of the Project and in-migration of construction workers is not anticipated; therefore, the Project would neither generate a demand for new school facilities nor require the alteration of existing school facilities.</p>   |
| <p><b>Policy PF-I.1:</b> The County shall encourage school districts to provide quality educational facilities to accommodate projected student growth in locations consistent with land use policies of the General Plan.</p>   | <p><b>Consistent.</b> No residences are proposed as part of the Project and in-migration of construction workers is not anticipated; therefore, the project would neither generate a demand for new school facilities nor require the alteration of existing school facilities.</p>   |
| <p><b>Policy PF-I.4:</b> The County shall work cooperatively with school districts in monitoring housing, population, and school enrollment trends and in planning for future school facility needs and shall assist school districts in locating appropriate sites for new schools.</p>   | <p><b>Consistent.</b> No residences are proposed as part of the Project and in-migration of construction workers is not anticipated; therefore, the Project would neither generate a demand for new school facilities nor require the alteration of existing school facilities.</p>   |

### I.3.3 Open Space and Conservation Element

This purpose of this element is to guide the conservation, preservation, and/or development of open space and natural resources, including biological, cultural, mineral, and scenic resources. The Project's impacts with respect to species and habitat preservation, mineral resource extraction,

and aesthetics are primarily addressed in Sections 3.2, *Aesthetics*, 3.5, *Biological Resources*, 3.6, *Cultural and Tribal Resources*, and 3.13, *Mineral Resources*. The Project site intermittently has been cultivated for agricultural use for at least the past 10 years; no naturally occurring plant communities are present. The physical environmental impacts of the Project are described throughout the Draft EIR. Generally speaking, the Project would not contribute substantially to the degradation of natural resources after the implementation of mitigation measures.

The Open Space and Conservation Element of the Fresno County General Plan also evaluates the scenic resources of Fresno County and provides policies intended to protect the scenic resources of the County and ensure that development enhances those resources through various measures including identification, development review, acquisition, and other methods. The Project site has not been identified as a scenic resource. The Fresno County General Plan also includes policies intended to protect scenic resources along roadways of the County by identifying, developing, and maintaining scenic amenities along roads and highways in the County and ensuring that development enhances those resources. According to Policy OS-L.1, Fresno County has designated a system of scenic roadways that includes landscaped drives, scenic drives, and scenic highways. According to this element, the only designated scenic roadway in the vicinity of the Project site is Interstate 5 (2 miles west of the Project).

Project consistency with specific Open Space and Conservation Element policies is presented in **Table II-5** below.

**TABLE II-5  
 FRESNO COUNTY GENERAL PLAN OPEN SPACE AND CONSERVATION ELEMENT POLICIES**

| Goal/Objective/Policy Text   | Project Consistency Evaluation  |
|--|---|
| <p><b>Policy OS-A.25:</b> The County shall minimize sedimentation and erosion through control of grading, cutting of trees, removal of vegetation, placement of roads and bridges, and use of off-road vehicles. The County shall discourage grading activities during the rainy season unless adequately mitigated to avoid sedimentation of creeks and damage to riparian habitat.</p> | <p><b>Consistent.</b> Section 3.8, <i>Geology, Soils, and Paleontological Resources</i>, includes an evaluation of potential erosion-related impacts and associated mitigation. The Project would comply with a Construction General Permit, and implementation of a SWPPP would limit the impact of construction-related soil erosion by enacting BMPs to address sediment control and limit erosion, such as installation of silt fencing and implementation of temporary sediment disposal measures. Operation of the Project would not include activities that are likely to cause erosion. Following construction, the site could be replanted with low-growing plant species appropriate for maintaining soil quality. The Project does not include tree removal or construction in creeks or riparian areas.</p> |
| <p><b>Policy OS-A.26:</b> The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff.</p>   | <p><b>Consistent.</b> Impermeable surfaces are broken into individual areas that would drain through gravel that would help maximize infiltration and to disburse flows, and bioretention swales that would further slow runoff and facilitate infiltration. Section 3.8, <i>Geology, Soils, and Paleontological Resources</i>, includes an evaluation of potential erosion-related impacts. The Project would comply with a Construction General Permit, and implementation of a SWPPP would limit the impact of construction-related soil erosion by enacting BMPs to address sediment control and limit erosion, such as installation of silt fencing and implementation of temporary sediment disposal measures. Operation of the Project would not include activities that are likely to cause erosion.</p>        |



**TABLE I1-5 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN OPEN SPACE AND CONSERVATION ELEMENT POLICIES**

| Goal/Objective/Policy Text   | Project Consistency Evaluation  |
|--|---|
| <p><b>OS-C.1: Incompatible Mining Uses.</b> The County shall not permit incompatible land uses within the impact area of existing or potential surface mining areas.</p>   | <p><b>Consistent.</b> There is no current surface mining onsite. There is no indication or evidence that the clay, silt, and sand present on the Project site would be suitable for aggregate production of statewide or regional significance. Aggregate resources are widely available throughout the region and neither the California State Mining and Geology Board (SMGB) nor Fresno County has officially designated the area as an aggregate resource area or mineral deposit of statewide or regional significance.</p>  |
| <p><b>OS-C.2: Mineral Resource Zones.</b> The County shall not permit land uses incompatible with mineral resource recovery within areas designated as Mineral Resource Zone 2 (MRZ-2).</p>  | <p><b>Consistent.</b> The Project site is not within an MRZ.</p>  |
| <p><b>OS-C.7: Mining Buffers.</b> The County shall require that new non-mining land uses adjacent to existing mining operations be designed to provide a buffer between the new development and the mining operations. The buffer distance shall be based on an evaluation of noise, aesthetics, drainage, operating conditions, biological resources, topography, lighting, traffic, operating hours, and air quality.</p>  | <p><b>Consistent.</b> There are no significant mineral resources at or adjacent to the Project site or in the area.</p>   |
| <p><b>OS-C.10: Mineral Resource Lands Protection.</b> The County shall not permit land uses that threaten the future availability of mineral resource or prelude future extraction of those resources.</p>   | <p><b>Consistent.</b> There is no current surface mining onsite. There is no indication or evidence that the materials present on the Project site would be suitable for aggregate production of statewide or regional significance. Neither the SMGB nor Fresno County has officially designated the area as an aggregate resource area or mineral deposit of statewide or regional significance.</p>  |
| <p><b>OS-C.12: New Development Compatibility.</b> The County shall ensure that new discretionary land use developments are compatible with existing and potential surface mining areas and operations as identified on the Mineral Resource Zone Maps prepared by the State Division of Mines and Geology and other mineral resource areas identified by the County.</p>   | <p><b>Consistent.</b> The Project site is not within an MRZ. There are no significant mineral resources at or adjacent to the Project site or in the area.</p>  |
| <p><b>OS-C.13: Oil and Gas Regulation Areas.</b> Fresno County shall be divided into three areas for the regulation of oil and gas development.</p> <p>A) Urban areas including all land within one- fourth mile of the planned urban boundaries shown on adopted community plans.</p> <p>B) Established oil and gas fields as determined and updated by the California Division of Oil and Gas, excluding urban areas except where specifically included in these policies.</p> <p>C) Non-urban areas including all land not within either established oil and gas fields or urban areas.</p> | <p><b>Consistent.</b> According to the Phase I environmental assessment (Draft EIR Appendix H), there is no evidence that hazardous materials or petroleum products exist at the Project site at levels that would require mitigation. However, notable findings in connection with the Project site include the following:</p> <ul style="list-style-type: none"> <li>• On-site natural gas pipeline and on-site petroleum and natural gas easements that traverse the northern and southeastern Project site parcels; the location of the natural gas pipeline and easement has been accounted for in the Project design.</li> <li>• Contaminated soil from a diesel aboveground storage tank (AST) associated with a water supply well indicating a minor release observed on the western portion of the northernmost Project site parcel. As discussed in Section 2.5.5.1, <i>Water and Wastewater</i>, the water supply well may be used for water supply or may be capped and left in place.</li> </ul> |

**TABLE I1-5 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN OPEN SPACE AND CONSERVATION ELEMENT POLICIES**

| Goal/Objective/Policy Text  | Project Consistency Evaluation   |
|---|--|
| <p><b>Policy OS-E.1:</b> The County shall support efforts to avoid the “net” loss of important wildlife habitat where practicable. In cases where habitat loss cannot be avoided, the County shall impose adequate mitigation for the loss of wildlife habitat that is critical to supporting special-status species and/or other valuable or unique wildlife resources. Mitigation shall be at sufficient ratios to replace the function, and value of the habitat that was removed or degraded. Mitigation may be achieved through any combination of creation, restoration, conservation easements, and/or mitigation banking. Conservation easements should include provisions for maintenance and management in perpetuity. The County shall recommend coordination with the U.S. Fish and Wildlife Service and the California Department of Fish and Game to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed. Important habitat and habitat components include nesting, breeding, and foraging areas, important spawning grounds, migratory routes, migratory stopover areas, oak woodlands, vernal pools, wildlife movement corridors, and other unique wildlife habitats (e.g., alkali scrub) critical to protecting and sustaining wildlife populations.</p> | <p><b>Consistent.</b> The Project site does not lie within a recognized terrestrial wildlife connectivity area identified in the <i>California Essential Habitat Connectivity Project</i>. Based on the agricultural use of the site and that the surrounding areas are heavily influenced by agriculture, limited opportunities for habitat continuity or wildlife movement are available due to the lack of open natural habitat. The site does not contain wildlife travel routes such as riparian strips, waterways or underpasses, nor does it provide connectivity between large areas of open space. While the site is not a preferred habitat, wildlife species such as the San Joaquin kit fox; Swainson’s hawk; and nesting birds may be present on site. Implementation of Mitigation Measures 3.5-1 through 3.5-3, including Worker Environmental Awareness Training and preconstruction nesting bird surveys, would prevent potential impacts to these species. See Section 2.5.9, Applicant- Proposed Measures and Design Features, including Section 2.5.9.5, <i>Wildlife-Friendly Design Features</i>, in Chapter 2, <i>Project Description</i>, for additional measures that would reduce potential impacts to species.</p> |
| <p><b>Policy OS-E.2:</b> The County shall require adequate buffer zones between construction activities and significant wildlife resources, including both on-site habitats that are purposely avoided and significant habitats that are adjacent to the project site, in order to avoid the degradation and disruption of critical life cycle activities such as breeding and feeding. The width of the buffer zone should vary depending on the location, species, etc. A final determination shall be made based on informal consultation with the U.S. Fish and Wildlife Service and/or the California Department of Fish and Game.</p>   | <p><b>Consistent.</b> While the disked and actively cultivated agricultural lands on-site are not preferred denning habitat and only provide limited foraging habitat, the Project site is surrounded by other agricultural lands, which could potentially support San Joaquin kit fox residency or movement. Preconstruction clearance surveys, fencing, valley fever reduction measures (APM Section 2.5.9.3), and other minimization measures described in Mitigation Measures 3.5-1 and 3.5-2 would minimize potential impacts to San Joaquin kit fox during construction or decommissioning.</p>  |
| <p><b>Policy OS-E.3:</b> The County shall require development in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the value of the habitat for wildlife is maintained.</p>  | <p><b>Consistent.</b> The Project site does not lie within a recognized terrestrial wildlife connectivity area identified in the California Essential Habitat Connectivity Project and has been heavily influenced by agriculture. The site does not contain wildlife travel routes such as riparian strips, waterways or underpasses, nor does it provide connectivity between large areas of open space. While the site is not preferred habitat, wildlife species such as the San Joaquin kit fox, Swainson’s hawk, and nesting birds may be present on site. Implementation of Mitigation Measures 3.5-1 through 3.5-3, including preconstruction nesting bird surveys, would minimize adverse impacts on wildlife habitat values.</p>   |
| <p><b>Policy OS-E.4:</b> The County shall encourage private landowners to adopt sound wildlife habitat management practices, as recommended by the California Department of Fish and Game officials and the U.S. Fish and Wildlife Service.</p>   | <p><b>Consistent.</b> The Project Applicant would provide Worker Environmental Awareness training and pre-construction surveys, and would monitor ground disturbing activities and restrict Project activities to designated staging and access areas, cover exposed trenches and pipes to prevent entrapment, and impose speed limits onsite.</p>   |
| <p><b>Policy OS-E.6:</b> The County shall ensure the conservation of large, continuous expanses of native vegetation to provide suitable habitat for maintaining abundant and diverse wildlife populations, as long as this preservation does not threaten the economic well-being of the County.</p>   | <p><b>Consistent.</b> This Project does not conflict with the County’s ability to implement land conservation.</p>   |

**TABLE I1-5 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN OPEN SPACE AND CONSERVATION ELEMENT POLICIES**

| Goal/Objective/Policy Text   | Project Consistency Evaluation  |
|--|---|
| <p><b>Policy OS-E.9:</b> Prior to approval of discretionary development permits, the County shall require, as part of any required environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based upon field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant resources and/or special-status plants or animals. Such evaluation will consider the potential for significant impact on these resources and will either identify feasible mitigation measures or indicate why mitigation is not feasible.</p>  | <p><b>Consistent.</b> Section 3.5 contains an analysis of potential impacts to biological resources. The analysis presented in this section is based on a review of relevant literature, field reconnaissance surveys, and focused biological surveys. It also relies on the Biological Resources Assessment provided in draft EIR Appendix E that documents existing conditions and the findings of various biological surveys on the Project site and in the surrounding vicinity.</p>  |
| <p><b>Policy OS-E.10:</b> The County shall support State and Federal programs to acquire significant fish and wildlife habitat areas for permanent protection and/or passive recreation use.</p>   | <p><b>Not Applicable.</b> The Project would not conflict with the County's ability to support programs to acquire significant fish and wildlife habitat areas.</p>  |
| <p><b>Policy OS-E.16:</b> The County should preserve, to the maximum extent practicable, significant wildlife migration routes such as the North Kings Deer Herd migration corridors and fawn production areas.</p>  | <p><b>Consistent.</b> Potential Impacts to migration routes are described in Section 3.5, <i>Biological Resources</i>. The Project site is within the Pacific Flyway, a significant avian migration route. The Mendota Wildlife Area, located approximately 4.5 miles east of the Project site, is a recognized stopover location for migratory birds travelling along the Pacific Flyway. The Project would not physically affect the Pacific Flyway. There are no other important migratory routes, corridors, or wildlife nursery sites near the Project site.</p> |
| <p><b>Policy OS-E.18:</b> The County should preserve, to the maximum possible extent, areas defined as habitats for rare or endangered animal and plant species in a natural state consistent with State and Federal endangered species laws.</p>  | <p><b>Consistent.</b> There is potential habitat for Swainson's hawk, loggerhead shrike, San Joaquin kit fox, and nesting raptors and migratory birds; however, pre-construction surveys will ensure nesting areas are avoided.</p>   |
| <p><b>Policy OS-E.19:</b> The County should preserve areas identified as habitats for rare or endangered plant and animal species primarily through the use of open space easements and appropriate zoning that restrict development in these sensitive areas.</p>   | <p><b>Consistent.</b> The Project site is zoned AE40, Exclusive Agricultural, and is not preserved under an open space easement.</p>  |
| <p><b>Policy OS-F.5:</b> The County shall establish procedures for identifying and preserving rare, threatened, and endangered plant species that may be adversely affected by public or private development projects. The County shall require, as part of the environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based on field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant plant resources and/or special-status plant species. Such evaluation shall consider the potential for significant impact on these resources and shall either identify feasible mitigation measures or indicate why mitigation is not feasible.</p> | <p><b>Consistent.</b> Based on the literature review and seasonally timed rare plant surveys conducted for the Project (Draft EIR Appendix E), no rare plants were observed or have potential to occur on site. The entire site was subject to disturbance from agriculture, disking and related activities. Only small patches of ruderal vegetation persisted.</p>  |
| <p><b>Policy OS-F.7:</b> The County should encourage landowners to maintain natural vegetation or plant suitable vegetation along fence lines, drainage and irrigation ditches and on unused or marginal land for the benefit of wildlife.</p>   | <p><b>Consistent.</b> Based on the literature review and seasonally timed rare plant surveys conducted for the Project (Appendix E), no rare plants were observed or have potential to occur on site. The entire site was subject to disturbance from agriculture, disking and related activities. Only small patches of ruderal vegetation persisted.</p>  |

**TABLE I1-5 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN OPEN SPACE AND CONSERVATION ELEMENT POLICIES**

| Goal/Objective/Policy Text  | Project Consistency Evaluation  |
|---|---|
| <p><b>Policy OS-G.12:</b> The County shall continue, through its land use planning processes, to avoid inappropriate location of residential uses and sensitive receptors in relation to uses that include but are not limited to industrial and manufacturing uses and any other use which have the potential for creating a hazardous or nuisance effect.</p>   | <p><b>Consistent.</b> The nearest sensitive receptors to the Project site are located approximately 3,300 feet to the west, 11,500 feet to the southeast, and 17,000 feet to the east of the Project site (Draft EIR Section 3.4, <i>Air Quality</i>). Based on the results of a health risk assessment, the predicted worst case increase in cancer risk is below the San Joaquin Valley Air Pollution Control District (SJVAPCD) threshold. The Project would not be a significant source of criteria pollutant emissions or fugitive dust during operation and maintenance. Impacts to sensitive receptors would be less than significant during construction, operation and maintenance, and decommissioning.</p> |
| <p><b>Policy OS-G.13:</b> The County shall include fugitive dust control measures as a requirement for subdivision maps, site plans, and grading permits. This will assist in implementing the SJVAPCD's particulate matter of less than ten (10) microns (PM<sub>10</sub>) regulation (Regulation VIII). Enforcement actions can be coordinated with the Air District's Compliance Division.</p>   | <p><b>Consistent.</b> The Applicant would submit a Fugitive Dust Control Plan to the SJVAPCD for review and approval. The Dust Control Plan shall meet the requirements in Rule 8021-1 and incorporate the Regulation VIII recommended fugitive dust control measures to reduce PM<sub>10</sub> emissions to the extent practical. See Draft EIR Section 3.4, <i>Air Quality</i>, for details.</p>  |
| <p><b>Policy OS-G.14:</b> The County shall require all access roads, driveways, and parking areas serving new commercial and industrial development to be constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.</p>   | <p><b>Consistent.</b> Gravel access roads would be constructed around the perimeter of the Project site and aggregate base access roads would be constructed between blocks of enclosures. On-site parking would meet Fresno County Municipal Code parking requirements. Regarding the control of particulate emissions, see Draft EIR Section 3.4, <i>Air Quality</i>.</p>   |
| <p><b>Policy OS-G.15:</b> The County shall continue to work to reduce PM<sub>10</sub> and PM<sub>2.5</sub> emissions from County-maintained roads by considering shoulder treatments for dust control as part of road reconstruction projects.</p>  | <p><b>Consistent.</b> The Project does not involve road reconstruction. Construction and operation of the Project will be implemented in compliance with SJVAPCD's Regulation VIII, Fugitive PM<sub>10</sub> Prohibitions and the current PM<sub>2.5</sub> Plan.</p>  |
| <p><b>Policy OS-H.2:</b> The County shall strive to maintain a standard of five (5) to eight (8) acres of County-owned improved parkland per one thousand (1,000) residents in the unincorporated areas.</p>  | <p><b>Consistent.</b> The Project would not be located on designated parkland, affect the amount of County-owned parkland, nor result in population growth within Fresno County. Therefore, the Project would not conflict with the County's ability to maintain the parkland ratio established in this policy.</p>   |
| <p><b>Goal OS-J:</b> To identify, protect, and enhance Fresno County's important historical, archeological, paleontological, geological, and cultural sites and their contributing environment, and promote and encourage preservation, restoration, and rehabilitation of Fresno County's historically significant resources in order to promote historical awareness, community identify, and to recognize the County's valued assets that have contributed to past County events, trends, styles of architecture, and economy.</p> | <p><b>Consistent.</b> The Project would not conflict with the County's ability to protect cultural resources because the Project would not affect cultural resources. There are no historic structures on the Project site.</p>   |
| <p><b>Policy OS-J.1: Preservation of Historic Resources.</b> The County shall encourage preservation of any sites and/or buildings identified as having historical significance pursuant to the list maintained by the Fresno County Historic Landmarks and Records Advisory Commission.</p>  | <p><b>Consistent.</b> The Project would not impact preservation of historic sites or buildings. There are no historic structures on the Project site.</p>   |
| <p><b>Policy OS-J.2: Historic Resources Consideration.</b> The County shall consider historic resources during preparation or evaluation of plans and discretionary development projects.</p>   | <p><b>Consistent.</b> Section 3.6, <i>Cultural and Tribal Cultural Resources</i>, contains results of a records search and field survey for the County's consideration of the Project.</p>  |

**TABLE I1-5 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN OPEN SPACE AND CONSERVATION ELEMENT POLICIES**

| Goal/Objective/Policy Text  | Project Consistency Evaluation  |
|---|---|
| <p><b>Policy OS-J.14: Sites Protection and Mitigation.</b> The County shall require that discretionary development projects, as part of any required CEQA review, identify and protect important historical, archeological, paleontological, and cultural sites and their contributing environment from damage, destruction, and abuse to the maximum extent feasible. Project-level mitigation shall include accurate site surveys, consideration of project alternatives to preserve archeological and historic resources, and provision for resource recovery and preservation when displacement is unavoidable.</p> | <p><b>Consistent.</b> Section 3.6, <i>Cultural and Tribal Cultural Resources</i>, provides an evaluation of potential Project impacts to cultural, archaeological, and historic resources. Section 3.8, <i>Geology, Soils, and Paleontological Resources</i>, analyzes potential impacts to paleontological resources. To evaluate the Project’s potential effects on significant cultural resources, including prehistoric and historic archaeological sites, a cultural resources characterization and evaluation of the Project site were undertaken (Rincon Consultants 2022). These efforts included a literature review, a Native American contact program, geoarchaeological review, and field surveys for areas of potential permanent and temporary impacts where facilities would be installed. In the event that unknown archaeological resources are discovered during Project construction, the Applicant would implement Mitigation Measure 3.6-2, which requires the retention of a qualified archaeologist and cultural resources awareness training, and which governs procedures in the event of inadvertent discovery of archaeological materials.</p> |
| <p><b>Goal OS-K:</b> To conserve, protect, and maintain the scenic quality of Fresno County and discourage development that degrades areas of scenic quality.</p>   | <p><b>Consistent.</b> Project facilities including fencing, battery storage structures and overhead power lines would be visible and would transform the landscape from an agriculture visual character to an industrial character. However, the Project would not block or impair any existing significant visual resources or significantly impact the local visual character. See Draft EIR Section 3.2, <i>Aesthetics</i>, for details.</p>   |
| <p><b>Policy OS-K.1:</b> The County shall encourage the preservation of outstanding scenic views, panoramas, and vistas wherever possible. Methods to achieve this may include encouraging private property owners to enter into open space easements for designated scenic areas.</p>  | <p><b>Consistent.</b> There are no designated scenic vistas within the viewshed of the entire Project site.</p>   |
| <p><b>Policy OS-K.4:</b> The County should require development adjacent to scenic areas, vistas, and roadways to incorporate natural features of the site and be developed to minimize impacts to the scenic qualities of the site.</p>   | <p><b>Consistent.</b> There are no designated scenic vistas within the viewshed of the entire Project site.</p>   |
| <p><b>Goal OS-L:</b> To conserve, protect, and maintain the scenic quality of land and landscape adjacent to scenic roads in Fresno County.</p>   | <p><b>Consistent.</b> There are no designated state scenic highways within the Project vicinity; nor roadways that are eligible for scenic designation within the Project viewshed.</p>   |
| <p><b>Policy OS-L.1:</b> The County designates a system of scenic roadways that includes landscaped drives, scenic drives, and scenic highways.</p>   | <p><b>Consistent.</b> There are no designated state scenic highways within the Project vicinity or roadways eligible for scenic designation within the Project viewshed.</p>  |
| <p><b>Policy OS-L.3:</b> The County shall manage the use of land adjacent to scenic drives and scenic highways based on the following principles:</p> <p>b. Proposed high voltage overhead transmission lines, transmission line towers, and cell towers shall be routed and placed to minimize detrimental effects on scenic amenities visible from the right-of-way.</p>  | <p><b>Consistent.</b> There are no designated state scenic highways or roadways eligible for scenic designation within the Project viewshed.</p>  |

### I.3.4 Health and Safety Element

The Health and Safety Element outlines Fresno County’s planning strategies regarding emergency management and response, fire hazards, flood hazards, seismic and geological hazards, airport hazards, hazardous materials, and noise. The Project’s impacts with respect to safety are primarily addressed in Section 3.8, *Geology, Soils, and Paleontological Resources*, Section 3.10, *Hazards and Hazardous Materials*, and Section 3.14, *Noise and Acoustics*. The design of the Project, as well as mitigation measures recommended in this Draft EIR, consider the potential seismic, soil instability, flood, fire, waste, and other hazards that are present in the Project area or that could result as a consequence of Project implementation. Although the Project would not avoid all hazards, even with Project consistency with specific Health and Safety Element policies is presented in **Table K1-6** below.

### I.3.5 Housing Element

The Housing Element provides the County’s goals, policies, and programs for the development, improvement, and maintenance of housing within the unincorporated areas of the County. As described in Section 3.15, *Population and Housing*, the Project would neither induce growth nor displace people or housing. The Project does not propose or require new housing. This element is therefore not applicable to the Project.

**TABLE I1-6  
FRESNO COUNTY GENERAL PLAN HEALTH AND SAFETY ELEMENT POLICIES**

| Goal/Objective/Policy Text  | Project Consistency Evaluation   |
|---|--|
| <p><b>Policy HS-B.1:</b> The County shall review project proposals to identify potential fire hazards and to evaluate the effectiveness of preventive measures to reduce the risk to life and property.</p>   | <p><b>Consistent.</b> Section 3.10, <i>Hazards and Hazardous Materials</i>, and Section 3.20, <i>Wildfire</i>, include an evaluation of potential fire hazards. The Project is not located in a very high fire severity hazard zone as defined by CAL FIRE. Regardless, fire prevention measures would be implemented in order to minimize fire risk.</p>      |
| <p><b>Policy HS-B.5:</b> The County shall require development to have adequate access for fire and emergency vehicles and equipment.</p>  | <p><b>Consistent.</b> The Project site would be accessible to emergency vehicles. See Section 3.10, <i>Hazards and Hazardous Materials</i>, and Section 3.18, <i>Transportation</i>.</p>   |
| <p><b>Policy HS-B.8:</b> The County shall refer development proposals in the unincorporated county to the appropriate local fire agencies for review of compliance with fire safety standards. If dual responsibility exists, both agencies shall review and comment relative to their area of responsibility. If standards are different or conflicting, the more stringent standards shall apply.</p>   | <p><b>Consistent.</b> The Applicant would coordinate as needed with the Fresno County Fire District to address potential exposure to fire and other hazards in the Project site and would incorporated any standards or requirements required by the district.</p>   |
| <p><b>Policy HS-D.3:</b> The County shall require that a soils engineering and geologic-seismic analysis be prepared by a California-registered engineer or engineering geologist prior to permitting development, including public infrastructure projects, in areas prone to geologic or seismic hazards (i.e., fault rupture, groundshaking, lateral spreading, lurchcracking, fault creep, liquefaction, subsidence, settlement, landslides, mudslides, unstable slopes, or avalanche).</p> | <p><b>Consistent.</b> According to the Geology and Geohazards Desktop Review prepared for the Project site (see Draft EIR Appendix G), geologic hazards at the site are not significant. There is no risk of fault rupture, and the Project would not lead to significant impacts related to seismic ground shaking, liquefaction, erosion, or subsidence.</p> |

**TABLE I1-6 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN HEALTH AND SAFETY ELEMENT POLICIES**

| Goal/Objective/Policy Text  | Project Consistency Evaluation  |
|---|---|
| <p><b>Policy HS-D.4:</b> The County shall require all proposed structures, additions to structures, utilities, or public facilities situated within areas subject to geologic-seismic hazards as identified in the soils engineering and geologic-seismic analysis to be sited, designed, and constructed in accordance with applicable provisions of the Uniform Building Code (Title 24 of the California Code of Regulations) and other relevant professional standards to minimize or prevent damage or loss and to minimize the risk to public safety.</p> | <p><b>Consistent.</b> A site-specific soils engineering and geologic-seismic analysis has been prepared for the Project site (see Draft EIR Appendix G1). The Project would be constructed in compliance with the geotechnical and seismic design criteria required for construction in accordance with the California Building Code (CBC).</p>   |
| <p><b>Policy HS-D.5:</b> Pursuant to the Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code, Chapter 7.5), the County shall not permit any structure for human occupancy to be placed within designated Earthquake Fault Zones unless the specific provisions of the Act and Title 14 of the California Code of Regulations have been satisfied.</p>   | <p><b>Consistent.</b> While the Project site is not within a mapped Seismic Hazard Zone, the site may be subject to strong earthquake-related ground shaking at some point during the lifetime of the facility due to the potential for relatively large earthquakes to the south and west of the Project site. The Project would be constructed in compliance with the geotechnical and seismic design criteria required for construction in accordance with the CBC. The Project does not include structures for human occupancy.</p>   |
| <p><b>Policy HS-D.8:</b> The County shall require a soils report by a California-registered engineer or engineering geologist for any proposed development, including public infrastructure projects, that requires a County permit and is located in an area containing soils with high “expansive” or “shrink-swell” properties. Development in such areas shall be prohibited unless suitable design and construction measures are incorporated to reduce the potential risks associated with these conditions.</p>  | <p><b>Consistent.</b> The Geology and Geohazards Desktop Review indicated that soils present at the Project site have a moderate to high potential for expansion. The Project would be required to comply with applicable building codes and structural improvements which would address any expansive soil hazards.</p>  |
| <p><b>Policy HS-D.9:</b> The County shall seek to minimize soil erosion by maintaining compatible land uses, suitable building designs, and appropriate construction techniques. Contour grading, where feasible, and revegetation shall be required to mitigate the appearance of engineered slopes and to control erosion.</p>  | <p><b>Consistent.</b> The Project would comply with a Construction General Permit, and implementation of a SWPPP would limit the impact of construction-related soil erosion by enacting BMPs to address sediment control and limit erosion, such as installation of silt fencing and implementation of temporary sediment disposal measures. Operation of the Project would not include activities that are likely to cause erosion. Following construction, the site could be replanted with low-growing plant species appropriate for maintaining soil quality. See Draft EIR Section 3.8, <i>Geology, Soils, and Paleontological Resources</i>, for additional information.</p> |
| <p><b>Goal HS-F:</b> To minimize the risk of loss of life, injury, serious illness, and damage to property resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous wastes.</p>  | <p><b>Consistent.</b> The use, storage, transport, and disposal of hazardous materials in connection with the Project would be carried out in accordance with federal, state, and local regulations. BMPs in the SWPPP would minimize the risk of hazardous materials leakage include: reporting of spills of hazardous materials to the appropriate regulatory entities; immediate cleanup of hazardous materials spills; and excavation and appropriate disposal of contaminated soils.</p>   |
| <p><b>Policy HS-F.1:</b> The County shall require that facilities that handle hazardous materials or hazardous wastes be designed, constructed, and operated in accordance with applicable hazardous materials and waste management laws and regulations.</p>   | <p><b>Consistent.</b> The use, storage, transport, and disposal of hazardous materials in connection with the Project would be carried out in accordance with federal, state, and local regulations.</p>  |
| <p><b>Policy HS-F.3:</b> The County, through its Hazardous Materials Incident Response Plan, shall coordinate and cooperate with emergency response agencies to ensure adequate Countywide response to hazardous materials incidents.</p>   | <p><b>Consistent.</b> As identified in Section 3.10, <i>Hazards and Hazardous Materials</i>, and Section 3.18, <i>Transportation</i>, the Project would not interfere with emergency response plans or times.</p>   |

**TABLE 11-6 (CONTINUED)**  
**FRESNO COUNTY GENERAL PLAN HEALTH AND SAFETY ELEMENT POLICIES**

| Goal/Objective/Policy Text  | Project Consistency Evaluation  |
|---|---|
| <p><b>Policy HS-D.4:</b> The County shall require all proposed structures, additions to structures, utilities, or public facilities situated within areas subject to geologic-seismic hazards as identified in the soils engineering and geologic-seismic analysis to be sited, designed, and constructed in accordance with applicable provisions of the Uniform Building Code (Title 24 of the California Code of Regulations) and other relevant professional standards to minimize or prevent damage or loss and to minimize the risk to public safety.</p>   | <p><b>Consistent.</b> A site-specific soils engineering and geologic-seismic analysis has been prepared for the Project site (see Draft EIR Appendix G1). The Project would be constructed in compliance with the geotechnical and seismic design criteria required for construction in accordance with the California Building Code (CBC).</p>   |
| <p><b>Policy HS-D.5:</b> Pursuant to the Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code, Chapter 7.5), the County shall not permit any structure for human occupancy to be placed within designated Earthquake Fault Zones unless the specific provisions of the Act and Title 14 of the California Code of Regulations have been satisfied.</p>   | <p><b>Consistent.</b> While the Project site is not within a mapped Seismic Hazard Zone, the site may be subject to strong earthquake-related ground shaking at some point during the lifetime of the facility due to the potential for relatively large earthquakes to the south and west of the Project site. The Project would be constructed in compliance with the geotechnical and seismic design criteria required for construction in accordance with the CBC. The Project does not include structures for human occupancy.</p> |
| <p><b>Policy HS-D.8:</b> The County shall require a soils report by a California-registered engineer or engineering geologist for any proposed development, including public infrastructure projects, that requires a County permit and is located in an area containing soils with high “expansive” or “shrink-swell” properties. Development in such areas shall be prohibited unless suitable design and construction measures are incorporated to reduce the potential risks associated with these conditions.</p>  | <p><b>Consistent.</b> The Geology and Geohazards Desktop Review indicated that soils present at the Project site have a moderate to high potential for expansion. The Project would be required to comply with applicable building codes and structural improvements which would address any expansive soil hazards.</p>  |
| <p><b>Policy HS-G.1:</b> The County shall require that all proposed development incorporate design elements necessary to minimize adverse noise impacts on surrounding land uses.</p>   | <p><b>Consistent.</b> Short-term construction and decommissioning activities would be exempt from the County’s noise policies and standards because activities would occur between the hours of 6:00 a.m. and 9:00 p.m. on weekdays, or 7:00 a.m. and 9:00 p.m. on Saturdays and Sundays. Mitigation Measure 3.14-1a requires that a Construction Noise Reduction Plan be approved by the county prior to issuance of construction permits.</p>   |
| <p><b>Policy HS-G.4:</b> So that noise mitigation may be considered in the design of new projects, the County shall require an acoustical analysis as part of the environmental review process where:</p> <ul style="list-style-type: none"> <li>a) Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels that are “generally unacceptable” or higher according to the Chart HS-1: “Land Use Compatibility for Community Noise Environments;”</li> <li>b) Proposed projects are likely to produce noise levels exceeding the levels shown in the County’s Noise Control Ordinance at existing or planned noise-sensitive uses.</li> </ul> | <p><b>Consistent.</b> Section 3.14 includes an analysis of noise impacts associated with the Project.</p>   |
| <p><b>Policy HS-G.6:</b> The County shall regulate construction-related noise to reduce impacts on adjacent uses in accordance with the County’s Noise Control Ordinance.</p>   | <p><b>Consistent.</b> Short-term construction and decommissioning Project activities would be exempt from the County’s noise policies and standards because activities would occur between the hours of 6:00 a.m. and 9:00 p.m. on weekdays, or 7:00 a.m. and 9:00 p.m. on Saturdays and Sundays.</p>   |
| <p><b>Policy HS-G.8:</b> The County shall evaluate the compatibility of proposed projects with existing and future noise levels through a comparison to Chart HS-1, “Land Use Compatibility for Community Noise Environments.”</p>  | <p><b>Consistent.</b> With the incorporation of Mitigation Measure 3.14-1a the Project would not exceed County noise standards and would not have a significant impact to noise levels.</p>   |



## I.4 References

Fresno County, 2013. Fresno County Regional Bicycle & Recreational Trails Master Plan. September 24, 2013. <http://www.co.fresno.ca.us/ViewDocument.aspx?id=50346>.

Fresno County, 2011. Fresno County Zoning Map.

Tetra Tech, Inc. 2020. Biological Resources Evaluation Report, Luna Valley Solar Project. Fresno County, California. September 16, 2020.

Rincon Consultants, Inc. 2022. [Confidential] Cultural Resources Assessment Report, Key Energy Storage Project.

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Appendix I2  
**Consistency with Fresno  
County's Solar Facility  
Guidelines.**



## APPENDIX I2

# Consistency with Fresno County’s Solar Facility Guidelines

Toward balancing the need to accommodate new renewable energy technology with the need to protect important farmlands and minimize impacts to existing agricultural operations, the County’s land use process for evaluating solar facilities relies on flexible general guidelines and policies rather than specific standards. The Solar Facility Guidelines, adopted by the Fresno County Board of Supervisors in 2013 and revised in 2017, identify consideration to be evaluated as part of the County’s process for evaluating solar facilities within the county (Fresno County 2017). Although the Key Energy Storage Project does not propose to develop a solar facility, the County’s identified need to maintain flexibility to accommodate new renewable energy technologies, such as battery energy storage, which facilitates the use of solar-generated energy by addressing some of the limitations of the electric grid, applies equally to battery energy storage as to solar energy development.

**TABLE I2-1  
KEY ENERGY STORAGE PROJECT CONSISTENCY WITH  
FRESNO COUNTY SOLAR FACILITY GUIDELINES**

| Guideline  | Consistency  |
|--|--|
| 1) Information shall be submitted regarding the historical agricultural operational/usage of the parcel including, specific crop type, for the last 10 years (if no agricultural operation in the last 10 years, specify when land was last in agricultural use).  | Information regarding the historical agricultural operation of the Project site is provided in Section 3.3, <i>Agriculture and Forestry Resources</i> . A detailed 10-year crop history for the Project site is provided in the Land Evaluation and Site Assessment (LESA) included in Draft EIR Appendix C. |
| 2) Information shall be submitted that identifies the source of water for the subject parcel (surface water from irrigation district, individual well(s), conjunctive system). If the source of water is via district delivery, the applicant shall submit information documenting the allocations received from the irrigation district and the actual disposition of the water (i.e., utilized on-site or moved to other locations) for the last 10 years. If an individual well system is used, provide production capacity of each well, water quality data and data regarding the existing water table depth. | Information regarding Project water sources is described in Section 2.5.5.1, <i>Water and Wastewater</i> , and in Section 3.19, <i>Utilities and Service Systems</i> . A Water Supply Assessment for the Project is provided in Appendix L.  |

| Guideline   | Consistency   |
|---|---|
| 3) Identify the current status of the parcel (Williamson Act Contract, Conservation Easement, retired land, etc.), the purpose of any easement and limitations of the parcel. The applicant shall submit a Title Report or Lot Book Guarantee for verification.   | The current status of the Project site parcels is detailed in Section 3.3, <i>Agriculture and Forestry Resources</i> . Although the LESA and Project application materials suggested that all three Project site parcels were subject to Williamson Act Contract No. 2026, more current data from the County Assessor shows that the southern two Project site parcels (APNs 085-040-36 and 085-040-37S) were unenrolled from the California Land Conservation Act (Williamson Act) program in 2019 – an Assessor's notation for each of the two parcels says NR – 2019, signifying that a "notice of nonrenewal was filed and the year the parcel is no longer in the Williamson Act." A Preliminary Title Report submitted for the Project site indicates that only one Project site parcel (APN 085-040-58) is subject to a Williamson Act contract. |
| 4) Identify (with supporting data) the current soil type and mapping units of the parcel pursuant to the standards of the California State Department of Conservation and the Natural Resources Conservation Service.   | Soil types found on the Project site are described in Section 3.8, <i>Geology, Soils and Paleontological Resources</i> , and in the LESA included in Draft EIR Appendix C. Information is provided in draft EIR Section 3.3 and Appendix C about the Project site parcels' map categorization as "Prime Farmland" by the State Department of Conservation's Farmland Mapping and Monitoring Programs.   |
| 5) List all proposed measures and improvements intended to create a buffer between the proposed solar facility and adjacent agricultural operations (detailed information must be shown on site-plan) and provide factual/technical data supporting the effectiveness of said proposed buffering measures.  | Proposed buffers are shown on the Site Plan provided with the December 2021 application materials and updated site plans dated September 22, 2022. They also are described in Section 2.5.4.3 of the Project Description (draft EIR Chapter 2) and in Section 3.3, <i>Agriculture and Forestry Resources</i> .  |
| 6) Provide a Reclamation Plan detailing the lease life, timeline for removal of the improvements and specific measures to return the site to the agricultural capability prior to installation of solar improvements. If the project is approved, adequate financial security to the satisfaction of the County shall be provided to ensure site reclamation. Financial security can be in the form of a cash deposit to be placed in a trust account by the County with additional deposits required as needed to adjust for inflation and/or a Letter of Credit to be renewed every year to adjust for inflation. | The Reclamation Plan is described in Section 2.5.7.3, <i>Site Reclamation</i> , and provided in Draft EIR Appendix B1.  |
| 7) Provide information documenting efforts to locate the proposed solar facility on non-agricultural lands and non-contracted parcels and detailed information explaining why the subject site was selected.  | The evaluation of project alternatives is described in Chapter 4, <i>Alternatives</i> .   |
| 8) Develop and submit a project site pest management plan to identify methods and frequency to manage weeds, insects, disease and vertebrate pests that may impact adjacent sites.  | An Integrated Pest Management Plan is provided in Draft EIR Appendix B2.  |

| <b>Guideline</b>  | <b>Consistency</b>   |
|---|--|
| 9) The applicant must acknowledge the County's Right to Farm Ordinance and shall be required to record a Right to Farm Notice prior to issuance of any permits. This shall be included as a recommended condition of approval of the land use entitlement.  | The December 2021 Conditional Use Permit application materials submitted by the Applicant, Key Energy Storage, LLC, state, "Acknowledgement of the County's Right to Farm Ordinance. The Applicant shall be required to record a Right to Farm Notice prior to the issuance of any permits. This shall be included as a recommended Condition of Approval of the land use entitlement." Recordation of this notice will be included as a condition of approval.                          |
| 10) Note: The life of the approved land use permit will expire upon expiration of the initial life of the solar lease. If the solar lease is to be extended, approval of new land use permit will need to be obtained.  | Not applicable. The Project northernmost Project site parcel is owned by Michael Dresick; the two southern parcels are owned by Rebecca L. Kaser. All Project site parcels are under a purchase option agreement with the Applicant, who intends to purchase the land prior to starting Project construction. Because the Project site will be owned by the Applicant and because the Project proposed energy storage rather than solar energy generation, there will be no solar lease. |
| 11) If the project is approved, the applicant shall make all reasonable efforts to establish a point of sale in Fresno County for equipment and construction related items necessary for the project.   | As stated in materials accompanying the Applicant's December 2021 Conditional Use Permit application, the Applicant has committed to making reasonable efforts to establish a point of sale in Fresno County.  |
| 12) If the project is approved, the applicant shall make all reasonable efforts to conduct local recruitment efforts and/or coordinate with employment agencies in an attempt to hire from the local workforce.   | As stated in materials accompanying the Applicant's December 2021 Conditional Use Permit application, the Applicant has committed to making reasonable efforts to hire from the local workforce.   |
| 13) In addition to disclosing the number of trips in the required project Operational Statement, the applicant shall disclose the weight of the shipments anticipated to the site. If the project is approved, pursuant to the CEQA analysis and based upon the existing road conditions and the weight/frequency of shipments to the site, the applicant shall mitigate impacts to County roads. | The Traffic Impact Study prepared for the Project (see Appendix K) included an analysis of potential pavement impacts, as required by Fresno County. Pavement impacts are analyzed based on a comparison of the TI with the Project to the TI without the Project. Based on the County's thresholds, the TI analysis concluded that construction of the Project would not result in a significant impact to the pavement on West Jayne Avenue adjacent to the Project site.              |
| 14) If the project is approved, the applicant shall make all reasonable efforts to purchase products and equipment from local (Fresno County) manufacturing facilities and./or vendors.   | As stated in materials accompanying the Applicant's December 2021 Conditional Use Permit application, the Applicant has committed to making reasonable efforts to purchase products and equipment from local manufacturers and vendors.  |

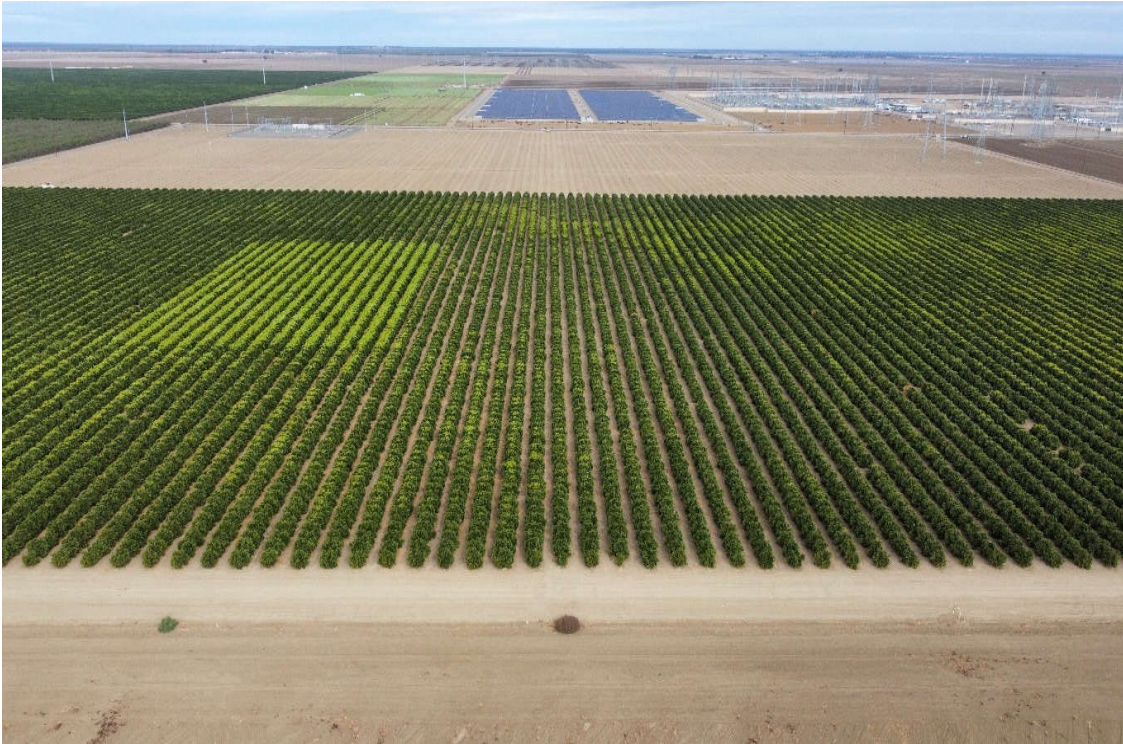
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# Appendix J

## **Noise and Vibration Study**







# Key Energy Storage Project

## Noise and Vibration Study

*prepared for*

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Appendix C Reference Inverter Noise Study

# 1 Impact Summary and Project Description

## 1.1 Introduction and Impact Summary

This study analyzes the potential noise and vibration impacts associated with the construction, operation, and decommissioning of the Key Energy Storage Project (Project) in Fresno County, California. Rincon Consultants, Inc. (Rincon) prepared this study on behalf of the applicant for use in support of environmental documentation pursuant to the California Environmental Quality Act (CEQA). The purpose of this study is to analyze the noise and vibration levels related to both temporary construction activity and long-term operation of the Project. Table 1 provides a summary of potential Project impacts.

**Table 1 Summary of Impacts**

| Issue  | Proposed Project's Level of Significance |
|--|--|
| Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?                             | Less Than Significant                    |
| Would the Project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?   | Less Than Significant                    |
| For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels? | No Impact                                |

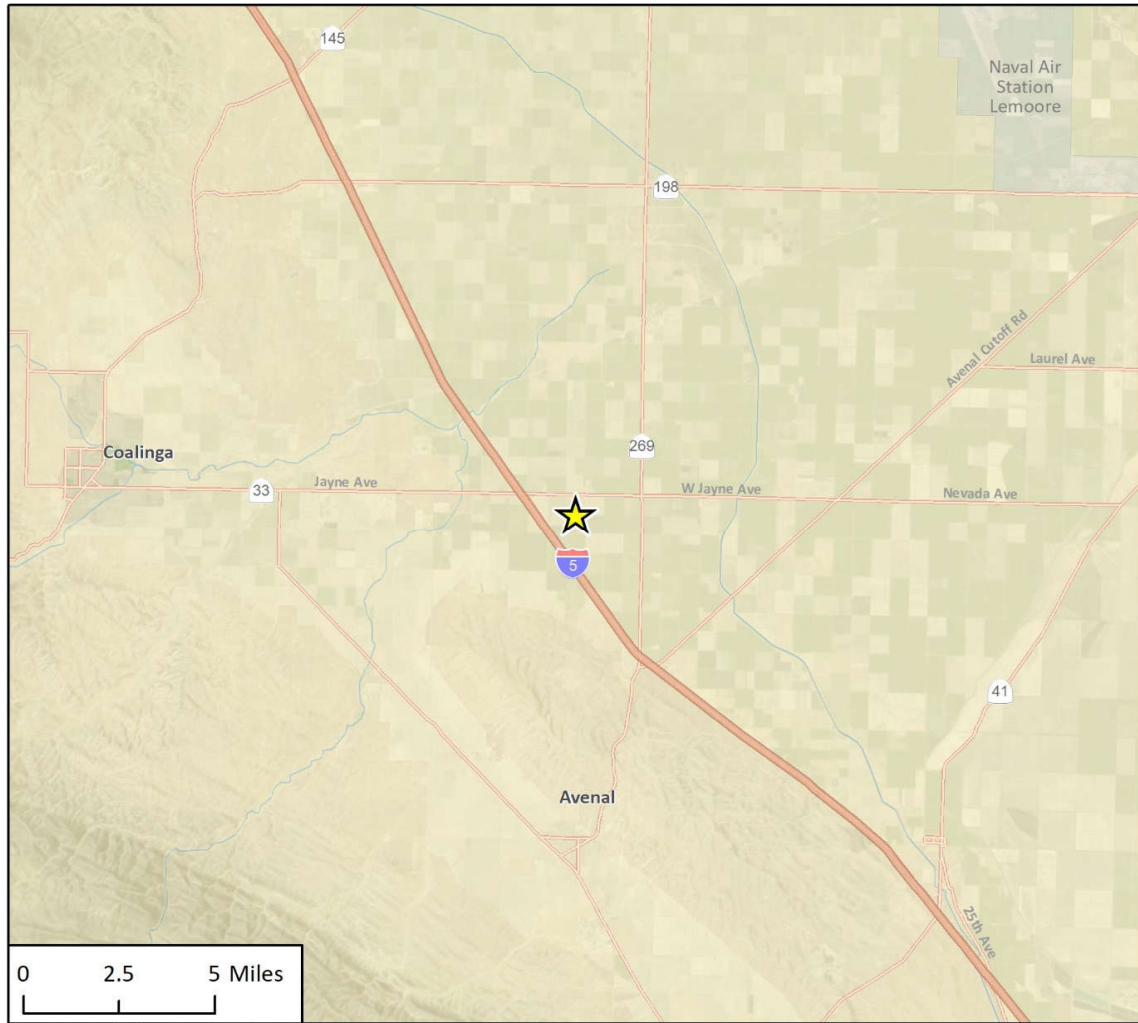
## 1.2 Project Summary

### Project Location

The Project site is located in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, 7.5 miles north of the City of Avenal, and 0.4 mile east of Interstate 5. Figure 1 depicts the regional location of the Project site. The Project site is located southwest of the Pacific Gas and Electric (PG&E) Gates Substation along West Jayne Avenue. The Project would develop up to 260 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 2).

The Project site consists of land that is either in agriculture production or fallow. The Project site is bound by West Jayne Avenue to the north and unpaved agricultural access roads to the east, south, and west. The Project site is surrounded by agricultural uses to the west, south, and east. Solar facilities are located to the north and southwest and the PG&E Gates Substation is located to the northeast of the Project site. A small substation is also located immediately adjacent to the northwest Project site boundary.

Figure 1 Regional Location



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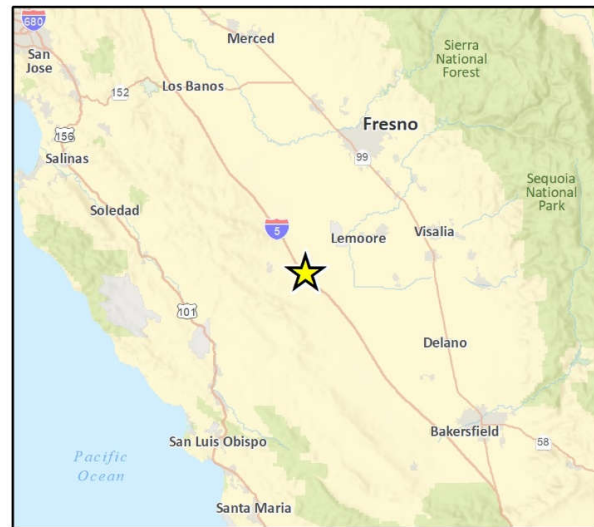
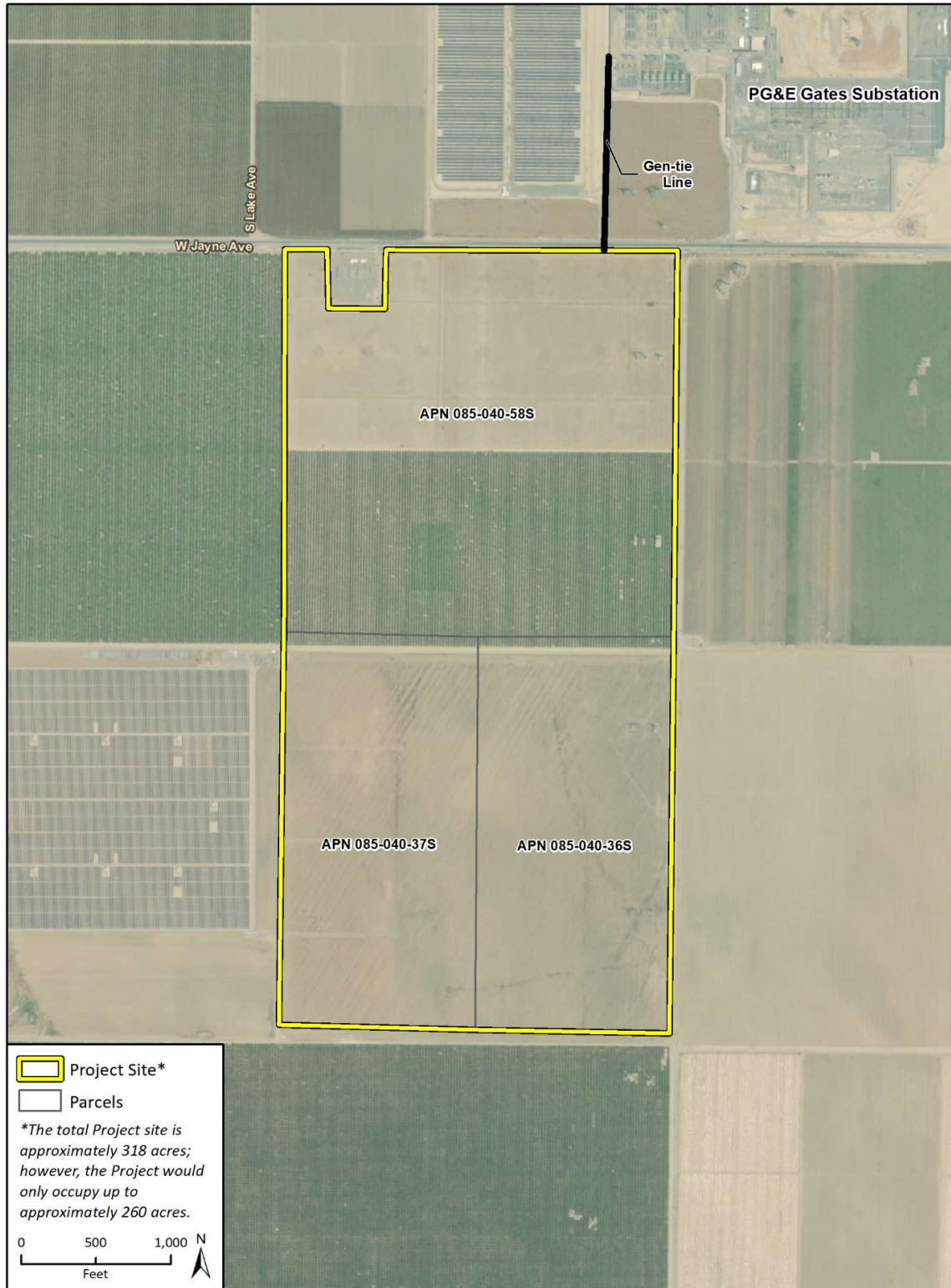


Fig 2 Regional Location

Figure 2 Project Site Location



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Additional data provided by Fresno County, 2021.

## **Project Description**

The Project involves the construction and operation of an energy storage system facility and associated on-site support facilities, including a substation, inverters, collector lines, fencing, access roads, supervisory control, data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility would consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.<sup>1</sup> The Project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent PG&E Gates Substation.

The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

### *Construction*

Construction activities would include site preparation, fencing, and electrical work. Although the Project site is fairly level, grading would be required throughout most of the site, especially for the construction of roads, on-site substation, the energy storage enclosures, and inverter pads. This would be accomplished with scrapers, graders, water trucks, dozers, and compaction equipment. The enclosure modules would be off-loaded and installed using cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment, as needed. Staging and laydown areas would all be located on the Project site, and specific locations would be determined by the construction contractor.

Buildout of the Project would occur in phases, with construction beginning in 2024. Delivery of material and supplies would reach the Project site by on-road truck delivery through Interstate 5 to West Jayne Avenue. The majority of the truck deliveries would be for the energy storage enclosures and power conversion system installation, as well as any aggregate material that may be required for foundations. These loads would typically be limited to 40 tons, or 80,000 pounds, with a typical cargo load of approximately 25 tons, or 50,000 pounds. Low-bed transport trucks would transport the construction equipment to the site as needed. The size of the low-bed trucks (axles for weight distribution) would depend on the equipment transported. The heaviest delivery loads to the site would be for the step-up transformer, which may weigh up to 160,000 pounds.

### *Operations and Maintenance*

The Project would operate 7 days per week, 365 days per year. The facility would be operated remotely. Only occasional, on-site maintenance is expected to be required following commissioning,

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<sup>1</sup> The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the project may change, the overall size of the project (up to 260 acres) would remain consistent.

including replacement of inverter power modules, filters, and miscellaneous electrical repairs on an as-needed basis. During operation of the Project substation, operation and maintenance staff would visit the substation periodically for switching and other operation activities. Maintenance trucks would be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance. Routine operations would require one or two workers in a light utility truck to visit the facility on a weekly basis. Typically, one major maintenance inspection would take place annually.

### *Decommissioning*

The Project is anticipated to have an operating life of up to 30 years. Decommissioning is anticipated to start in approximately 2055 and take up to 24 months. Decommissioning equipment and personnel would be similar to or less than that required for construction. The Project components, including the energy storage system and on-site substation, would be recycled when the Project's operating life is over. Most parts of the proposed system are recyclable.



## 2 Setting

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### 2.1 Overview of Sound Measurement

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz and less sensitive to frequencies around and below 100 Hertz. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result from simply the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can substantially alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce exposure to noise as well. The FHWA’s guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of Project noise impacts. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level ( $L_{eq}$ ); it considers both duration and sound power level.  $L_{eq}$  is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time.

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level ( $L_{dn}$ ), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. It is also measured using the Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by  $L_{dn}$  and CNEL usually differ by about 1 dBA. The relationship between the peak-hour  $L_{eq}$  value and the  $L_{dn}$ /CNEL depends on the distribution of traffic during the day, evening, and night.

## 2.2 Vibration

Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernible, but without the effects associated with the shaking of a building, there is less adverse reaction.

Typical outdoor sources of vibration that propagates through the ground and creates perceptible ground-borne vibration in nearby buildings include construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is fairly smooth, vibration from rubber-tired traffic is rarely perceptible (Federal Transit Administration [FTA] 2018).

Vibration amplitudes are usually expressed in peak particle velocity (PPV), or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020). The vibration velocity level threshold of perception for humans is approximately 0.035 in/sec PPV (Caltrans 2020).

## 2.3 Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The Noise Element of the Fresno County General Plan (2000) identifies residential, school, library, church, hospital, and nursing home uses as noise-sensitive land uses within the County. Other sensitive receivers are identified as transient lodging and motel and hotel uses.

Vibration-sensitive receivers, which are similar to noise-sensitive receivers, include residences and institutional uses, such as schools, churches, and hospitals. However, vibration-sensitive receivers also include buildings where vibrations may interfere with vibration-sensitive equipment that is affected by vibration levels that may be well below those associated with human annoyance (e.g., recording studios or medical facilities with sensitive equipment) or historic buildings that could sustain damage from strong vibrations.

The Project site is not directly adjacent to sensitive receivers identified in the Fresno County General Plan. For the purposes of this analysis, the closest sensitive receivers identified include agricultural housing 3,300 feet to the west of the Project site on West Jayne Avenue, agricultural housing 11,500 feet to the southeast at the intersection of Modoc Avenue and West Goodrich Avenue, and a small row of houses 17,000 feet to the east on West Jayne Avenue.

## 2.4 Project Noise Setting

The noise environment of the area surrounding the Project Site is characterized by rural roadways, rural agricultural noise, existing solar facilities, and existing substations. Existing noise sources are primarily low-volume traffic, including on-road and off-road vehicles, tractors, trucks, and other farm equipment, and distant high-volume traffic noise along Interstate 5.

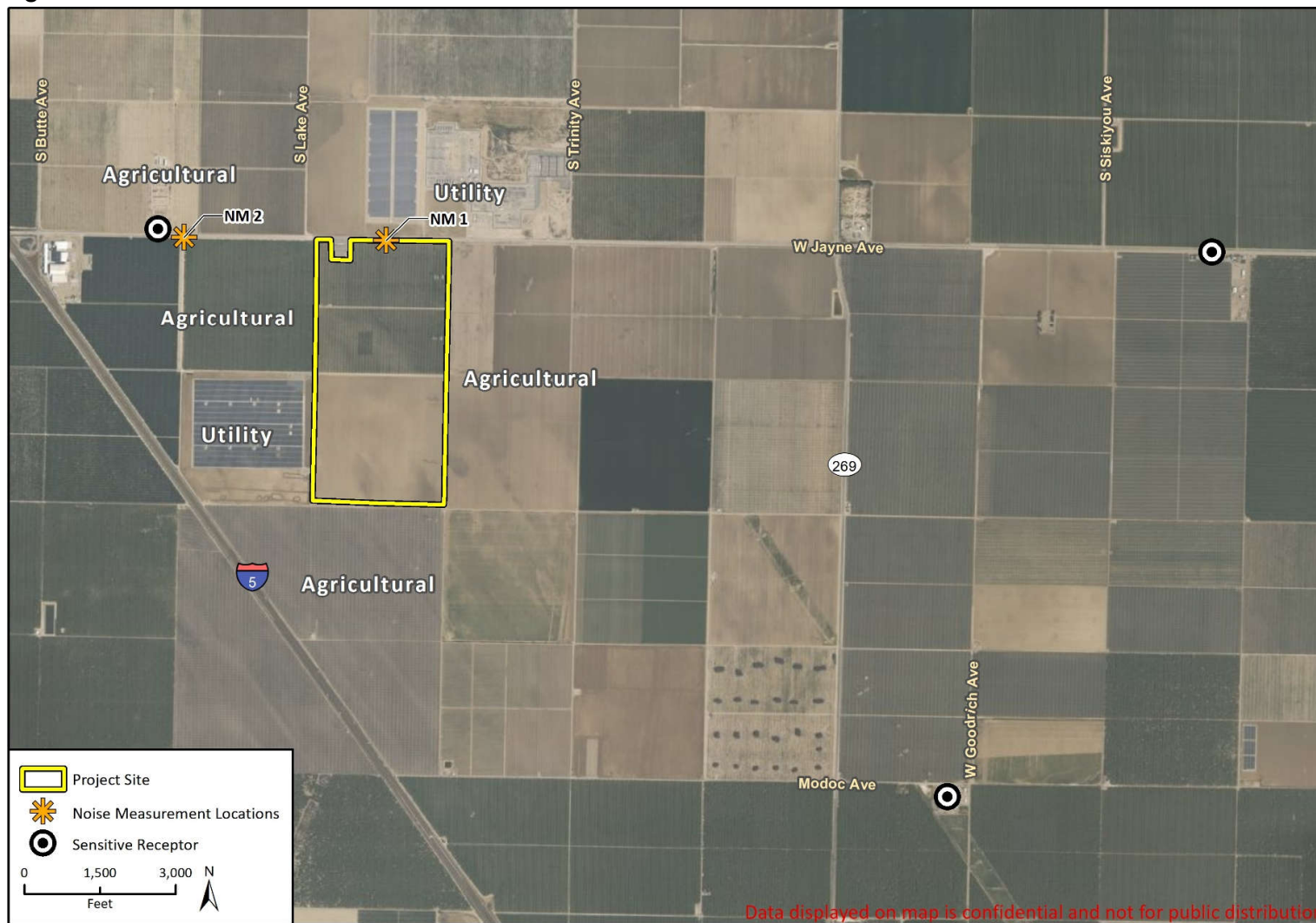
Two weekday 15-minute ambient noise measurements were taken on March 31, 2022 at the Project site using an ANSI Type 2 integrating sound level meter. The sound meter was calibrated prior to measurements. These noise measurements provide an estimate of the general noise environment on and around the Project site. Figure 3 shows the measurement locations and Table 2 summarizes the results of the short-term noise measurements.

**Table 2 Project Sites Noise Monitoring Results – Short Term**

| Measurement Location | Measurement Location  | Sample Times       | Approximate Distance to Primary Noise Source | L <sub>eq</sub> (dBA) | L <sub>min</sub> (dBA) | L <sub>max</sub> (dBA) |
|----------------------|---|--------------------|--|-----------------------|------------------------|------------------------|
| NM1                  | North of Project site, along West Jayne Road, between Project site and PG&E Substation        | 11:11 – 11:26 a.m. | 0.5 mile from substation                     | 73                    | 41                     | 89                     |
| NM2                  | Northwest of Project site, at intersection of West Jayne Road and an agricultural access road | 12:10 – 12:25 p.m. | 10 to 15 feet from agricultural areas        | 75                    | 56                     | 88                     |

Detailed sound level measurement data are included in Appendix A and locations are shown on Figure 3.

Figure 3 Noise Measurement Locations



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Fig 3 Noise Measurement Locations\_Landscapes

## 2.5 Regulatory Setting

### Federal

There are no specific federal noise standards that would be applicable to the Project other than federal noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass by noise standard is 80 dBA at 15 meters (approximately 50 feet) from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

### State

California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires each county and city to adopt a General Plan that includes a Noise Element prepared per guidelines adopted by the Governor's Office of Planning and Research. The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. CEQA requires all known environmental effects of a project be analyzed, including environmental noise and vibration impacts.

### Local

#### *Fresno County General Plan Noise Element*

The Fresno County General Plan Health and Safety Element (Section G, Noise) identifies normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for a variety of land use and development types (Fresno County 2000). Table 3 shows the County of Fresno acceptable community noise exposure levels. As shown, ambient noise levels up to 75 dBA  $L_{dn}$ /CNEL are normally acceptable for utility uses while ambient noise levels up to 80 dBA  $L_{dn}$ /CNEL are conditionally acceptable (Fresno County 2000).

The Noise Element also includes policies designed to meet General Plan Goal HS-G, to "protect residential and other noise-sensitive uses from exposure to harmful or annoying noise levels." These policies address requirements for new noise-sensitive land uses, development in areas that may be exposed to high levels of noise, construction of new noise-generating uses, procedures for acoustical analysis and environmental review, and regulations for construction activity and the use of heavy construction equipment in accordance with the County's Noise Control Ordinance. The following policies are applicable to the Project:

- Policy HS-G.1:** The County shall require that all proposed development incorporate design elements necessary to minimize adverse noise impacts on surrounding land uses.
- Policy HS-G.4:** So that noise mitigation may be considered in the design of new projects, the County shall require an acoustical analysis as part of the environmental review process where:
  - a. Noise sensitive land uses are proposed in areas exposed to existing or projected noise levels that are "generally unacceptable" or higher according to Table 3, "Land Use Compatibility for Community Noise Environments."

**Table 3 Land Use and Noise Compatibility Matrix (CNEL)**

| Land Use  | Normally Acceptable <sup>1</sup> | Conditionally Acceptable <sup>2</sup> | Generally Unacceptable <sup>3</sup> | Clearly Unacceptable <sup>4</sup> |
|---|----------------------------------|---------------------------------------|-------------------------------------|-----------------------------------|
| Residential – Low Density Single-family, Duplex, Mobile Homes | 50-60                            | 55-65                                 | 65-75                               | 75-85                             |
| Residential – Multiple Family                                 | 50-60                            | 55-65                                 | 65-75                               | 75-85                             |
| Transient Lodging – Motels, Hotels                            | 50-65                            | 60-70                                 | 70-80                               | 80-85                             |
| Schools, Libraries, Churches, Hospitals, Nursing Homes        | 50-60                            | 55-65                                 | 65-75                               | 75-85                             |
| Auditoriums, Concert Halls, Amphitheaters                     | –                                | 50-70                                 | –                                   | 65-85                             |
| Sports Arena, Outdoor Spectator Sports                        | –                                | 50-75                                 | –                                   | 70-85                             |
| Playgrounds, Neighborhood Parks                               | 50-70                            | –                                     | 67.5-75                             | 72.5-85                           |
| Golf Courses, Riding Stables, Water Recreation, Cemeteries    | 50-75                            | 70-77.5                               | –                                   | 80-85                             |
| Office Buildings, Business Commercial and Professional        | 50-70                            | 67.5-77.5                             | 75-85                               | –                                 |
| Industrial, Manufacturing, Utilities, Agriculture             | 50-75                            | 70-80                                 | 75-85                               | –                                 |

<sup>1</sup> Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements

<sup>2</sup> Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

<sup>3</sup> Generally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

<sup>4</sup> Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: Fresno County 2000.

- b. Proposed projects are likely to produce noise levels exceeding the levels shown in the County's Noise Control Ordinance at existing or planned noise-sensitive uses.

**Policy HS-G.5:** Where noise mitigation measures are required to achieve acceptable levels according to land use compatibility or the Noise Control Ordinance, the County shall place emphasis of such measures upon site planning and projects design. These measures may include, but are not limited to, building orientation, setbacks, earthen berms, and building construction practices. The County shall consider the use of noise barriers, such as sound walls, as a means of achieving the noise standards after other design-related noise mitigation measures have been evaluated or integrated into the projects.

**Policy HS-G.6:** The County shall regulate construction-related noise to reduce impacts on adjacent uses in accordance with the County's Noise Control Ordinance.

**Policy HS-G.8:** The County shall evaluate the compatibility of proposed projects with existing and future noise levels through a comparison to Table 3, "Land Use Compatibility for Community Noise Environments."

*Fresno County Noise Ordinance*

The County’s Code of Ordinances (Chapter 8.40, *Noise Control*) contains the noise measurement criteria, exterior noise thresholds, and noise source exemptions, referred to as the “County’s Noise Control Ordinance” in the General Plan. Section 8.40.040 (Exterior Noise Standards) states that it is unlawful for any person to create noise on a property “which causes the exterior noise level when measured at any affected single- or multiple-family residence, school, hospital, church or public library situation [sic] in either the incorporated or unincorporated area to exceed the noise level standards as set forth in the following table”. Table 4 summarizes the five exterior noise level standards for the nearby sensitive receptors established in Section 8.40.040 of the County Code of Ordinances. Each standard limits the number of minutes within any given hour during which noise generated on a property may exceed a certain noise level at sensitive receptors. The standards apply within 50 feet of the structure of affected sensitive receptors (Section 8.40.030).

**Table 4 Fresno County Exterior Noise Level Standards (dBA, Leq)**

| Category | Cumulative Number of Minutes in any 1-hour Time Period | Noise Level Standard (dBA)        |                                      |
|----------|--|-----------------------------------|--------------------------------------|
|          |  | Daytime<br>7:00 a.m.to 10:00 p.m. | Nighttime<br>10:00 p.m. to 7:00 a.m. |
| 1        | 30   | 50                                | 45                                   |
| 2        | 15   | 55                                | 50                                   |
| 3        | 5  | 60                                | 55                                   |
| 4        | 1  | 65                                | 60                                   |
| 5        | 0  | 70                                | 65                                   |

Notes: In the event the measured ambient noise level exceeds the applicable noise level standard in any category above, the applicable standard shall be adjusted so as to equal the ambient noise level. Each of the noise level standards specified above shall be reduced by 5 dBA for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the noise level standards.

Source: Fresno County 1978

As indicate Table 4, it would be unlawful for on-site equipment during the Operation and Maintenance Phase of the proposed Project to generate noise exceeding 50 dBA for 30 or more minutes in any daytime hour.

Exempted activities from the County’s Noise Control Ordinance applicable to the Project include:

- Noise sources associated with construction, provided such activities do not take place before 6:00 a.m. or after 9:00 p.m. on any day except Saturday or Sunday, or before 7:00 a.m. or after 5:00 p.m. on Saturday or Sunday; or
- Noise sources associated with work performed by private or public utilities in the maintenance or modification of its facilities.

In addition to the exterior noise standards, Section 8.40.090 of the Fresno County Municipal Code identifies a noise level limit of 50 dBA for electrical substations when measured 50 feet from an affected residence.

## 3 Methodology

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The analysis of noise impacts considers the effects of both temporary construction-related noise and long-term noise associated with operation of the proposed Project. The analysis also includes a brief discussion of potential, future decommissioning of the Project.

### 3.1 Construction Noise

Reference noise levels for heavy-duty construction equipment were estimated using the FHWA Roadway Construction Noise Model (RCNM) (FHWA 2006). Due to the size of the Project site, a likely construction scenario includes simultaneous operation of an excavator, a grader, and a dozer working during grading or site preparation to excavate and move soil in close proximity to one another. In addition, medium-voltage stations may sit on concrete foundations or driven piles, pending final design. Therefore, a scenario of an excavator, a dozer, a grader, and an impact pile driver was analyzed. It is assumed that diesel engines would power all construction equipment. For reference noise levels, at a distance of 50 feet, an excavator, a dozer, and a grader would generate a noise level of 84 dBA  $L_{eq}$  and an excavator, a dozer, a grader, and an impact pile driver would generate a noise level of 94 dBA  $L_{eq}$  (RCNM calculations are included in Appendix B).

Noise levels associated with construction-related traffic along area highways and roadways were estimated using the federal Traffic Noise Model (TNM), Version 2.5 (FHWA 2004) (noise modeling data sheets can be viewed in Appendix B). Key modeling assumptions are as follows:

- Project construction will result in up to 380 trips per day based on a 300 one-way daily worker trips and 80 one-way daily vendor truck trips.
- The existing traffic volume for Jayne Avenue is 1,810 trips (Fresno County Association of Governments 2011). This is based on the Fresno County Association of Governments traffic count at Jayne Avenue near Butte Avenue.

### 3.2 Construction Vibration

The Project equipment that would have the greatest potential to generate high vibration levels would be impact pile driving. The FTA Transit Noise and Vibration Impact Assessment (2018) estimates pile driving to create a vibration level of 1.518 in/sec PPV at 25 feet. Vibration limits used in this analysis to determine a potential impact to local land uses from construction activities are based on information contained in Caltrans' *Transportation and Construction Vibration Guidance Manual* and the Federal Transit Administration and the FTA *Transit Noise and Vibration Impact Assessment Manual* (Caltrans 2020; FTA 2018).

### 3.3 Operational Noise

Long-term operational point sources of noise (including battery or electrolyzer tank storage containers, transformers, inverters, and the substation) were calculated using SoundPLAN noise modeling software, Version 8.2. SoundPLAN incorporates noise propagation algorithms and reference sound levels published by various government agencies and the scientific community. Noise sources, receivers, structures, and barriers are input using three-dimensional coordinates. In



all cases, receivers were modeled at the average height of the human ear, which is five feet above ground elevation.

On site noise sources were modeled based on collected reference data. Propagation of modeled stationary noise sources was based on International Organization for Standardization (ISO) Standard 9613-2, "Attenuation of Sound during Propagation Outdoors, Part 2: General Method of Calculation." The assessment methodology assumes that all receivers would be downwind of stationary sources. This is a worst-case assumption for total noise impacts since only some receivers would be downwind at any one time.

The Project's storage containers and inverters were assumed to cover the entire site (except for the easement on the eastern edge of the project site) for a conservative analysis given multiple potential site layouts. The following parameters were used to model the proposed Project's operational noise:

- Each battery or electrolyzer tank container would generate noise from two "silenced" heating, ventilation, and air conditioning (HVAC) units. The storage containers are modeled as point sources. From manufacturer data, each sound-attenuated ("silenced") HVAC unit would generate 51.2 dBA  $L_{eq}$  at a distance of 5 feet. For comparison purposes and per the same source of manufacturer data, without the noise silencing on the return air and supply air ducts, the HVAC unit demonstrates a noise level of 62 dBA  $L_{eq}$  at 5 feet. This unsilenced noise level is modeled for conservative purposes.
- Each set of four storage containers is served by a single inverter. The inverter is modeled as a point source using noise levels measured in a noise study for a Power Electronics HEM Inverter (On-Site Acoustic Testing 2019; included as Appendix C). That study measured noise levels on six sides from the structure, with the highest measured noise levels as 80.5 dBA at the front and at the back. The inverter point sources is conservatively represented as emanating 80.5 dBA in all directions.
- The six Project substation transformers are assumed to each yield a sound power level of 95.0 dBA.
- The container equipment, inverters, and substation are conservatively assumed to be in continuous operation.

### 3.4 Decommissioning

At the end of the Project's useful life (anticipated at 30 years), the energy storage system facility and associated on-site support facilities would be decommissioned in accordance with then-current decommissioning practices. It is not possible to quantitatively evaluate noise that might result from Project decommissioning in the future, as the technology and construction practices that will be available at that time are uncertain. Therefore, based on current decommissioning practices, as a reasonable-worst case, this analysis assumes that noise impacts generated during future decommissioning would be similar to noise impacts generated during construction of the Project.

### 3.5 Significance Thresholds

To determine whether a Project would have a significant noise impact, Appendix G of the CEQA Guidelines requires consideration of whether a Project would result in:

1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
2. Generation of excessive groundborne vibration or groundborne noise levels; or,
3. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the Project area to excessive noise levels.

### **On-Site Construction Noise**

As discussed in Section 2.5, Fresno County Noise Ordinance Section 8.40.060 exempts construction noise from the exterior noise standards provided that such activities do not occur before 6:00 a.m. or after 9:00 p.m. on any day except Saturday or Sunday, or before 7:00 a.m. or after 5:00 p.m. on Saturday or Sunday. Construction would result in a significant noise impact if construction activities would occur outside of the permitted hours specified by the County's Noise Ordinance.

### **Off-site Construction Traffic Noise**

For purposes of this analysis, a significant impact would occur if project-related traffic increases the ambient noise environment of noise-sensitive land uses by 3 dBA or more (a barely perceptible noise increase) if the locations are subject to noise levels in excess of conditionally acceptable levels, or by 5 dBA or more if the locations are not subject to noise levels in excess of the normally acceptable levels identified in the County of Fresno General Plan.

### **Operational Noise**

The project site would be located in a mainly agricultural area of the County with utility areas to the north and west. As discussed in Section 2.5, Fresno County Noise Ordinance Section 8.40.040 establishes exterior noise standards that are assessed at property lines. The noise standards applicable at sensitive receiver property lines are 50 dBA  $L_{eq}$  between 7:00 a.m. to 10:00 p.m. and 45 dBA  $L_{eq}$  between 10:00 p.m. to 7:00 a.m. Operational noise could be significant if it exceeded these noise standards.

### **Vibration**

The project would result in a significant vibration-related impact if construction or operation would result in distinctively perceptible vibration levels (0.24 in/sec PPV) at the nearest sensitive receptor.

## 4 Impact Analysis

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### 4.1 Issue 1

**Issue:** Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? **LESS THAN SIGNIFICANT**

#### Construction and Decommissioning Noise

##### *Short-Term On-Site Construction and Decommissioning Noise*

Operation of heavy equipment during construction would result in a temporary noise level increase. Project construction activities would involve the use of a variety of construction equipment throughout various phases of construction; these include transport of personnel and materials to the site, use of heavy machinery in grading and clearing the site, potential operation of pile drivers for medium-voltage stations, and operation of other equipment used during construction.

The nearest noise-sensitive uses near the Project site are agricultural residences 3,300 feet west of the Project site along West Jayne Avenue. Based on the modeling, at a distance of 3,300 feet, an excavator, a grader, and a dozer would generate an unshielded noise level of 47 dBA  $L_{eq}$  (8-hour) at the nearest sensitive receptor to the Project site. With the addition of impact pile driving (if medium-voltage stations would sit on driven piles), construction noise would generate a noise level of 58 dBA  $L_{eq}$  (8-hour) at 3,300 feet.

As discussed in Section 2.5, Fresno County Noise Ordinance Section 8.40.060 exempts construction noise from the exterior noise standards provided that such activities do not occur before 6:00 a.m. or after 9:00 p.m. Monday through Friday, or before 7:00 a.m. or after 5:00 p.m. on Saturday or Sunday. Project construction activities would primarily occur between the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday. A limited amount of construction work on the weekends may be required, depending on scheduling, equipment and material delivery schedules, and other logistical considerations. Limited weekend construction work would not occur outside 7:00 a.m. to 5:00 p.m. as specified in the County of Fresno Noise Control Ordinance. Therefore, daytime impacts to adjacent sensitive receptors during construction of the proposed Project would be less than significant.

This analysis assumes that Project decommissioning impacts would be similar to Project construction impacts and would be completed in approximately 24 months. Therefore, noise impacts to adjacent sensitive receptors during decommissioning of the Project would be less than significant.

##### *Short-Term Off-Site Construction and Decommissioning Traffic Noise*

During construction, the Project would generate new vehicle trips that would temporarily increase noise levels on nearby roadways. Project construction is anticipated to generate a maximum of 380 daily vehicle trips between workers and deliveries of equipment. The Project would not make alterations to roadway alignments or substantially change the vehicle classifications mix on local

roadways. Therefore, the primary factor affecting off-site noise levels would be increased traffic volumes.

The addition of 380 daily vehicle trips to traffic volumes on West Jayne Avenue would result in a traffic noise increase of approximately 0.8 dBA, which would not exceed the 3 dBA (barely perceptible noise increase) impact criterion for off-site traffic noise. Therefore, impacts would be less than significant.

This analysis assumes that decommissioning impacts would be similar to construction impacts and would be completed in approximately 24 months with up to 380 daily vehicle trips. Therefore, Project decommissioning would likewise result in less than significant short-term traffic noise impacts.

## Operational Noise

### *Long-Term On-Site Operational Noise*

The Project would operate continuously, seven days a week, adding sources of long-term operational noise to the Project site. Following the methodology discussed in Section 3.3, operational noise levels were modeled and noise ground-floor contours were estimated. Estimated noise levels at the nearest residential uses are summarized in Table 5 and ground-floor noise contours are shown in Figure 4.

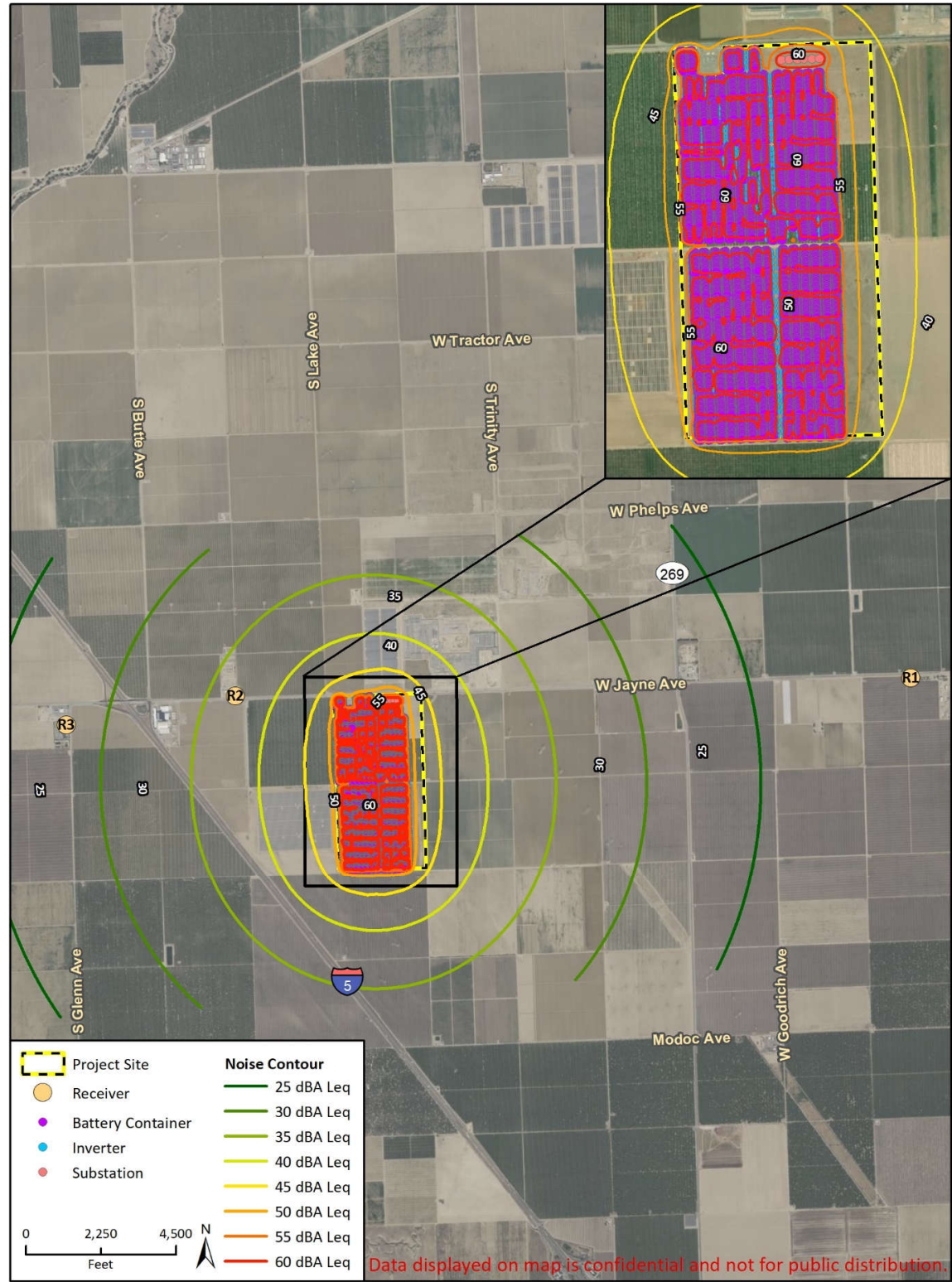
**Table 5 Operational Noise Levels**

| Receiver | Description                                     | Modeled Noise Level (dBA $L_{eq}$ ) | Exceed Daytime Standard? <sup>1</sup> | Exceed Nighttime Standard? <sup>1</sup> |
|----------|---|-------------------------------------|---------------------------------------|---|
| R1       | Residences at 15015 West Jayne Avenue           | 17                                  | No                                    | No                                      |
| R2       | Agricultural Housing at 19536 West Jayne Avenue | 37                                  | No                                    | No                                      |
| R3       | Almond Tree Oasis RV Park                       | 28                                  | No                                    | No                                      |

<sup>1</sup> The applicable daytime threshold (7:00 a.m. to 10:00 p.m.) is 50 dBA  $L_{eq}$  at residential properties and the applicable nighttime threshold (10:00 p.m. to 7:00 a.m.) is 45 dBA  $L_{eq}$  at residential properties. The Fresno County Code does not define noise limits at commercial or industrial uses.

As shown in Table 5, noise levels attributable to Project operation would reach as high as 37 dBA  $L_{eq}$  at the nearest residential housing and not exceed County daytime (50 dBA  $L_{eq}$ ) and nighttime (45 dBA  $L_{eq}$ ) exterior noise standards of the County Noise Ordinance at the nearest residential uses. Project operational noise level would likely not be noticeable above ambient noise levels at the nearest residences. The proposed Project would be consistent with Fresno County General Plan Policies HS-G.4 and HS-G.8, as evidenced by the acoustical analysis contained herein, which illustrates that the proposed energy storage system facility and supporting infrastructure would not produce noise levels incompatible with existing land uses in the Project site vicinity. Therefore, long-term operational impacts would be less than significant.

**Figure 4 Operational Noise Contours**



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Fig. 4 Operational Noise Contours

### *Long-Term Off-Site Traffic Noise*

During operation of the Project substation, operation and maintenance staff would visit the substation periodically for switching and other operation activities. Maintenance trucks would be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance.

Routine operations would require one or two workers in a light utility truck to visit the facility on a weekly basis. Typically, one major maintenance inspection would take place annually. This amount of additional vehicle trips on nearby roadways would result in a negligible addition of roadway traffic noise.

## 4.2 Issue 2

**Issue:** Would the Project result in generation of excessive ground-borne vibration or ground-borne noise levels? **LESS THAN SIGNIFICANT**

### **Construction and Decommissioning Vibration**

The greatest potential source of vibration from construction and decommissioning activity would involve pile drivers. Pile driving construction equipment may be used within 3,300 feet of the nearest residential structure. Impact pile driving creates approximately 1.518 in/sec PPV at a distance of 25 feet (Caltrans 2020). These vibration levels would attenuate to 0.007 in/sec PPV for a pile driver and 0.0004 in/sec PPV for a dozer at 3,300 feet. These vibration levels are lower than the threshold of 0.24 in/sec PPV. Therefore, temporary impacts associated with construction would be less than significant.

This analysis assumes that decommissioning impacts would be similar to construction impacts and would be completed in approximately 24 months. Therefore, Project decommissioning would likewise result in less than significant vibration impacts.

### **Operational Vibration**

Operation of the Project would not include any substantial vibration sources. Therefore, operational vibration impacts would be less than significant.

## 4.3 Issue 3

**Issue:** For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels? **NO IMPACT**

The airport nearest to the Project site, New Coalinga Municipal Airport, is located approximately seven miles to the northwest. The Project would not be located within the noise contours of the airport. Therefore, on-site construction workers or maintenance staff would not be exposed to airport noise, and no impacts would occur.

## 5 References

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# Appendix A

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Noise Measurement Data

- Freq Weight : A  
 - Time Weight : SLOW  
 - Level Range : 40-100  
 - Max dB : 88.6 - 2022/03/31 11:21:08  
 - Level Range : 40-100  
 - SEL : 102.5  
 - Leq : 73.0  
 -

| No.s | Date Time           | (dB) |      |      |      |      |  |
|------|---------------------|------|------|------|------|------|--|
| 1    | 2022/03/31 11:12:17 | 63.5 | 62.5 | 65.9 | 65.7 | 71.5 |  |
| 6    | 2022/03/31 11:12:32 | 75.7 | 70.3 | 81.7 | 74.8 | 67.0 |  |
| 11   | 2022/03/31 11:12:47 | 66.3 | 58.4 | 57.4 | 56.0 | 58.6 |  |
| 16   | 2022/03/31 11:13:02 | 56.1 | 52.4 | 54.0 | 51.7 | 49.2 |  |
| 21   | 2022/03/31 11:13:17 | 50.9 | 61.9 | 78.7 | 68.6 | 65.8 |  |
| 26   | 2022/03/31 11:13:32 | 59.3 | 85.0 | 76.5 | 77.7 | 78.4 |  |
| 31   | 2022/03/31 11:13:47 | 81.2 | 71.5 | 62.5 | 54.8 | 49.0 |  |
| 36   | 2022/03/31 11:14:02 | 45.6 | 44.5 | 45.2 | 43.2 | 44.5 |  |
| 41   | 2022/03/31 11:14:17 | 43.0 | 41.6 | 42.8 | 43.0 | 44.7 |  |
| 46   | 2022/03/31 11:14:32 | 43.2 | 43.5 | 43.0 | 43.8 | 44.6 |  |
| 51   | 2022/03/31 11:14:47 | 41.5 | 41.3 | 44.7 | 42.3 | 43.5 |  |
| 56   | 2022/03/31 11:15:02 | 47.5 | 53.4 | 78.7 | 75.0 | 67.8 |  |
| 61   | 2022/03/31 11:15:17 | 62.9 | 52.7 | 47.0 | 48.6 | 65.6 |  |
| 66   | 2022/03/31 11:15:32 | 81.3 | 74.0 | 76.4 | 70.8 | 66.8 |  |
| 71   | 2022/03/31 11:15:47 | 78.4 | 75.1 | 67.0 | 55.8 | 46.8 |  |
| 76   | 2022/03/31 11:16:02 | 43.1 | 44.3 | 45.1 | 51.0 | 67.2 |  |
| 81   | 2022/03/31 11:16:17 | 82.7 | 78.0 | 83.9 | 75.0 | 65.6 |  |
| 86   | 2022/03/31 11:16:32 | 55.0 | 67.5 | 77.2 | 70.9 | 62.7 |  |
| 91   | 2022/03/31 11:16:47 | 52.1 | 46.3 | 43.1 | 43.4 | 44.3 |  |
| 96   | 2022/03/31 11:17:02 | 43.8 | 43.6 | 44.2 | 44.7 | 52.0 |  |
| 101  | 2022/03/31 11:17:17 | 69.0 | 79.7 | 71.3 | 63.7 | 55.0 |  |
| 106  | 2022/03/31 11:17:32 | 55.0 | 74.4 | 73.1 | 67.4 | 61.0 |  |
| 111  | 2022/03/31 11:17:47 | 52.7 | 45.8 | 44.9 | 44.1 | 44.2 |  |
| 116  | 2022/03/31 11:18:02 | 41.8 | 40.9 | 42.5 | 43.2 | 42.6 |  |
| 121  | 2022/03/31 11:18:17 | 45.1 | 46.4 | 46.5 | 46.9 | 66.9 |  |
| 126  | 2022/03/31 11:18:32 | 79.9 | 71.8 | 66.0 | 80.0 | 70.4 |  |
| 131  | 2022/03/31 11:18:47 | 85.0 | 75.6 | 69.5 | 78.4 | 73.9 |  |
| 136  | 2022/03/31 11:19:02 | 67.8 | 68.4 | 60.1 | 51.7 | 48.4 |  |
| 141  | 2022/03/31 11:19:17 | 48.5 | 48.4 | 46.7 | 44.6 | 44.0 |  |
| 146  | 2022/03/31 11:19:32 | 46.9 | 53.9 | 67.4 | 76.8 | 70.2 |  |
| 151  | 2022/03/31 11:19:47 | 61.0 | 51.3 | 50.1 | 66.2 | 75.9 |  |
| 156  | 2022/03/31 11:20:02 | 69.6 | 65.3 | 54.8 | 54.9 | 78.6 |  |
| 161  | 2022/03/31 11:20:17 | 82.7 | 74.7 | 66.4 | 55.3 | 48.3 |  |
| 166  | 2022/03/31 11:20:32 | 47.2 | 45.4 | 45.5 | 44.5 | 45.8 |  |
| 171  | 2022/03/31 11:20:47 | 45.1 | 44.9 | 45.8 | 46.2 | 53.3 |  |
| 176  | 2022/03/31 11:21:02 | 61.1 | 83.8 | 85.9 | 80.8 | 70.4 |  |
| 181  | 2022/03/31 11:21:17 | 68.5 | 63.6 | 67.2 | 81.9 | 73.2 |  |
| 186  | 2022/03/31 11:21:32 | 65.8 | 55.0 | 49.6 | 47.2 | 47.9 |  |
| 191  | 2022/03/31 11:21:47 | 48.2 | 45.1 | 45.4 | 45.1 | 44.0 |  |
| 196  | 2022/03/31 11:22:02 | 43.4 | 42.0 | 42.7 | 43.3 | 42.1 |  |
| 201  | 2022/03/31 11:22:17 | 42.9 | 45.6 | 51.3 | 80.9 | 72.1 |  |
| 206  | 2022/03/31 11:22:32 | 62.9 | 53.8 | 49.1 | 49.7 | 55.4 |  |
| 211  | 2022/03/31 11:22:47 | 67.6 | 76.5 | 73.4 | 61.9 | 78.3 |  |
| 216  | 2022/03/31 11:23:02 | 74.0 | 66.9 | 55.2 | 48.8 | 68.9 |  |
| 221  | 2022/03/31 11:23:17 | 78.1 | 70.2 | 58.3 | 49.6 | 46.4 |  |
| 226  | 2022/03/31 11:23:32 | 45.6 | 47.6 | 48.3 | 51.1 | 67.2 |  |
| 231  | 2022/03/31 11:23:47 | 74.8 | 79.2 | 73.3 | 67.6 | 56.1 |  |
| 236  | 2022/03/31 11:24:02 | 50.0 | 59.6 | 75.1 | 66.9 | 63.1 |  |
| 241  | 2022/03/31 11:24:17 | 53.3 | 45.2 | 45.0 | 53.2 | 78.8 |  |
| 246  | 2022/03/31 11:24:32 | 72.4 | 79.4 | 77.5 | 70.5 | 65.0 |  |
| 251  | 2022/03/31 11:24:47 | 58.3 | 77.3 | 74.2 | 72.3 | 67.1 |  |
| 256  | 2022/03/31 11:25:02 | 56.7 | 48.6 | 47.1 | 44.7 | 45.0 |  |
| 261  | 2022/03/31 11:25:17 | 43.8 | 44.7 | 55.0 | 80.5 | 74.1 |  |
| 266  | 2022/03/31 11:25:32 | 69.5 | 60.5 | 52.1 | 47.0 | 45.0 |  |
| 271  | 2022/03/31 11:25:47 | 43.2 | 45.9 | 45.3 | 46.3 | 53.9 |  |
| 276  | 2022/03/31 11:26:02 | 67.8 | 73.7 | 67.5 | 63.3 | 52.3 |  |
| 281  | 2022/03/31 11:26:17 | 44.0 | 42.8 | 47.7 | 62.5 | 78.8 |  |
| 286  | 2022/03/31 11:26:32 | 70.9 | 67.1 | 83.7 | 74.4 | 82.9 |  |
| 291  | 2022/03/31 11:26:47 | 84.1 | 75.4 | 67.9 | 59.2 | 53.3 |  |
| 296  | 2022/03/31 11:27:02 | 50.2 | 47.4 | 46.9 | 53.1 | 77.3 |  |

- Freq Weight : A  
 - Time Weight : SLOW  
 - Level Range : 40-100  
 - Max dB : 88.1 - 2022/03/31 12:21:57  
 - Level Range : 40-100  
 - SEL : 104.2  
 - Leq : 74.7  
 -

| No. s | Date Time           | (dB) |      |      |      |      |  |
|-------|---------------------|------|------|------|------|------|--|
| 1     | 2022/03/31 12:11:18 | 66.5 | 63.1 | 59.5 | 56.5 | 56.9 |  |
| 6     | 2022/03/31 12:11:33 | 63.1 | 81.9 | 75.9 | 68.2 | 65.5 |  |
| 11    | 2022/03/31 12:11:48 | 60.7 | 60.9 | 61.6 | 63.7 | 66.2 |  |
| 16    | 2022/03/31 12:12:03 | 81.9 | 78.3 | 78.3 | 77.5 | 75.3 |  |
| 21    | 2022/03/31 12:12:18 | 81.0 | 79.2 | 74.7 | 68.6 | 67.7 |  |
| 26    | 2022/03/31 12:12:33 | 67.4 | 86.9 | 82.0 | 77.5 | 74.7 |  |
| 31    | 2022/03/31 12:12:48 | 72.0 | 65.9 | 62.1 | 61.4 | 60.6 |  |
| 36    | 2022/03/31 12:13:03 | 76.3 | 79.2 | 74.6 | 72.6 | 67.8 |  |
| 41    | 2022/03/31 12:13:18 | 62.8 | 65.0 | 67.1 | 66.4 | 66.0 |  |
| 46    | 2022/03/31 12:13:33 | 65.1 | 70.1 | 86.4 | 82.1 | 76.1 |  |
| 51    | 2022/03/31 12:13:48 | 71.5 | 68.9 | 64.4 | 60.2 | 59.7 |  |
| 56    | 2022/03/31 12:14:03 | 59.0 | 59.2 | 59.7 | 60.1 | 60.4 |  |
| 61    | 2022/03/31 12:14:18 | 75.5 | 81.6 | 76.0 | 79.2 | 81.7 |  |
| 66    | 2022/03/31 12:14:33 | 72.1 | 68.6 | 76.4 | 76.8 | 76.0 |  |
| 71    | 2022/03/31 12:14:48 | 76.2 | 69.6 | 68.1 | 67.4 | 77.8 |  |
| 76    | 2022/03/31 12:15:03 | 79.6 | 73.4 | 69.4 | 66.8 | 72.9 |  |
| 81    | 2022/03/31 12:15:18 | 67.0 | 64.9 | 61.8 | 60.2 | 60.7 |  |
| 86    | 2022/03/31 12:15:33 | 59.8 | 59.7 | 70.8 | 75.5 | 69.7 |  |
| 91    | 2022/03/31 12:15:48 | 65.4 | 63.9 | 77.7 | 76.3 | 71.6 |  |
| 96    | 2022/03/31 12:16:03 | 82.9 | 74.5 | 68.3 | 67.6 | 69.5 |  |
| 101   | 2022/03/31 12:16:18 | 77.2 | 70.8 | 64.5 | 61.5 | 62.1 |  |
| 106   | 2022/03/31 12:16:33 | 62.0 | 61.5 | 61.7 | 61.5 | 62.3 |  |
| 111   | 2022/03/31 12:16:48 | 62.4 | 61.1 | 61.5 | 62.4 | 65.2 |  |
| 116   | 2022/03/31 12:17:03 | 77.8 | 83.6 | 77.3 | 70.8 | 68.7 |  |
| 121   | 2022/03/31 12:17:18 | 66.9 | 67.2 | 76.0 | 71.2 | 77.3 |  |
| 126   | 2022/03/31 12:17:33 | 70.2 | 67.6 | 68.6 | 66.2 | 63.8 |  |
| 131   | 2022/03/31 12:17:48 | 63.1 | 63.2 | 61.8 | 62.9 | 62.9 |  |
| 136   | 2022/03/31 12:18:03 | 62.4 | 62.4 | 72.9 | 75.5 | 79.7 |  |
| 141   | 2022/03/31 12:18:18 | 78.6 | 72.4 | 66.7 | 63.7 | 82.7 |  |
| 146   | 2022/03/31 12:18:33 | 75.6 | 71.7 | 69.4 | 75.2 | 71.7 |  |
| 151   | 2022/03/31 12:18:48 | 68.3 | 74.7 | 74.0 | 69.6 | 66.4 |  |
| 156   | 2022/03/31 12:19:03 | 65.4 | 63.5 | 63.3 | 63.7 | 63.4 |  |
| 161   | 2022/03/31 12:19:18 | 63.7 | 64.2 | 77.0 | 75.6 | 69.7 |  |
| 166   | 2022/03/31 12:19:33 | 68.0 | 65.2 | 67.1 | 81.4 | 83.3 |  |
| 171   | 2022/03/31 12:19:48 | 76.7 | 71.2 | 77.5 | 73.9 | 70.3 |  |
| 176   | 2022/03/31 12:20:03 | 69.8 | 69.0 | 68.6 | 68.6 | 71.5 |  |
| 181   | 2022/03/31 12:20:18 | 77.5 | 71.2 | 66.9 | 65.3 | 63.9 |  |
| 186   | 2022/03/31 12:20:33 | 64.1 | 64.0 | 65.9 | 80.6 | 75.2 |  |
| 191   | 2022/03/31 12:20:48 | 68.9 | 69.8 | 82.0 | 77.1 | 78.7 |  |
| 196   | 2022/03/31 12:21:03 | 78.5 | 71.7 | 67.9 | 80.0 | 81.5 |  |
| 201   | 2022/03/31 12:21:18 | 83.1 | 77.1 | 80.6 | 72.8 | 71.6 |  |
| 206   | 2022/03/31 12:21:33 | 70.5 | 78.8 | 73.4 | 67.0 | 65.2 |  |
| 211   | 2022/03/31 12:21:48 | 66.2 | 67.3 | 85.2 | 82.8 | 75.1 |  |
| 216   | 2022/03/31 12:22:03 | 75.8 | 79.2 | 71.9 | 68.6 | 67.7 |  |
| 221   | 2022/03/31 12:22:18 | 78.8 | 70.6 | 66.5 | 64.5 | 64.6 |  |
| 226   | 2022/03/31 12:22:33 | 66.1 | 66.9 | 68.2 | 72.1 | 77.3 |  |
| 231   | 2022/03/31 12:22:48 | 76.8 | 72.3 | 68.9 | 67.4 | 66.9 |  |
| 236   | 2022/03/31 12:23:03 | 65.0 | 64.8 | 65.1 | 65.5 | 64.6 |  |
| 241   | 2022/03/31 12:23:18 | 64.0 | 65.6 | 74.6 | 72.3 | 67.8 |  |
| 246   | 2022/03/31 12:23:33 | 67.4 | 80.0 | 83.0 | 78.0 | 70.5 |  |
| 251   | 2022/03/31 12:23:48 | 66.9 | 65.7 | 65.9 | 66.1 | 68.2 |  |
| 256   | 2022/03/31 12:24:03 | 78.0 | 71.5 | 72.1 | 76.4 | 70.7 |  |
| 261   | 2022/03/31 12:24:18 | 69.5 | 70.5 | 81.0 | 72.3 | 65.9 |  |
| 266   | 2022/03/31 12:24:33 | 66.2 | 68.8 | 78.3 | 75.4 | 69.7 |  |
| 271   | 2022/03/31 12:24:48 | 66.9 | 66.1 | 66.6 | 66.6 | 66.1 |  |
| 276   | 2022/03/31 12:25:03 | 66.3 | 66.5 | 67.7 | 79.0 | 74.9 |  |
| 281   | 2022/03/31 12:25:18 | 75.2 | 71.0 | 69.1 | 70.0 | 67.5 |  |
| 286   | 2022/03/31 12:25:33 | 69.5 | 69.2 | 71.6 | 79.0 | 72.3 |  |
| 291   | 2022/03/31 12:25:48 | 70.4 | 77.9 | 74.9 | 67.7 | 69.1 |  |
| 296   | 2022/03/31 12:26:03 | 73.7 | 78.4 | 76.0 | 83.7 | 73.7 |  |

# Appendix B

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Construction Noise Modeling Data

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 4/27/2022  
 Case Description: NextEra BESS Project

---- Receptor #1 ----

| Description | Land Use    | Baselines (dBA) |         |       |
|-------------|-------------|-----------------|---------|-------|
|             |             | Daytime         | Evening | Night |
| Residential | Residential | 80              | 80      | 80    |

| Description | Impact Device | Usage(%) | Equipment       |                   |                          |                           |
|-------------|---------------|----------|-----------------|-------------------|--------------------------|---------------------------|
|             |               |          | Spec Lmax (dBA) | Actual Lmax (dBA) | Receptor Distance (feet) | Estimated Shielding (dBA) |
| Excavator   | No            | 40       |                 | 80.7              | 50                       | 0                         |
| Grader      | No            | 40       | 85              |                   | 50                       | 0                         |
| Dozer       | No            | 40       |                 | 81.7              | 50                       | 0                         |

Results

| Equipment | Calculated (dBA) |      |
|-----------|------------------|------|
|           | *Lmax            | Leq  |
| Excavator | 80.7             | 76.7 |
| Grader    | 85               | 81   |
| Dozer     | 81.7             | 77.7 |
| Total     | 85               | 83.7 |

\*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 4/27/2022  
 Case Description: NextEra BESS Project

---- Receptor #1 ----

| Description | Land Use    | Baselines (dBA) |         |       |
|-------------|-------------|-----------------|---------|-------|
|             |             | Daytime         | Evening | Night |
| Residential | Residential | 80              | 80      | 80    |

| Description | Impact Device | Usage(%) | Equipment       |                   | Receptor Distance (feet) | Estimated Shielding (dBA) |
|-------------|---------------|----------|-----------------|-------------------|--------------------------|---------------------------|
|             |               |          | Spec Lmax (dBA) | Actual Lmax (dBA) |                          |                           |
| Excavator   | No            | 40       |                 | 80.7              | 3300                     | 0                         |
| Grader      | No            | 40       | 85              |                   | 3300                     | 0                         |
| Dozer       | No            | 40       |                 | 81.7              | 3300                     | 0                         |

Results

| Equipment | Calculated (dBA) |      |
|-----------|------------------|------|
|           | *Lmax            | Leq  |
| Excavator | 44.3             | 40.3 |
| Grader    | 48.6             | 44.6 |
| Dozer     | 45.3             | 41.3 |
| Total     | 48.6             | 47.3 |

\*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 4/27/2022  
 Case Description: NextEra BESS Project

---- Receptor #1 ----

| Description | Land Use    | Baselines (dBA) |         |       |
|-------------|-------------|-----------------|---------|-------|
|             |             | Daytime         | Evening | Night |
| Residential | Residential | 80              | 80      | 80    |

| Description        | Impact Device | Usage(%) | Equipment       |                   |                          |                           |
|--------------------|---------------|----------|-----------------|-------------------|--------------------------|---------------------------|
|                    |               |          | Spec Lmax (dBA) | Actual Lmax (dBA) | Receptor Distance (feet) | Estimated Shielding (dBA) |
| Excavator          | No            | 40       |                 | 80.7              | 50                       | 0                         |
| Grader             | No            | 40       | 85              |                   | 50                       | 0                         |
| Dozer              | No            | 40       |                 | 81.7              | 50                       | 0                         |
| Impact Pile Driver | Yes           | 20       |                 | 101.3             | 50                       | 0                         |

Results

| Equipment          | Calculated (dBA) |      |
|--------------------|------------------|------|
|                    | *Lmax            | Leq  |
| Excavator          | 80.7             | 76.7 |
| Grader             | 85               | 81   |
| Dozer              | 81.7             | 77.7 |
| Impact Pile Driver | 101.3            | 94.3 |
| Total              | 101.3            | 94.6 |

\*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 4/27/2022  
 Case Description: NextEra BESS Project

---- Receptor #1 ----

| Description | Land Use    | Baselines (dBA) |         |       |
|-------------|-------------|-----------------|---------|-------|
|             |             | Daytime         | Evening | Night |
| Residential | Residential | 80              | 80      | 80    |

| Description        | Impact Device | Usage(%) | Equipment       |                   |                          |                           |
|--------------------|---------------|----------|-----------------|-------------------|--------------------------|---------------------------|
|                    |               |          | Spec Lmax (dBA) | Actual Lmax (dBA) | Receptor Distance (feet) | Estimated Shielding (dBA) |
| Excavator          | No            | 40       |                 | 80.7              | 3300                     | 0                         |
| Grader             | No            | 40       | 85              |                   | 3300                     | 0                         |
| Dozer              | No            | 40       |                 | 81.7              | 3300                     | 0                         |
| Impact Pile Driver | Yes           | 20       |                 | 101.3             | 3300                     | 0                         |

Results

| Equipment          | Calculated (dBA) |      |
|--------------------|------------------|------|
|                    | *Lmax            | Leq  |
| Excavator          | 44.3             | 40.3 |
| Grader             | 48.6             | 44.6 |
| Dozer              | 45.3             | 41.3 |
| Impact Pile Driver | 64.9             | 57.9 |
| Total              | 64.9             | 58.3 |

\*Calculated Lmax is the Loudest value.



# Appendix C

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Reference Inverter Noise Study

On-Site Acoustic Testing, LLC  
PO Box 145 Pawlet, VT 05761 USA  
1-800-665-0080 Toll Free  
1-802-233-8700 Main Office  
[www.os-at.com](http://www.os-at.com)



June 2019 - Sound Pressure Focus - P.E.

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## **RESULTS OF TESTING**

### **Noise Emissions Testing of Power Electronics HEM Inverter**

On-Site Acoustic Testing, LLC is pleased to submit this report for services to support Power Electronics.

#### **Scope of work**

- Frequency analysis (1/3<sup>rd</sup> octave band)
- Total Sound Pressure

#### **ASTM/ANSI/ ISO Specifications for testing protocols to be conducted**

- S1.4 – ANSI Standards for Sound Level Meters
- ASTM E1124 – Standard Test Method for Field Measurement of SPL
- ANSI/AHRI S – Standard 230 Sound Intensity Procedures
- ANSI/ARHI Standard 575 Method of Measuring Machinery Sound Within an Equipment Space
- ANSI/ASA S12.54 / ISO 3744 Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for an essentially free field over a reflecting plane

## **TESTING SERVICE**

### **Testing equipment**

- Bruel & Kjaer 2270 Generation 4 analyzer running BZ-7223 (Frequency Analysis) software (ANSI Type 1 precision)
- Bruel & Kjaer 4231 calibration instrument

## Project Deliverables

The following information is contained in this testing report:

| Deliverable              | Description                                  |
|--------------------------|--|
| Noise Level Measurements | Noise level in dBA, dBC and 1/3 octave bands |

Testing was conducted in Ft. Pierce, Florida at the Nextera Interstate PV site by Richard Alan Salz – CEO of On-Site Acoustic Testing, LLC and Erika Ishkanian – Project Manager of On-Site Acoustic Testing, LLC

One HEM Inverter (serial number 30126792) was tested in an outdoor location.

The HEM Inverter was operation under typical (daylight) conditions.

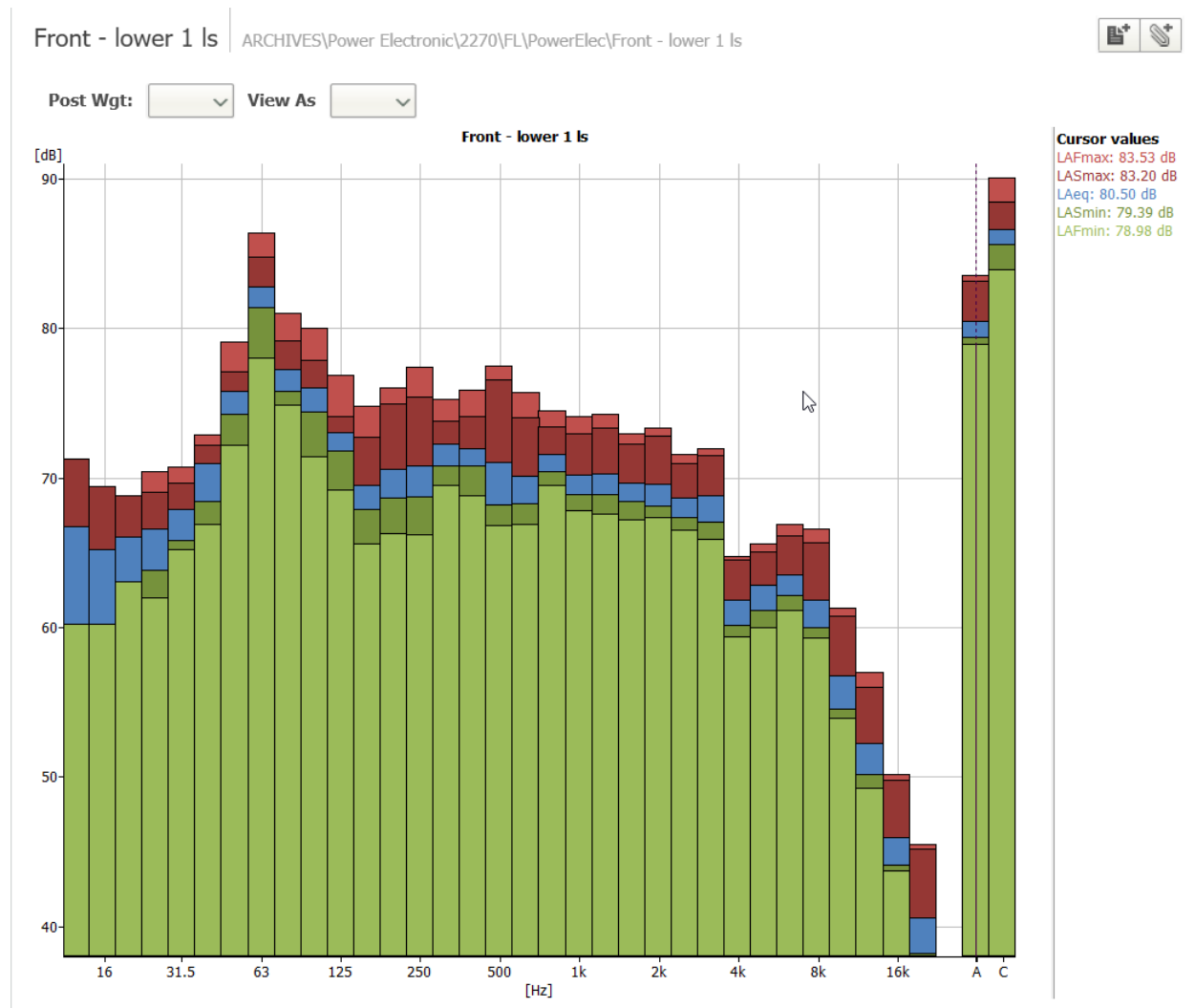
The HEM Inverter was measured on front, back, right, left, and top measurement surfaces.

Individual measurements showing the sound pressure (with associated 1/3 octave band analysis) are shown below for each measurement taken.

## Sound Pressure Summary of all Measurements

| PowerElec |   | ARCHIVES\Power Electronic\2270\FL\PowerElec |       |                       |      |        |        |
|-----------|---|---|-------|-----------------------|------|--------|--------|
| I         | C | Name  | Graph | Start Time            | LAeq | LAFmax | LAFmin |
| ▮         |   | Back - lower 1 ls                           |       | 3/21/2019 12:10:14 PM | 80.8 | 81.4   | 80.0   |
| ▮         |   | Back - lower 2                              |       | 3/21/2019 12:10:38 PM | 83.6 | 84.6   | 82.6   |
| ▮         |   | Back - lower 3                              |       | 3/21/2019 12:11:08 PM | 86.1 | 86.9   | 85.3   |
| ▮         |   | Back - lower 4                              |       | 3/21/2019 12:12:38 PM | 81.6 | 82.3   | 81.1   |
| ▮         |   | Back - lower 5                              |       | 3/21/2019 12:13:05 PM | 78.5 | 79.6   | 77.8   |
| ▮         |   | Back - upper 1 ls                           |       | 3/21/2019 12:13:58 PM | 75.9 | 76.6   | 75.2   |
| ▮         |   | Back - upper 2                              |       | 3/21/2019 12:14:35 PM | 78.1 | 78.8   | 77.5   |
| ▮         |   | Back - upper 3                              |       | 3/21/2019 12:15:11 PM | 80.4 | 81.1   | 79.7   |
| ▮         |   | Back - upper 4                              |       | 3/21/2019 12:15:51 PM | 80.9 | 81.4   | 80.2   |
| ▮         |   | Back - upper 5                              |       | 3/21/2019 12:16:23 PM | 79.2 | 80.1   | 78.7   |
| ▮         |   | Front - lower 1 ls                          |       | 3/21/2019 11:56:24 AM | 80.5 | 83.5   | 79.0   |
| ▮         |   | Front - lower 2                             |       | 3/21/2019 11:56:58 AM | 83.7 | 84.5   | 82.8   |
| ▮         |   | Front - lower 3                             |       | 3/21/2019 11:57:23 AM | 87.3 | 87.9   | 86.6   |
| ▮         |   | Front - lower 4                             |       | 3/21/2019 11:57:47 AM | 84.5 | 85.5   | 83.7   |
| ▮         |   | Front - lower 5                             |       | 3/21/2019 11:58:11 AM | 80.5 | 81.3   | 79.9   |
| ▮         |   | Front - lower 6                             |       | 3/21/2019 11:58:38 AM | 77.9 | 78.6   | 77.3   |
| ▮         |   | Front - upper 1 ls                          |       | 3/21/2019 11:59:56 AM | 80.1 | 80.7   | 79.4   |
| ▮         |   | Front - upper 2                             |       | 3/21/2019 12:00:34 PM | 82.6 | 83.3   | 82.0   |
| ▮         |   | Front - upper 3                             |       | 3/21/2019 12:01:14 PM | 81.7 | 82.4   | 81.0   |
| ▮         |   | Front - upper 4                             |       | 3/21/2019 12:01:55 PM | 78.8 | 79.4   | 78.2   |
| ▮         |   | Front - upper 5                             |       | 3/21/2019 12:02:31 PM | 76.3 | 77.2   | 75.7   |
| ▮         |   | Front - upper 6                             |       | 3/21/2019 12:03:49 PM | 69.5 | 70.4   | 68.8   |
| ▮         |   | Left - bottom left                          |       | 3/21/2019 12:16:58 PM | 77.7 | 78.8   | 77.0   |
| ▮         |   | Left - bottom right                         |       | 3/21/2019 12:17:22 PM | 77.5 | 78.8   | 76.7   |
| ▮         |   | Left - top left                             |       | 3/21/2019 12:17:52 PM | 80.4 | 81.3   | 79.7   |
| ▮         |   | Left - top right                            |       | 3/21/2019 12:18:21 PM | 80.3 | 81.3   | 79.2   |
| ▮         |   | Right - lower left                          |       | 3/21/2019 12:05:44 PM | 68.6 | 69.7   | 67.8   |
| ▮         |   | Right - lower right                         |       | 3/21/2019 12:06:24 PM | 66.3 | 67.3   | 65.4   |
| ▮         |   | Right - upper left                          |       | 3/21/2019 12:06:57 PM | 67.1 | 67.7   | 66.3   |
| ▮         |   | Right - upper right                         |       | 3/21/2019 12:09:49 PM | 77.4 | 78.0   | 76.7   |
| ▮         |   | Top - back 1 left side                      |       | 3/21/2019 12:25:11 PM | 67.3 | 68.0   | 66.6   |
| ▮         |   | Top - back 2                                |       | 3/21/2019 12:25:41 PM | 68.8 | 69.6   | 68.1   |
| ▮         |   | Top - back 3                                |       | 3/21/2019 12:26:51 PM | 69.9 | 71.1   | 69.1   |
| ▮         |   | Top - back 4                                |       | 3/21/2019 12:27:22 PM | 70.6 | 71.6   | 69.7   |
| ▮         |   | Top - back 5                                |       | 3/21/2019 12:28:08 PM | 70.9 | 71.7   | 70.2   |
| ▮         |   | Top - back 6                                |       | 3/21/2019 12:28:32 PM | 71.4 | 72.3   | 70.4   |
| ▮         |   | Top - front 1 left side                     |       | 3/21/2019 12:19:52 PM | 71.6 | 72.5   | 70.7   |
| ▮         |   | Top - front 2                               |       | 3/21/2019 12:21:03 PM | 71.3 | 72.4   | 70.5   |
| ▮         |   | Top - front 3                               |       | 3/21/2019 12:21:55 PM | 71.6 | 72.6   | 70.5   |
| ▮         |   | Top - front 4                               |       | 3/21/2019 12:22:42 PM | 70.1 | 71.0   | 69.4   |
| ▮         |   | Top - front 5                               |       | 3/21/2019 12:23:40 PM | 68.4 | 69.3   | 67.8   |
| ▮         |   | Top - front 6                               |       | 3/21/2019 12:24:08 PM | 66.8 | 67.7   | 65.9   |

### Sound Pressure – All Measurements

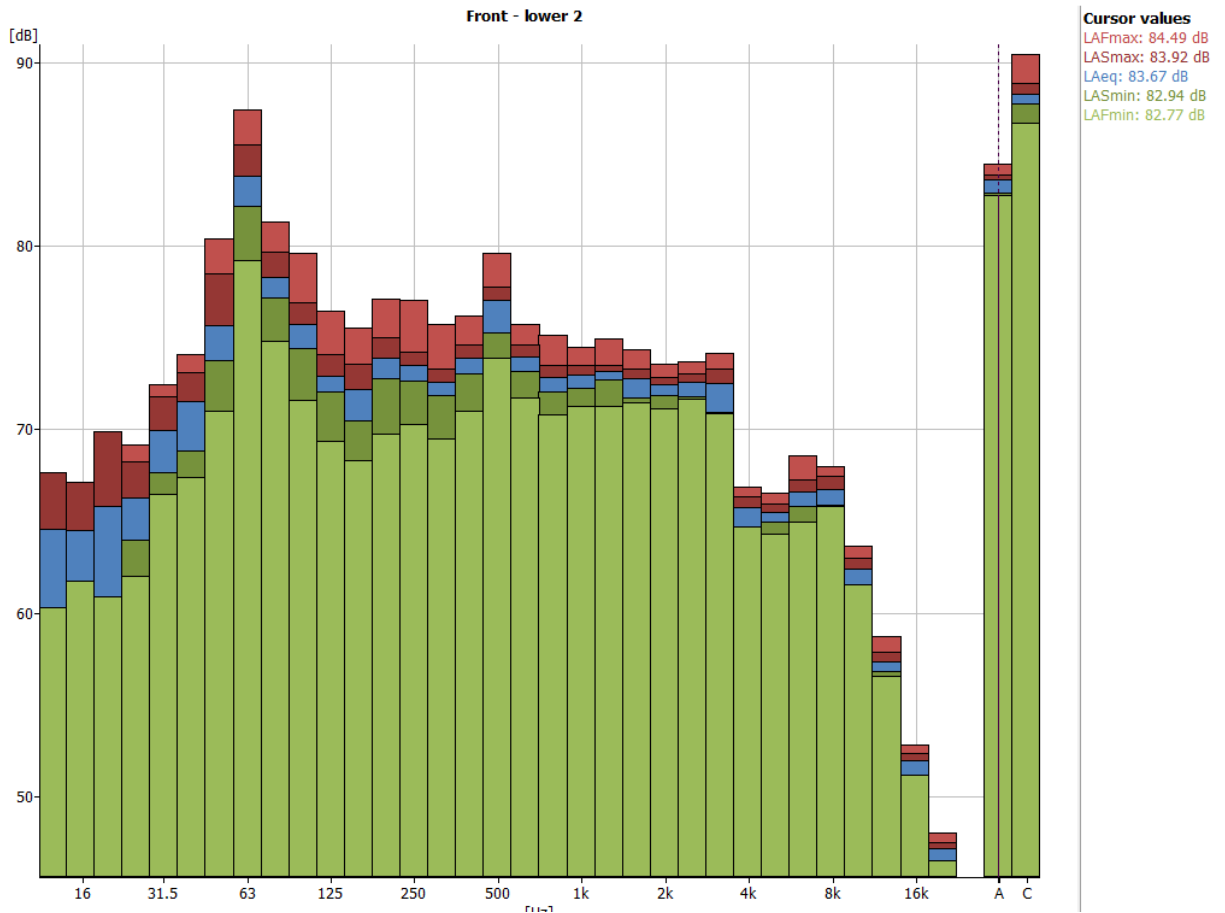


Power Electronics  
Noise Emissions Testing HEM Inverter

Front - lower 2 ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - lower 2



Post Wgt: [dropdown] View As [dropdown]

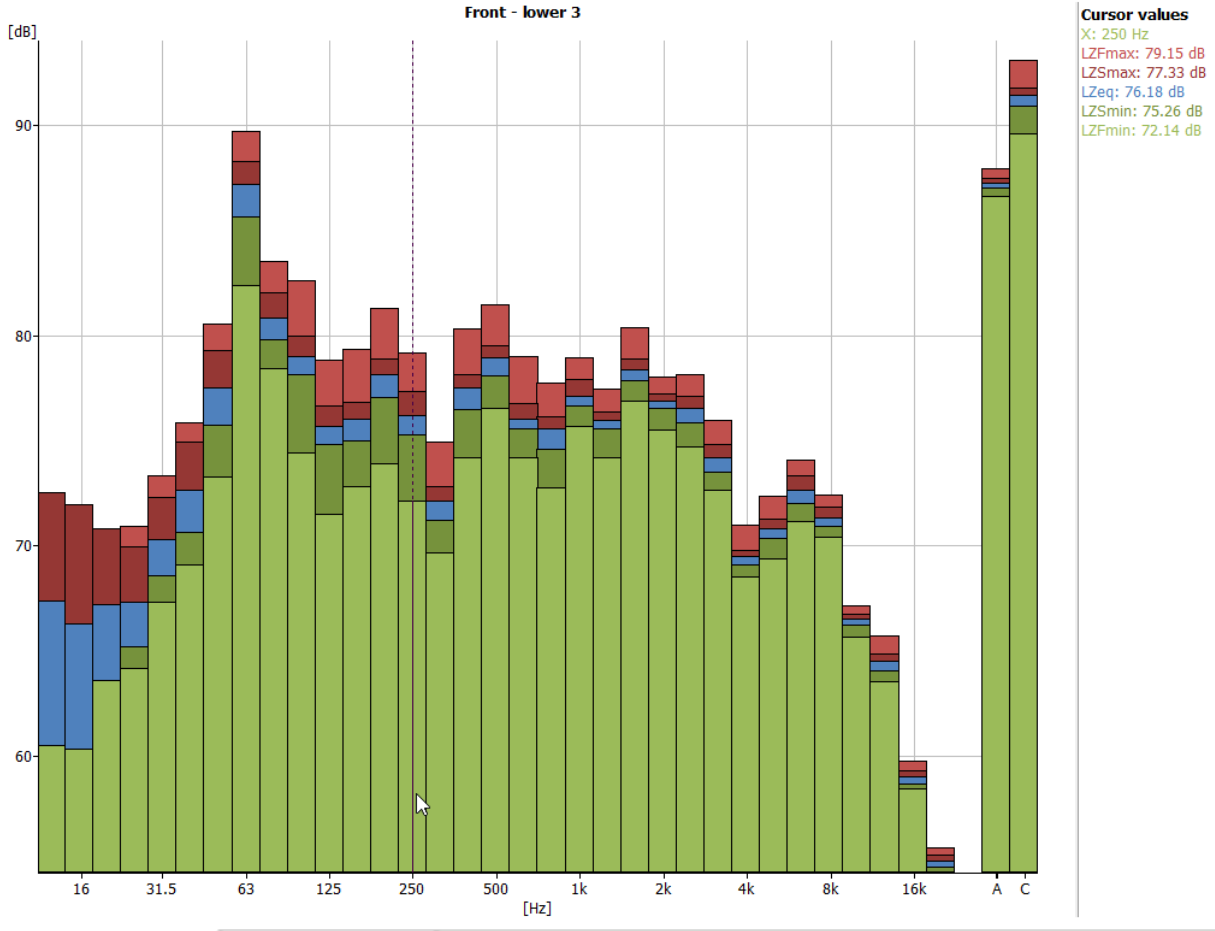


Power Electronics  
Noise Emissions Testing HEM Inverter

Front - lower 3 | ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - lower 3



Post Wgt: [dropdown] View As [dropdown]

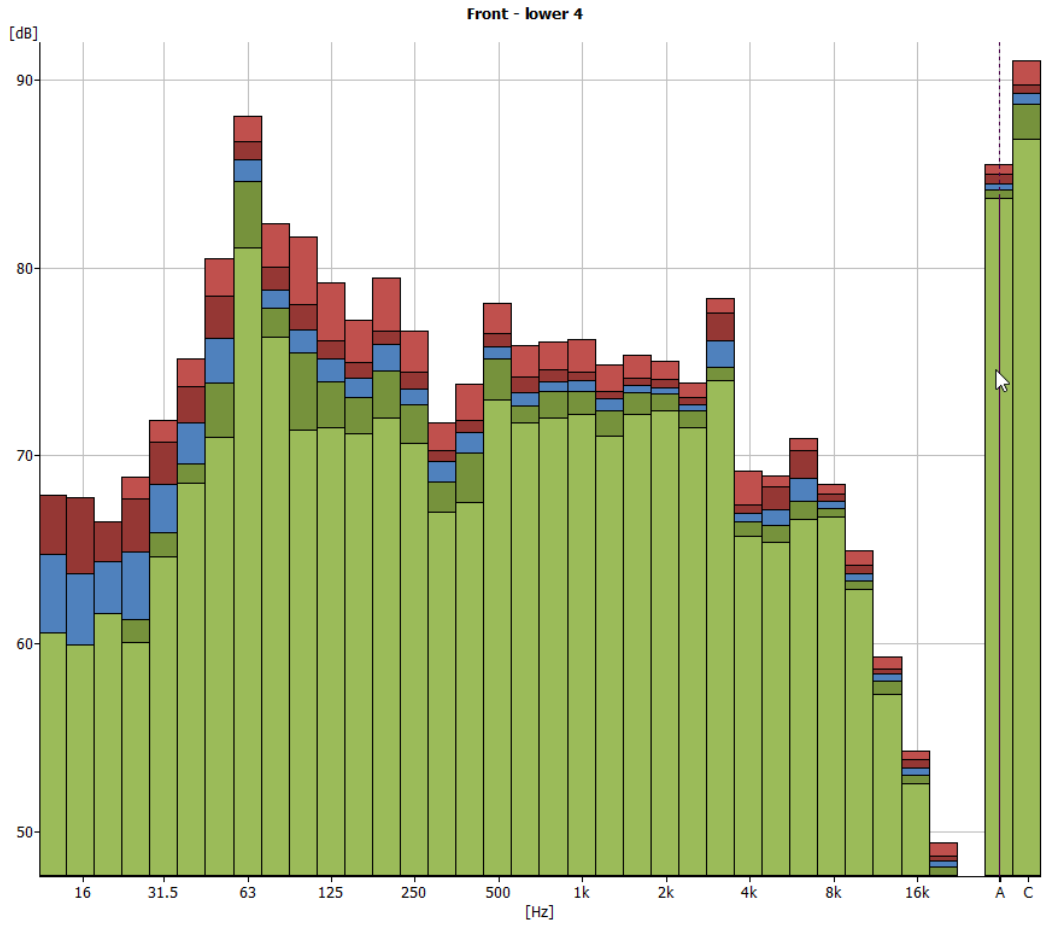


Power Electronics  
Noise Emissions Testing HEM Inverter

Front - lower 4 | ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - lower 4



Post Wgt: [dropdown] View As: [dropdown]



**Cursor values**  
LAFmax: 85.50 dB  
LASmax: 84.97 dB  
LAeq: 84.49 dB  
LASmin: 84.14 dB  
LAFmin: 83.72 dB

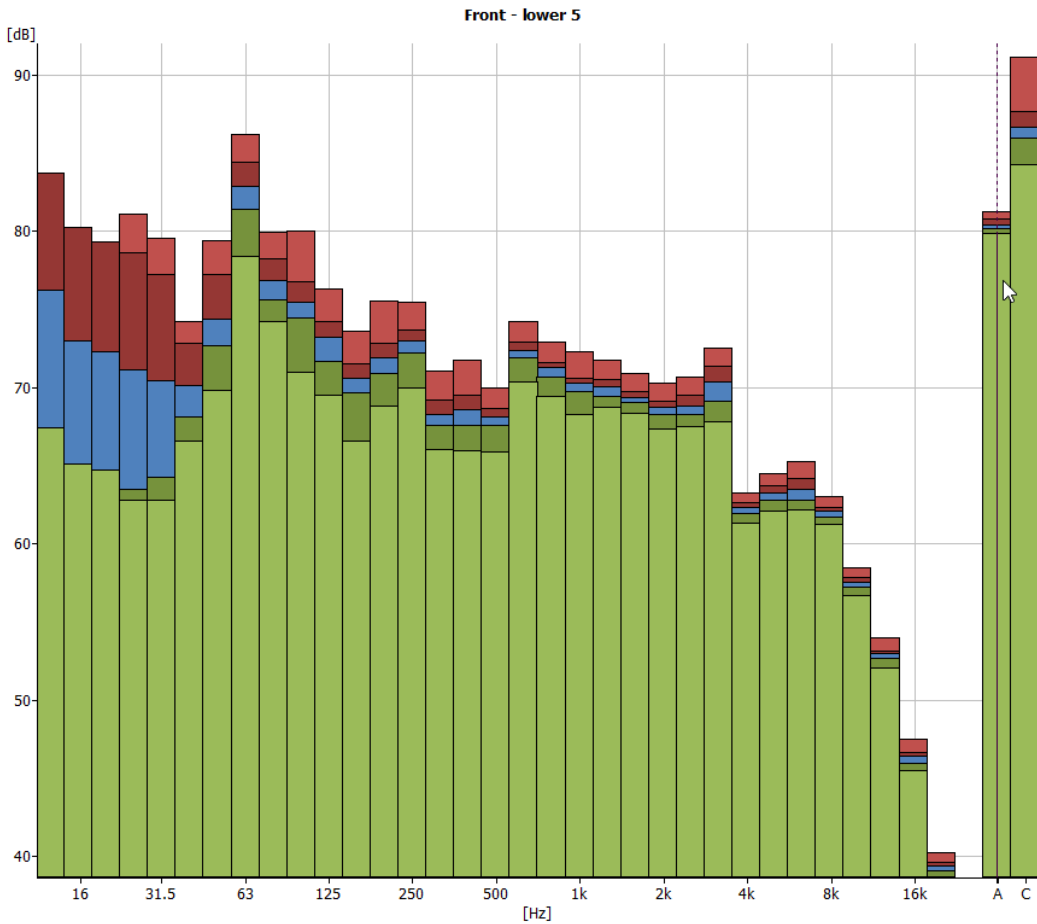


Power Electronics  
Noise Emissions Testing HEM Inverter

Front - lower 5 ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - lower 5



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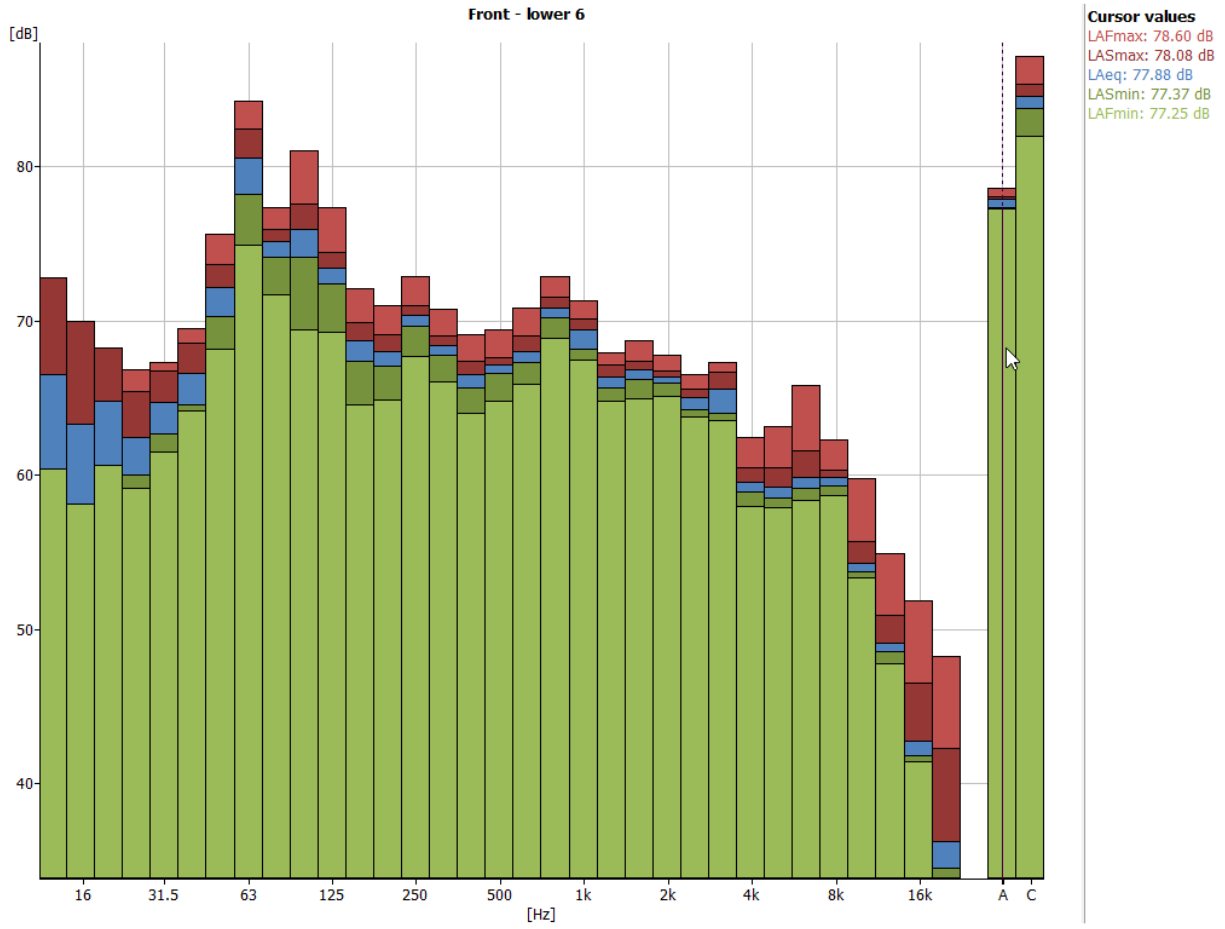
**Cursor values**  
LAFmax: 81.30 dB  
LASmax: 80.77 dB  
LAeq: 80.45 dB  
LASmin: 80.15 dB  
LAFmin: 79.87 dB

Power Electronics  
Noise Emissions Testing HEM Inverter

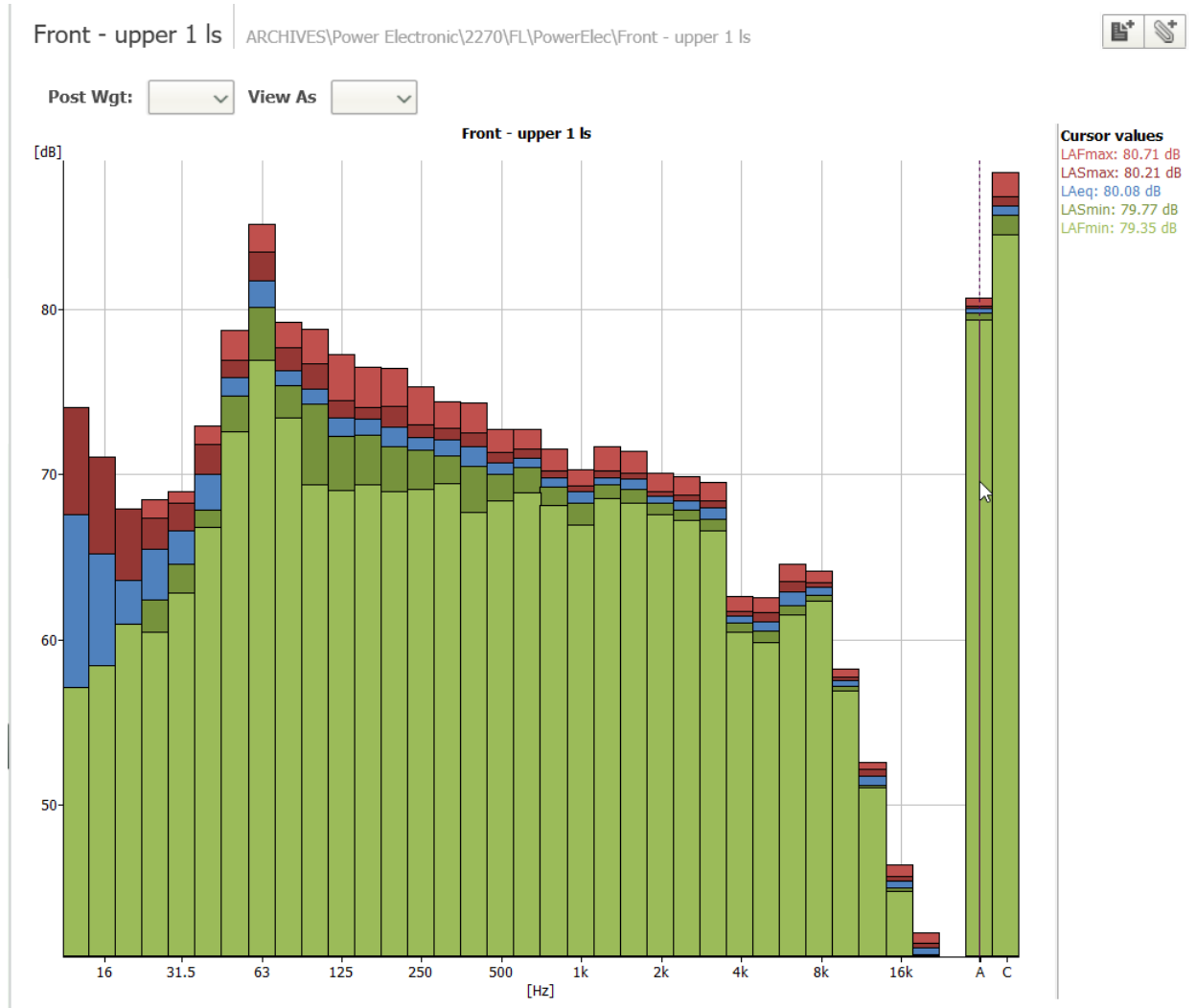
Front - lower 6 ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - lower 6



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Power Electronics  
Noise Emissions Testing HEM Inverter

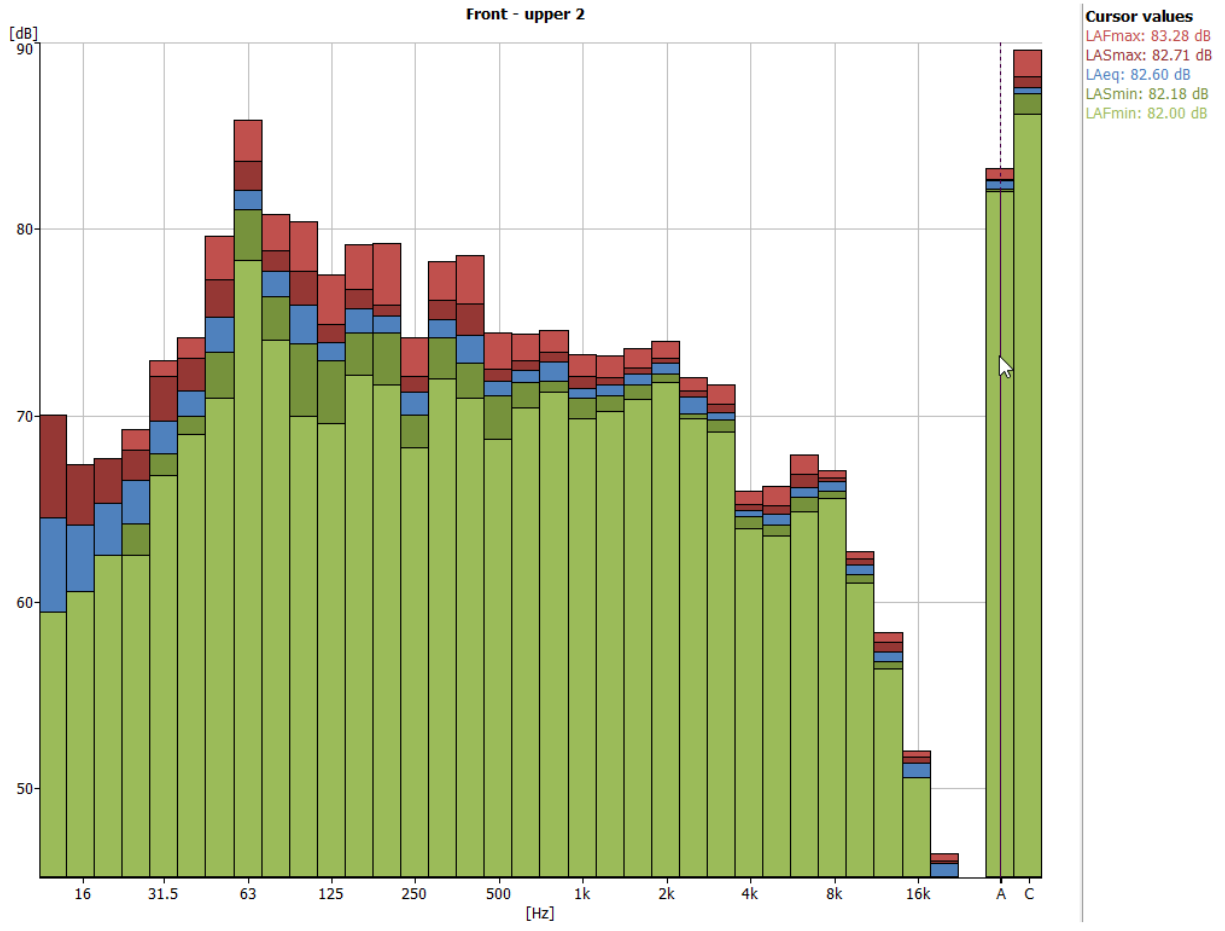


Power Electronics  
Noise Emissions Testing HEM Inverter

Front - upper 2 | ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - upper 2



Post Wgt: [dropdown] View As [dropdown]

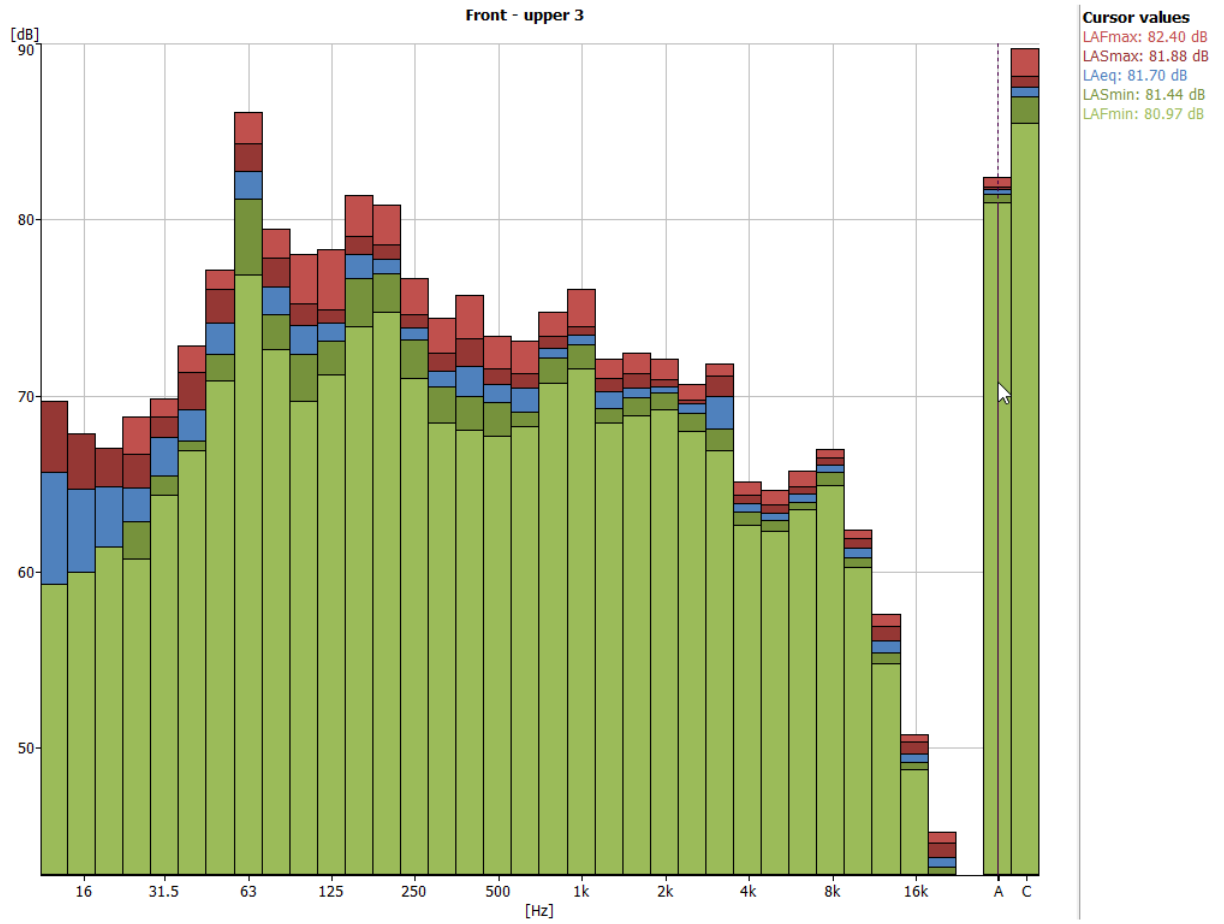


Power Electronics  
Noise Emissions Testing HEM Inverter

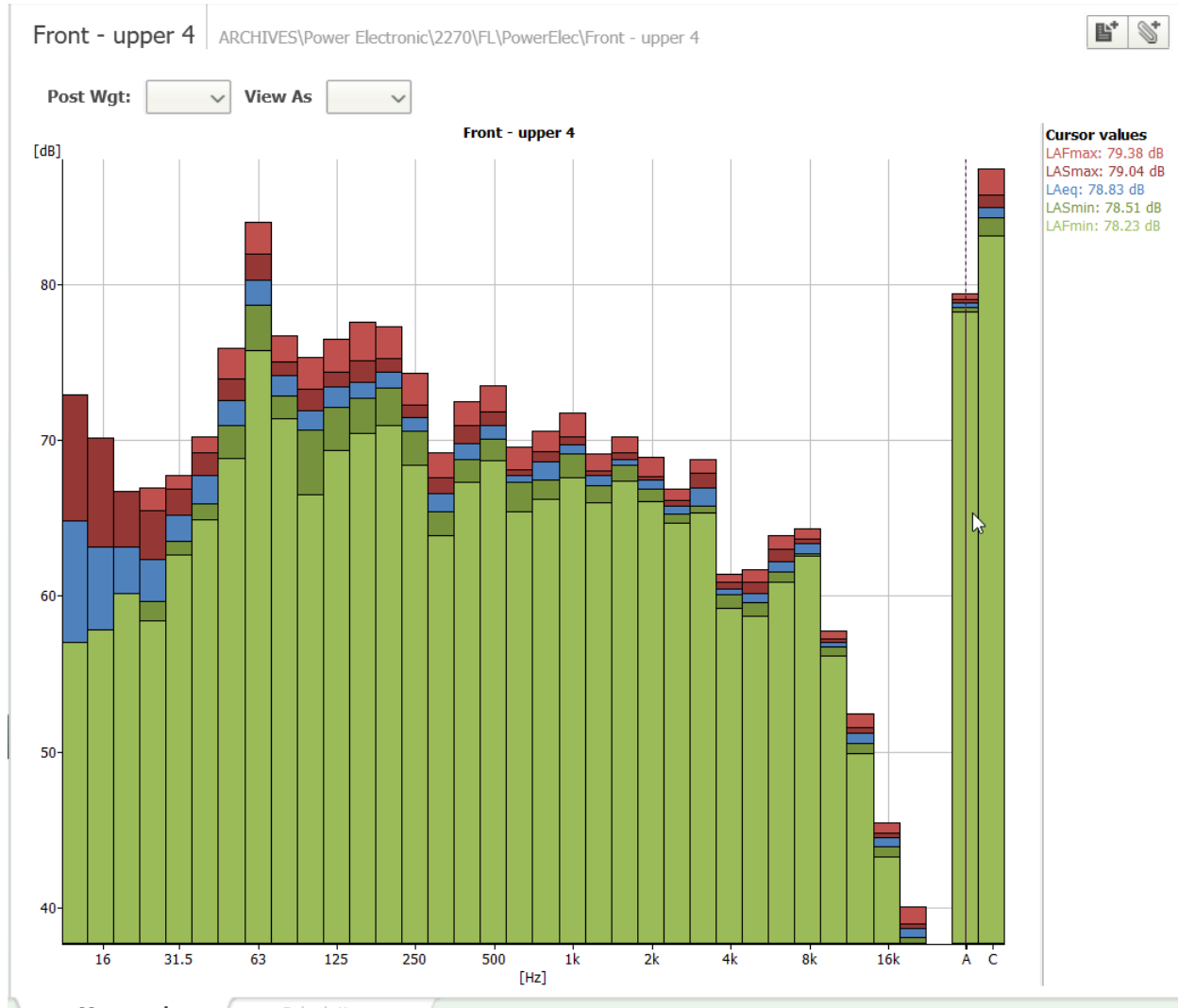
Front - upper 3 ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - upper 3



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Power Electronics  
Noise Emissions Testing HEM Inverter

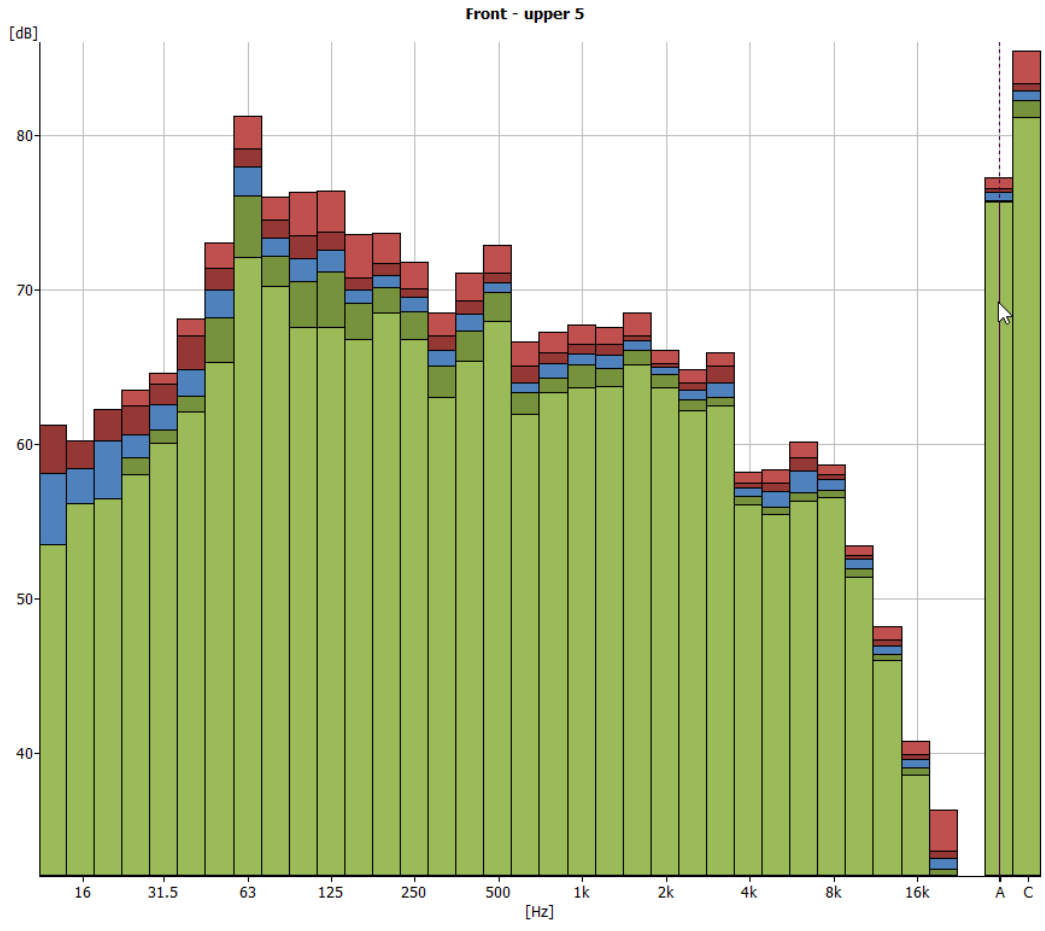


Power Electronics  
Noise Emissions Testing HEM Inverter

Front - upper 5 | ARCHIVES\Power Electronic\2270\FL\PowerElec\Front - upper 5

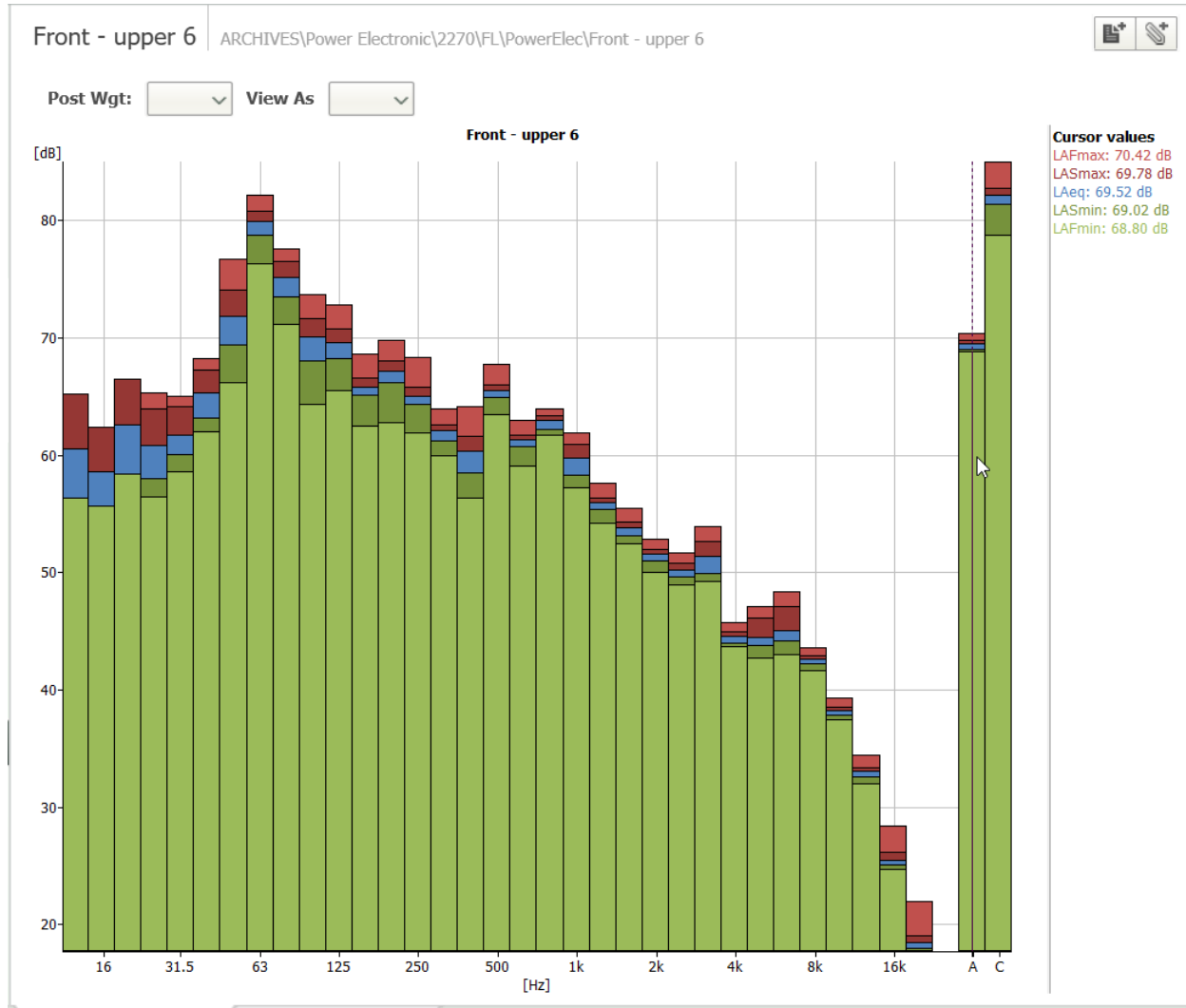


Post Wgt:  View As



**Cursor values**  
LAFmax: 77.23 dB  
LASmax: 76.55 dB  
LAeq: 76.34 dB  
LASmin: 75.78 dB  
LAFmin: 75.71 dB

Power Electronics  
Noise Emissions Testing HEM Inverter



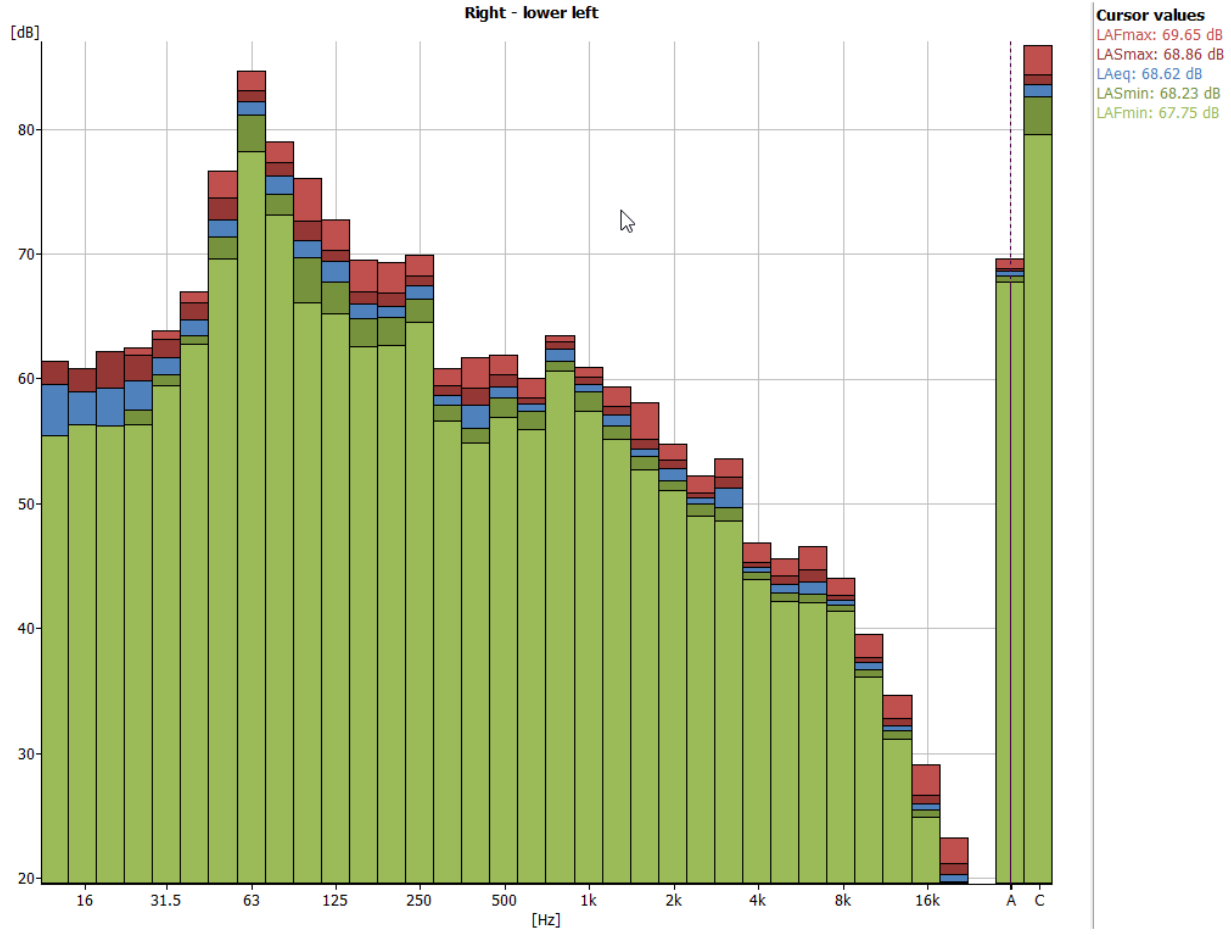


Power Electronics  
Noise Emissions Testing HEM Inverter

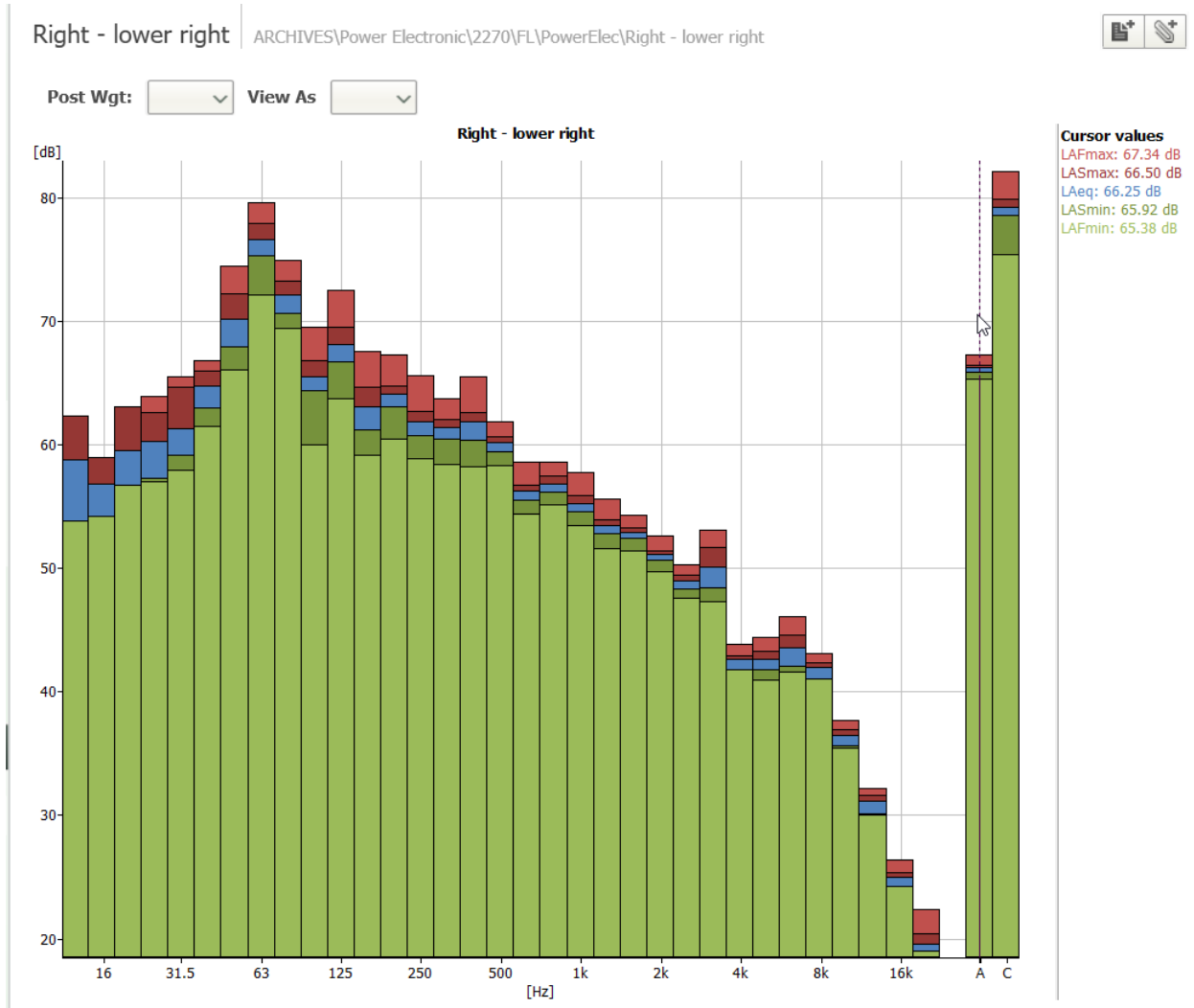
Right - lower left ARCHIVES\Power Electronic\2270\FL\PowerElec\Right - lower left



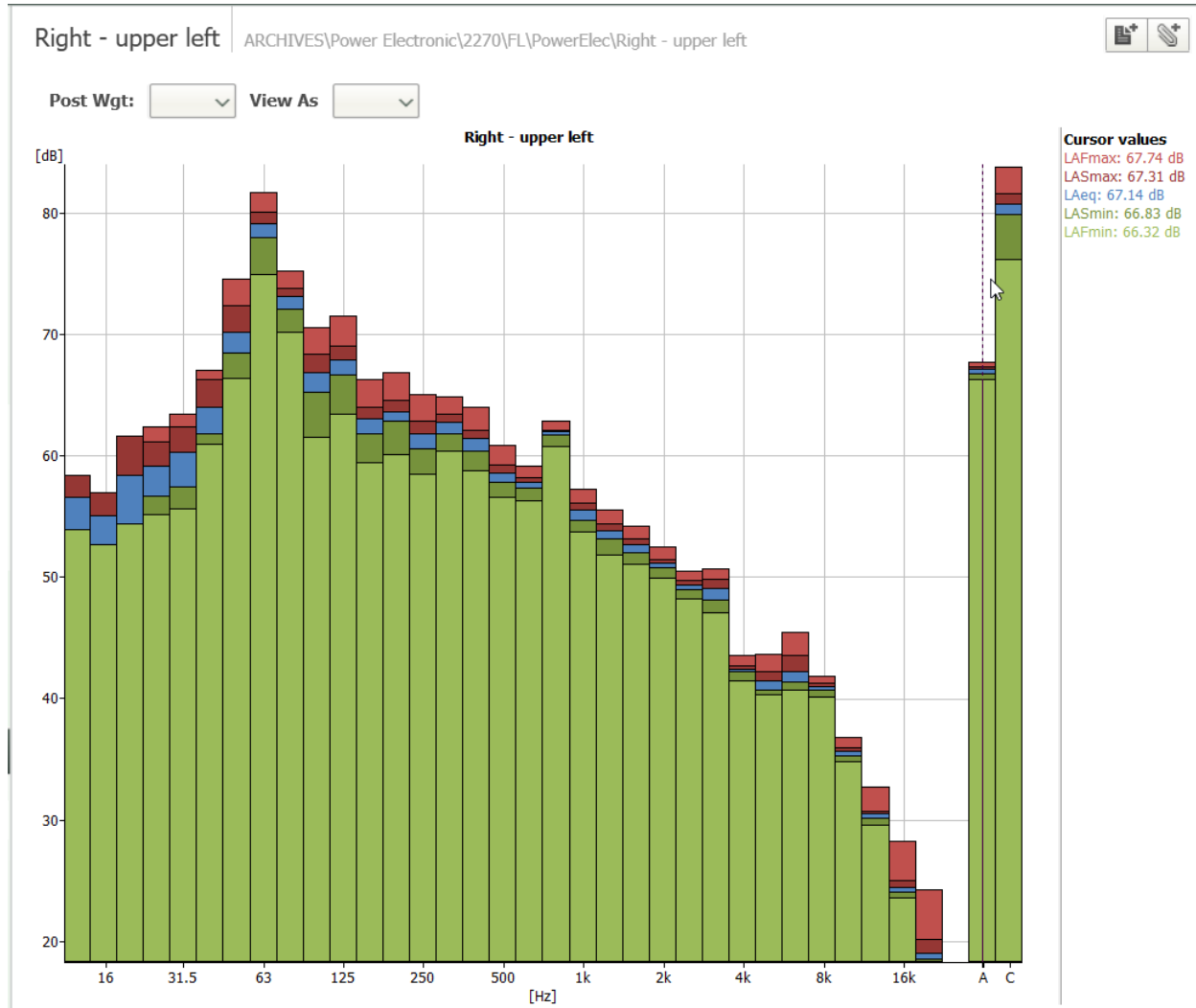
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Power Electronics  
Noise Emissions Testing HEM Inverter



Power Electronics  
Noise Emissions Testing HEM Inverter

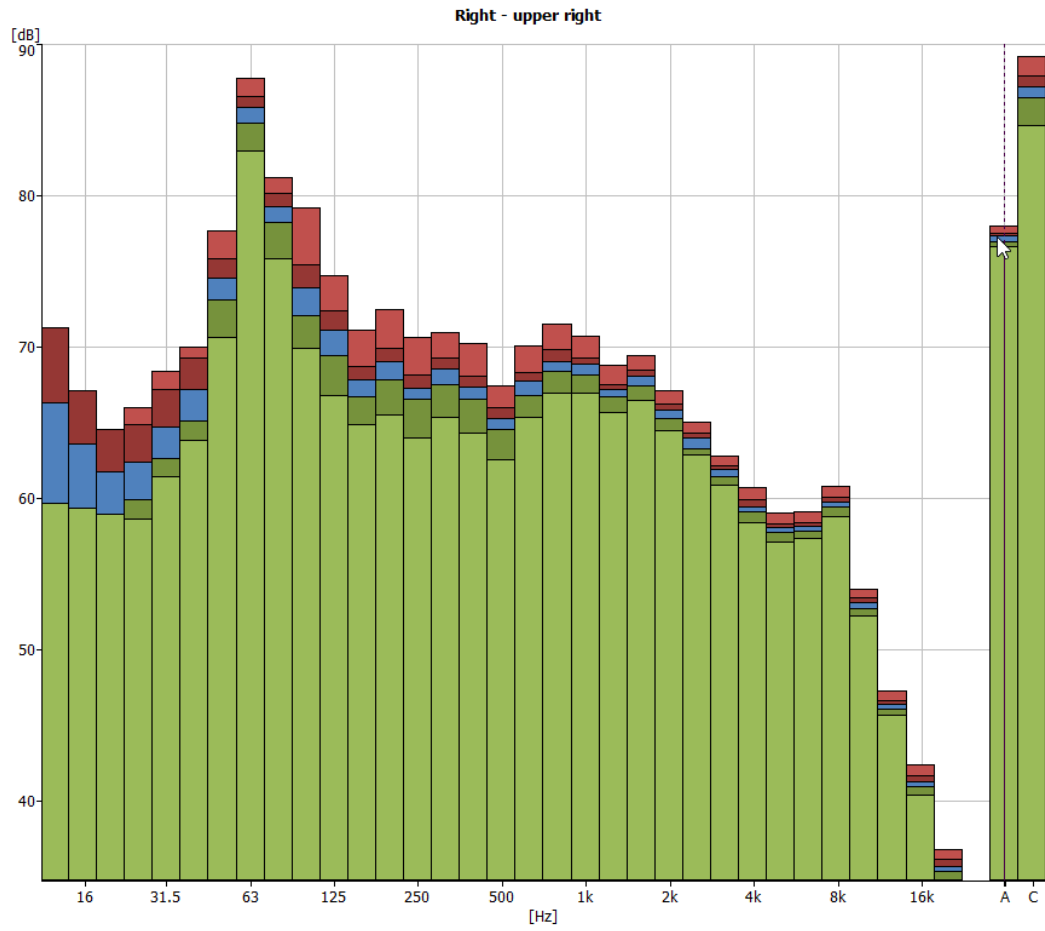


Power Electronics  
Noise Emissions Testing HEM Inverter

Right - upper right ARCHIVES\Power Electronic\2270\FL\PowerElec\Right - upper right



Post Wgt: [dropdown] View As [dropdown]



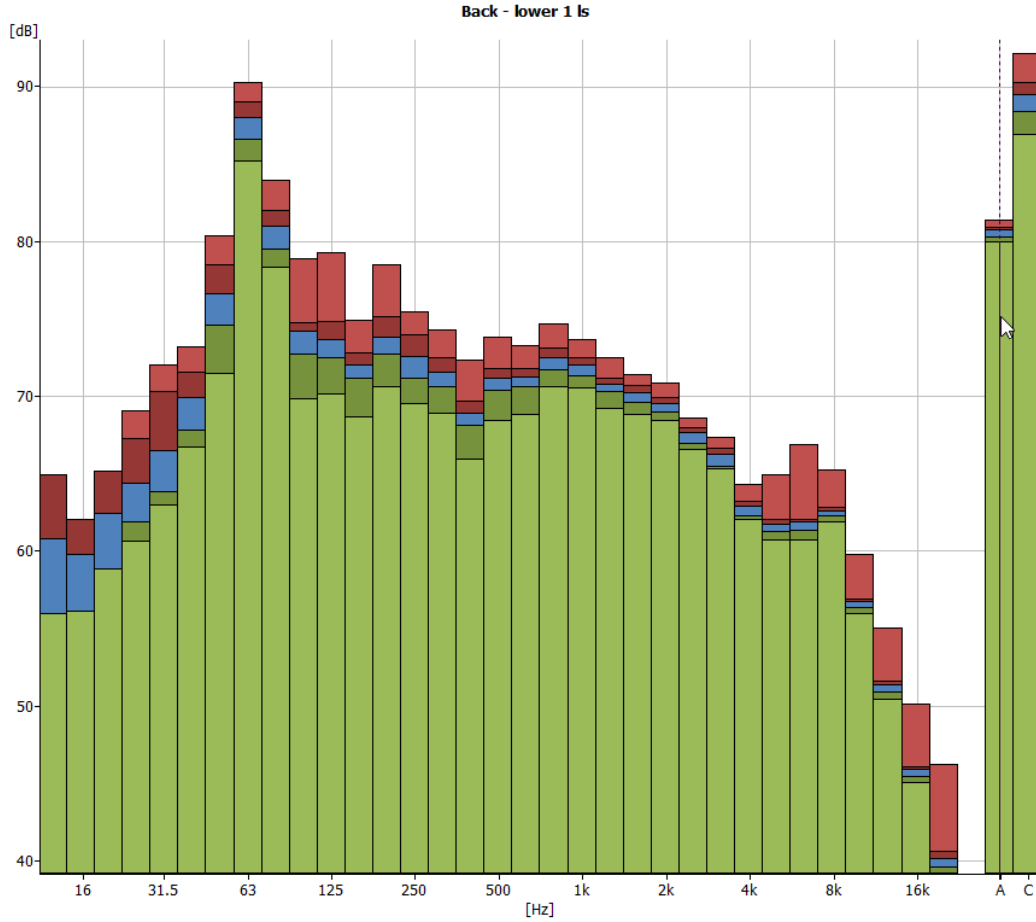
Cursor values  
LAFmax: 78.01 dB  
LASmax: 77.53 dB  
LAeq: 77.37 dB  
LASmin: 76.98 dB  
LAFmin: 76.66 dB

Power Electronics  
Noise Emissions Testing HEM Inverter

Back - lower 1 ls ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - lower 1 ls



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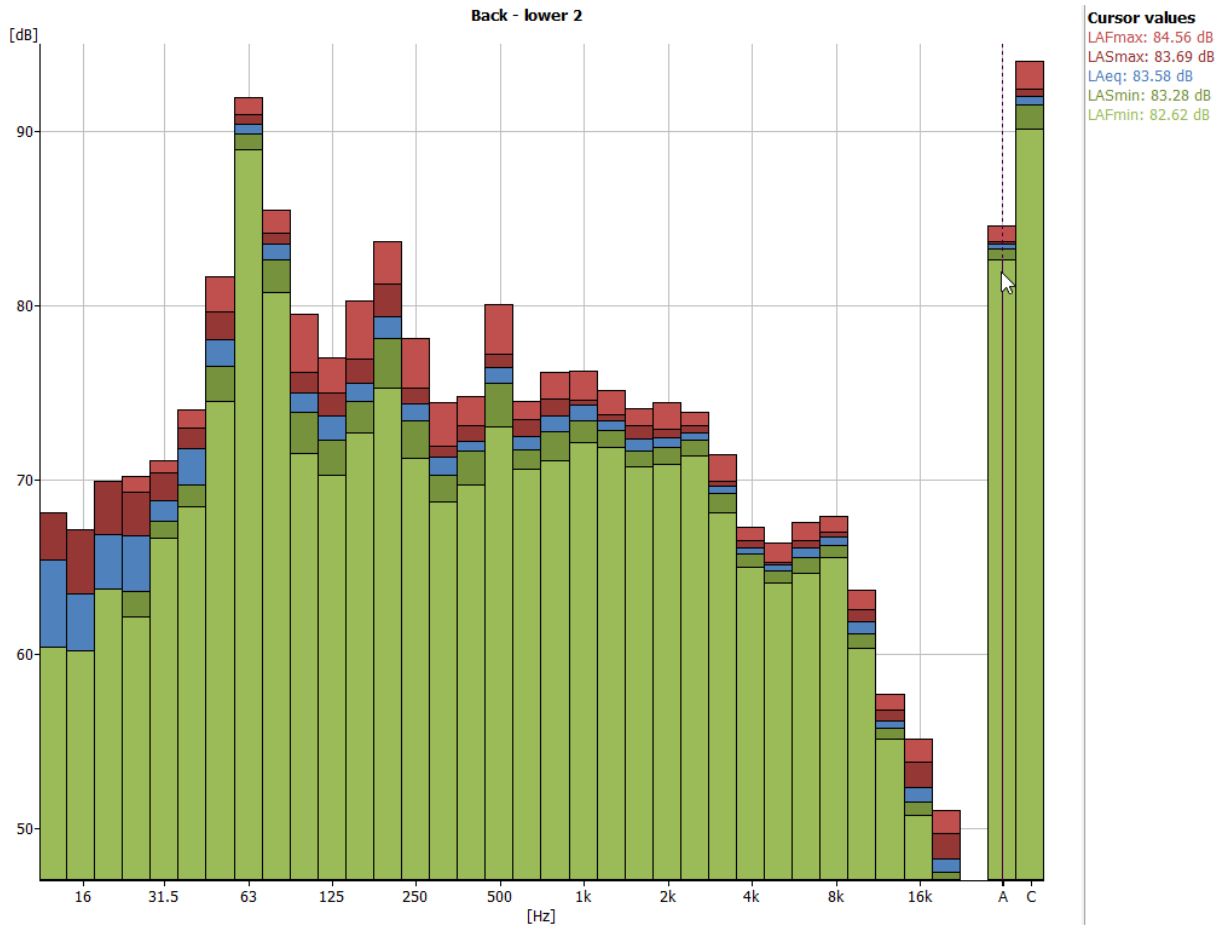
Cursor values  
LAFmax: 81.38 dB  
LASmax: 80.91 dB  
LAeq: 80.75 dB  
LASmin: 80.27 dB  
LAFmin: 80.00 dB

Power Electronics  
Noise Emissions Testing HEM Inverter

Back - lower 2 ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - lower 2



Post Wgt: [dropdown] View As: [dropdown]



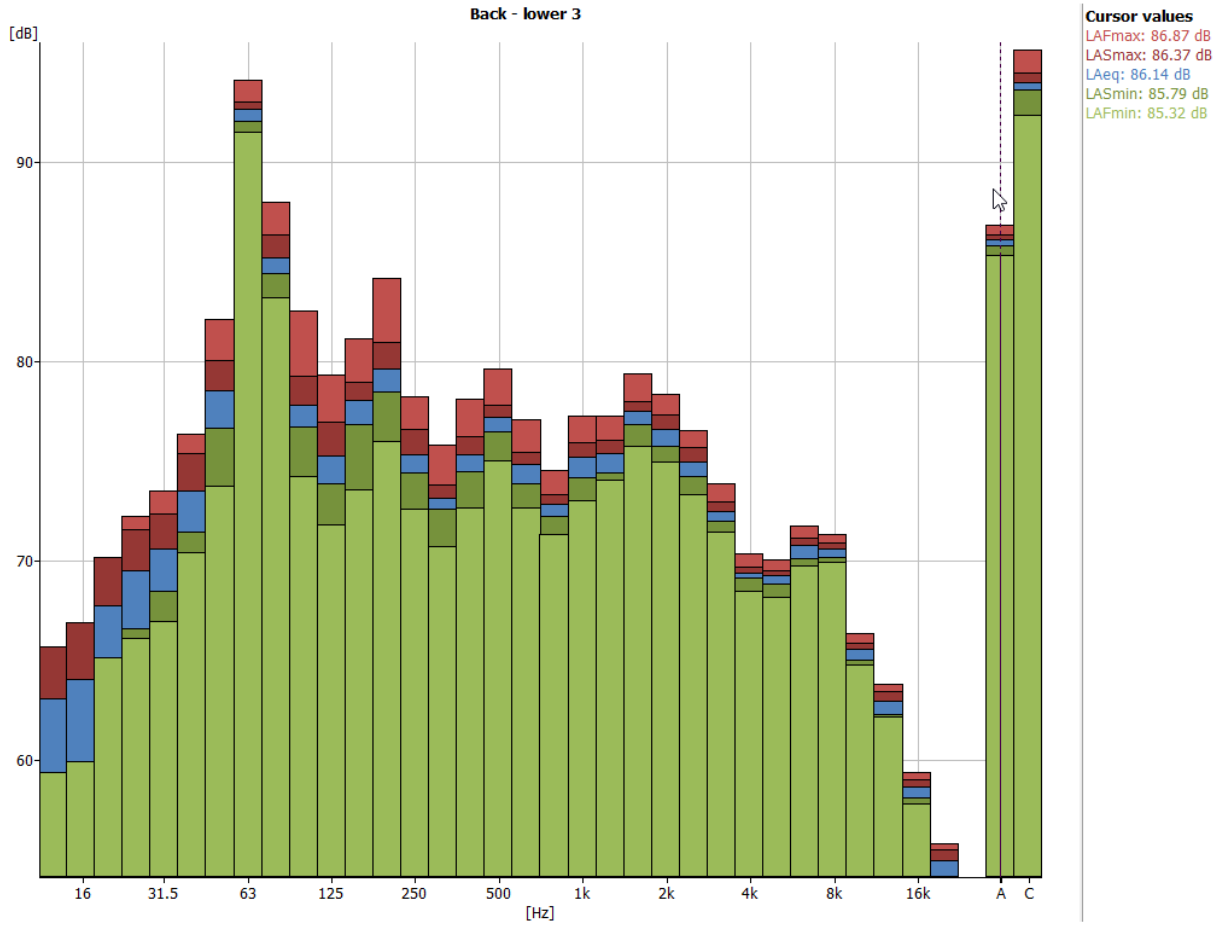
Measured Calculated

Power Electronics  
Noise Emissions Testing HEM Inverter

Back - lower 3 | ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - lower 3



Post Wgt:  View As

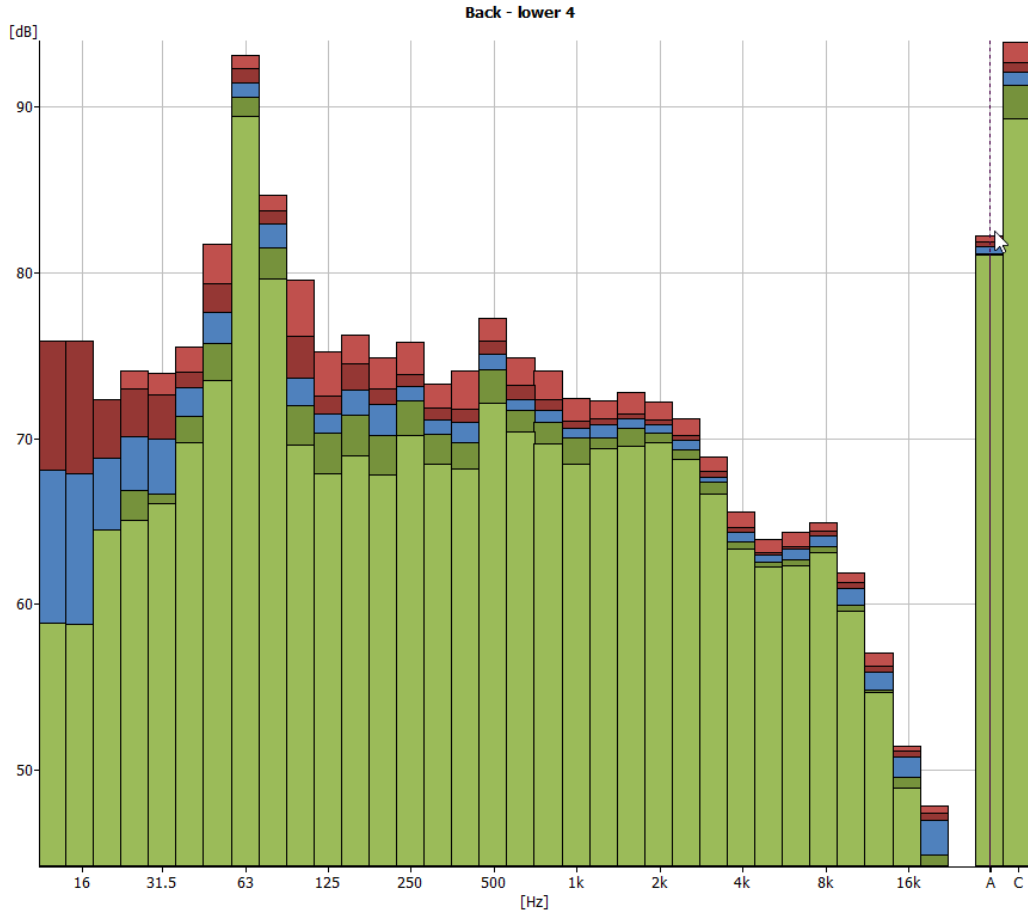


Power Electronics  
Noise Emissions Testing HEM Inverter

Back - lower 4 ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - lower 4



Post Wgt: [dropdown] View As [dropdown]



Cursor values  
LAFmax: 82.27 dB  
LASmax: 81.85 dB  
LAeq: 81.62 dB  
LASmin: 81.16 dB  
LAFmin: 81.09 dB

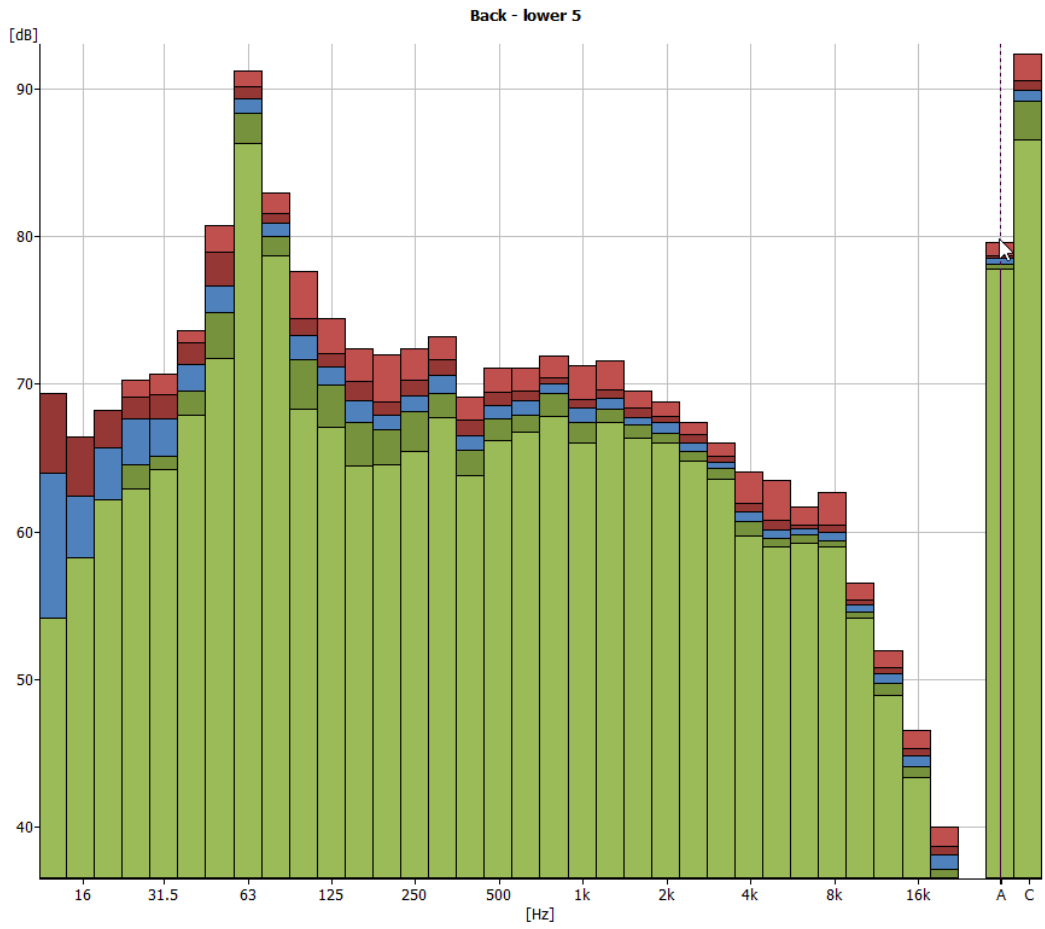


Power Electronics  
Noise Emissions Testing HEM Inverter

Back - lower 5 ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - lower 5



Post Wgt: [dropdown] View As [dropdown]



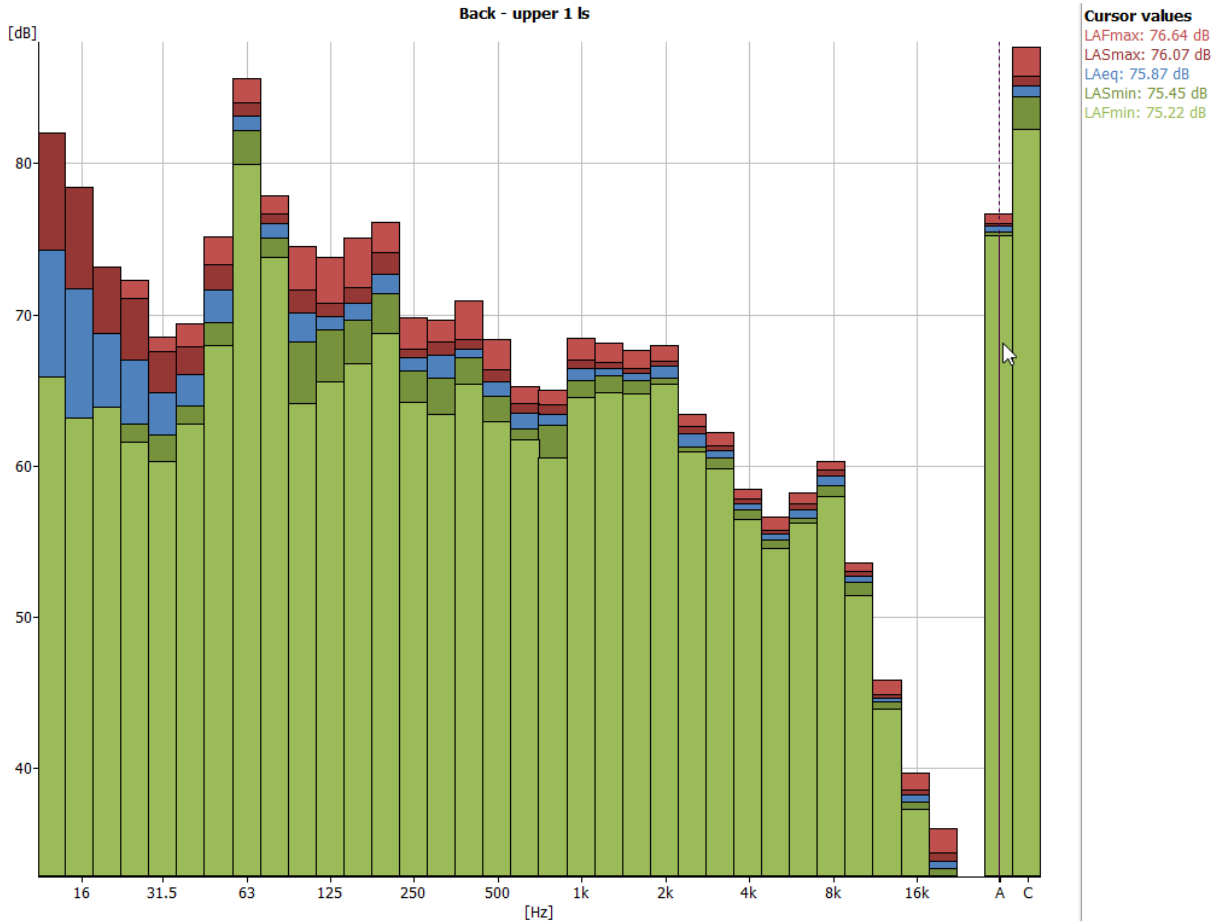
**Cursor values**  
LAFmax: 79.58 dB  
LASmax: 78.67 dB  
LAeq: 78.51 dB  
LASmin: 78.16 dB  
LAFmin: 77.76 dB

Power Electronics  
Noise Emissions Testing HEM Inverter

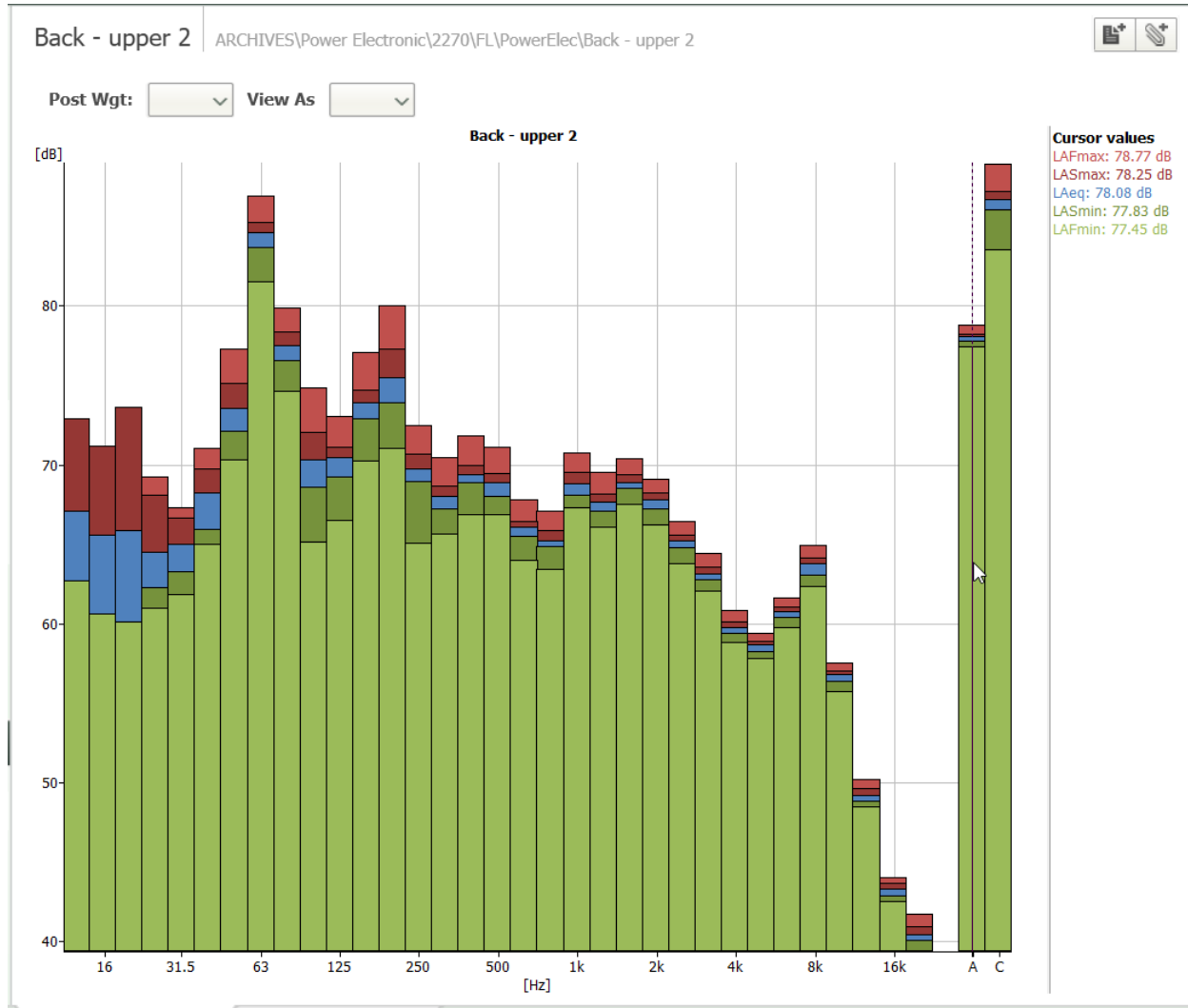
Back - upper 1 ls ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - upper 1 ls



Post Wgt: [dropdown] View As [dropdown]



Power Electronics  
Noise Emissions Testing HEM Inverter

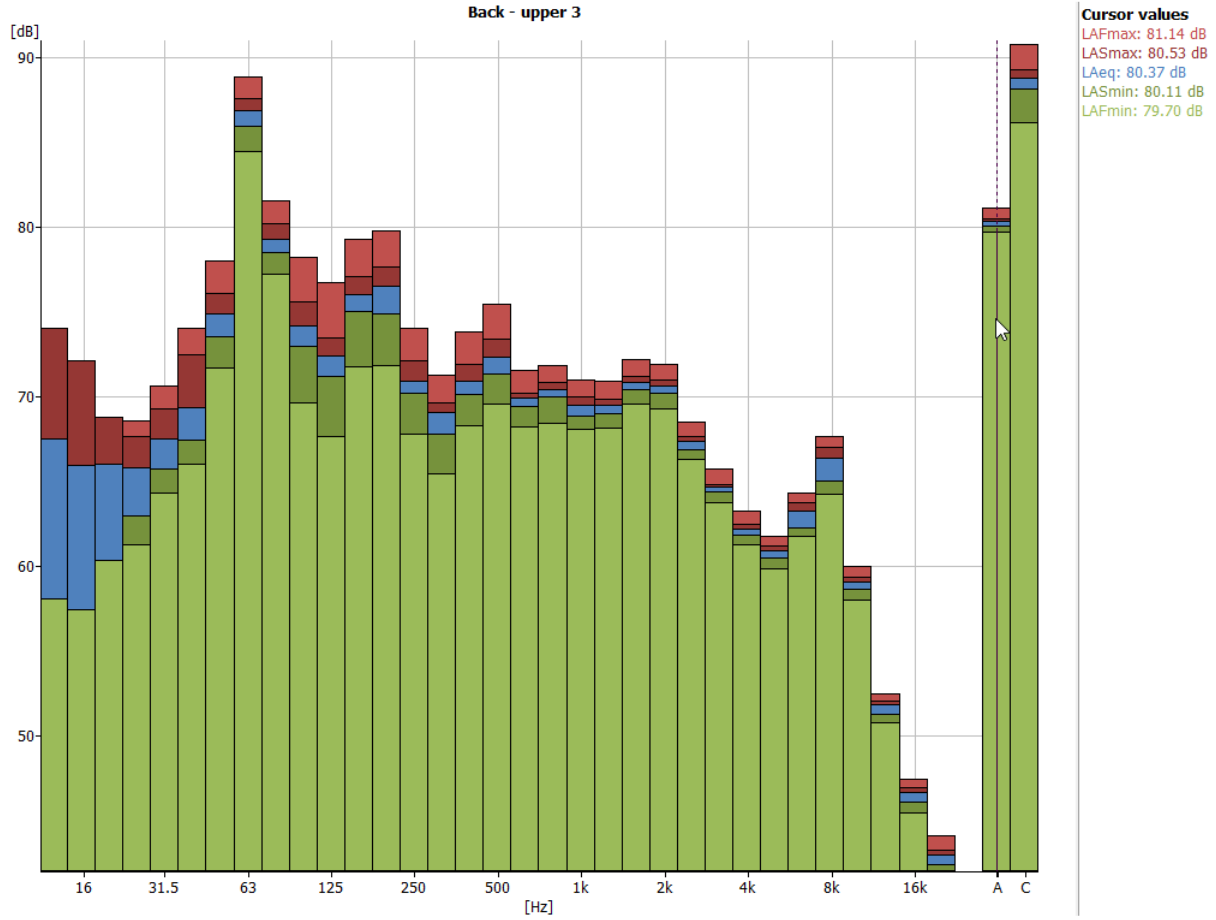


Power Electronics  
Noise Emissions Testing HEM Inverter

Back - upper 3 | ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - upper 3



Post Wgt: [dropdown] View As: [dropdown]

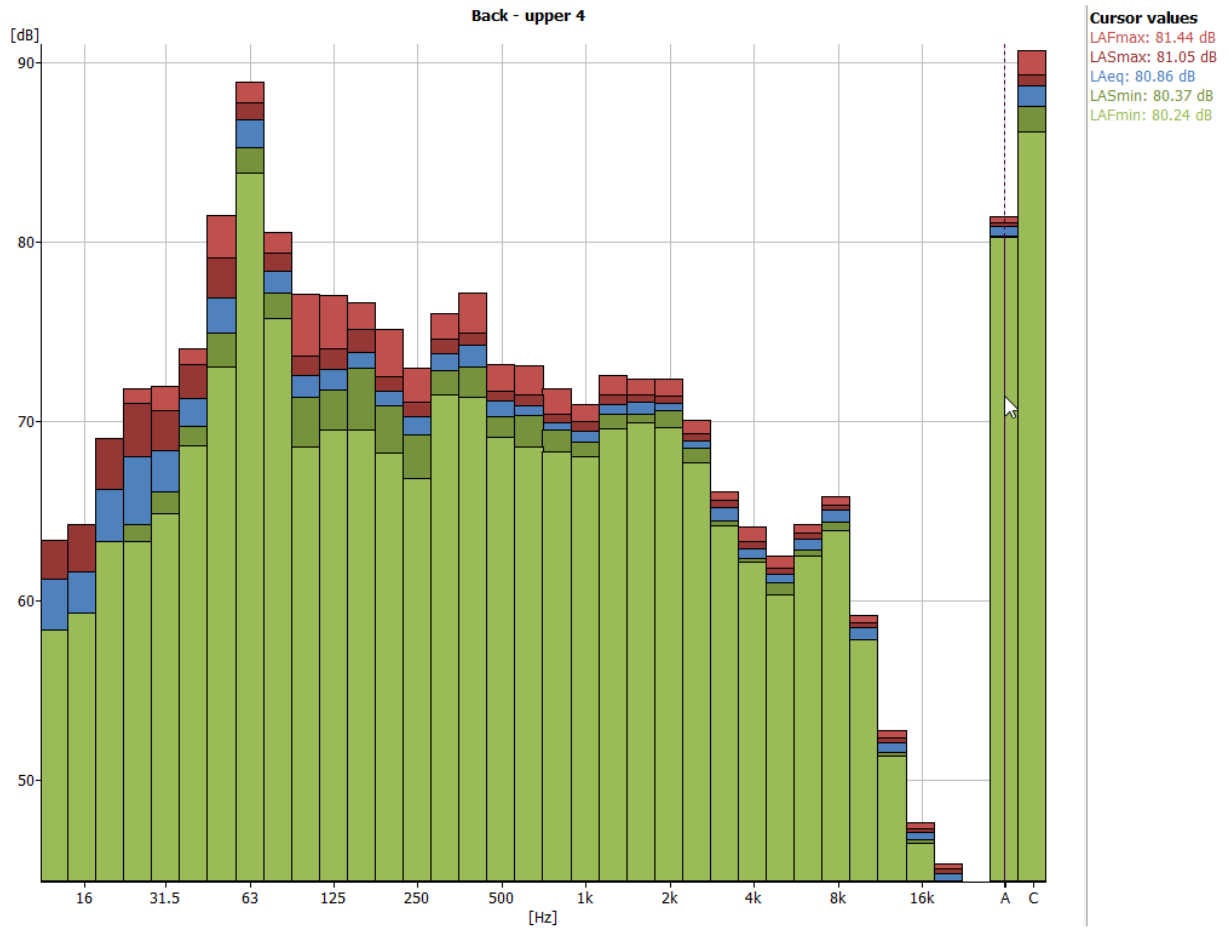


Power Electronics  
Noise Emissions Testing HEM Inverter

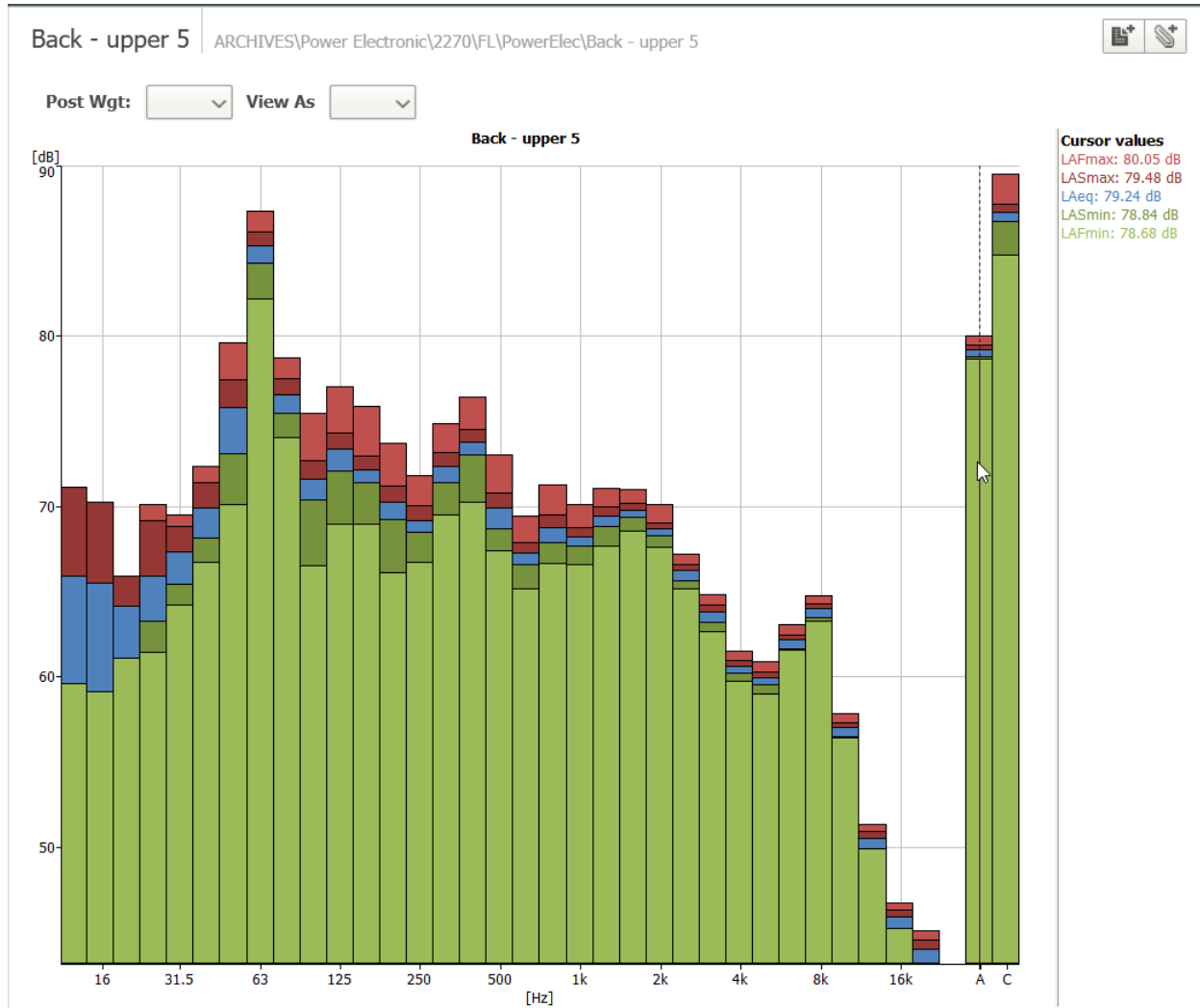
Back - upper 4 ARCHIVES\Power Electronic\2270\FL\PowerElec\Back - upper 4



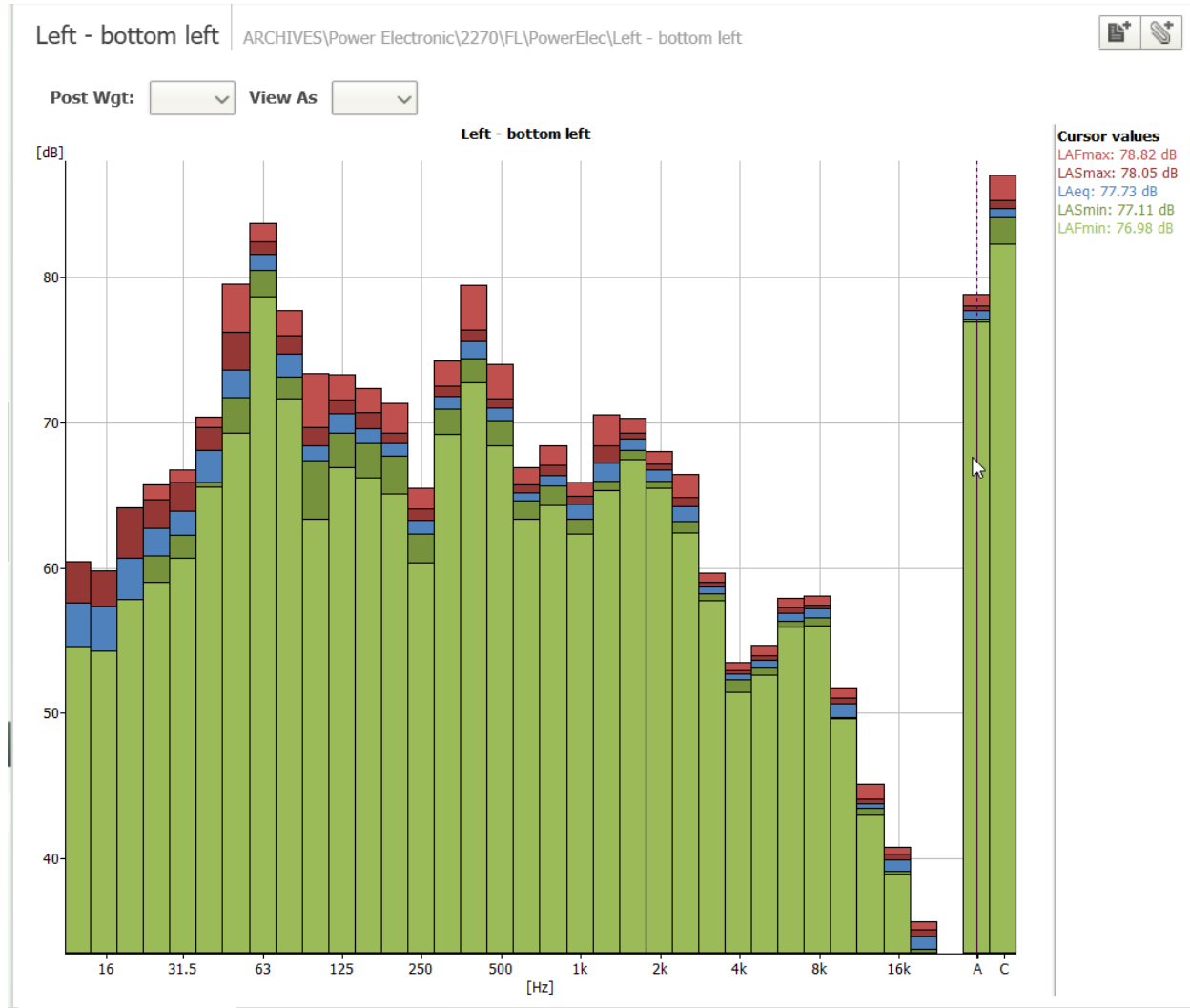
Post Wgt: [dropdown] View As [dropdown]



Power Electronics  
Noise Emissions Testing HEM Inverter



Power Electronics  
Noise Emissions Testing HEM Inverter

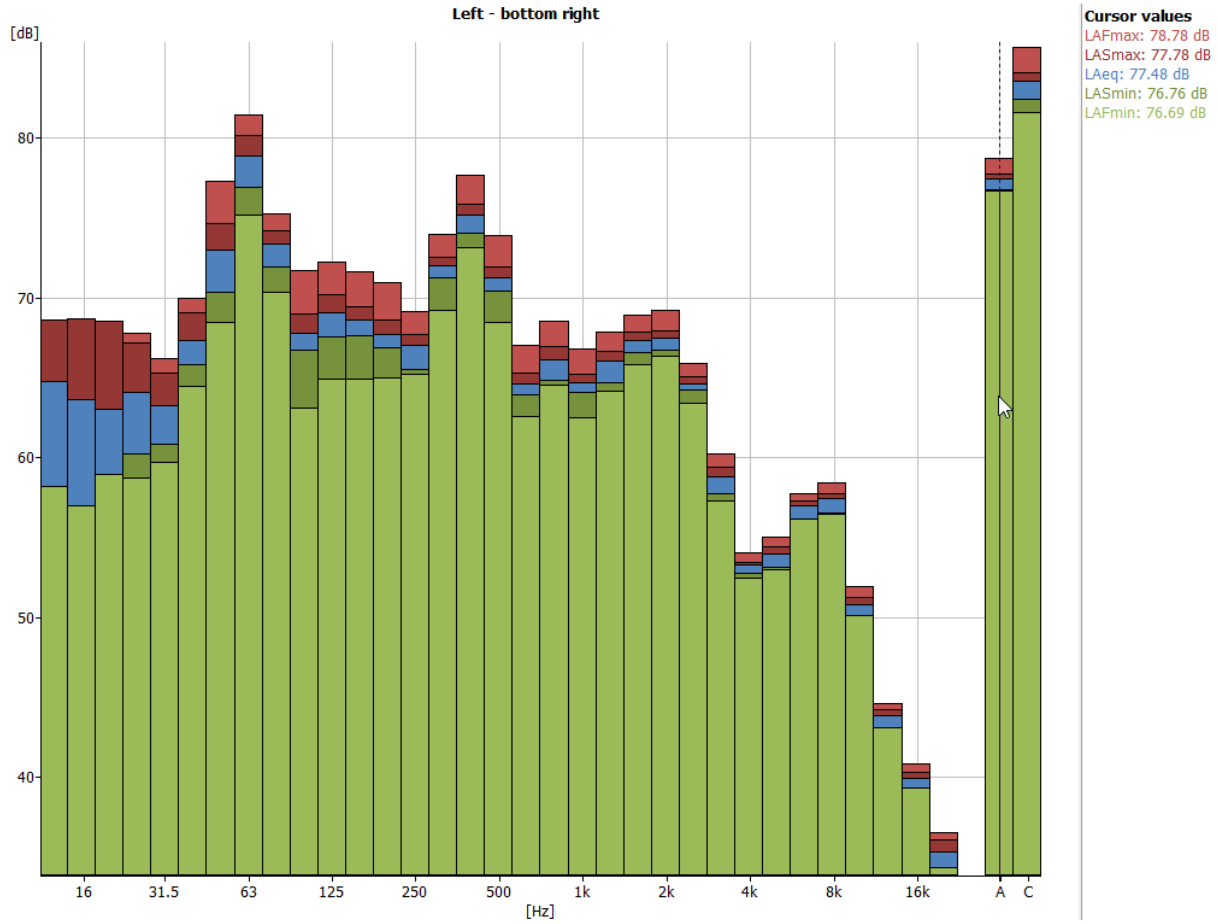


Power Electronics  
Noise Emissions Testing HEM Inverter

Left - bottom right ARCHIVES\Power Electronic\2270\FL\PowerElec\Left - bottom right



Post Wgt: [dropdown] View As [dropdown]



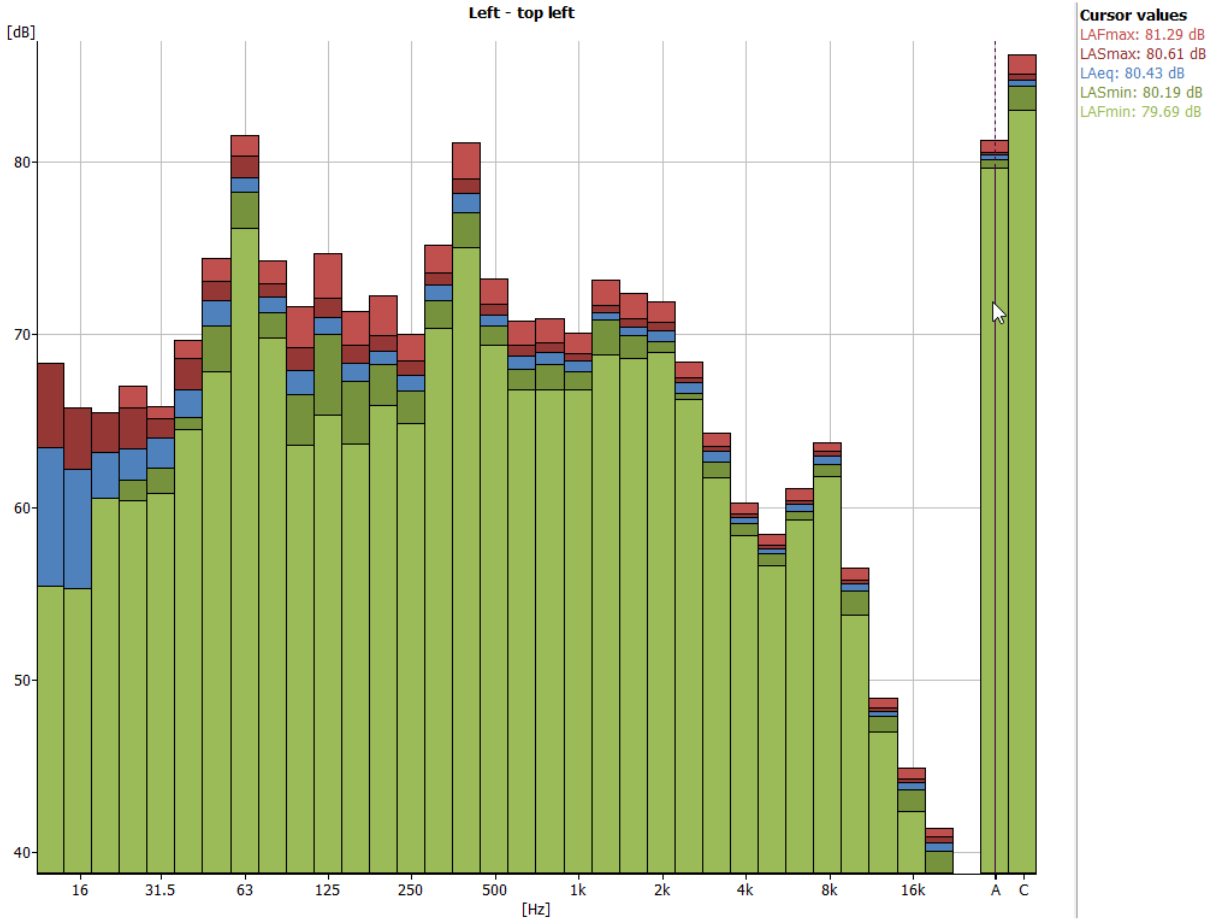


Power Electronics  
Noise Emissions Testing HEM Inverter

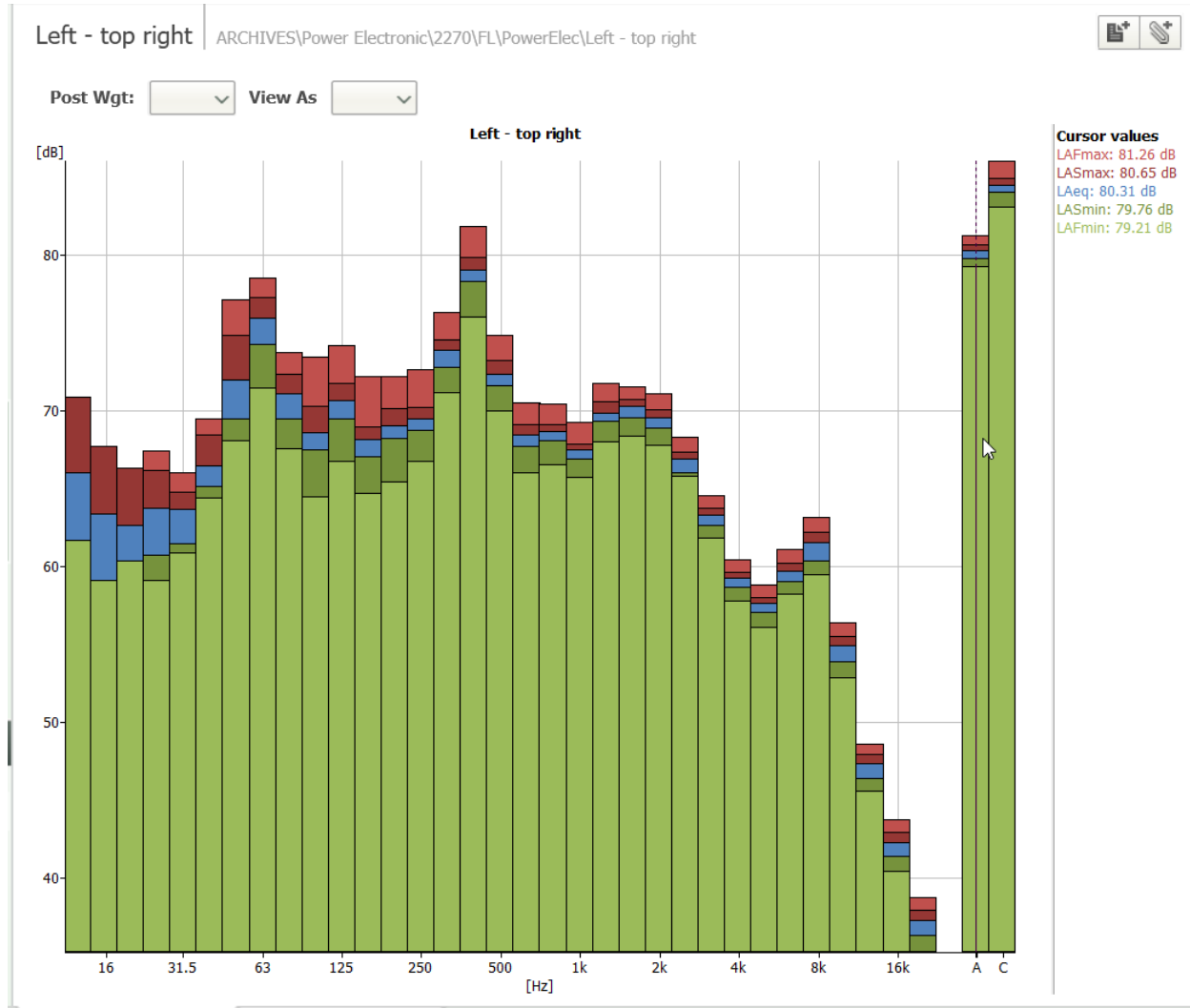
Left - top left | ARCHIVES\Power Electronic\2270\FL\PowerElec\Left - top left



Post Wgt:  View As



Power Electronics  
Noise Emissions Testing HEM Inverter

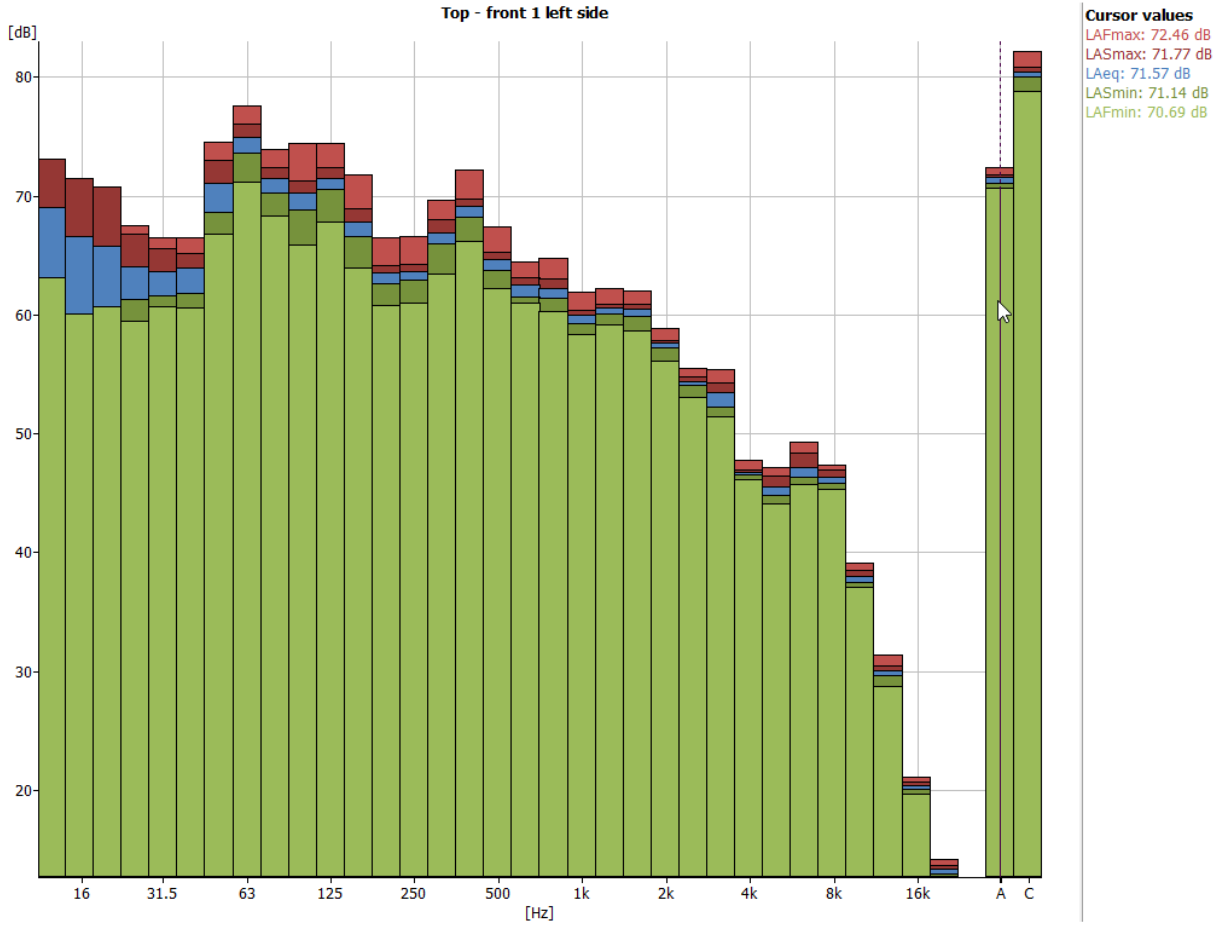


Power Electronics  
Noise Emissions Testing HEM Inverter

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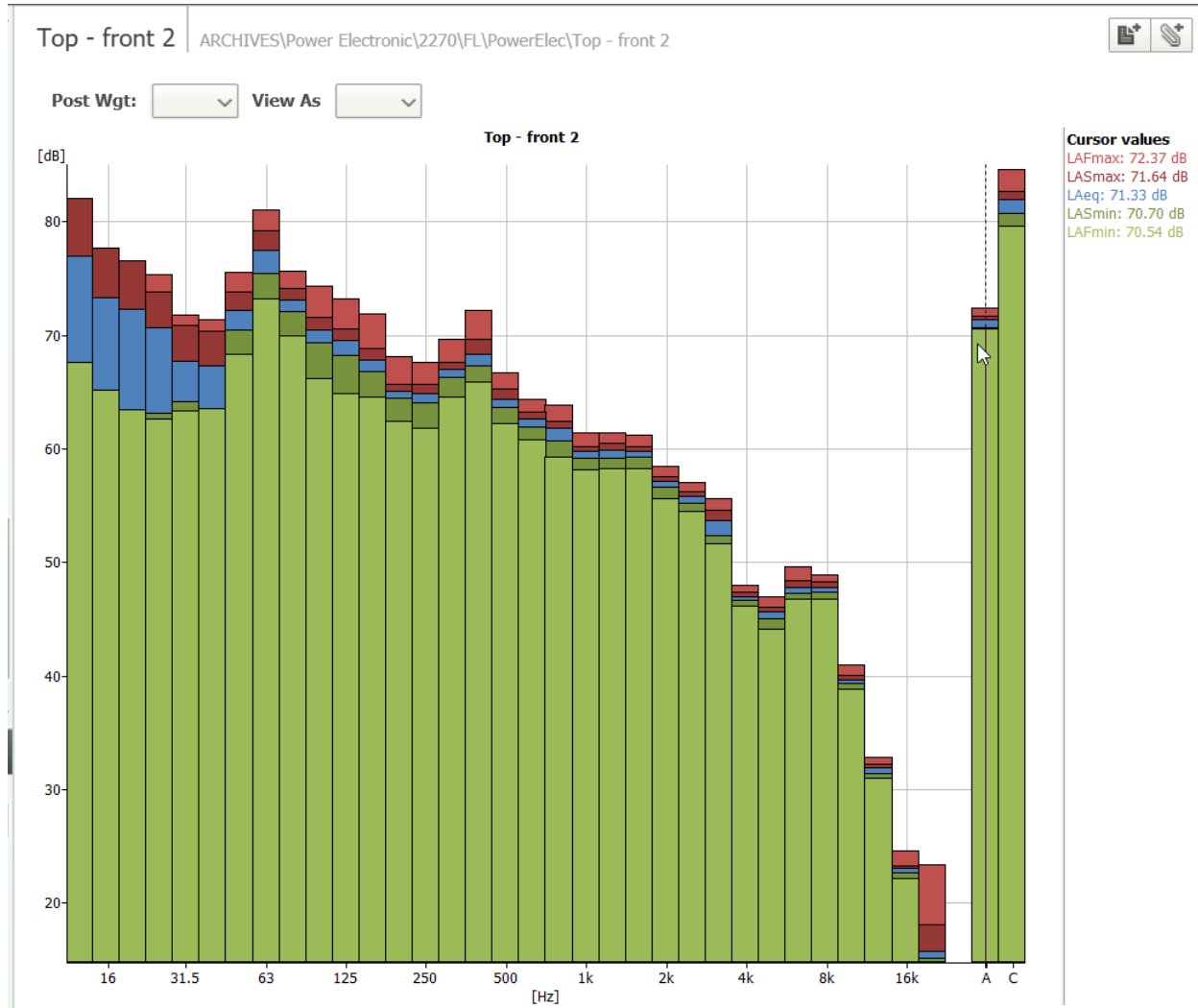


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Measured Calculations

Power Electronics  
Noise Emissions Testing HEM Inverter

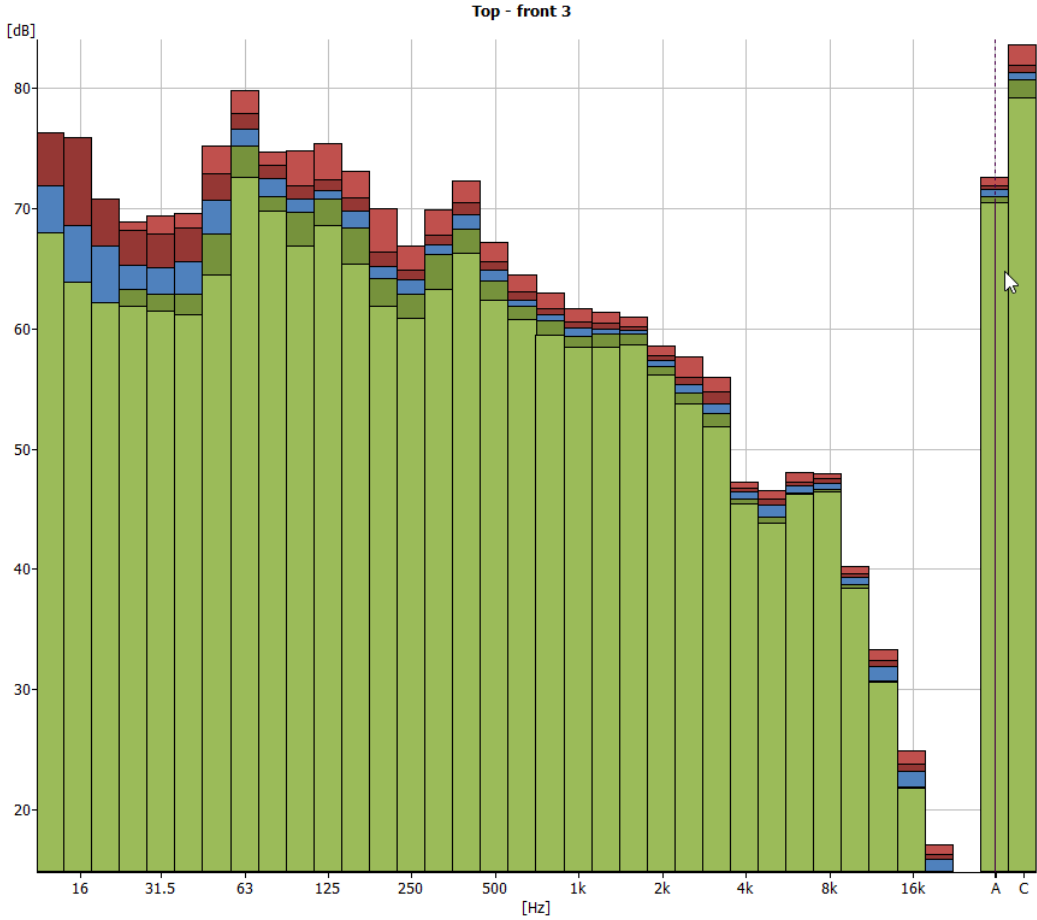


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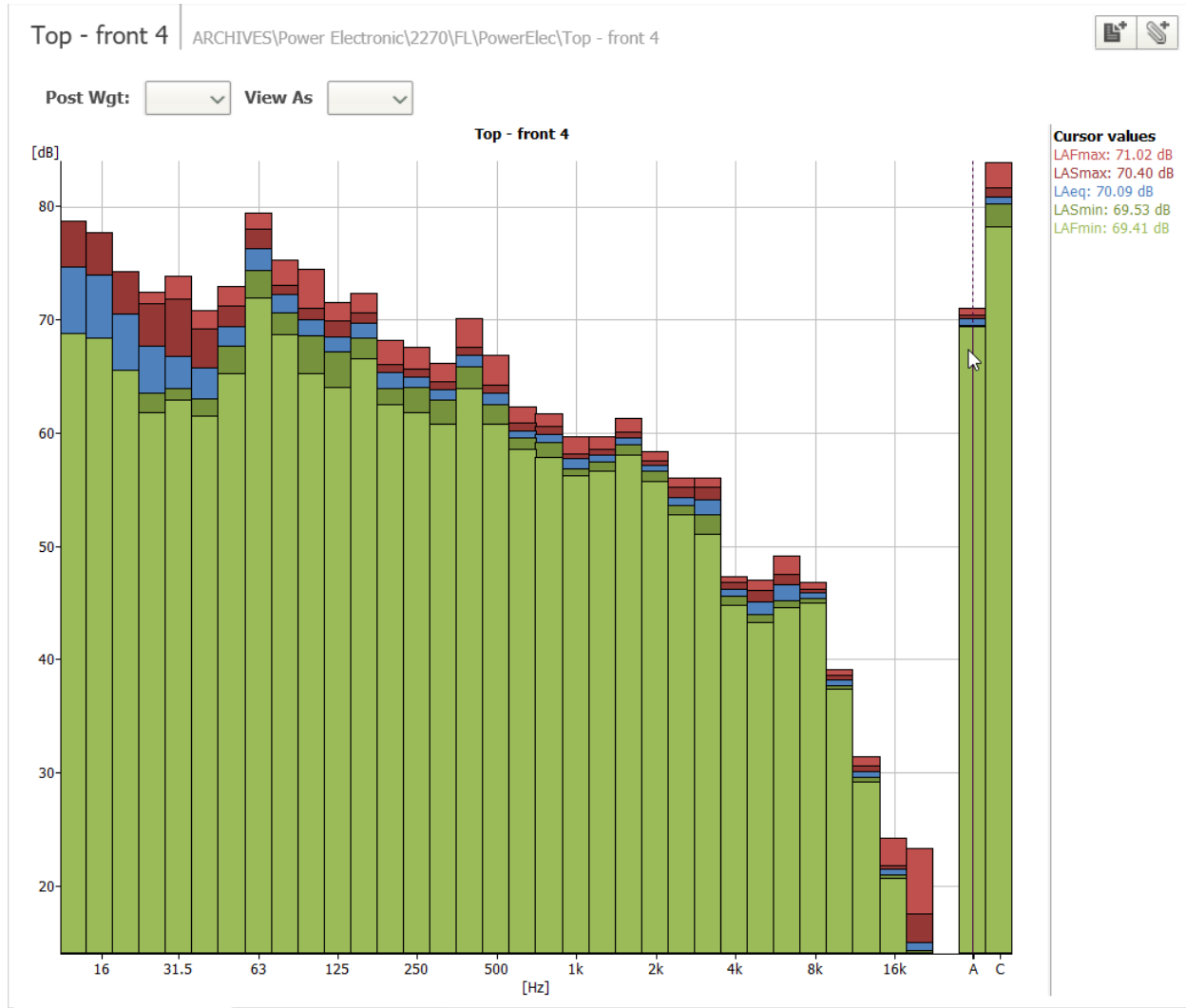


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LASmax: 71.91 dB  
LAeq: 71.60 dB  
LASmin: 71.03 dB  
LAFmin: 70.48 dB

Power Electronics  
Noise Emissions Testing HEM Inverter

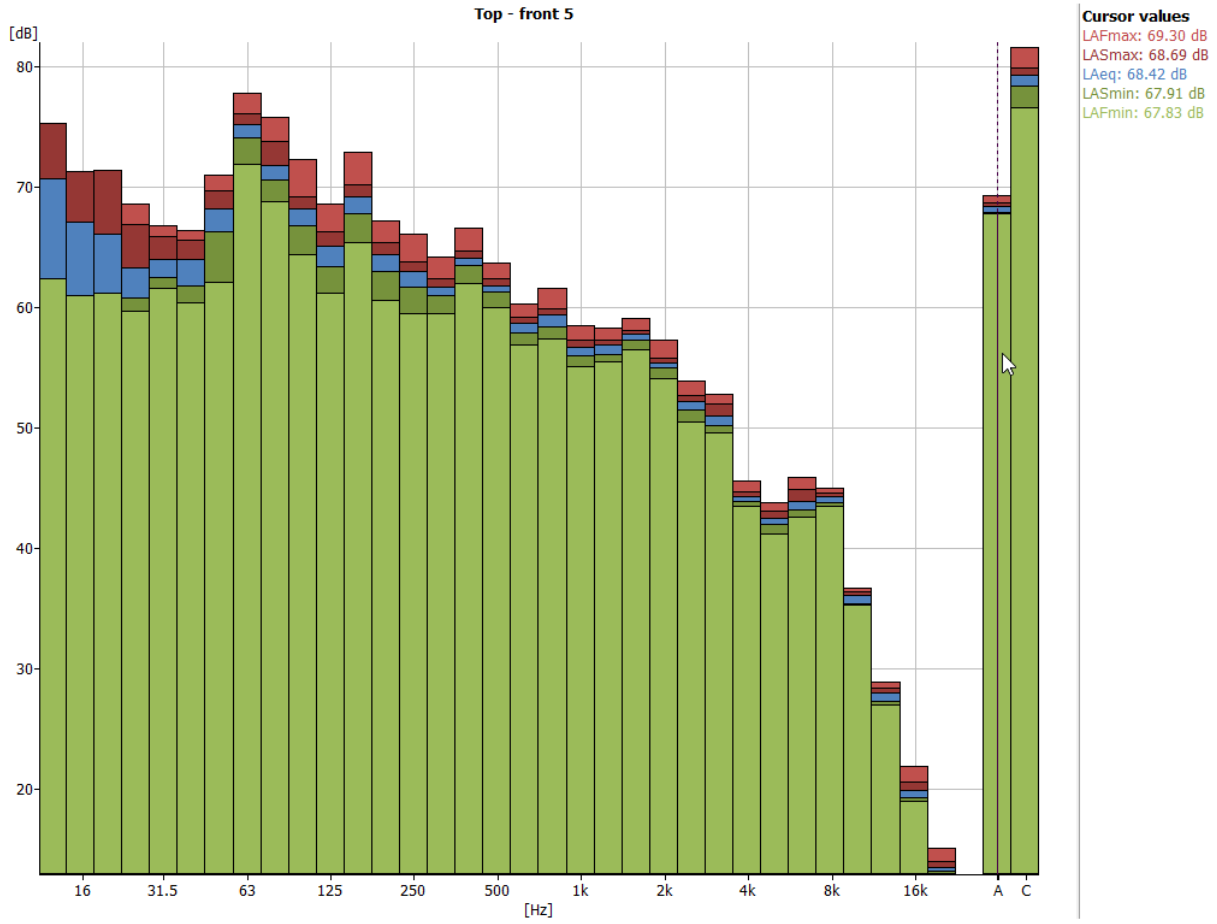


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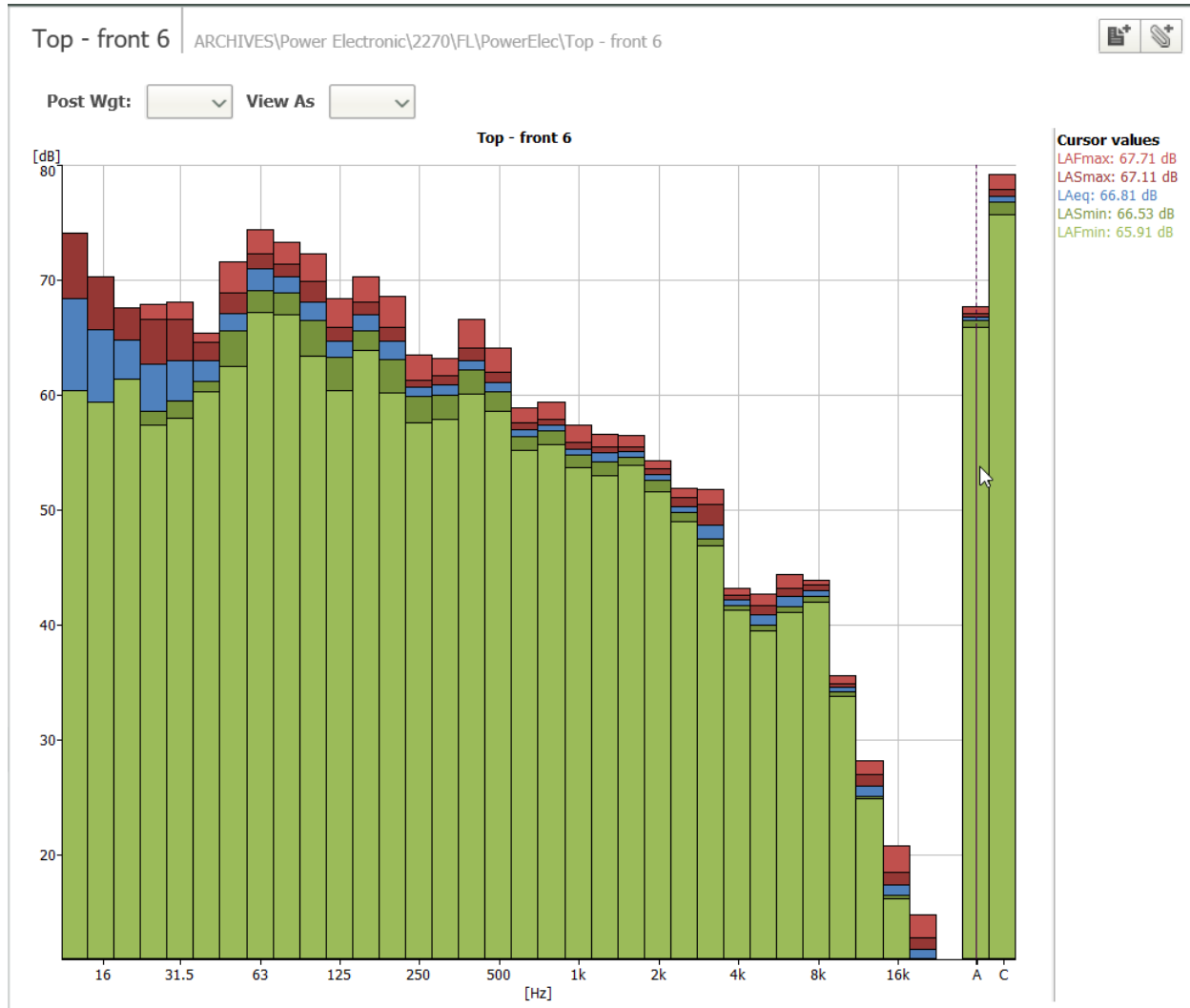
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Noise Emissions Testing HEM Inverter



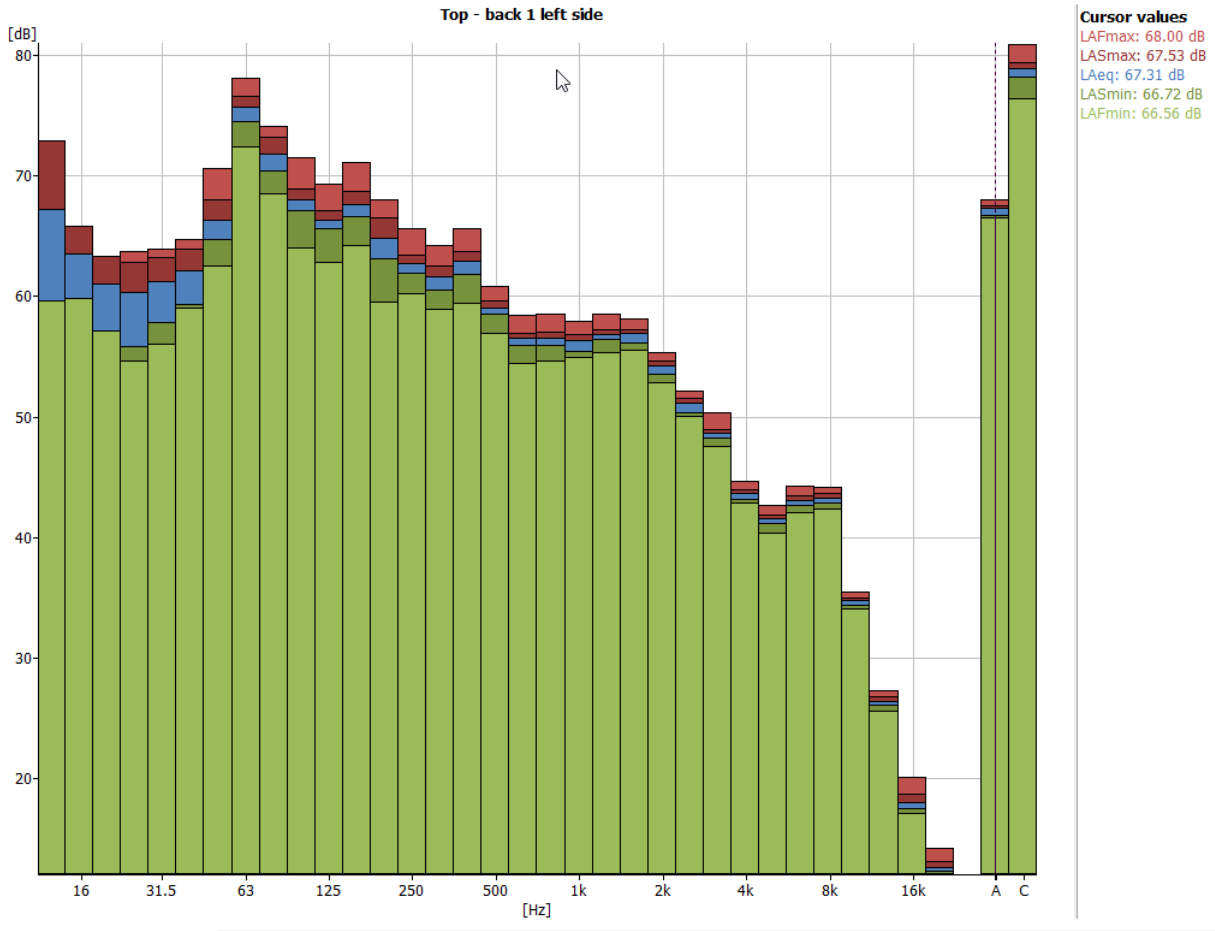


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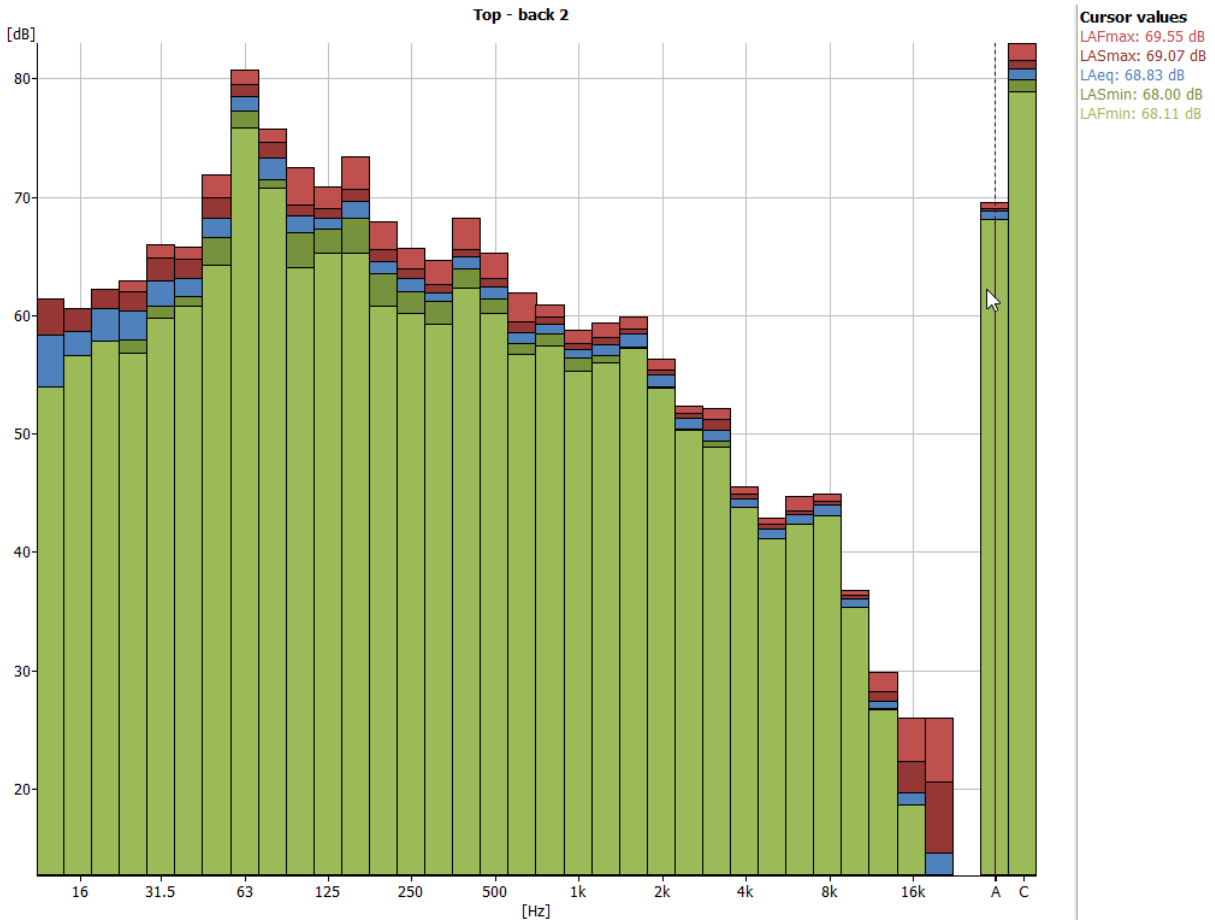


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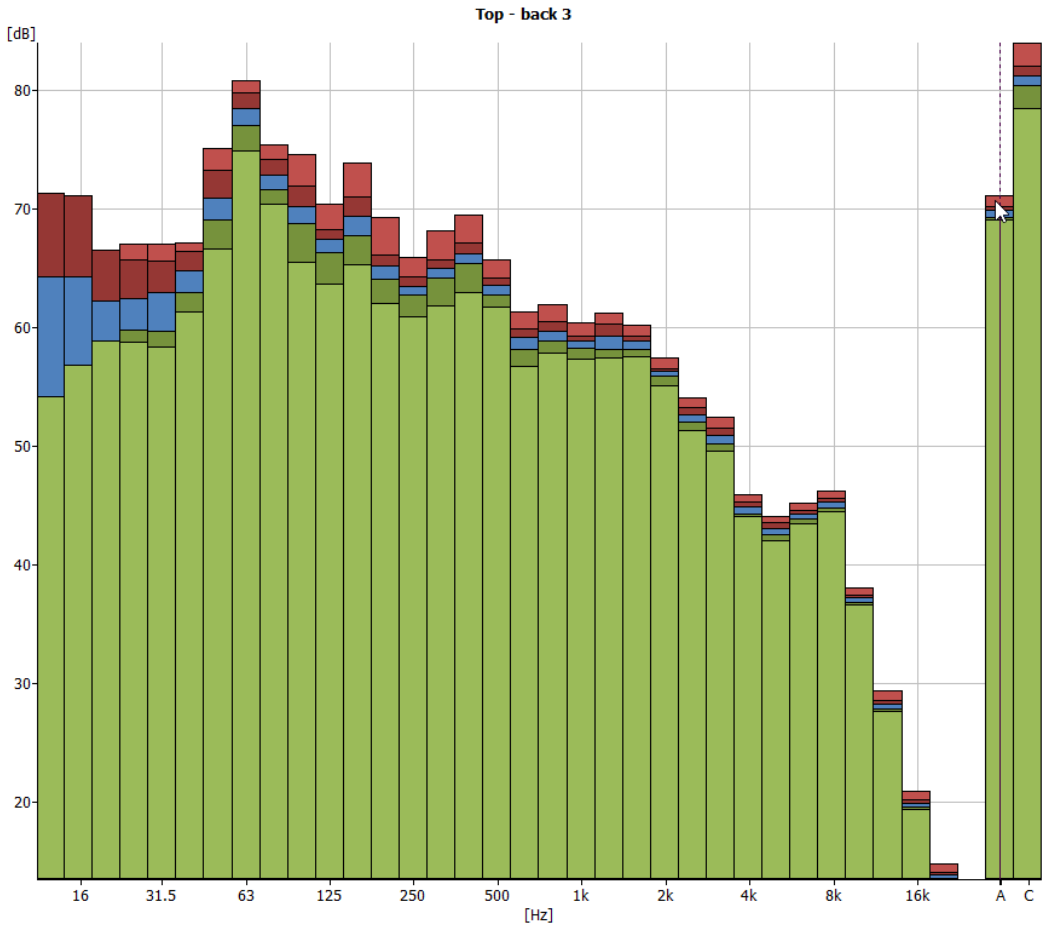


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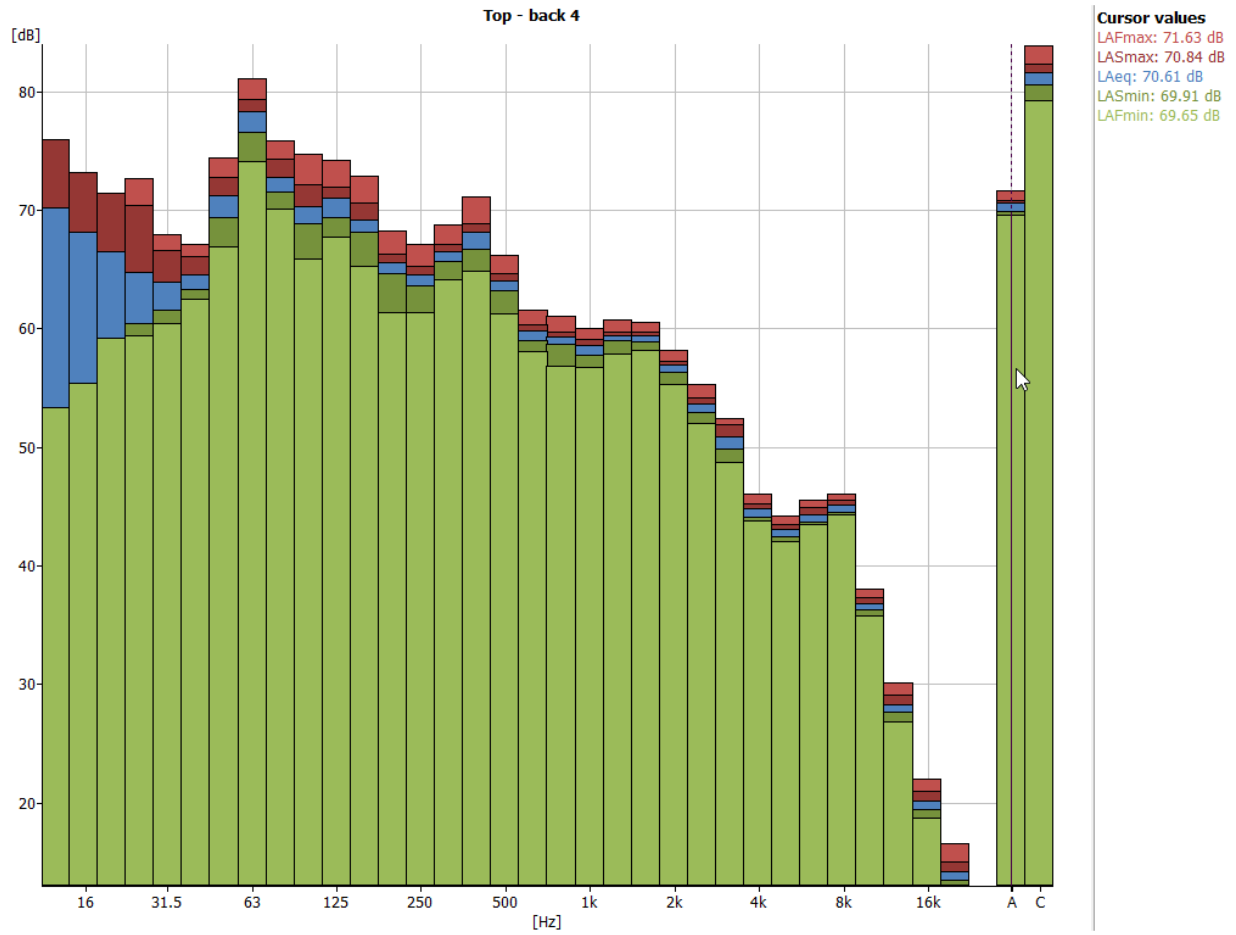
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LAFmin: 69.10 dB

Power Electronics  
Noise Emissions Testing HEM Inverter

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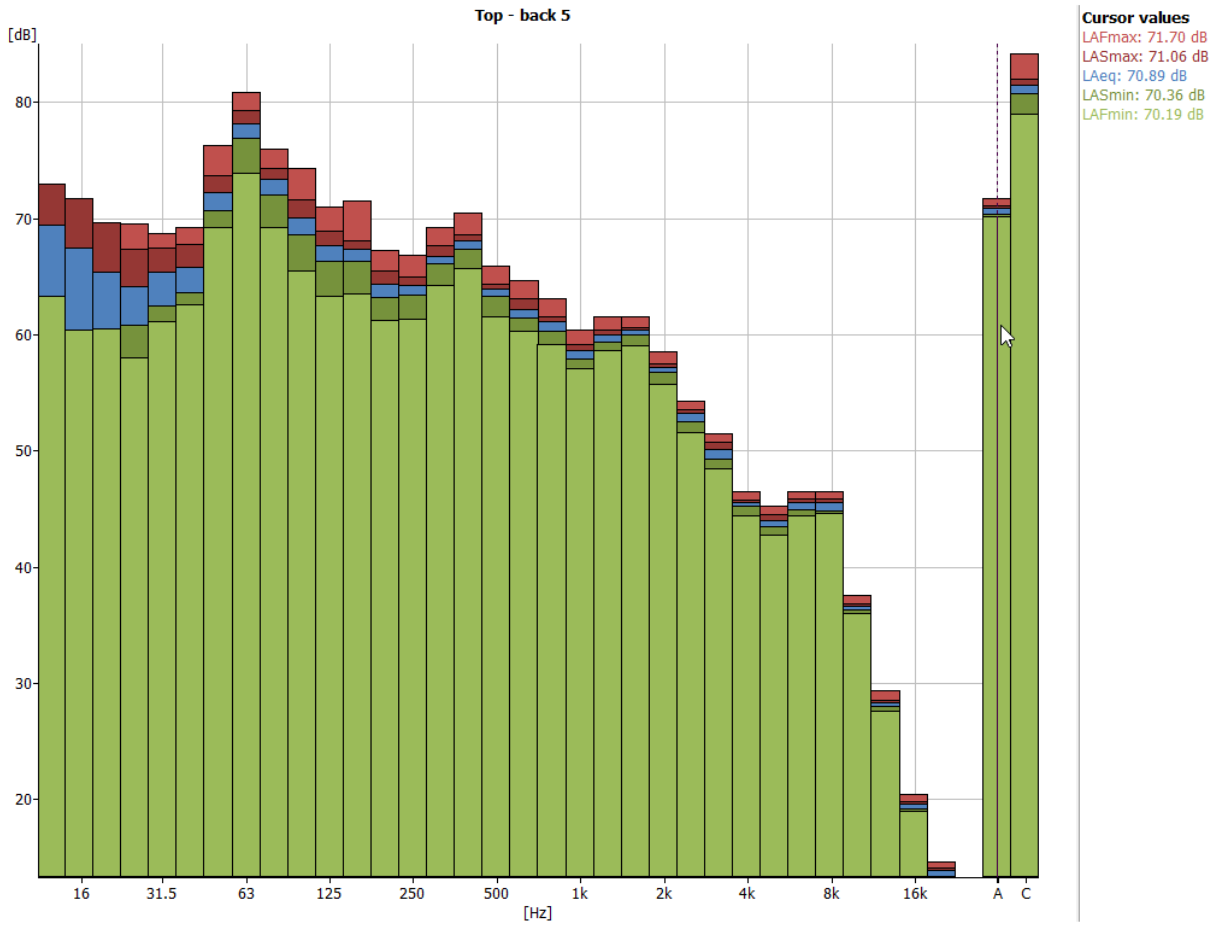


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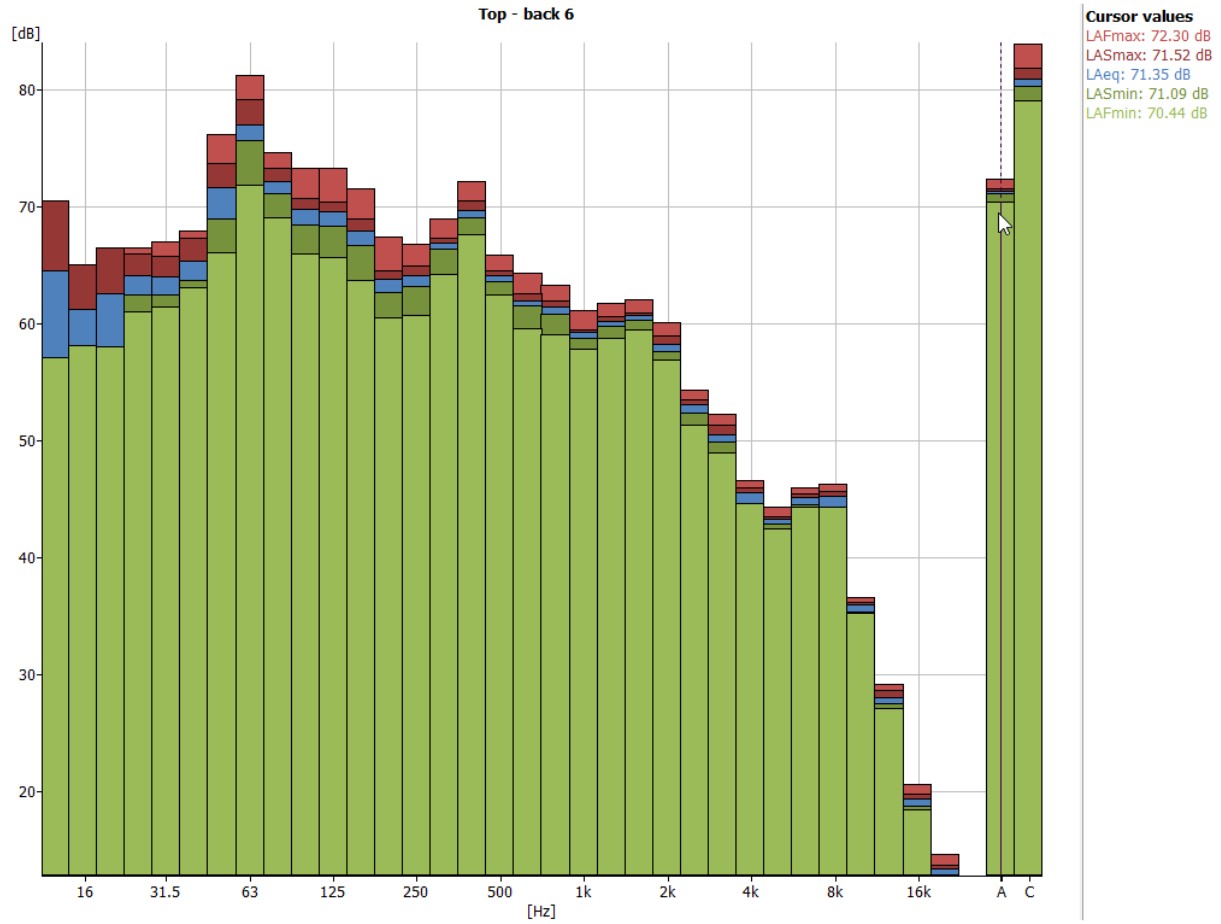


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Noise Emissions Testing HEM Inverter

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## Summary of Results

| Measurement Surface | Total Sound Pressure - dBA |
|---------------------|----------------------------|
| Front               | 80.5                       |
| Left                | 78.9                       |
| Back                | 80.5                       |
| Right               | 69.8                       |
| Top                 | 69.9                       |

Please feel free to contact us for any further information concerning the testing that was performed, or this report.

Best Regards,



Richard Salz – CEO

On-Site Acoustic Testing, LLC

# Appendix K

## **Trip Generation – Distribution Memorandum**





## MEMORANDUM

**TO:** Virginia Thompson, Key Energy Storage, Inc.  
Patti Murphy, Key Energy Storage, Inc.

**FROM:** Erik Ruehr & Nisha Pathak, VRPA Technologies, Inc.

**DATE:** October 28, 2022

**RE:** Key Energy Storage Project  
Trip Generation – Distribution Memorandum

VRPA Technologies, Inc. (VRPA) has prepared the following memorandum to document expected trip generation and distribution characteristics of the Key Energy Storage Project in Fresno County.

The remainder of the memorandum includes sections on the project description, trip generation, and trip distribution.

### PROJECT DESCRIPTION

The Project site is in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles east of Interstate 5. The Project site is located southwest of the Pacific Gas and Electric (PG&E) Gates Substation along West Jayne Avenue. The Project would be developed on up to 260 acres of 318 acres site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S).

Plans call for implementation of development of approximately 3 GW of energy storage on the Project site and a 500 kV overhead gen-tie line which would extend to the PG&E Gates Substation. Following is more detail from the Project Description:

The Project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The proposed Project could use any commercially available battery technology or similar technology; however, lithium ion and/or iron flow are the two options being considered at this time. The Project buildout would occur in phases, with construction beginning in 2024.

### TRIP GENERATION

To assess the impacts that the project may have on the surrounding roadway network, the first step is to determine project trip generation. Due to the characteristics of the project, it has been determined that the day-to-day operations of the project once it is built will generate insignificant levels of traffic. However, construction of the project is expected to generate a substantial number of trips and an evaluation is considered to be necessary.

Table 1 of the Project Description (included as an attachment) includes an estimate of auto trips and truck trips that would be generated by different phases of the project. The proposed Project has considered two alternatives for batteries, lithium ion and/or iron flow battery type. Regardless of the battery type, total number of daily construction trips during the maximum phases are equal in both options. The maximum level of construction activity in Lithium-Ion Battery Option will occur during Phases 3 and 4 with the Energy Storage Enclosure Installation generating an average 300 daily auto trips and 80 daily truck trips over a 76-week period. Similarly, maximum level of construction activity in Lithium-Ion and Iron Flow Battery Option will occur during Phase 3 with the Energy Storage Enclosure Installation generating an average of 300 daily auto trips and 80 daily truck trips are expected over a 92-week period. Since each alternatives has equal number of maximum construction trips, trip generation will remain same.

The determination of AM and PM peak hour trips for trucks and autos was based on the Manufacturing category (Land Use Code 140) from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition). The expected trip generation is shown in Exhibit 1.

### TRIP DISTRIBUTION

The project will take access to the street system from the south side of Jayne Avenue east of Lake Avenue. Trips were distributed to the roadway system based on analysis of potential origins and destinations of construction traffic and prevailing traffic patterns. The resulting traffic project AM and PM peak hour traffic is shown in Exhibit 2 for the peak construction scenario and the average construction scenario, respectively. The AM and PM peak hour trips shown in Exhibit 2 are expressed in terms of passenger car equivalents with each truck being treated as three autos.

Please feel free to contact me if you have any questions. We can be reached by email at [npathak@vrpatechnologies.com](mailto:npathak@vrpatechnologies.com), [eruehr@vrpatechnologies.com](mailto:eruehr@vrpatechnologies.com) or by phone at 858/361-7151

**Exhibit 1  
Key Energy Storage Project  
Trip Generation at Maximum Level of Construction Activity**

**Autos**

| Land Use                | ITE Code (1) | Units     | Size | Daily Trip Generation Rate | Daily Trips | AM Peak Hour rate | In:Out Split | AM Peak Hour Trips |     | PM Peak Hour rate | In:Out Split | PM Peak Hour Trips |     |    |
|-------------------------|--------------|-----------|------|----------------------------|-------------|-------------------|--------------|--------------------|-----|-------------------|--------------|--------------------|-----|----|
|                         |              |           |      |                            |             |                   |              | In                 | Out |                   |              | In                 | Out |    |
| Energy Storage Facility | 140          | Employees | 150  | 2.00                       | 300         | 0.40              | 73:27        | 44                 | 16  | 0.41              | 37:63        | 23                 | 39  |    |
|                         |              |           |      |                            | 300         |                   |              |                    |     |                   |              |                    |     |    |
|                         |              |           |      |                            |             |                   |              | Subtotal           | 44  | 16                |              | Subtotal           | 23  | 39 |
|                         |              |           |      |                            |             |                   |              | Total trips        | 60  |                   |              | Total trips        | 62  |    |

**Trucks**

| Land Use                | ITE Code (1) | Units     | Size | Daily Trip Generation Rate | External Daily Trips | AM Peak Hour rate | In:Out Split | AM Peak Hour Truck Trips |     | PM Peak Hour rate | In:Out Split | PM Peak Hour Truck Trips |     |   |
|-------------------------|--------------|-----------|------|----------------------------|----------------------|-------------------|--------------|--------------------------|-----|-------------------|--------------|--------------------------|-----|---|
|                         |              |           |      |                            |                      |                   |              | In                       | Out |                   |              | In                       | Out |   |
| Energy Storage Facility | 140          | Employees | 150  | 0.53                       | 80                   | 0.03              | 59:41        | 3                        | 2   | 0.02              | 37:63        | 1                        | 2   |   |
|                         |              |           |      |                            | 80                   |                   |              |                          |     |                   |              |                          |     |   |
|                         |              |           |      |                            |                      |                   |              | Subtotal                 | 3   | 2                 |              | Subtotal                 | 1   | 2 |
|                         |              |           |      |                            |                      |                   |              | Total trips              | 5   |                   |              | Total trips              | 3   |   |

**Total Vehicles**

| Land Use                | ITE Code (1) | Units     | Size | Daily Trip Generation Rate | External Daily Trips | AM Peak Hour rate | In:Out Split | AM Peak Hour Trips |     | PM Peak Hour rate | In:Out Split | PM Peak Hour Trips |     |    |
|-------------------------|--------------|-----------|------|----------------------------|----------------------|-------------------|--------------|--------------------|-----|-------------------|--------------|--------------------|-----|----|
|                         |              |           |      |                            |                      |                   |              | In                 | Out |                   |              | In                 | Out |    |
| Energy Storage Facility | 140          | Employees | 150  | N/A                        | 380                  | N/A               | N/A          | 47                 | 18  | N/A               | N/A          | 24                 | 41  |    |
|                         |              |           |      |                            | 380                  |                   |              |                    |     |                   |              |                    |     |    |
|                         |              |           |      |                            |                      |                   |              | Subtotal           | 47  | 18                |              | Subtotal           | 24  | 41 |
|                         |              |           |      |                            |                      |                   |              | Total trips        | 65  |                   |              | Total trips        | 65  |    |

**Passenger Car Equivalents (2)**

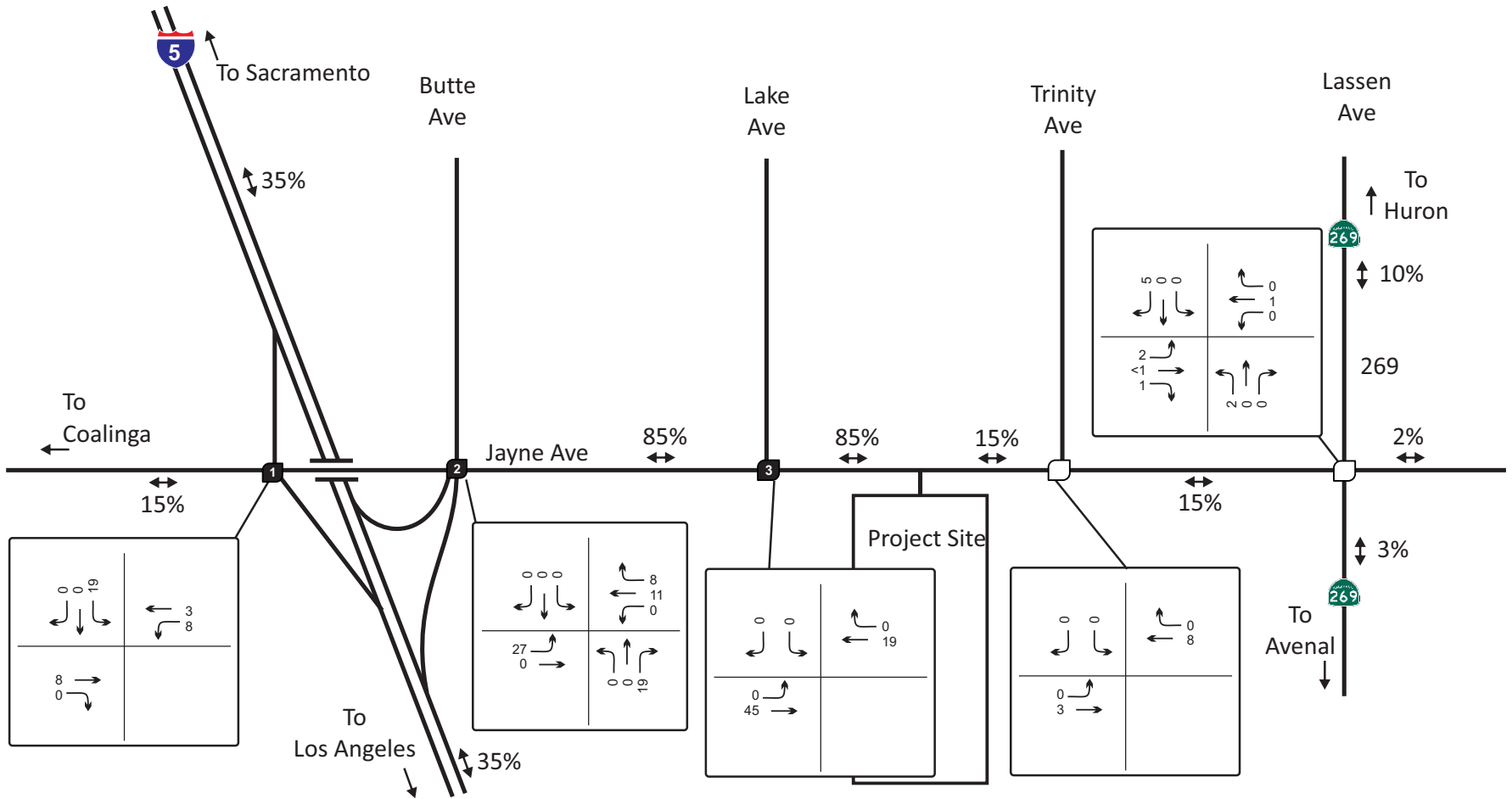
| Land Use                | ITE Code (1) | Units     | Size | Daily Trip Generation Rate | External Daily Trips | AM Peak Hour rate | In:Out Split | AM Peak Hour Trips |     | PM Peak Hour rate | In:Out Split | PM Peak Hour Trips |     |    |
|-------------------------|--------------|-----------|------|----------------------------|----------------------|-------------------|--------------|--------------------|-----|-------------------|--------------|--------------------|-----|----|
|                         |              |           |      |                            |                      |                   |              | In                 | Out |                   |              | In                 | Out |    |
| Energy Storage Facility | 140          | Employees | 150  | N/A                        | 540                  | N/A               | N/A          | 53                 | 22  | N/A               | N/A          | 27                 | 46  |    |
|                         |              |           |      |                            | 540                  |                   |              |                    |     |                   |              |                    |     |    |
|                         |              |           |      |                            |                      |                   |              | Subtotal           | 53  | 22                |              | Subtotal           | 27  | 46 |
|                         |              |           |      |                            |                      |                   |              | Total trips        | 75  |                   |              | Total trips        | 72  |    |

Notes:

- (1) Daily total trip generation for autos and trucks was based on the project description. Peak hour trips were based on the Manufacturing category (Land Use Code 140) from the Institute of Transportation engineers Trip Generation Manual, 11th Edition.  
(2) Passenger car equivalents were estimated to be 1.0 for autos and 3.0 for trucks.

# Key Energy Storage Project

## AM Peak Hour Project Trips - Maximum Level of Construction Activity

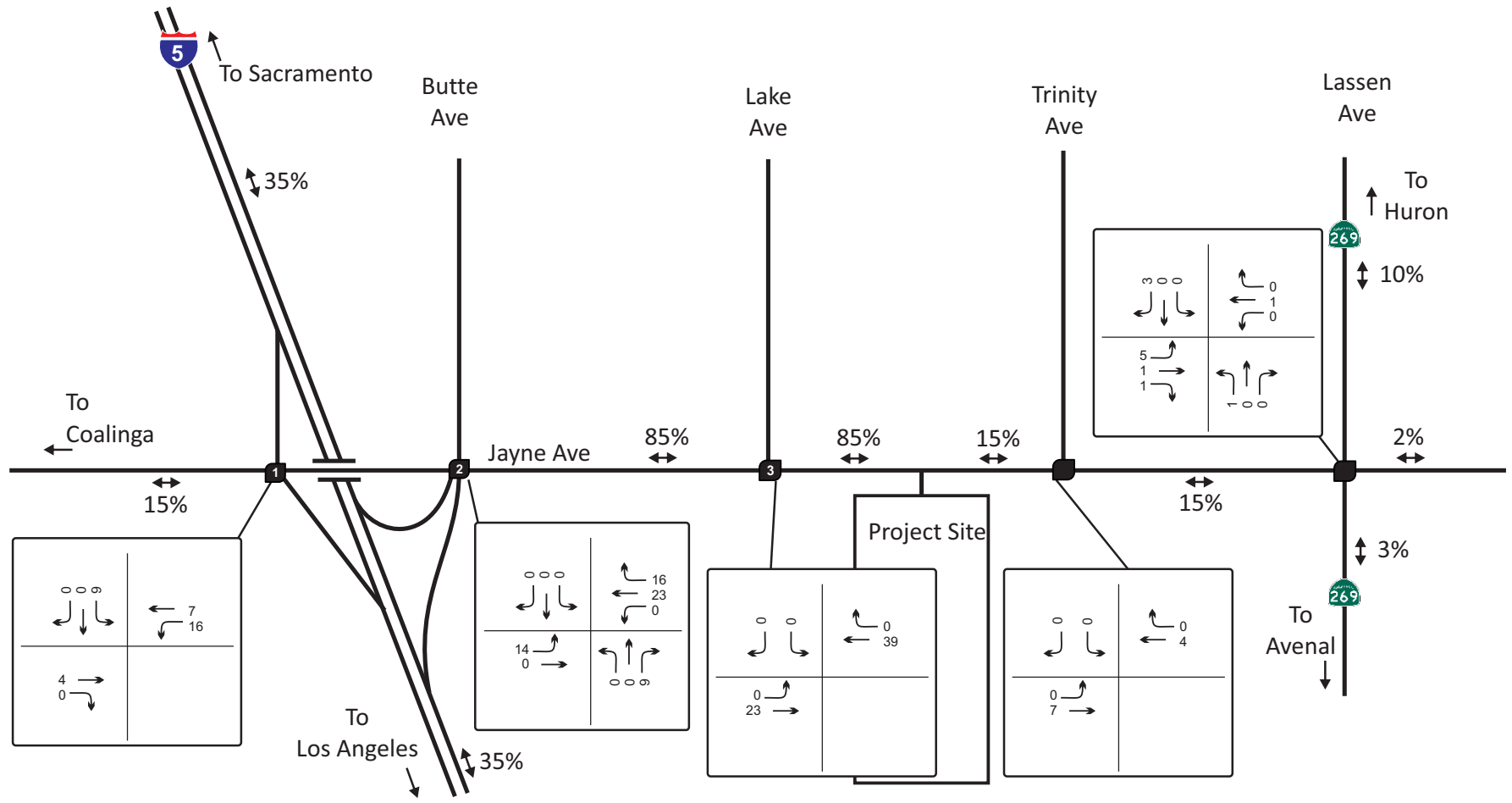


| LEGEND                       |                      |
|------------------------------|----------------------|
| xx% Percent of Project Trips | ↙ Lane Geometry      |
| ↙ xx Peak Hour Trips         | 2 Study Intersection |



# Key Energy Storage Project

## PM Peak Hour Project Trips - Maximum Level of Construction Activity



| LEGEND |                          |
|--------|--------------------------|
| xx%    | Percent of Project Trips |
| ↔      | Lane Geometry            |
| ↔      | AM/PM Peak Hour Trips    |
| 2      | Study Intersection       |



**ATTACHMENT**

**PROJECT DESCRIPTION – TABLE !**



**Table 1 Construction Vehicle Trips – Lithium-Ion Battery Option**

| Construction Phase                    | Phase Duration (weeks) | Construction Workforce (Number of Employees) | One-Way Vehicle Trips      |                                  |                        |
|---------------------------------------|------------------------|--|----------------------------|----------------------------------|------------------------|
|                                       |                        |  | Average Daily Worker Trips | Average Daily Vendor Truck Trips | Total Haul Truck Trips |
| <b>Phase 1 (34.5 acres)</b>           |                        |  |                            |                                  |                        |
| Site Preparation                      | 2                      | 40   | 80                         | 4                                | 0                      |
| Project Substation Site Preparation   | 4                      | 20   | 40                         | 8                                | 0                      |
| Grading                               | 4                      | 40   | 80                         | 4                                | 0                      |
| Project Substation Site Grading       | 2                      | 20   | 40                         | 8                                | 0                      |
| Energy Storage Enclosure Installation | 25                     | 120  | 240                        | 40                               | 0                      |
| Project Substation Installation       | 16                     | 60   | 120                        | 80                               | 0                      |
| Gen-tie Foundation and Tower Erection | 1                      | 40   | 80                         | 8                                | 0                      |
| Gen-Tie Stringing and Pulling         | 2                      | 40   | 80                         | 8                                | 0                      |
| <b>Phase 2 (27.75 acres)</b>          |                        |  |                            |                                  |                        |
| Site Preparation                      | 2                      | 40   | 80                         | 4                                | 0                      |
| Grading                               | 4                      | 40   | 80                         | 4                                | 0                      |
| Energy Storage Enclosure Installation | 66                     | 120  | 240                        | 40                               | 0                      |
| <b>Phase 3 (76 acres)</b>             |                        |  |                            |                                  |                        |
| Site Preparation                      | 4                      | 40   | 80                         | 6                                | 0                      |
| Grading                               | 8                      | 40   | 80                         | 6                                | 0                      |
| Energy Storage Enclosure Installation | 76                     | 150  | 300                        | 80                               | 0                      |
| <b>Phase 4 (121.75 acres)</b>         |                        |  |                            |                                  |                        |
| Site Preparation                      | 4                      | 60   | 120                        | 8                                | 0                      |
| Grading                               | 8                      | 60   | 120                        | 8                                | 0                      |
| Energy Storage Enclosure Installation | 76                     | 150  | 300                        | 80                               | 0                      |

**Table 2 Construction Vehicle Trips – Lithium Ion and Iron Flow Battery Option**

| Construction Phase                    | Phase Duration (weeks) | Construction Workforce (Number of Employees) | One-Way Vehicle Trips      |                                  |                        |
|---------------------------------------|------------------------|--|----------------------------|----------------------------------|------------------------|
|                                       |                        |  | Average Daily Worker Trips | Average Daily Vendor Truck Trips | Total Haul Truck Trips |
| <b>Phase 1 (70 acres)</b>             |                        |  |                            |                                  |                        |
| Site Preparation                      | 4                      | 40   | 80                         | 4                                | 0                      |
| Project Substation Site Preparation   | 4                      | 20   | 40                         | 8                                | 0                      |
| Grading                               | 8                      | 40   | 80                         | 4                                | 0                      |
| Project Substation Site Grading       | 2                      | 20   | 20                         | 4                                | 0                      |
| Energy Storage Enclosure Installation | 67                     | 120  | 240                        | 40                               | 0                      |
| Project Substation Installation       | 16                     | 60   | 120                        | 80                               | 0                      |
| Gen-tie Foundation and Tower Erection | 1                      | 40   | 80                         | 8                                | 0                      |
| Gen-Tie Stringing and Pulling         | 2                      | 40   | 80                         | 8                                | 0                      |
| <b>Phase 2 (54.25 acres)</b>          |                        |  |                            |                                  |                        |
| Site Preparation                      | 2                      | 40   | 80                         | 4                                | 0                      |
| Grading                               | 4                      | 40   | 60                         | 4                                | 0                      |
| Energy Storage Enclosure Installation | 74                     | 120  | 240                        | 40                               | 0                      |
| <b>Phase 3 (135.75 acres)</b>         |                        |  |                            |                                  |                        |
| Site Preparation                      | 4                      | 60   | 120                        | 8                                | 0                      |
| Grading                               | 8                      | 60   | 120                        | 8                                | 0                      |
| Energy Storage Enclosure Installation | 92                     | 150  | 300                        | 80                               | 0                      |



# Appendix L

## **Water Supply Assessment**





# Key Energy Storage Project

## Water Supply Assessment

*prepared for*

**Key Energy Storage, LLC**  
700 Universe Boulevard  
Juno Beach, Florida 33408  
Attn: Virginia Thompson / Patti Murphy

*prepared by*

**Rincon Consultants, Inc.**  
7080 North Whitney Avenue, Suite 101  
Fresno, California 93720

**January 2023**



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# Acronyms

---

|           |  |
|-----------|--|
| AE        | Agricultural Exclusive                   |
| AF        | acre-feet                                |
| AFY       | acre-feet per year                       |
| APN       | Assessor Parcel Number                   |
| ASR       | aquifer storage and recovery             |
| BMP       | Best Management Practice                 |
| CalEEMod  | California Emissions Estimator Model     |
| CEQA      | California Environmental Quality Act     |
| Coalition | Westlands Water Quality Coalition        |
| CPUC      | California Public Utilities Commission   |
| CVP       | Central Valley Project                   |
| DWR       | Department of Water Resources            |
| GSA       | Groundwater Sustainability Agency        |
| GW        | gigawatt                                 |
| ILRP      | Irrigated Lands Regulatory Program       |
| kV        | kilovolt                                 |
| MAF       | million acre-feet                        |
| PG&E      | Pacific Gas and Electric                 |
| PMA       | projects and management actions          |
| RWQCB     | Regional Water Quality Control Board     |
| SB        | Senate Bill                              |
| SCADA     | supervisory control and data acquisition |
| SGMA      | Sustainable Groundwater Management Act   |
| SWP       | State Water Project                      |
| SWRCB     | State Water Resources Control Board      |
| TDS       | Total Dissolved Solids                   |
| USBR      | U.S. Bureau of Reclamation               |
| UWMP      | Urban Water Management Plan              |
| WSA       | Water Supply Assessment                  |
| WSGM      | Westside Groundwater Model               |
| WWD       | Westlands Water District                 |

# 1 Introduction

---

In 2001, California adopted Senate Bill (SB) 610, which amended California Water Code to require detailed analysis of water supply availability for certain types of development projects. The primary purpose of SB 610 is to improve the linkage between water availability and land use planning by ensuring greater communication between water providers and local planning agencies and ensuring that land use decisions for large development projects are fully informed as to whether sufficient water supplies are available to meet project demands. Certain types of development projects are required to provide detailed water supply assessments to planning agencies. Any proposed project which is subject to the California Environmental Quality Act (CEQA) and would demand more than 75 acre-feet per year (AFY) of water, or an amount of water equivalent to, or greater than, the amount of water required by a residential development with 500 or more dwelling units, is subject to SB 610 and is required to prepare a Water Supply Assessment (WSA).

This WSA has been prepared for the Key Energy Storage Project (“proposed project”), although the project does not meet the threshold requirements for a WSA as defined in SB 610. The project details are discussed in Section 2, *Project Description* which includes calculation of the water supply needs of the proposed project. The applicability of SB 610 to the proposed project is determined in Section 3, *Senate Bill 610 Applicability*. The proposed project does not meet any of the thresholds to trigger the requirement for a WSA; however, this WSA has been conservatively prepared for the project, to support full disclosure. Section 4, *Water Supply Overview*, includes an analysis of the sources and management of the water supply that would be necessary for implementation of the proposed project and Section 5, *Water Supply Reliability*, includes a discussion and analysis of the reliability of those supplies, including under future conditions of reduced supply due to drought, is included in.

This WSA has been prepared to inform decisions from project applicants, local and regional agencies, and the public about the availability of a water supply to support the proposed project in the decades to come after implementation. This document is not intended to address any CEQA impact issues; those issues are discussed in other environmental documents for the proposed project. Rather, this document is intended to provide a baseline analysis of the water supplies available to the project and of its impact upon those supplies.

## 2 Project Description

---

Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project on up to 260 acres within the 318-acre project site in unincorporated Fresno County. The project would include development of an energy storage system facility and associated on-site support facilities including a substation, inverters, collector lines, fencing, access roads, supervisory control and data acquisition (SCADA) system, and other ancillary facilities or equipment. The energy storage facility is anticipated to consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy.<sup>1</sup> The project would also include a 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation.

Buildout of the project would occur in phases, as discussed below in Section 2.3, *Proposed Project Characteristics*. As described therein, two options are under consideration for the battery technology; one option would implement a lithium-ion battery, and the second option would implement iron flow and lithium ion batteries. Under either option, operational activities would be the same. However, construction phasing would differ between the two options; therefore, construction water demands would differ slightly between the two options. Therefore, this WSA considers the water demand for each option. Operation of the battery energy storage technology would not introduce a water demand. However, the project would include an operations and maintenance (O&M) building, which would include kitchen and lavatory facilities, the use of which would introduce a water demand. However, the project would largely be operated remotely, and new on-site water demand during operation would be negligible.

The project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission (CPUC) decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

### 2.1 Project Location

The project site is located in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, 7.5 miles north of the City of Avenal, and 0.4 mile east of Interstate 5. The project site is located southwest of the PG&E Gates Substation along West Jayne Avenue. The site is approximately 318 acres in total size; however, the project development would be limited to up to 260 acres within the total 318 acres. The project site is bounded by West Jayne Avenue to the north

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<sup>1</sup> The megawatt capacity is an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the project may change, the overall size of the proposed development (up to 260 acres) would remain consistent.

and unpaved agricultural access roads to the east, south, and west. Figure 1 shows the regional location and Figure 2 depicts the proposed project site.

## 2.2 Existing Project Site Characteristics

The project site has historically been used for irrigated agriculture production, and is flat in topography. There is active agricultural production occurring on the northern half of the project site (APN 085-040-58S). The southern half of the project site (APNs 085-040-36S and 085-040-37S) are currently fallow (left unused for agricultural purposes). There is existing energy transmission infrastructure within the project site; the northern portion of the project site currently contains an overhead gen-tie line along the western boundary and a high voltage transmission line running north-to-south in the eastern portion of the site. In addition, the southern portion of the project site contains high voltage transmission lines running north-to-south in the eastern portion of the site.

### 2.2.1 Current Land Use Designation and Zoning

The Fresno County General Plan land use designation for the project site is Agriculture. The project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire project site is designated as Prime Farmland and is covered by Williamson Act Contracts.

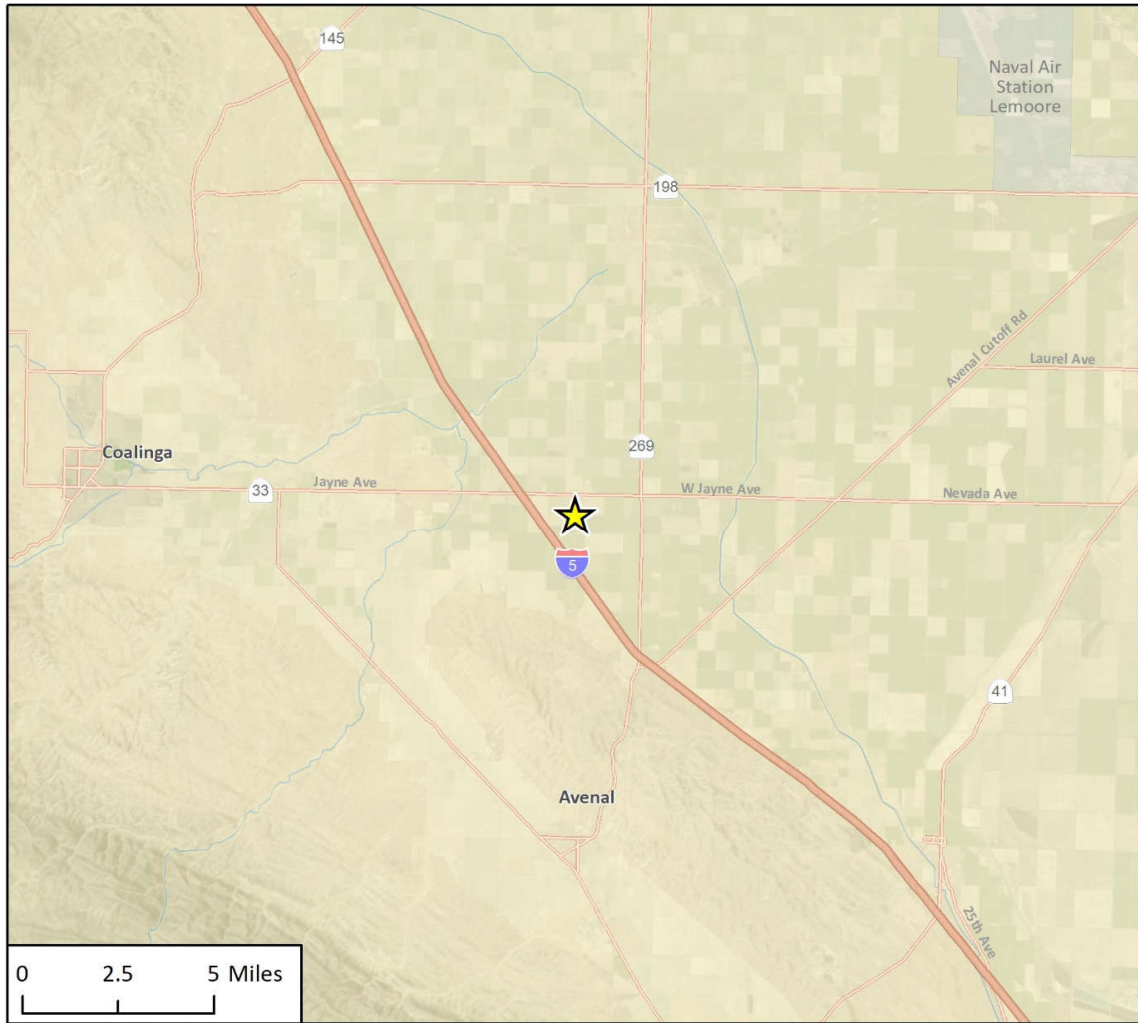
### 2.2.2 Surrounding Land Uses

The project site is generally surrounded by agricultural uses to the west, south, and east. Industrial land uses in the form of solar facilities are located to the north and southwest of the project site. The PG&E Gates Substation is located to the northeast of the project site. A small substation is also located immediately adjacent to the northwest project site boundary. The project site is bound by West Jayne Avenue to the north and unpaved agricultural access roads to the east, south, and west.

Surrounding development includes mostly solar facilities and distant small cities within Fresno County. These small cities are mostly comprised of single-family houses, commercial retail, industrial facilities, parks, and other public services buildings. The City of Huron is located approximately five miles northeast of the project site, the City of Coalinga approximately 11.5 miles west of the project site, and the City of Avenal approximately seven miles south of the project site.



Figure 1 Proposed Project Regional Location



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 Project Location 

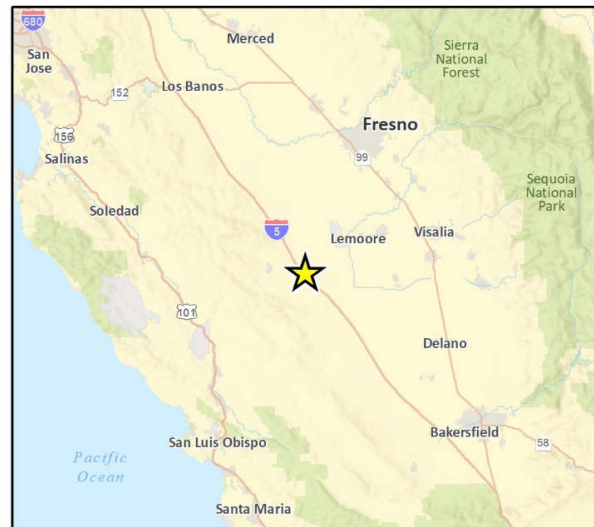
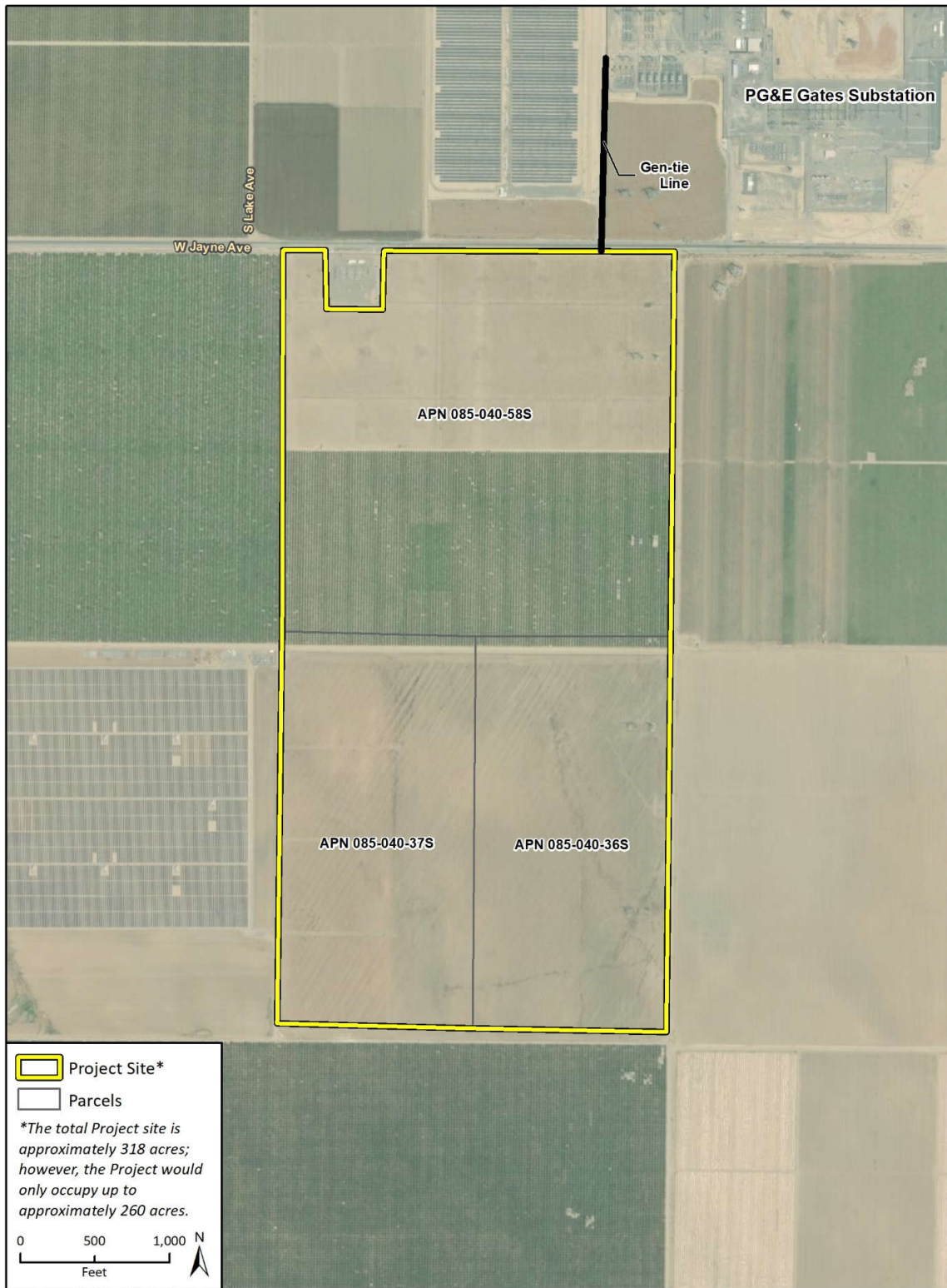


Fig 1 Regional Location

Figure 2 Proposed Project Site and Project Parcel Map



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Additional data provided by Fresno County, 2021.

## 2.3 Proposed Project Characteristics

The project would occupy up to up to 260 acres of the 318-acre site. There are multiple parcels within the project site; the proposed development would occur on approximately 128 acres within the northern parcel (Assessor Parcel Number [APN] 085-040-58S) and up to 80 acres within the two 80-acre southern parcels (APNs 085-040-36S and 085-040-37S).

The project would involve the development of approximately three GW of energy storage and a 500-kV overhead gen-tie line which would extend to the PG&E Gates Substation north of the project site. The Project would include a lot line adjustment to merge parcels identified by APNs 085-040-36S, 085-040-37S, and 085-040-58S. Other components of the project include a collector substation, inverters, collector lines, fencing, access roads, SCADA system, and other ancillary facilities and equipment. Buildout of the project would occur in phases, with construction beginning in 2024.

The total megawatts and the timing of when phases would be online are approximate. The selection of batteries that would be used is also not yet finalized; as such, the capacity and size of the containers may change, as may the ratings of the conversion equipment (inverters and transformers). The number of containers, inverters, and transformers and expected total megawatt capacity are an estimate based on currently available technology as the energy storage industry has quickly evolved in the last few years and is anticipated to continue to evolve. While the components and total megawatts of the project may change, the overall size of the project (up to 260 acres within the overall 318-acre site) would remain constant. Of these 260 acres, approximately 208 acres are anticipated to be used for the permanent project footprint and 52 additional acres are anticipated to be used for construction and to provide additional flexibility.

The proposed project would include installation of stormwater facilities consisting of a drainage swale and two retention basins, which are designed to slow the rate of stormwater movement across the project site, thereby reducing or avoiding associated impacts such as related to erosion and sedimentation. These onsite stormwater detention and treatment systems would be provided to meet County and State Water Resources Control Board (SWRCB) requirements. A drainage swale would be installed along the eastern project boundary, and retention basins would be installed at the southeast corner of parcel 085-040-58S and the southeast corner of parcel 085-040-37S. In addition to providing stormwater management, the detention basins would also benefit to groundwater supply, because stormwater trapped in the basins would infiltrate the ground to the underlying groundwater basin. The proposed project does not include landscaping, and would not introduce new long-term water demands related to landscaping. The project would include an O&M building, which would include kitchen and lavatory facilities.

## 2.4 Water Demands

### *Construction*

Water demand during construction was calculated using a water demand factor of 1.26 AFY/acre, which was determined based upon water demand for other battery energy storage projects provided by Key Energy Storage, LLC. As noted in the introduction to this Project Description, two options for the battery technology are under consideration for the project.

Water demand during construction would largely be related to compliance with the National Pollutant Discharge Elimination System (NPDES) program's Construction General Permit (NPDES No.

CAS000002), which requires BMPs such as water application for dust suppression for any project disturbing more than one acre. The San Joaquin Valley Air Pollution Control District also requires water application for dust control under Rule 8021, as detailed in the *Air Quality and Greenhouse Gas Study* for the Key Energy Storage Project. Water would be required for site preparation including grading for compaction and other grading processes.

The estimated water demands for each option are provided in the tables below. Table 1 shows the anticipated water demand for the Lithium Ion Battery Option, and Table 2 shows the anticipated water demand for the Iron Flow and Lithium Ion Battery Option.

**Table 1 Lithium Ion Battery Option - Construction Water Demand**

| Phase         | Power at Point of Interconnection (MW) | Months    | Acres      | Water Demand (AFY) <sup>1</sup> | Total Water Demand (AF) |
|---------------|--|-----------|------------|---------------------------------|-------------------------|
| Phase 1       | 300                                    | 14        | 34.5       | 43.5                            | 50.7                    |
| Phase 2       | 500                                    | 18        | 27.75      | 35.0                            | 52.4                    |
| Phase 3       | 1,000                                  | 22        | 76         | 95.8                            | 175.6                   |
| Phase 4       | 1,200                                  | 22        | 121.75     | 153.4                           | 281.2                   |
| <b>Totals</b> | <b>3,000</b>                           | <b>76</b> | <b>260</b> | <b>N/A</b>                      | <b>560.0</b>            |

<sup>1</sup>A water demand factor of 1.26 AFY/acre was applied to this project, and was determined based upon water demand for other battery energy storage projects provided by Key Energy Storage, LLC.

As shown in Table 1, under the Lithium Ion Battery Option, construction would occur over four phases spanning 76 months (6.3 years), with a total water demand of 560 acre-feet. Annual water demands would vary, depending on the given phase. As shown above, construction of Phase 1 would have a water demand of 50.7 AF (over 14 months), Phase 2 would demand 52.4 AF (over 18 months), Phase 3 would demand 175.6 AF (over 22 months), and Phase 4 would demand 281.2 AF (over 22 months). Under the Lithium Ion Battery Option, during any given year, the project's construction water demand would not exceed 153.4 AFY.

**Table 2 Iron Flow and Lithium Ion Option - Construction Water Demand**

| Phase         | Power at Point of Interconnection (MW) | Months    | Acres      | Water Demand (AFY) <sup>1</sup> | Total Water Demand (AF) |
|---------------|--|-----------|------------|---------------------------------|-------------------------|
| Phase 1       | 300                                    | 24        | 70         | 88.2                            | 176.2                   |
| Phase 2       | 700                                    | 20        | 54.25      | 68.36                           | 113.9                   |
| Phase 3       | 2,000                                  | 24        | 135.75     | 171.0                           | 342.0                   |
| <b>Totals</b> | <b>3,000</b>                           | <b>68</b> | <b>260</b> | <b>N/A</b>                      | <b>632.1</b>            |

<sup>1</sup>A water demand factor of 1.26 AFY/acre was applied to this project, and was determined based upon water demand for other battery energy storage projects provided by Key Energy Storage, LLC.

As shown in Table 2, under the Iron Flow and Lithium Ion Battery Option, construction would occur over three phases spanning 68 months (5.7 years), with a total water demand of 632.1 acre-feet. As with the Lithium Ion Battery Option, construction water demands would vary by year, depending upon the phase of implementation. This option would occur in fewer phases, but would have a higher water demand, by approximately 72 acre-feet. Under this option, Phase 1 would have a

demand of 176.2 AF (over 24 months), Phase 2 would have a demand of 113.9 AF (over 20 months), and Phase 3 would have a water demand of 342 AF (over 24 months). During any given year, construction water demand would not exceed 171.0 AFY under the Iron Flow and Lithium Ion Option.

Under either option, construction of each phase would not overlap with any other phases, and the associated water demands would also not overlap. Following the completion of construction, operational water demands of the project would be the same for both battery options.

### Operation

Operation and maintenance of the project would be conducted remotely, with occasional on-site maintenance conducted on an as-needed basis. For the purposes of quantifying project characteristics to inform this analysis, it is assumed that routine maintenance activities would require one to two staff on-site per week, while annual maintenance would be conducted over one week with up to eight staff on-site during that time. Operational water demands would be specific to sanitary uses at the O&M building, as there would not be any landscaping requiring water, and no other aspect of project operations would introduce water demands. Operational water demand would be the same for the Lithium Ion Battery Option and Iron Flow and Lithium Ion Battery Option.

The new O&M building would be approximately 2,500 square feet in total area, split evenly between warehouse space and office space, including kitchen and lavatory. Use of the O&M building would introduce a new water demand correlated to the number of individuals using the facilities. The table below provides the assumptions used to estimate operational water demands.

**Table 3 O&M Water Demand Assumptions**

| Factor                        | Quantity  | Total                            |
|-------------------------------|---|----------------------------------|
| Weekly on-site staff          | 2 staff/day x 1 day/week x 52 weeks/year                          | 104 staff days/year              |
| Annual on-site staff (1 week) | 8 staff/day x 5 days/week x 1 week/year                           | 44 staff days/year               |
|                               |   | <b>148 total staff days/year</b> |
| Toilet                        | 1.6 gallons/flush, 3 flushes/day/staff<br>= 4.8 gallons/staff/day | 710.4 gallons/year               |
| Sink (lavatory, kitchen)      | 2.2 gallons/minute, 1 minute/staff/day<br>= 2.2 gallons/staff/day | 325.6 gallons/year               |
|                               |   | <b>1,036 total gallons/year</b>  |

Source: GSA 2023

Based on the data in Table 3, use of the project’s O&M facility would introduce a water demand of 1,036 gallons per year; this equates to approximately 0.003 AFY, based upon one acre-foot being equivalent to 325,851 gallons.

The final project phase of decommissioning would include water demands for dust suppression, similar to the construction water demands, but decommissioning would occur beyond the scope of the projections provided in this WSA. However, water demands from decommissioning would likely be less than those for construction, and would likely not need to be phased.

## 3 Senate Bill 610 Applicability

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Water requirements associated with the project are described in Section 2.4, *Water Demands*. The applicability of SB 610 to the proposed project is discussed in the following sections.

California Water Code, as amended by SB 610, requires a WSA to address the following questions:

- Is there a public water system that will service the proposed project? (see Section 3.3)
- Is there a current Urban Water Management Plan (UWMP) that accounts for the project demand? (see Section 3.4)
- Is groundwater a component of the supplies for the project? (see Section 3.5)
- Are there sufficient supplies to serve the project over the next twenty years? (see Section 3.6)

The primary question to be answered in a WSA is:

*Will the total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection meet the projected water demand of the proposed project, in addition to existing and planned future uses of the identified water supplies, including agricultural and manufacturing uses?*

The following sections address the SB 610 WSA questions as they relate to the proposed project.

### 3.1 Is the Proposed Project Subject to CEQA?

California Water Code Section 10910(a) states that any city or county that determines a project (as defined in Section 10912) is subject to CEQA shall comply with Section 10910 of the California Water Code. The proposed project requires discretionary approval from the County of Fresno; therefore, the project is subject to CEQA.

### 3.2 Is the Proposed Project a “Project” Under SB 610?

California Water Code Section 10912(a) states that any proposed action which meets the definition of “project” under SB 610 is required to be analyzed in a WSA. SB 610 defines a “project” as any one of seven different development types, each of which is considered below.

#### 3.2.1 Residential Development

A proposed residential development of more than 500 dwelling units is defined as a “project” under SB 610. The project does not include residential uses, and therefore does not classify as a project based on residential uses.

#### 3.2.2 Shopping Center or Business Establishment

A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space is defined as a “project” under SB 610. The proposed project would not introduce commercial or retail area, and therefore does not classify as a project based on commercial or retail uses.

### 3.2.3 Commercial Office Building

A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space is defined as a “project” under SB 610. The proposed project does not include any component specifically proposed as commercial office space and therefore does not classify as a project based on commercial office development.

### 3.2.4 Hotel or Motel

A proposed hotel or motel, or both, having more than 500 rooms is defined as a “project” under SB 610. The proposed project is not a hotel or motel and does not qualify as a project under this category.

### 3.2.5 Industrial, Manufacturing, or Processing Plant or Industrial Park

A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area is defined as a “project” under SB 610. The proposed project does not include the proposed development of an industrial, manufacturing, or processing plant, or an industrial park and therefore does not classify as a project based on industrial development.

### 3.2.6 Mixed-Use Project

A proposed mixed-use project that includes one or more of the projects specified earlier is defined as a “project” under SB 610. The proposed project is not a mixed-use project and does not include any of the components that individually count as a “project” under SB 610 (residential. Shopping center or business establishment, commercial office building, hotel or motel, or industrial, manufacturing, or processing plan or industrial park). Therefore, the proposed project does not classify as a mixed-use project including one or more previously defined projects.

### 3.2.7 Equivalent Project

Any proposed use, regardless of type, which would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project is defined as a “project” under SB 610. In order to estimate the water demands of a 500-unit residential development in the project area, water demand factors from the City of Fresno’s 2020 UWMP are considered<sup>2</sup> (City of Fresno 2021). Average water demand factor for a single-family residential development in the City of Fresno is 2.54 acre-feet per acre, where 4.25 dwelling units occur per acre, which equates to approximately 0.60 AFY per residence (City of Fresno 2021). This was determined by dividing 2.54 (acre-feet/acre) by 4.25 (units/acre) to conclude 0.5976 acre-feet/unit, which is rounded up to 0.60 acre-feet/unit. Therefore, a 500-unit residential development would introduce a water demand of approximately 300 AFY (500 units multiplied by 0.60 acre-feet/unit).

As detailed in Section 2.4, *Water Demands*, under both the Lithium Ion Battery Option and the Iron Flow and Lithium Ion Battery Option, construction water demands would not exceed 300 AFY during

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<sup>2</sup> The proposed project is not located within the jurisdiction of the City of Fresno; however, the City is the closest jurisdiction with an UWMP, and residential water demand factors contained therein are therefore reasonably representative of the project site, and are therefore used to inform the calculation of water demand for a 500-unit residential development to inform the “equivalent project” analysis of water demand.

any phase or year of implementation. Under the Lithium Ion Battery Option, construction demand would peak during Phase 4 at 153.4 AFY, and under the Iron Flow and Lithium Ion Battery Option, construction demand would peak during Phase 3 at 171.0 AFY. During operation, the use of the project's O&M facility would introduce a water demand of approximately 0.003 AFY. Under either option, water demand would be less than that of a 500-dwelling unit residential development, based upon water demand factors provided in the City of Fresno's current (2020) UWMP.

The proposed project does not meet the definition of a "project" based upon the "equivalent project" demands. Since the project also does not meet the preceding definitions of "project" as provided by SB 610 and detailed in Sections 3.2.1 through 3.2.6, a WSA is not required for the project. However, this WSA is being prepared to provide a conservative analysis of the proposed project, and to fully disclose the water supply availability conditions in the area, including within the Westside Subbasin (subbasin) of the San Joaquin Valley Groundwater Basin.

### 3.3 Is There a Public Water System that Will Serve the Proposed Project?

California Water Code Section 10912(c) defines a "public water system" as a system that has 3,000 or more service connections and provides piped water to the public for human consumption. The project area lies within unincorporated Fresno County and outside service areas of any other nearby cities. There is no public water system that would serve the project. The project is also outside the Sphere of Influence of any nearby cities and is not planned to be serviced by a public water system in the future.

### 3.4 Is There a Current UWMP that Accounts for the Project Demand?

In California, every urban water supplier (publicly or privately owned) that delivers more than 3,000 AFY of water annually or serves more than 3,000 connections is required to prepare an UWMP to assess, among other metrics, the reliability of the supplier's water sources over a 20-year period, and including with consideration to normal water-year, single-dry water-year (periodic drought), and multiple-dry water-year (sustained drought) scenarios. These are the same requirements of a WSA, as specified by SB 610, and therefore UWMPs, when available for the subject area, are used to inform project-specific WSAs. UWMPs must be updated and submitted to the California Department of Water Resources (DWR) every five years for review and approval, and are publicly available for review (DWR 2020).

There is no current UWMP that accounts for the project demand. The proposed project is located within the service territory of Westlands Water District (WWD) as the primary Groundwater Sustainability Agency (GSA). Approximately 93 percent of the Westside Subbasin is farmland, and the primary land-use is agriculture, with no anticipated changes. In addition to agricultural use, WWD provides a total of 232 urban use connections including commercial, industrial, and institutional uses. The population serviced by WWD is zero, as the agency does not provide urban connections for single-family or multi-family use (WWD 2022).



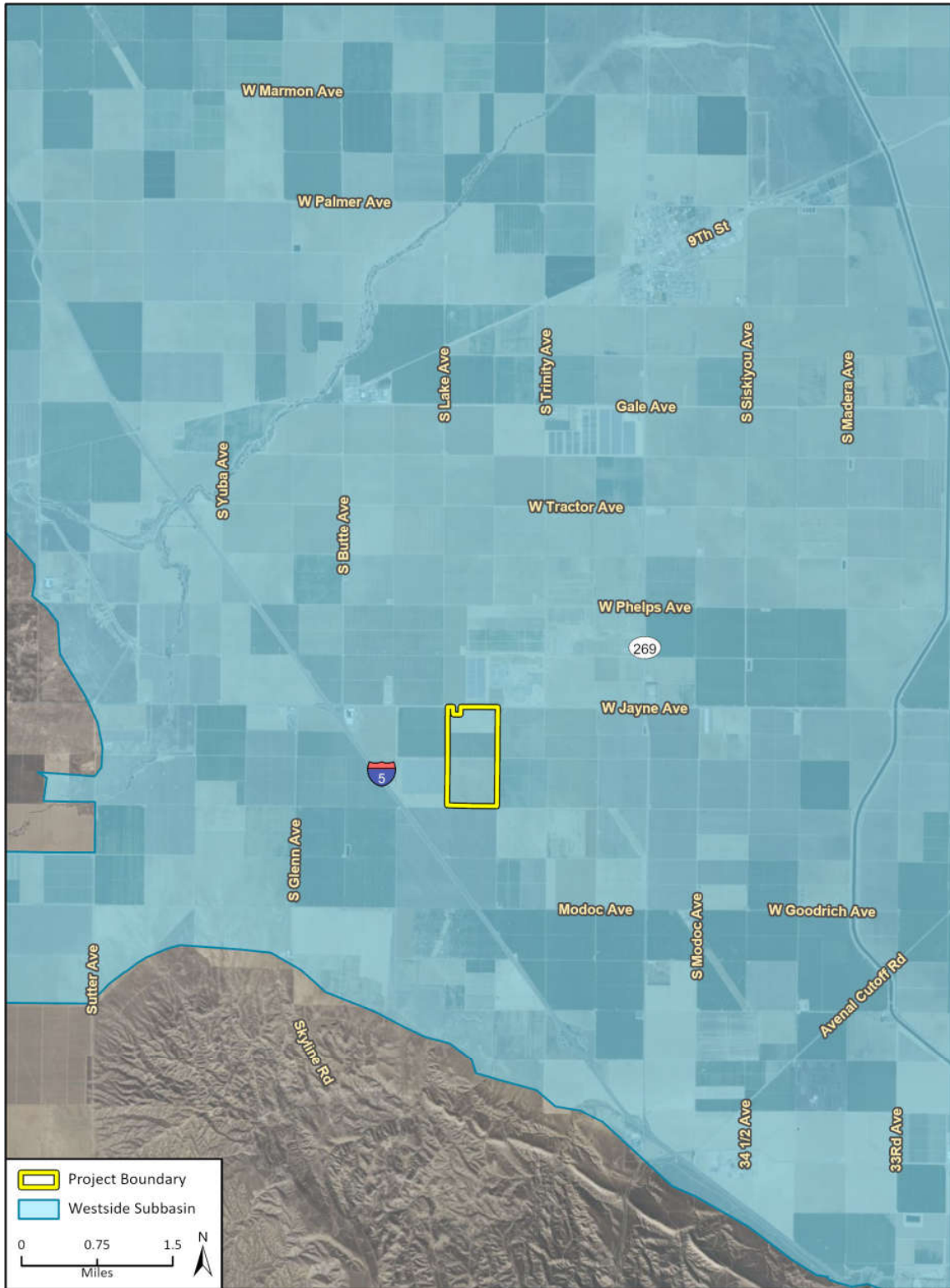
### 3.5 Is Groundwater a Component of the Supplies for the Project?

All water supply for the proposed project would be provided by the WWD, which produces local groundwater from the Westside Subbasin of the San Joaquin Valley Groundwater Basin, and purchases imported surface water from the federal Central Valley Project (CVP). WWD's water supply sources are detailed in Section 4 of this WSA, and supply reliability is discussed in Section 5, including as related to local groundwater sustainability. As discussed therein, within the WWD boundaries, local groundwater is relied upon to help offset reduced water supply deliveries CVP, which typically occur in response to drought conditions. As depicted in Figure 3, the project site is located entirely within the Westside Subbasin.

### 3.6 Are There Sufficient Supplies to Serve the Project Over the Next Twenty Years?

The sufficiency of water supplies identified as potential sources to serve the growth facilitated by the proposed project is assessed in the following sections, which address existing and potential future supplies. Water supply sources available in the project area are described in Section 4, *Water Supply Overview*, and water supply reliability is discussed in Section 5, *Water Supply Reliability*.

Figure 3 Groundwater Basin and Project Location



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Fig. 3 Groundwater Basin Boundary and Project Location

## 4 Water Supply Overview

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This section characterizes the water supply sources that are available to the project site, and could be used to meet the project's water demands. These sources include the Westside Subbasin (of the San Joaquin Valley Groundwater Basin), which underlies the project site, and WWD, which is the local contractor of imported CVP water, as well as one of two GSAs responsible for managing the Westside Subbasin in a sustainable manner, in accordance with the Sustainable Groundwater Management Act (SGMA) of 2014. As detailed below in Section 4.1.1, *Groundwater Management*, SGMA established a framework for local groundwater management, under which the DWR assigns priority levels to groundwater basins based on existing water balance conditions, and all groundwater basins are required to be managed in sustainable conditions on a timeline determined based upon basin priority rankings.

### 4.1 Westside Subbasin

The project site overlies the Westside Subbasin of the San Joaquin Valley Groundwater Basin. The subbasin covers 972 square miles and lies within the western portion of the San Joaquin Valley Groundwater Basin. The Westside Subbasin, as with the larger San Joaquin Valley Groundwater Basin, is identified by DWR as being Critically Overdrafted. Directed by SGMA, DWR identifies critically overdrafted groundwater basins and subbasins when the average annual amount of groundwater extraction exceeds the long-term average of annual water supply to the basin. Critically overdrafted basins and subbasins are likely to result in adverse environmental, social, and economic impacts. This includes associated impacts of seawater intrusion, land subsidence, groundwater depletion and chronic lowering of groundwater levels. (DWR 2022).

The subbasin generally has a flat topographic setting, with higher elevation ranges on the western margin forming a gentle slope towards the San Joaquin Valley to the west. The subbasin is comprised of geologic deposits that are subdivided in three units or layers: the Upper Aquifer, the Lower Aquifer, and Corcoran Clay. The Corcoran Clay separates the Upper and Lower Aquifer with a thickens ranging from less than 20 feet to 100 feet and reaches about 400 to 800 feet in depth. Above the Upper Aquifer is the shallow zone, which comprises the upper 100 feet, but is not connected to the Upper Aquifer as the 100 feet are likely supported by recharge from irrigation. While historical data show the shallow zone having relatively stable water since the 1990s, and the Upper Aquifer has shown trends similar to the shallow zone, the project area has also affected by overdraft conditions; see Section 4.1.2, *Groundwater in Storage*, for further discussion on how data indicate there may be long-term historic balance in the basin. Groundwater levels for the Lower Aquifer are available dating back to the 1950s and show the lowest levels having occurred during the 1950s and 1960s with dramatic increases following the CVP water deliveries in 1968 (WWD 2022a).

#### 4.1.1 Groundwater Management

The majority of the Westside Subbasin is within WWD's service territory and jurisdiction as a GSA. There are several small areas along the western and eastern edge of the subbasin that extend past WWD boundaries and fall within the jurisdiction of Fresno and Kings counties. The County of Fresno serves as the GSA for the portions of the Westside Subbasin located outside WWD's boundaries and within Fresno County. The portion of the subbasin that underlies Kings County is within the Naval

Air Station Lemoore, which is owned by the federal government and thus, is exempt from the requirements of SGMA (WWD 2021).

In 2014, SGMA was signed into law and established a framework for local groundwater management, under which the DWR assigns priority levels to groundwater basins based on existing water balance conditions. Designated GSAs are then required to develop and implement GSPs according to a schedule of prioritization specified by SGMA. The overall purpose of SGMA is to bring overdrafted basins into sustainable conditions. Under SGMA, critically overdrafted subbasins, such as the Westside Subbasin, are required to prepare and be managed under a GSP to evaluate and report on conditions of overdraft and to establish sustainability goals and management criteria. The GSP for the Westside Subbasin sets forth active management strategies to ensure groundwater sustainability including firming up access to more reliable surface water deliveries, conjunctive use, demand management through an allocation system.

The Westside Subbasin is managed jointly by two GSAs, the WWD GSA and the County of Fresno GSA-Westside Subarea, through implementation of one comprehensive GSP to achieve and maintain sustainable groundwater conditions by year 2040. The WWD GSA has entered into a Memorandum of Understanding with the County of Fresno GSA to implement the GSP in all portions of the Westside Subbasin, including those portions in unincorporated county jurisdiction, outside the WWD boundaries. Both the WWD GSA and the County of Fresno GSA has the authority to implement the GSP through its statutory land use and water management responsibilities pursuant to its constitutional police powers (WWD 2022a).

The GSAs have prepared a current (2022) GSP for the Westside Subbasin, which accounts for water demands associated with existing land uses on the project site. The GSP was developed to comply with the DWR requirements to prepare, adopt, and implement a plan with the objective that the basin be sustainably managed within 20 years without adversely affecting the ability of an adjacent basin to implement its GSP. This analysis utilizes the 2022 GSP for the Westside Subbasin and the 2021 GSP Annual Report, as they provide detail in water supply and demands.

#### 4.1.2 Groundwater in Storage

The volume of water stored within an aquifer system can be analyzed by using a water budget. A water budget quantifies the amount of all water flowing into and leaving a defined area or aquifer. A water budget for the Westside Subbasin was developed to inform the GSP. It is based on defined historical, current, and projected periods, using a numerical integrated groundwater flow model, referenced as the Westside Groundwater Model (WSGM). The WSGM historical period includes 1989 through 2015 time period, the current water budget year selected is 2016, and the projected water budget period spanned from 2017 through 2070 (WWD 2022a). The WSGM also assessed three baseline scenarios, including: baseline with no climate change; 2030 climate change baseline; and 2070 climate change baseline (WWD 2022a). The climate change baselines are provided by DWR as a guidance scenario to evaluate climate conditions under extreme climate conditions such as variable precipitation and increased temperatures (DWR 2018).

The WSGM shows an average decline in the Westside Subbasin water budget by approximately 19,000 AFY, and over the entire historical water budget period (1989 through 2015), the cumulative decline in groundwater storage was approximately 517,000 acre-feet. In other words, over the 27 years between 1989 and 2015, 517,000 more acre-feet of water left the Westside Subbasin than were recharged to it. This trend is consistent with the subbasin's status as Critically Overdrafted, which occurs when more water chronically leaves a basin than is recharged to it. However, as discussed in the GSP for the Westside Subbasin (WWD 2022a), although the model indicates chronic

overdraft, the amount of overdraft (19,000 AFY) is relatively small compared to the sustainable yield of the subbasin for the same period (305,000 AFY). This suggests that the groundwater budget is relatively balanced over the historical water budget period (WWD 2022a).

Projected water budget scenarios were developed using the WSGM for all projects and management actions within the Westside Subbasin, and across each of the three different baseline scenarios described above. Water budgets are a defining tool in determining the maximum quantity of water that can be withdrawn annually from a groundwater supply without causing undesirable effects, which include overdraft, such as the 19,000-AFY overdraft that resulted in the Westside Subbasin being defined as Critically Overdrafted. This is known as the sustainable yield, a GSP requirement, which is quantifiable using historical and projected water budgets. Sustainable yield estimates for the Westside Subbasin are shown in Table 4, including for both historical and projected conditions, as determined by the WSGM and presented in the GSP (WWD 2022a).

**Table 4 Sustainable Yield Estimates**

| Use Type                              | Water Budget Period | Sustainable Yield (AFY) |
|---------------------------------------|---------------------|-------------------------|
| Historical Groundwater Budget         | 1989-2015           | 305,000                 |
| Projected Groundwater Budget Baseline | 2017-2070           | 270,000 - 294,000       |

Source: WWD 2022a

AF: Acre-feet

Table 4 shows that during the historical period (1989-2015), sustainable yield for the Westside Subbasin was 305,000 AFY, meaning that up to 305,000 AFY could be withdrawn from the subbasin without causing undesirable effects such as overdraft. However, as discussed above, the subbasin was consistently overdrawn by an average of 19,000 AFY during that same historical period (1989-2015), where on average, 19,000 AFY was withdrawn from the subbasin in addition to withdrawal of the sustainable yield amount of 305,000 AFY, for a total average withdrawal amount of 324,000 AFY.

The purpose of the GSP is to bring the subbasin into sustainable conditions, and to maintain sustainable conditions by avoiding the recurrence of overdraft. The WSGM also calculated the sustainable yield amount that would be necessary to recover the basin from previous (19,000 AFY) overdraft conditions, and maintain it in balanced conditions, where the amount leaving the subbasin during any given year is comparable to the amount entering the basin. Table 4 shows the WSGM calculated future sustainable yield to be between 270,000 AFY and 294,000 AFY through year 2070. The future sustainable yield is lower than the historic sustainable yield to allow the subbasin to recover from overdraft. The actual sustainable yield amount for any given year will depend upon the rate at which the subbasin recovers from overdraft.

Sustainable yield is an annual total, which takes into consideration seasonal variations in the amount of groundwater in storage. There are typically seasonal highs in storage, when the subbasin is fuller because it has been replenished with precipitation and underground flows related to increased precipitation; there are also seasonal lows in storage, when the subbasin is less full because warmer and drier conditions result in increased groundwater pumping combined with reduced replenishment. Table 5 shows the changes in groundwater storage for water year 2021, as reported in the 2021 Annual Report for the Westside Subbasin GSP (WWD 2021). Groundwater storage change was estimated based on the change in seasonal high groundwater levels between 2020 and 2021.

**Table 5 Estimated Groundwater in Storage Compared to Seasonal Highs**

| Aquifer      | Water in Storage (AF) |                |                |                 |                |
|--------------|-----------------------|----------------|----------------|-----------------|----------------|
|              | 2018                  | 2019           | 2020           | 2021            | Cumulative     |
| Upper        | 32,000                | -28,000        | -9,000         | -2,000          | -7,000         |
| Lower        | 237,000               | -55,000        | 78,000         | -110,000        | 150,000        |
| <b>Total</b> | <b>269,000</b>        | <b>-83,000</b> | <b>-69,000</b> | <b>-112,000</b> | <b>143,000</b> |

Source: WWD 2021

AF: acre-feet

Table 5 indicates that the actual amount of groundwater in storage is consistently in flux, depending primarily upon climatic (drought) conditions, and the amount of groundwater pumping that occurs. In drought years when less imported surface water is available, water users typically pump more local groundwater to meet water demands, which reduces the amount of groundwater in storage. Factors that impact water deliveries by the CVP include climatic variables such as drought conditions and other, ongoing demands on the CVP supply, resulting in inconsistent surface water deliveries, which are commonly below the WWD's allocated amount, or the amount it is contracted to receive.

The 2021 Annual Report for the Westside Subbasin GSP (WWD 2021) states that although WWD groundwater recharge projects have increased in priority in recent years, both aquifers (especially the Upper Aquifer) of the Westside Subbasin have low excess storage available, and vary considerably through the years when compared to seasonal high groundwater levels. The comparison to seasonal high groundwater elevations is to ensure water extraction remains sustainable without surface water made available by the CVP. The ability of the Westside Subbasin to support continued extraction is discussed further in Section 5, *Water Supply Reliability*.

### 4.1.3 Groundwater Quality

The quality of groundwater in the Westside Subbasin is characterized by high concentrations of total dissolved solids (TDS), or salts and nutrients which are common to agricultural areas. Generally, groundwater quality is characterized by the occurrence of TDS, boron, selenium, arsenic, and sulfate that in some locations may exceed drinking water standards. Data demonstrates that the concentration of nitrate in groundwater in the Westside Subbasin is generally at or below background concentrations meaning that it is not impacted by anthropogenic discharges (WWD 2022a). Farming customers of WWD are currently implementing Best Management Practices (BMPs) such as switching to crops that can tolerate higher levels of salt, blending pumped groundwater with delivered surface water, and treatment such as reverse osmosis of groundwater. These BMPs allow farmers to continue to farm in areas where groundwater is affected by elevated TDS concentrations.

The Westlands Water Quality Coalition (Coalition) was formed as a response to new regulations adopted by the Central Valley Regional Water Quality Control Board (RWQCB), which is the RWQCB with jurisdiction over the project area. The new regulations work to prevent agricultural runoff from impairing surface waters as part of the Irrigated Lands Regulatory Program (ILRP) (Central Valley RWQCB 2022). The Coalition has been approved by the RWQCB to serve as a third party for administering the ILRP. As such, the Coalition represents owners and irrigated lands overlying the subbasin to comply with regulations set forth in the program to adhere to waste discharge requirements, protecting surface and groundwater. The Coalition now administers the ILRP's Groundwater Quality Trend Monitoring Plan, which assesses groundwater quality conditions underlying areas of irrigated agriculture. The Plan develops long-term groundwater quality

information that can be used to evaluate regional effects of irrigated agriculture and its practices. The Coalition monitors water quality through a network of wells primarily in the Upper Aquifer to sample for nitrate and nitrite, TDS, and general minerals every five years (WWD 2022b).

## 4.2 Westlands Water District

WWD provides water supply to customers in western Fresno and Kings counties, and serves as the primary GSA for the Westside Subbasin. Primary water supply sources include imported surface water supply purchased from the CVP, as well as locally produced groundwater supply. WWD also obtains supplemental water supplies through short and long-term purchases and transfers.

### 4.2.1 Surface Water Supply

Surface water supply is obtained by WWD through the CVP, a federal public works project constructed and operated by the U.S. Bureau of Reclamation (USBR). The CVP is a complex network of dams, reservoirs, canals, facilities, and hydroelectric powerplants stretching from as far north as Trinity County, one of the northern-most counties in the state, to the city of Bakersfield in the southern portion of the San Joaquin Valley, which spans the central portion of the state. The CVP supplies water to more than 250 contractors in 29 of 58 counties within California, averaging approximately five million AFY (MAFY) of water for farms, 600,000 AFY for municipal and industrial uses, 410,000 AFY for wildlife refuges in the Sacramento-San Joaquin Delta, and 800,000 AFY for other fish and wildlife needs (USBR 2021; Congressional Research Service 2017).

WWD has water service contracts with the USBR for 1.197 MAFY (WWD 2021). However, WWD does not often receive its full contractual allocation, due to climatic (drought) variations in surface water availability which reduce the amount of water available from the CVP. CVP water supplies fluctuate annually depending on available and utilized surface water supplies. The actual amount of water delivered is virtually always less than the contractual amounts depending on hydrological conditions, environmental regulations, and conveyance limitations or infrastructure conditions.

### 4.2.2 Groundwater Supply

This discussion is specific to the Westside Subbasin as the sole basin under WWD's jurisdiction. Within the Westside Subbasin, the reduction of CVP water and other surface water supplies resulting from ongoing drought conditions has resulted in increased groundwater pumping, as well as increased construction of new wells. Since 2000, there have been 605 new wells constructed within WWD's boundaries, by water users seeking to make up for the shortfall in surface irrigation water. Some wells in the Upper Aquifer exhibit considerable fluctuations in water levels although few consistent spatial patterns in these fluctuations and trends are evident (WWD 2016).

The delivery of CVP water into WWD's service area began in 1968. Prior to that time, groundwater pumping by water users within the service area ranged from approximately 800,000 to 1,000,000 AFY during the period of 1950-1968 (WWD 2016). Once CVP water became available in 1968, the groundwater surface rose steadily until reaching 89 feet above mean sea level in 1987, the highest average elevation on record dating back to the early 1940s (WWD 2016). The only exception during this period was in 1977 when a drought and drastic reduction of CVP deliveries resulted in groundwater pumping of approximately 472,000 AF and an accompanying drop in the groundwater surface elevation of approximately 97 feet (WWD 2016).

Measurable objectives for groundwater levels were established in the GSP by analyzing historical groundwater level data during the historical water budget period, when the subbasin was being over-pumped by approximately 19,000 AFY above the sustainable yield amount, estimated to be 305,000 AFY for that historical period. In order to avoid the undesirable results of overdraft in the future, WWD's path to achieve and maintain sustainable conditions will be accomplished through implementation of planned projects and management actions (PMAs), which are discussed below, in Section 4.2.3. The overall purpose of these PMAs is aimed at augmenting groundwater supply and reducing demand.

### 4.2.3 Projects and Management Actions

To achieve the subbasin sustainability goal by 2040 and avoid undesirable results through 2070, WWD is developing and implementing PMAs which include actions such as aquifer storage and recovery (ASR) projects, and percolation basins to recharge groundwater storage. An ASR program involving the direct injection and subsurface storage of groundwater using agricultural wells has been proposed by the GSAs to improve water supply reliability within the Westside Subbasin, as detailed below in Section 5.2.1.

The GSAs for Westside Subbasin are also proposing managed aquifer recharge through percolation ponds in selected areas of the subbasin to increase groundwater in storage. These ponds would be constructed on GSA-owned land where the Corcoran Clay is not present, thereby facilitating the infiltration of water through the ground surface, uninhibited by clay. The ponds would be used to contain excess water which will be allowed to infiltrate the ground to recharge the Upper Aquifer and Lower Aquifer. Currently, the GSA is investigating the feasibility of this project at potential sites located in the subbasin.

Projections of groundwater levels in the subbasin indicate that chronic lowering of groundwater levels below minimum thresholds are not expected to occur with the implementation of PMAs prior to 2040 and through 2070, which is the remainder of the planning and implementation horizon (WWD 2022).



## 5 Water Supply Reliability

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As discussed in Section 4, *Water Supply Overview*, water supply in the project area consists of groundwater produced from the Westside Subbasin, and imported surface water purchased from the CVP. Water supply projects and PMAs help to supplement these supplies, and are discussed below with respect to water supply reliability. The purpose of this section is to examine the availability and reliability of existing water supply sources, with consideration to other existing and foreseeable demands, as well as climatic (drought) variations, to inform the conclusions drawn in Section 6.

### 5.1 Supply and Demand Projections

This section details WWD’s pre-project water demands, which reflect the total water (groundwater and surface water) consumed within its boundary prior to implementation of the proposed project (Table 6), as well as the amount of groundwater produced under pre-project conditions (Table 7). In addition, this section identifies projected future water supplies (Table 8), including with consideration to varying climatic conditions towards the purpose of assessing water supply availability and reliability for the proposed project.

Table 6 below, shows WWD’s actual total water use (groundwater and surface water) in 2021, by water use sector.

**Table 6 Westland Water District Demand, Actual - 2021**

| Use Type            | Groundwater Volume (AF) | Surface Water Volume (AF) | Total          |
|---------------------|-------------------------|---------------------------|----------------|
| Agricultural        | 632,000                 | 215,000                   | 847,000        |
| Municipal           | 0                       | 948                       | 948            |
| Small Water Systems | 48                      | 4,430                     | 4,478          |
| Domestic Wells      | 82                      | N/A                       | 82             |
| Environmental       | 0                       | 213                       | 213            |
| <b>Total</b>        | <b>632,130</b>          | <b>220,591</b>            | <b>852,721</b> |

Source: WWD 2021

AF: Acre-feet

The data in Table 6 indicate that in 2021, 632,130 acre-feet of groundwater was produced from the Westside Subbasin, nearly entirely to support agricultural uses. Table 4, indicates that the sustainable yield range for years 2017 through 2070 ranges from 270,000 to 294,000 AFY, depending upon the rate of recovery of the subbasin from persistent overdraft conditions, and the severity of climate change effects that influence water supply. As discussed in the GSP (WWD 2022a), the sustainable yield amount of 294,000 AFY reflects baseline conditions for the 2070 climate change scenario, while the sustainable yield amount of 270,000 AFY reflects baseline conditions for the 2030 climate change scenario. In other words, in order to achieve and maintain sustainable groundwater conditions with future extreme climate change in 2070 and 2030, the maximum amount of water that can be produced from the Westside Subbasin is 294,000 AFY or 270,000 AFY, respectively.

The actual amount of groundwater pumped in 2021 exceeded the sustainable yield by 338,130 acre-feet for the 2070 extreme climate change scenario, and by 362,130 acre-feet for the 2030 extreme climate change scenario. This is consistent with ongoing drought conditions throughout California, which cause reduced surface water deliveries and, subsequently, increased groundwater pumping. To assess how the extent of groundwater pumping varies annually, Table 7 provides groundwater use by sector for years 2017 through 2021.

**Table 7 Groundwater Use by Water Use Sector 2017 - 2021**

| Sector  | Volume Pumped (AF)                          |  |   |  |  |
|---|---|--|---|--|--|
|   | 2017  | 2018                                       | 2019  | 2020   | 2021   |
| Agricultural  | 162,000                                     | 328,000                                    | 119,000                                     | 400,000                                      | 632,000                                      |
| Municipal   | 0   | 0  | 0   | 0  | 0  |
| Small Water Systems                                   | 54  | 71   | 25  | 48   | 48   |
| Domestic Wells  | 82  | 82   | 82  | 82   | 82   |
| Environmental   | 0   | 0  | 0   | 0  | 0  |
| <b>Total</b>  | <b>162,136</b>                              | <b>328,153</b>                             | <b>119,107</b>                              | <b>400,130</b>                               | <b>632,130</b>                               |
| Comparison to Sustainable Yield (270,000-294,000 AFY) | <b>LOWER</b><br>by 107,864 to<br>131,864 AF | <b>HIGHER</b><br>by 34,153 to<br>58,153 AF | <b>LOWER</b><br>by 150,893 to<br>174,983 AF | <b>HIGHER</b><br>by 106,130 to<br>130,130 AF | <b>HIGHER</b><br>by 338,130 to<br>362,130 AF |

Source: WWD 2021

AF: Acre-Feet

Table 7 indicates that between 2017 and 2021, groundwater pumping varied substantially with the lowest in 2019 at 119,107 acre-feet, and the highest in 2021 at 632,130 acre-feet. As noted above Table 7, the rate of groundwater pumping in 2021 far exceeded the sustainable yield range of 270,000 through 294,000 AFY. However, as shown in Table 7, the total groundwater pumped in some years was far below the sustainable yield range, including in 2017, when groundwater pumping of 162,136 acre-feet was 107,864 to 131,864 acre-feet less than sustainable yield, and in year 2019, when groundwater pumping of 119,107 acre-feet was 150,893 to 174,893 acre-feet below sustainable yield.

The variability in the groundwater pumping rates shown above are reflective of the area's reliance on groundwater during years when reduced surface water supplies are available from the CVP. In order to consistently achieve groundwater pumping rates below the sustainable yield range for the Westside Subbasin, it is necessary to develop new water supply sources, and to reduce existing water demands to the extent practicable. Additional future supply development is discussed below, in Section 5.2, *Additional Future Supply*. Projected future water supplies for years 2025 through 2045 are shown in Table 8, below, based upon groundwater modeling projections developed for the Westside Subbasin GSP (WWD 2022a).

**Table 8 Projected Future Water Supplies 2025 - 2045**

| Water Supply Type      | Volume (AF) |         |         |         |         |
|------------------------|-------------|---------|---------|---------|---------|
|                        | 2025        | 2030    | 2035    | 2040    | 2045    |
| Groundwater Pumping    | 206,000     | 155,000 | 146,000 | 320,000 | 747,000 |
| Imported Surface Water | 755,000     | 884,000 | 955,000 | 662,000 | 235,000 |

Source: WWD 2022a

AF: acre-feet

The table above indicates that through 2035, the groundwater pumped from the Westside Subbasin will be within the sustainable yield of 294,000 AFY, however, at year 2040, groundwater pumping will not be sustainable as it exceeds 294,000 AFY. In addition, these projections show that imported surface water will be available at larger volumes until 2035, and will decrease substantially after 2040; as discussed in the Westside Subbasin GSP, the availability of imported surface water supplies were estimated based upon climatic projections, and the computerized models used to inform the GSP analyses (WWD 2022a). The actual amount of imported surface water available to WWD will depend upon climatic (drought) conditions and other demands on the CVP. In addition, the information in Table 8 further demonstrates that when surface water supplies decrease, groundwater pumping increases.

These demand projections provided above reflect pre-project conditions, and do not account for water demands associated with the proposed project. However, these projections assume current use of the project site, which is for irrigated agriculture, and implementation of the proposed project would remove the existing agricultural uses and cease irrigation of the site, replacing it instead with the battery storage project, which does not include an operational water demand. As such, following construction of the project, the existing water demands would be removed, resulting in an incremental reduction in demands on the Westside Subbasin and the WWD.

Overall, the proposed project would decrease current and future local water demand as the project would cease agricultural irrigation on the site. Based on the GSP, the water demand for a given farm is first met by uptake from the groundwater as crops roots intersect the water table, and then demand is met by groundwater pumping (WWD 2022a). Water demand under the proposed project would be temporary and limited to the construction period, totaling approximately 560 acre-feet over 6.3 years for the Lithium Ion Battery Option, or 632.1 acre-feet over 5.7 years for the Iron Flow and Lithium Ion Battery Option. Because these demands would cease upon the completion of construction, and operation of either battery option would not require a water supply, operation of the fully implemented proposed project would effectively remove existing water uses across the project site (see Section 2.4, *Water Demands*, for detailed discussion). No other water demands would be introduced as a result of the project. Therefore, implementation of the project would result in an incremental decrease in total water demands throughout the region.

## 5.2 Additional Future Supply

SGMA requires that High Priority basins including the Westside Subbasin are brought into sustainable conditions by 2040, and that “undesirable results” are avoided through 2070, meaning that unsustainable long-term overdraft conditions are not allowed to return to the basin once sustainable conditions are achieved. In order to meet these sustainability goals, water supply projects and management actions are being developed and implemented by WWD. These include actions such as aquifer storage and recovery, as well as the use of percolation basins to increase

groundwater recharge. Other efforts supporting future supply development include water conservation and sustainability programs, education, outreach, and services.

### 5.2.1 Aquifer Storage and Recovery (ASR)

Aquifer storage and recovery involves using existing agricultural wells to inject water directly into the groundwater basin for storage and future use. WWD has developed an ASR program that currently include 25 projects that have been approved, which have a total recharge capacity of up to 600 acre-feet per day. In 2020, 15 ASR projects collectively recharged approximately 600 AF via direct injection (WWD 2022a). No additional ASR projects were approved during the 2021 water year. Current additional ASR projects include the Broadview ASR project, which is currently in the design phase and is anticipated to deliver up to 2,000 AFY, demonstrating that projects in the ASR program can provide substantial additional sources of water supply that may be used to reduce reliance on groundwater resources during years of reduced surface water availability. However, ASR projects are also constrained by the availability of surface water resources, as a source of excess water supply is necessary to support recharge activities.

### 5.2.2 Passive Recharge Program

As described in the GSP (WWD 2022a), the GSA is proposing engaging in managed aquifer recharge through percolation basins in selected areas of the Westside Subbasin to increase groundwater in storage. These basins would be constructed where the Corcoran Clay is not present. As described in Section 4.1 *Westside Subbasin*, the Corcoran Clay separates the Upper and Lower Aquifers, creating a barrier. With this barrier, water cannot replenish the underlying aquifer, therefore, percolation basins will be selected in areas where the Corcoran Clay is not present, and will be located on WWD-owned lands. Currently, the GSA is investigating the feasibility of this project at potential sites, and anticipates the design will recharge up to 10,800 AFY in a wet hydrological year (WWD 2022a). The project design is at 30 percent completion with construction anticipated for the winter of 2022.

### 5.2.3 CVP Water Transfer Program

In drought years, water transfers and exchanges are a critical part of CVP water operations, and are authorized under the Central Valley Project Improvement Act (CVPIA) of 1992. CVP water transfers are subject to the conditions prescribed in the CVPIA §3405(a), *Interim Guidelines for Implementation of Water Transfers* (1993), and the *Final CVPIA Administrative Proposal on Water Transfers* (1998) (USBR 2015). Water transfer provisions of the CVPIA do not apply to the following:

- Permanent contract changes where a CVP contractor relinquishes its contractual right to CVP water;
- Water banking and recharge actions outside of the contractor's boundaries;
- Water for water exchanges;
- Forbearance actions whereby CVP contractors are paid not to exercise their right to water; and
- Transfers of base supply water in compliance with settlement contracts (USBR 2015).

Water transfers are intended to facilitate meeting existing water demands and must be approved by the USBR. Transfers or exchange agreements between CVP contractors relocate CVP contract supply within a given basin. In 2014, USBR facilitated the transfer of over 257,000 acre-feet of water, where 213,220 acre-feet was considered new water to the system, meaning actions such as reservoir reoperation, crop idling/shifting, and groundwater substitution were taken to make water available

(USBR 2015). In 2016 alone, transfers and exchanges to WWD totaled 164,777 AF (WWD 2017). This is a reflection of continued WWD efforts to improve the availability and reliability of imported surface water (WWD 2021).

## 5.2.4 Water Conservation

WWD has ongoing programs and services that increase water use efficiency for agricultural water users to ultimately conserve water supplies. The ILRP, which is introduced in Section 4.1.3 with respect to groundwater quality, also offers education and consulting services for efficient irrigation systems and management (Central Valley RWQCB 2022). In addition, WWD's Water Conservation Program has been effective for over 40 years, and evolves as better technology is available (WWD 2022a, 2022c). Practices include providing growers with satellite imagery that allows them to adjust irrigation based on visual evidence, as well as providing growers with current Irrigation Guides and the *Water Conservation and Management Handbook* (WWD 2013). In addition, WWD provides workshops and meetings for growers, and monitors groundwater to provide up-to-date information on the quality and depth of groundwater, and offers opportunities to growers to lease or own innovative efficient irrigation equipment (WWD 2022a).

## 6 Conclusions

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In accordance with California Water Code, as amended by SB 610, this WSA identifies and characterizes all known and potential water demands of the project, in comparison to the water supplies available to the project over a 20-year projection, with consideration to varying drought conditions and ongoing long-term supply management activities. Water supplies considered for the purposes of this WSA include the Westside Subbasin and imported CVP surface water supplies purchased from WWD.

Construction of the proposed project would introduce a temporary water demand, which would be less than the water demand for a 500-unit residential development under either battery technology option under consideration. The rate of water demand would peak at 153.4 AFY during construction of the Lithium Ion Battery Option, and 171.0 AFY during construction of the Iron Flow and Lithium Ion Battery Option. During operation, the use of the project's O&M facility would introduce a water demand of approximately 0.003 AFY. As discussed in Section 5.1, *Supply and Demand Projections*, the project would retire agricultural lands, thereby removing irrigated agriculture water demands and reducing overall water demand on the project site.

This project does not inhibit the GSA's ability to comply with SGMA through implementation of the GSP, or the ability to achieve sustainable conditions in the Westside Subbasin by 2040, and to maintain those sustainable conditions through 2070. In addition, as discussed in Section 5.2, *Additional Future Supply*, WWD is working to develop additional water supplies including through ASR, passive recharge, and CVP water transfers and exchanges, which will supplement existing water supplies, and provide an alternative to groundwater during years when CVP deliveries are reduced. As discussed throughout this WSA, water users throughout WWD's territory increase reliance on groundwater during years when less surface water is available through the CVP. By having additional water supplies available, the extent of reliance on groundwater during those years will be reduced. In addition, WWD has adopted ongoing programs and projects to increase water efficiency and water conservation efforts, which include but are not limited to continual outreach for growers that provide assistance and services for water use efficiency.

While the Westside Subbasin continues to be in overdraft conditions, the project would not exacerbate those conditions because it would remove existing irrigation water demands from the site, and the water demands of the project would be short-term and temporary, predominately limited to the construction period. The project would have an operational water demand associated with the O&M building; however, this demand would be 1,036 gallons per year, which is equivalent to 5.2 days of one person's water demand in the City of Fresno, based upon the City's per capita rate of 198 gallons per person per day (City of Fresno 2021). This demand would not affect conditions across the groundwater basin. Additionally, the project's water demands are far lower than typical water demands for irrigated agriculture, and the project would incrementally decrease water demands in the area, by removing existing water uses from the site. As discussed above, the project water demand would be less than that of a 500-unit residential development, and the project does not meet the definition of "project" provided by SB 610; this WSA was prepared to conservatively characterize the water demand of the project. The information and analysis provided in this WSA indicate that sufficient water supply is available to meet the water demands of the proposed project under average water year, single-dry water year, and multiple-dry water year scenarios, over a future projection of at least 20 years.

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# Appendix M

## **Visual Resources Assessment**





# Key Energy Storage Project

## Visual Resources Assessment

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# 1 Introduction

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## 1.1 Introduction

This Visual Resources Assessment has been prepared for the Key Energy Storage Project (Project). The purpose of this report is to provide an assessment of the Project's visual effects on the surrounding environment. This report is intended to describe the existing visual character of the Project site and its surrounding area and evaluate the Project's potential aesthetic-related effects. This study includes the following:

- A description of the Project and Project site setting;
- Regional and local visual character;
- Identification of key public viewing areas;
- A qualitative assessment of the existing visual character of the Project site as perceived from identified viewing locations;
- A description of the visual appearance of the Project;
- Character photographs of pre-Project conditions and visual simulations identifying post-Project visual conditions from key observation points (KOP); and
- An assessment of visual impacts, including discussion of potential impacts to officially designated scenic highways and other public viewpoints in the Project site vicinity based on the visual simulations and Project site reconnaissance completed as part of this evaluation.

## 1.2 Visual Concepts and Terminology

Individual values, familiarity with a landscape, concern for a landscape, or interpretation of scenic quality can lead to various determinations of scenic quality and different responses to changes made to a landscape. Due to unique attachments to values for a particular landscape, visual changes will affect viewers differently. General assumptions can be made, however, about viewer sensitivity to scenic quality and visual changes. For the purpose of this analysis, visual or aesthetic resources are both the natural and built features of the landscape that contribute to the public's experience and appreciation of a given environment. Definitions of the following terms and concepts are provided to aid in understanding the content in this section.

**Visual Quality** is the overall visual impression or attractiveness of an area as determined by the particular landscape characteristics, including landforms, rock forms, water features, and vegetation patterns. The attributes of line, form, and color combine in various ways to create landscape characteristics whose variety, vividness, coherence, uniqueness, harmony, and pattern contribute to the overall visual quality of an area. For the purposes of this evaluation, visual quality is defined according to three levels:

- **Indistinctive or industrial:** generally lacking in natural or cultural visual resource amenities typical of the region
- **Representative:** typical or characteristic of the region's natural and/or cultural visual amenities
- **Distinctive:** unique or exemplary of the region's natural and/or cultural scenic amenities

**Viewer Exposure** addresses variables that affect viewing conditions from potentially sensitive areas. Viewer exposure considers the following factors:

- **Landscape visibility:** the ability to see the landscape
- **Viewing distance:** the proximity of viewers to the Project
- **Viewing angle:** whether the Project would be viewed from above, below, or from a level line of sight
- **Extent of visibility:** whether the line of sight to the Project site vicinity is open and panoramic or restricted by terrain, vegetation, and/or structures
- **Duration of view:** the amount of time the Project would typically be seen from a given viewpoint

**Viewer Types and Volumes** of use pertain to the types of use (e.g., public viewers including motorists) and amount of use (e.g., number of recreational users or motorists) that various land uses receive. Generally, people who commute through a landscape daily to work are expected to have a lower concern for visual quality.

**Visual Sensitivity** is the overall measure of an existing landscape's susceptibility to adverse visual changes. People in different visual settings, typically characterized by different land uses surrounding a project, have varying degrees of sensitivity to changes in visual conditions depending on the overall visual characteristics of the place. Visual sensitivity is characteristically more pronounced in areas of more distinctive visual quality, such as designated scenic highways, designated scenic roads, parks, and recreation and natural areas. In areas of more indistinctive or representative visual quality, sensitivity to change tends to be less pronounced depending on the level of visual exposure. This analysis of visual sensitivity is based on the combined factors of visual quality, viewer types and volumes, and visual exposure to the Project. Visual sensitivity is discussed according to high, moderate, and low ranges.

The following terms are defined below as they are used to describe and assess the aesthetic setting and impacts from the Project.

- **Color** is the property of reflecting light of a particular intensity and wavelength (or mixture of wavelengths) to which the eye is sensitive. It is the major visual property of surfaces.
- **Contrast** is the opposition or unlikeness of different forms, lines, colors, or textures in a landscape. The contrast can be measured by comparing project features with the major features in the existing landscape.
- **Form** is the mass or shape of an object or objects that appear unified.
- **Key Observation Point (KOP)** is a point on a travel route or at a use area or a potential use area, where the view of a proposed activity would be most revealing. For the purposes of the following analysis, KOPs describe locations from which character photographs of pre-project conditions were taken.
- **Landscape character** is the arrangement of a particular landscape as formed by the variety and intensity of the landscape features and the four basic elements of form, line, color, and texture. These factors give the area a distinctive quality that distinguishes it from its immediate surroundings.
- **Line** is the path, real or imagined, the eye follows when perceiving abrupt differences in form, color, or texture. In landscapes, lines may appear as ridges, skylines, structures, changes in vegetative types, or individual trees and branches.

- **Scenic vista** is an area designated, signed, and accessible to the public for the purposes of viewing and sightseeing.
- **Scenic highway** is any stretch of public roadway designated as a scenic corridor by a federal, state, or local agency.
- **Sensitive receptors** include individuals or groups of individuals with views of a site afforded by a scenic vista, scenic highway, or public recreation area.
- **Sensitive viewpoints** include viewing locations of a site afforded by a scenic vista, scenic highway, or public recreation area.
- **Viewshed** for a project is the surrounding geographic area from which it is likely to be seen, based on topography, atmospheric conditions, land use patterns, and roadway orientations.

### 1.3 Project Description

Key Energy Storage, LLC (Applicant) proposes to construct and operate the Key Energy Storage Project (Project) on up to 260 acres in unincorporated Fresno County. Two options are under consideration for the battery technology; one option would implement a lithium-ion battery, and the second option would implement iron flow and lithium-ion batteries. For the lithium-ion battery option, the Project would include the development of an energy storage system facility and associated on-site support facilities including:

- An open-air substation, approximately 5.14 acres in size, approximately 25 feet high (to the top of the insulators), surrounded by an 8-foot-high perimeter security fence topped with approximately 1 foot of barbed wire;
- Battery energy storage system (BESS) enclosures approximately 20 feet long, 8 feet wide, and 10 feet high (as exemplified in Figure 1);
- Power conversion system (PCS) enclosures approximately 21 or 22 feet long, 7 feet wide, and 10 feet high, consisting of an inverter, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, filter equipment, equipment terminals, a transformer, and connection cabling system;
- 6-foot-tall chain-link perimeter fencing around the Project site topped with 1 foot of 3-strand barbed wire;
- 20-foot-wide gravel access lanes around the Project site perimeter and through major blocks of BESS and PCS enclosures;
- 10-foot-wide aggregate base access roads between BESS and PCS enclosures;
- Supervisory control and data acquisition (SCADA) system;
- A 500-kilovolt (kV) overhead generation tie line (gen-tie line), which would extend north to the adjacent Pacific Gas and Electric (PG&E) Gates Substation, would be installed on concrete or steel pole structures up to 150 feet tall and spaced approximately every 500 feet with a minimum 30-foot vertical clearance to the ground; and
- Other ancillary facilities or equipment.

Site plans for the lithium-ion Project option are shown in Figure 2 and Figure 3.

**Figure 1** Examples of Energy Storage Units





Figure 2 Project Site Plans – Lithium Ion Battery Option, Northern Parcel

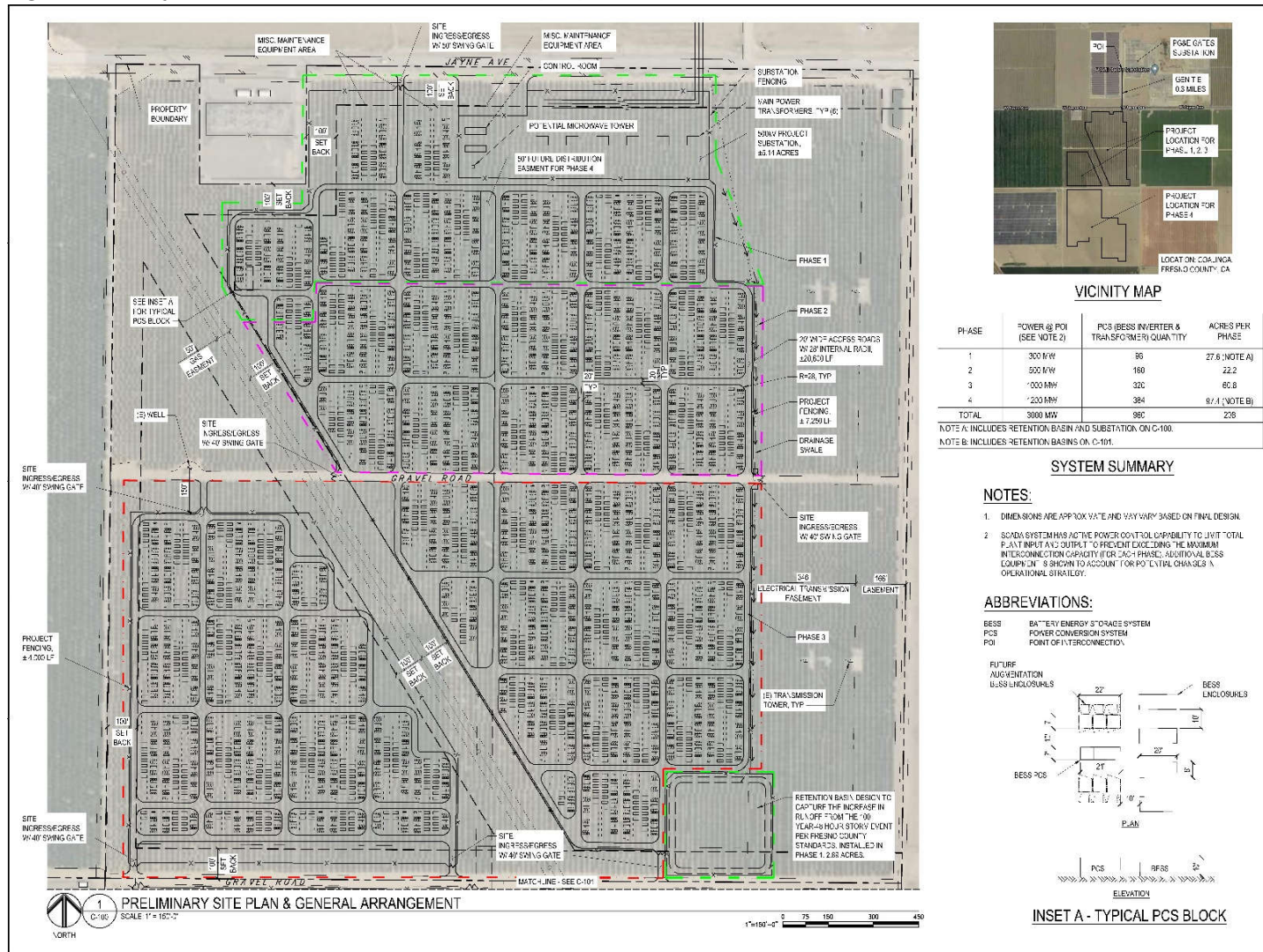
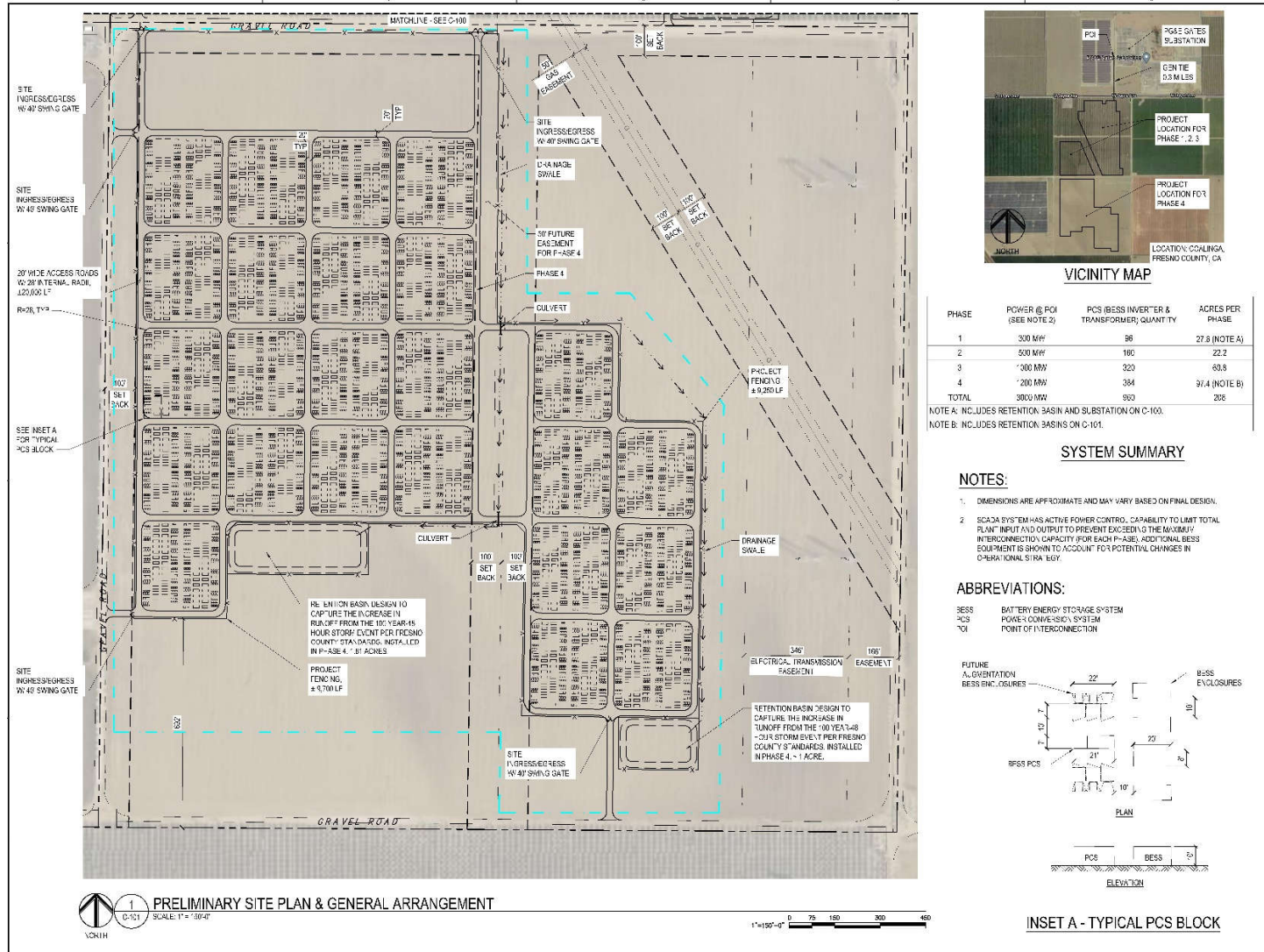


Figure 3 Project Site Plans – Lithium Ion Battery Option, Southern Parcel



For the iron flow and lithium-ion battery option, the Project would include the development of an energy storage system facility and associated on-site support facilities including:

- An open-air substation, approximately 5.14 acres in size and approximately 25 feet high (to the top of the insulators), surrounded by an 8-foot-high perimeter security fence topped with approximately 1 foot of barbed wire;
- BESS enclosures approximately 20 feet long, 8 feet wide, and 10 feet high (as exemplified in Figure 1);
- PCS enclosures approximately 21 or 22 feet long, 7 or 8 feet wide, and 10 feet high consisting of an inverter, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, filter equipment, equipment terminals, a transformer, and connection cabling system;
- Electrolyzer tanks approximately 12 feet in diameter and 18 feet high;
- BESS powertrain enclosures approximately 40 feet long, 8 feet wide, and 9.5 feet high;
- Auxiliary transformers approximately 12 feet long, 8 feet wide, and 9 feet high;
- Auxiliary power load centers approximately 20 feet long, 6 feet wide, and 7 feet high;
- 6-foot-tall chain-link perimeter fencing around the Project site topped with 1 foot of 3-strand barbed wire;
- 20-foot-wide gravel access lanes around the Project site perimeter and through major blocks of BESS and PCS enclosures;
- 10-foot-wide aggregate base access roads between BESS and PCS enclosures;
- SCADA system;
- A 500- kV overhead gen-tie line, which would extend north to the adjacent PG&E)Gates Substation, would be installed on concrete or steel pole structures up to 150 feet tall and spaced approximately every 500 feet with a minimum 30-foot vertical clearance to the ground; and
- Other ancillary facilities or equipment.

Site plans for the iron flow and lithium-ion Project option are shown in Figure 4 and Figure 5.

Figure 4 Project Site Plans – Iron Flow and Lithium Ion Battery Option, Northern Parcel

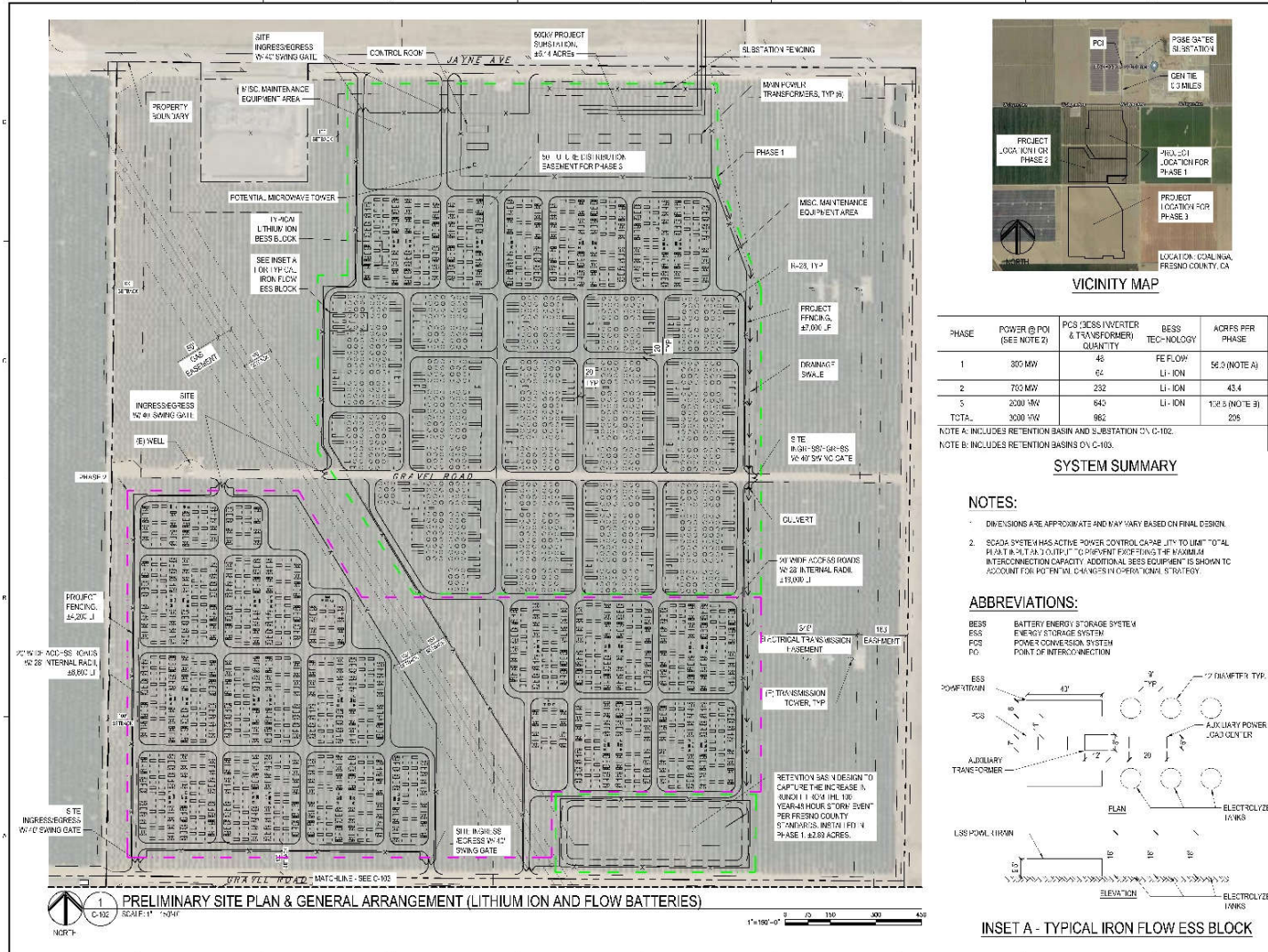
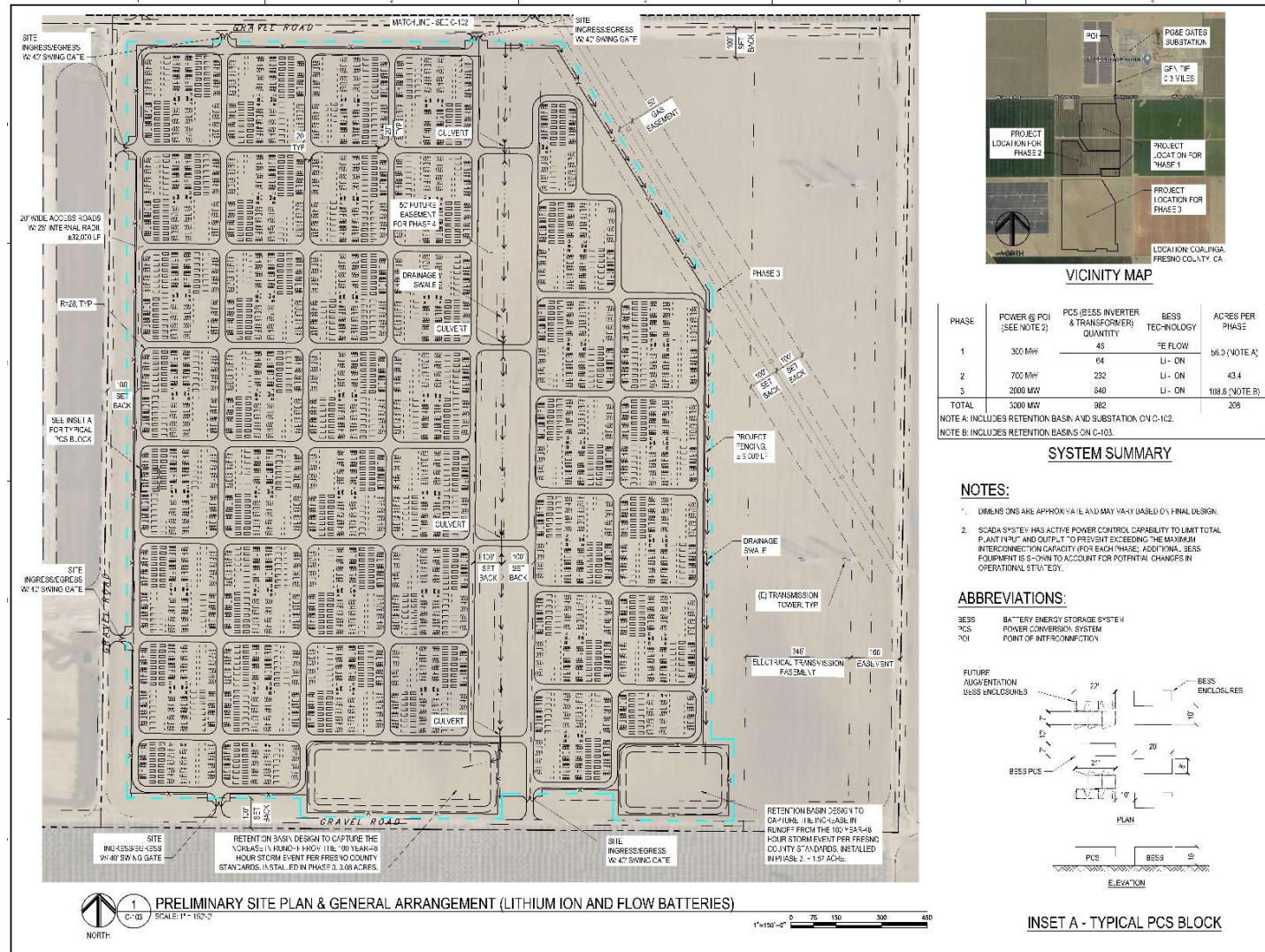


Figure 5 Project Site Plans – Iron Flow and Lithium Ion Battery Option, Southern Parcel



Regardless of the option, the energy storage facility is anticipated to consist of batteries with the potential to store approximately three (3)-gigawatt (GW) of energy. Buildout of the Project would occur in phases, with construction beginning in 2024.

The Project would support state policies necessary to improve the reliability of California's energy grid. California has taken action to advance energy storage, including the passage of Assembly Bill 2514 and the resulting California Public Utilities Commission (CPUC) decision for energy storage procurement targets for each of the investor-owned utilities. Locally, Fresno County provides a large share of the region's renewable energy. The Project would substantially increase local energy storage capacity and address the limitations of the electric grid and the increasing demand for renewable energy. Layering energy storage systems into the energy grid improves the reliability of the grid and makes it more resilient to disturbances and peaks in energy demand. The Project and other energy storage system projects are used to supply power during brief disturbances, reduce outages and associated impacts to the community, and substitute for certain large footprint transmission and distribution upgrades.

## 1.4 Project Location

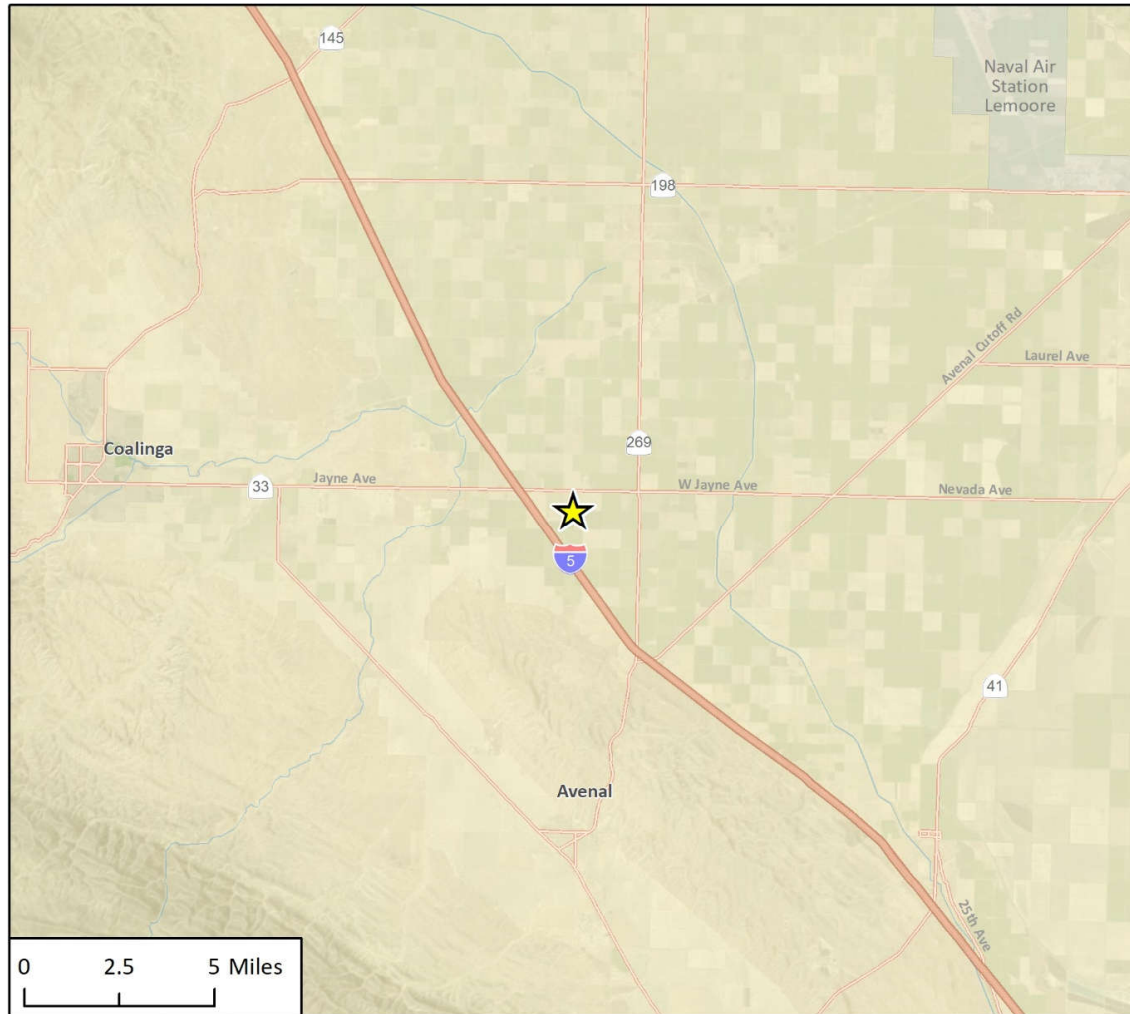
The Project site is in unincorporated Fresno County, approximately 11.5 miles east of the City of Coalinga, approximately 7.5 miles north of the City of Avenal, California, and approximately 0.4 miles east of Interstate 5 (I-5) (Figure 6). The Project site is located southwest of the PG&E Gates Substation along West Jayne Avenue. The Project would be developed on up to 260 acres of a 318-acre site comprised of three parcels (Assessor Parcel Numbers [APNs] 085-040-36S, 085-040-37S, and 085-040-58S) (Figure 7).

### **Existing Land Use**

The northern portion of the Project site (APN 085-040-58S) consists of land in agriculture production, an overhead gen-tie line along the western boundary (Figure 8), and high voltage transmission lines running north-to-south in the eastern portion of the Project site. The southern portion of the Project site (085-040-36S and 085-040-37S) is currently fallow with high voltage transmission lines running north-to-south in the eastern portion of the Project site.

As shown in Figure 7, the Project site is bound by West Jayne Avenue to the north and unpaved agricultural access roads to the east, south, and west. Existing Project site access from West Jayne Avenue is provided via the agricultural roads along the eastern and western Project site boundaries.

**Figure 6 Regional Location Map**



Imagery provided by Esri and its licensors © 2022.

★ Project Location

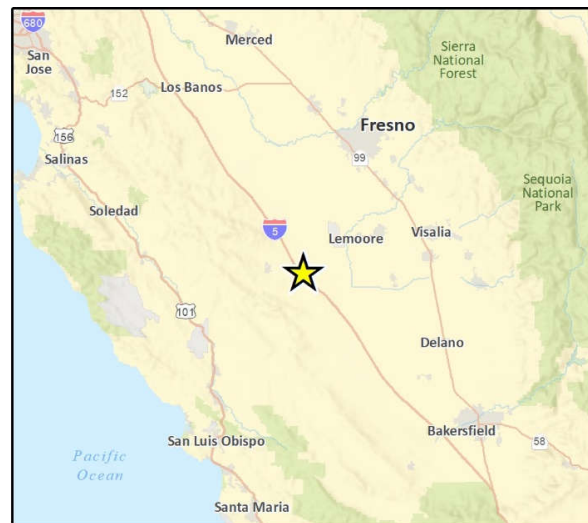
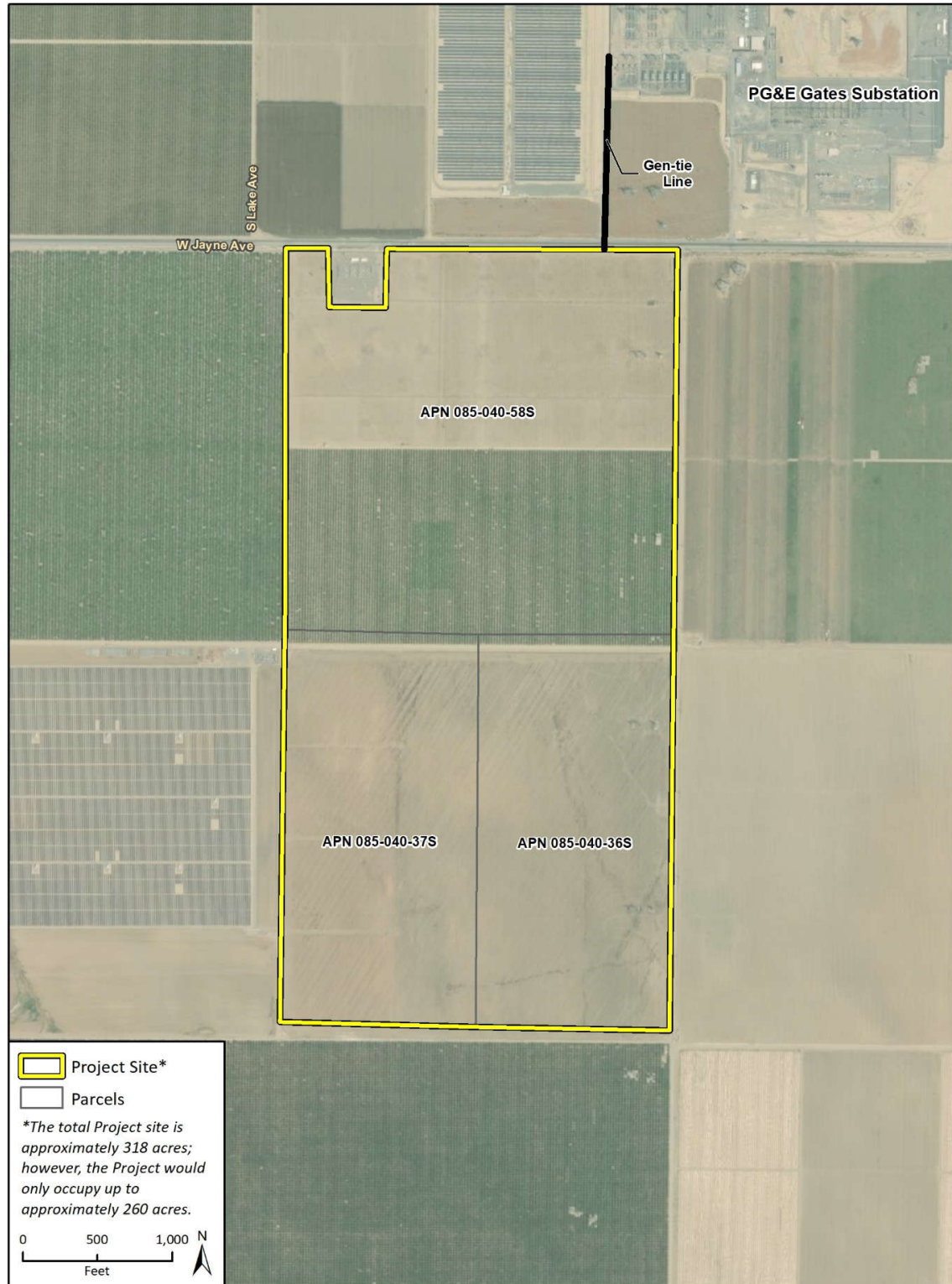


Fig. 1. Regional Location

Figure 7 Project Site and Project Parcel Map

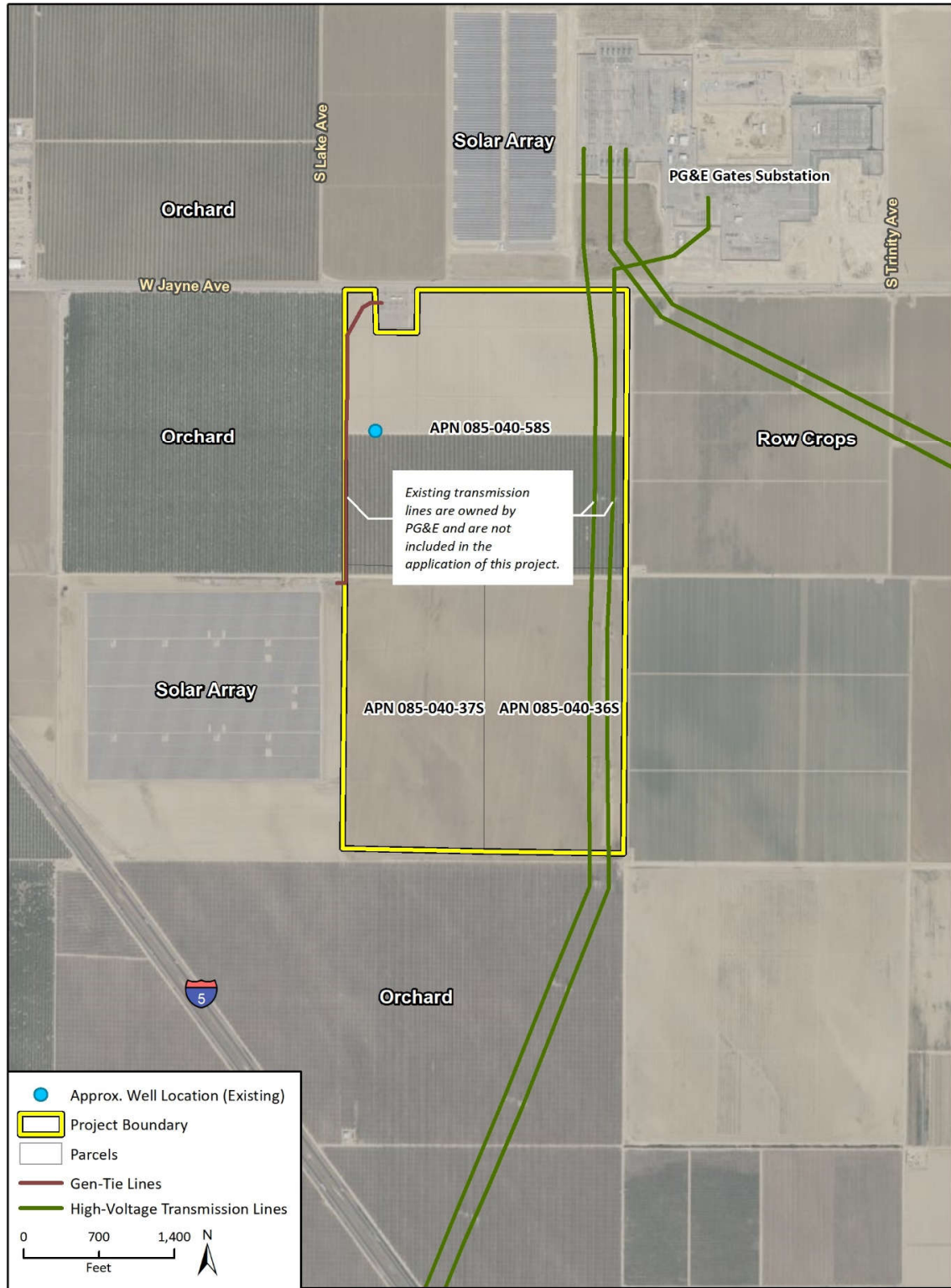


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Additional data provided by Fresno County, 2021.

Fig. 7 Project Location - 20210110



Figure 8 Existing Overhead Utilities



## **Surrounding Land Use**

The Project site is surrounded by agricultural uses to the west, south, and east. Solar facilities are located to the north and southwest and the PG&E Gates Substation is located to the northeast of the Project site. A small substation is also located immediately adjacent to the northwest Project site boundary.

## **General Plan and Zoning Designations**

The Fresno County General Plan land use designation for the Project site is Agriculture. The Project site is in the AE-40 (Exclusive Agricultural, 40-acre minimum parcel size) Zone District. The entire Project site is designated as Prime Farmland that is covered by Williamson Act Contracts.

## 2 Environmental Setting

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### 2.1 Regional Visual Character

Fresno County is historically defined by its economic base in agriculture and contains five distinct geographic areas: the Coast Range Foothill Area, the Westside Valley Area, the Eastside Valley Area, the Sierra Foothill Area, and the Sierra Nevada Mountain Area (Fresno County 2000). The Project site and the surrounding vicinity are located in the Westside Valley Area, which is visually characterized by the I-5 freeway, the flat valley floor, and expansive agricultural lands consisting of vineyards, orchards, row crops, and fallow lands. These large farms provide a sense of open space, emphasize the county's rural and farming heritage, and allow motorists opportunities for unrestricted panoramic views (Fresno County 2000b). The topography is relatively flat, and Project site vicinity offers open, expansive views of distant hills and mountains that frame the valley.

Approximately 4.5 miles south of the Project site, the southeast to northwest trending Kettleman Hills, North Dome (1365 feet amsl), and Elephant Hill (955 feet amsl) are distantly visible. Approximately 5 miles west-northwest of the Project site, the Guijarral Hills are distantly visible. While both sets of hills are distantly visible, the dusty haze from surrounding agricultural activities intermittently obscures their view from the Project site. During clearer, less windy conditions, the silhouette of the hills dominates the viewshed. At the base of these hills, the I-5 delineates the end of the foothills and the beginning of the broad, relatively flat, valley floor.

#### 2.1.1 Local Visual Character

The Project site vicinity is characterized by a variable patchwork of parcels containing young and mature orchards, rows of ground crops and vineyards, and empty, fallow lands with bare tan soil and patches of dried grasses. The natural landscape of the Project site has been highly disturbed due to grading and tilling for crops, orchards, and vineyards. The built landscape in the Project site vicinity consists of utility infrastructure in the form of various metal high-voltage transmission structures, overhead electrical lines, electrical substation facilities, and solar facilities.

#### On-Site Views

The Project site landscape is characterized by bare soil dotted with rows of tree saplings on the northern half of APN 085-040-58S. A lush fruit orchard is located on the southern half of APN 085-040-58S. Dry, fallow lands containing intermittent patches of dried grasses are located on APNs 085-040-36S and 085-040-37s. Topography on the Project site is gently sloping downward from the southwest corner of the Project site. Elevation of the Project site ranges between approximately 420 and 440 feet above mean sea level (amsl) (USGS 2022).

As shown in Figure 8, existing utility infrastructure spans the Project site and adjacent parcels. Figure 9 shows the locations of the character photographs and KOPs of the Project site, and Figure 10 depicts existing landscape characteristics. An existing approximately 2.8-acre substation with overhead electrical lines strung across approximately 60 feet high tubular steel poles (TSP) and galvanized steel dead-end structures is located adjacent to the northwest Project site boundary. One overhead subtransmission line is strung from the substation to a TSP approximately 60 feet west, then approximately 150 feet north to another TSP that is situated in line with the wooden distribution poles that run from east to west in line with the southern side of West Jayne Avenue.

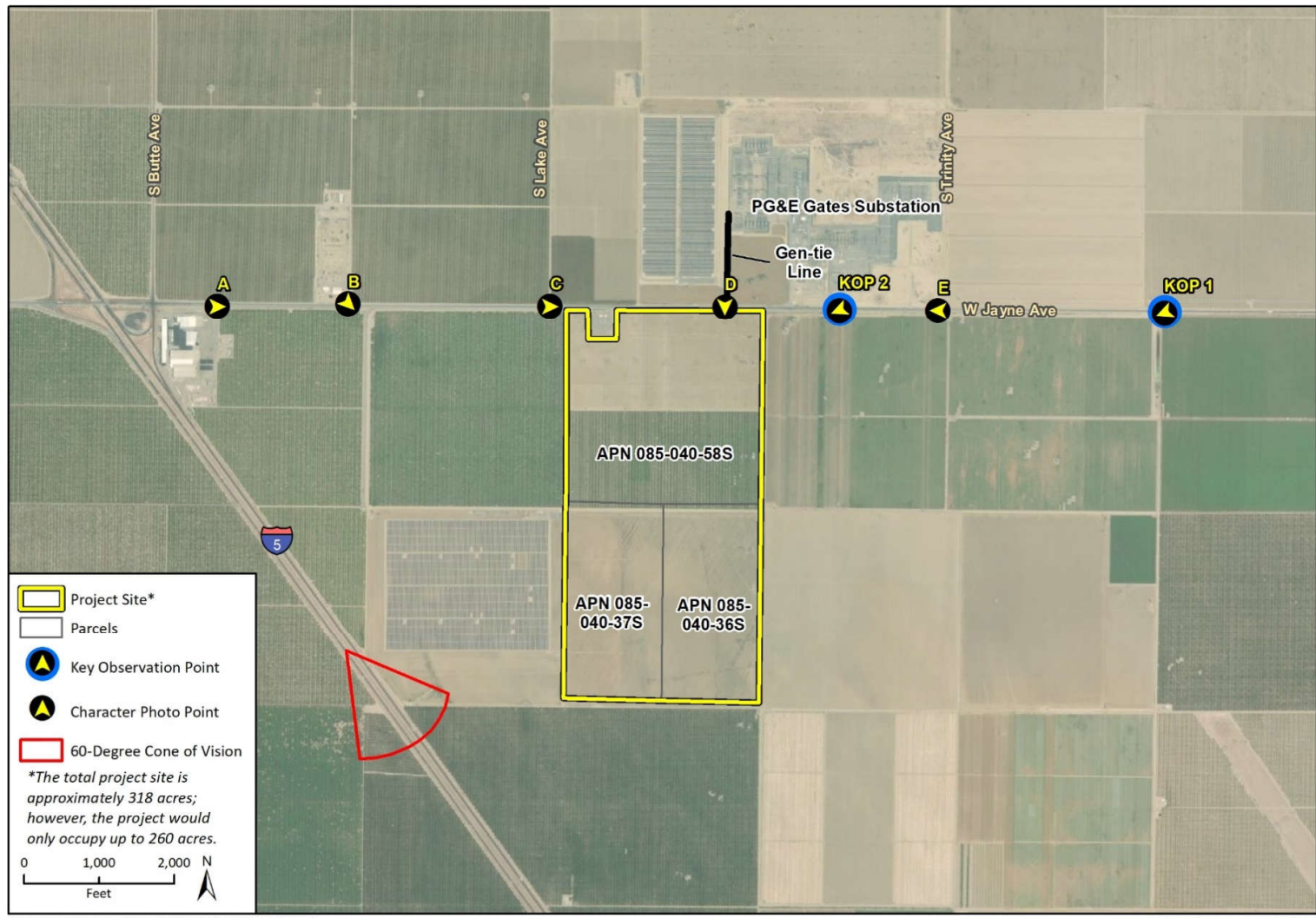
Another overhead subtransmission line is strung from the substation approximately 130 feet west, then approximately 150 feet southwest to a steel interset pole, before extending another 150 feet southwest to another TSP that sits on the westernmost edge of the Project site boundary. Along this western edge, this line is strung north-south across wooden subtransmission poles, spaced approximately 375 feet apart, until the northwesternmost corner of APN 085-040-37S, where the line ties into another small substation on an adjacent solar field parcel, situated immediately west. A third subtransmission line is strung from the substation on APN 085-040-58S to a TSP approximately 35 feet east of the substation, then approximately 150 feet north to another TSP that is situated in line with the wooden distribution poles that run from east to west in line with the southern side of West Jayne Avenue. On the east side of APN 085-040-58S, approximately 725 feet south of West Jayne Avenue, two high-voltage electrical transmission lines running north-south from the PGE&E Gates Substation connect to two lattice steel towers (LST). The first LST is comprised of two “columns” of steel lattice supported by four footings, which brace a horizontal lattice member on top, for a total of approximately 150 feet tall by 90 feet wide at its widest point. The second LST is comprised of a single lattice steel column stacked on four footings, for a total of approximately 120 feet tall by 30 feet wide at the base. The lines are then strung to identical towers every 1,200 feet, down the length of the Project site and beyond. Additionally, at the northwest corner of the Project site, a 25-foot segment of above-ground metal pipe with a concrete footing is visible. Parallel to this pipe, another pipe is intermittently exposed above ground across the length of the northern Project site boundary.

### **Off-Site Views**

The built environment of the Project site vicinity is dominated by the PG&E Gates Substation, which is located immediately northeast of the Project site. The substation structure and its associated facilities and infrastructure dominate the views northeast of the Project site. The towering transmission structures and a latticework of overhead electrical lines are visible over the earth-tone substation perimeter wall and continue along a greater network of tall, metal structures throughout the surrounding parcels and down West Jayne Avenue. Wooden poles strung with distribution lines and large pipes with deep culverts line the south edge of West Jayne Avenue. There is also a solar facility immediately north of the Project site, just west of the Gates Substation. The solar facility, approximately 45 acres in size, is clearly visible despite being set back approximately 400 feet off West Jayne Avenue. Immediately west of the Project site is an approximately 85-acre solar facility. The other parcels immediately south and west of the Project site consist of mature fruit and nut orchards, providing visual screening.

Representative and KOP photo point locations are depicted in Figure 9. The visual character of the Project site and vicinity are illustrated and described in Figure 10, Project Vicinity Character Photographs.

**Figure 9 KOP and Photo Point Location**



**Figure 10 Project Vicinity Character Photographs**



**Photograph A.** View looking east on West Jayne Avenue toward the northernmost extent of the Project site vicinity, approximately 0.9 miles distant. Photograph A is representative of views for motorists on West Jayne Avenue east of I-5. The area is generally flat and devoid of discernable geographic features. The landscape is characterized by a patchwork of agricultural lands, including fruit and nut orchards and recently tilled bare, tan soil. A deep drainage ditch and distribution lines supported by wooden poles run east-west along the south side of West Jayne Avenue, and larger high-voltage electric transmission infrastructure is distantly visible. The Project site is not visible beyond the orchard.



**Photograph B.** View looking southeast on West Jayne Avenue from the driveway of a nearby rural residence and storage yard toward the northwestern-most extent of the Project site vicinity, approximately 0.5 miles distant. Photograph B is representative of views for motorists on West Jayne Avenue. Views of the Project site are blocked by the fruit/nut orchard on the parcel immediately west of the Project site. A small, fenced-in storage area for above-ground storage tanks and a portable restroom are visible on the edge of the orchard. An electric distribution line supported by wooden poles runs east-west along the south side of West Jayne Avenue, and larger high-voltage electric transmission infrastructure is distantly visible.



**Photograph C.** View looking east on West Jayne Avenue toward the northwestern-most extent of the Project site vicinity. Photograph C is representative of views for motorists traveling east on West Jayne Avenue. The PG&E Gates Substation, approximately 1 mile distant, with high-voltage transmission structures and various electrical lines extending north-south across the view, dominates the horizon on the north side of the road. A parcel of bare, tan soil is visible in the foreground on the north side of the road. On the south side of the road, the limits of the mature orchard (also seen in Photograph B) are visible where the orchard ends, and the Project site begins. A small substation, located on APN 085-040-58S, is visible above the orchard tree line. A deep drainage ditch and distribution lines supported by wooden poles run east-west along the south side of West Jayne Avenue.



**Photograph D.** View looking south directly at the north end of the Project site from the intersection of West Jayne Avenue and the entrance/exit to the access road for the adjacent solar facility. Photograph D is representative of views for motorists looking 90 degrees over their shoulder on West Jayne Avenue at the Project site. The Project site is dotted with rows of tree saplings with sparse low vegetation and bare, pale soil between rows. Orchards located on the south side of the Project site create a dark, linear feature below the distant mountains and hills. Large, high voltage electric transmission structures and associated conductors run north-south along the east side of the Project site. The tall structures are skylined above the hills and mountains in the distance and are the most prominent built feature in the view.



**Photograph E.** View looking west on West Jayne Avenue toward the northeastern-most extent of the Project site, approximately 0.4 miles distant. Photograph E is representative of Project site views for westbound motorists along West Jayne Avenue. On the south side of the road, a parcel of green row crops covers the landscape, and a deep, irregular stormwater drainage and aboveground pipes parallel the road. On the north side of West Jayne Avenue, the landscape is characterized by exposed tan soils and sparse, low, dusty-green shrubs. The view is dominated by high-voltage electric transmission structures and wooden electric distribution structures and their associated conductors. Along the horizon, the distant hills and mountains are barely discernable.

## 2.1.2 Scenic Highways

Portions of State Route (SR) 198, approximately 15 miles northwest of the Project site, and SR 33, approximately 13 miles west of the Project site, are eligible for California State Scenic Highway Designation (California Department of Transportation [Caltrans] 2018); however, the Project site is not located within the viewshed of these highways.

Though not designated as a state scenic highway, Fresno County designates I-5 as a scenic roadway due to the continuous unrestrictive views of adjacent coastal foothills that extend westward (Fresno County 2000b: 4.16-1). The Project site is located approximately 0.4 miles east of I-5 but is not visible from the I-5 due to orchards and solar facilities blocking the view.

## 2.1.3 Scenic Vista

There are no Caltrans scenic vista points on state highways within the Project site vicinity. The nearest vista point identified by Caltrans is the Success Dam Vista Point in the Porterville, approximately 70 miles east of the Project site. The Project site is not visible from this vista point (Caltrans 2015).

The County of Fresno General Plan Open Space and Conservation Element identifies scenic vistas in the County, such as those near the City of Coalinga (County of Fresno 2000a). There are no designated scenic vistas in the Project site viewshed.



## 2.1.4 Sensitive Receptors

There are no parks or scenic vistas within 3 miles of the Project site; therefore, no sensitive receptors have views of the Project site. However, as detailed in Section 3.1, motorists along West Jayne Avenue are exposed to views of the Project site and would be considered primary viewers of the Project site.

## 3 Methodology

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This visual assessment identifies and assesses potential long-term adverse visual impacts on aesthetics and visual resources that could result from implementation of the Project. This assessment included the following steps to assess potential visual effects:

- Reviewing planning documents applicable to the Project site vicinity to gain insight into the type of land uses intended for the general area, and the guidelines given for the protection or preservation of visual resources.
- Conducting a visit to the Project site on March 31, 2022 for the purposes of:
  - Surveying the on-site and surrounding uses to identify sensitive viewers and viewpoints for assessment of potential aesthetic impacts;
  - Analyzing the baseline visual quality and character of the identified views; and,
  - Taking photographs to document observed conditions.
- Identifying Project components that could affect representative views in the Project site vicinity in terms of visual quality and character, as informed by plans, descriptions, simulations, aerial photographs, and street-level photography.
- Assessing the Project's impacts to identified views by evaluating potential Project-caused change in the affected area's baseline visual quality and character.

Selection of the primary viewers, selection of Key Observation Point (KOP) locations, and simulation preparation methods are described below.

### 3.1 Viewer Groups

Sensitive receptors<sup>1</sup> and viewing areas that would be the most sensitive to the proposed Project's potential visual impacts were identified. Due to the Project site location and surrounding orchards, publicly-accessible views are primarily limited to motorist views westbound along West Jayne Avenue, and motorist views southbound along a 0.1 mile stretch of I-5, located to the west at distances ranging from 0.4 miles to 1.2 miles. Westbound motorists along West Jayne Avenue are the largest viewer group that would be exposed to Project views. Views of the Project site by eastbound motorists on West Jayne Avenue are largely obscured by intervening orchards. As detailed below, motorists views from I-5 were found to have very short duration due to the average freeway speed (60 miles per hour [mph]) and obstructed views of the Project site, and therefore have been ruled out as a primary viewer. Motorists along westbound West Jayne Avenue were found to have prolonged exposure to the Project site, and therefore are considered the primary viewer.

### 3.2 Viewer Exposures

Motorist viewer exposure is affected by the movement of the viewer in their vehicle, and viewsheds are directional to motorists along roadways. The United States Department of Transportation (DOT)

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<sup>1</sup> Typically, residents and recreationists are considered to be sensitive receptors to changes in landscape. This is because of the potential for effects to their long-term views or their enjoyment of a particular landscape or activity.

Federal Highway Administration (FHWA) notes that “the faster a person moves, the smaller the area on which they are able to focus their attention. At 25 mph, a driver can see a view approximately 100° wide; at 45 mph, the view drops to 65°; and at 65 mph, it drops to a narrow 40°, substantially reducing what is seen” (FHWA 2015). Variables considered relative to how viewers might be affected include the angle of view, the extent to which views are open or screened, the duration of view, and viewing distance. Viewing angle and extent of visibility consider the relative location of the Project site to the viewer and whether visibility conditions would be open or panoramic, or limited by intervening vegetation, structures, or terrain. Duration of view pertains to the amount of time the Project typically would be seen from a sensitive viewpoint. In general, duration of view would be shorter in instances where the Project would be seen for short or intermittent periods (such as from major travel routes and recreation destination roads), and greater in instances where the Project would be seen regularly and repeatedly (such as from public use areas). Viewing distances are described according to whether the Project would be viewed in a foreground (within 0.5 mile or 2,640 feet), middle ground (0.5 mile to 2 miles), or background (beyond 2 miles) zone.

Westbound motorists are the main viewership that may be exposed to the Project site, along West Jayne Avenue. Eastbound views of the Project site along West Jayne Avenue are obscured due to a mature fruit orchard located on the parcel immediately west of the Project site. However, eastbound motorists would be able to briefly view the Project site when they are adjacent to the Project site if they look to their right.

While motorist views of the Project site from I-5 appear possible, they are very limited. Views of the Project site for motorists traveling northbound on I-5 are blocked by a large orchard located to the south of the Project site, unless they look back over their shoulder. Traveling southbound on I-5 north of the Project site, mature orchards and a solar facility located between Project site and I-5 completely block views of the Project site. Immediately south of the solar facility between I-5 and the Project site, for approximately 0.10 mile, the Project site is unobscured to southbound I-5 motorists. As shown in Figure 9, to approximate Project site viewership along I-5; an average speed of 60 mph and a 60° “cone of vision” was used. The “point” of the cone was placed in the location where the Project site would theoretically first become visible. At a speed of 60 mph, the 0.10 mile of unobscured view would be visible for approximately 6 seconds. However, even for this period of time, the Project site is not within the 60-degree cone of vision assumed for motorists along I-5, and motorists would have to look to their left in order to view the Project site.

### 3.3 Viewer Sensitivity

Visual sensitivity is determined by a composite measurement of the overall susceptibility of an area or viewer group to adverse visual or aesthetic impacts given the combination of existing landscape quality, viewer type, and exposure conditions. Table 1 summarizes the overall visual sensitivity of the major viewer types near the Project site.

**Table 1 Summary of Visual Sensitivity Findings**

| Viewer Type                                     | Visual Quality | Use and Visual Exposure Description   | Visual Sensitivity |
|---|----------------|---|--------------------|
| <b>Primary</b>                                  |                |   |                    |
| Motorists along West Jayne Avenue (KOP 1 and 2) | Industrial     | Brief views by local motorists at moderate speed, low view angle, unobstructed to westbound traffic, short view duration.                         | Low - Moderate     |
| <b>Other</b>                                    |                |   |                    |
| Motorists along I-5                             | Industrial     | Very brief distant views by motorists at freeway speed, low view angle, obstructed by orchard trees and solar facility, very short view duration. | Very Low           |

### 3.4 KOP Selection

KOPs were established to provide a representative cross-section of affected landscapes in the visual study area. These locations, shown in Figure 9, were selected based on the Project site viewshed, visual exposure, and important viewer groups.

During the Project site visit, the Project site was evaluated from a variety of locations and viewing distances. KOPs were established to provide a representative cross-section of affected landscapes in the visual study area. These locations, shown in Figure 9, were selected based on the Project’s viewshed, visual exposure, and viewer group. As there are no scenic vistas, scenic highways, or public recreation areas in the vicinity of the Project site, no sensitive receptors as defined in Sections 1.2 or 2.1.4 would be exposed to Project views. Therefore, this analysis focuses on the largest viewer group that would be exposed to Project views, which would be motorists along West Jayne Avenue.

Two KOPs were ultimately selected along West Jayne Avenue facing west. These KOPs represent views of motorists traveling west on West Jayne Avenue (a local street). Character photographs were taken from the KOPs and other proximate locations to represent the existing visual conditions of the Project site.

### 3.5 Visual Simulations

To provide a basis for evaluating the visual effect of the proposed Project on these views, visual simulations of each battery storage option were produced to illustrate the “after” visual conditions from each of the KOPs. The proposed facilities were modeled based on preliminary Project BESS and PCS enclosures, main power transformers, and 500 kV substation components for the lithium-ion Project option, and preliminary Project electrolyzer, BESS and PCS enclosures, main power transformers, and 500 kV substation components for the iron flow and lithium-ion Project option.

The simulations were produced from photography of the Project site vicinity and 3D modeling of a typical substation design. The perspective and lighting of each KOP view was matched to the 3D model and the proposed views were rendered. Foreground elements in the photographs were masked out and the 3D rendering was composited with the background. Atmosphere, noise, and blur was added to the 3D rendering to match the photography.

At each KOP, the existing visual conditions were compared to those under the development of the Project site vicinity, based on the visual simulations. The comparison, included in Section 4,

considers the existing quality of scenic backdrops, background vistas, and foreground views across the Project site vicinity and the Project's alteration of these scenic views.

### 3.6 Significance Criteria

The analysis evaluates whether the Project would substantially degrade the existing visual character or quality of public views of the Project site and its surroundings. An adverse visual impact may occur when (1) an action perceptibly changes the existing physical features of the landscape that are characteristic of the region or locale; (2) an action introduces new features to the physical landscape that are perceptibly uncharacteristic of the region or locale, or becomes visually dominant in the viewshed; or (3) an action blocks or totally obscures valued aesthetic features of the landscape. The degree of visual impact depends on how noticeable the adverse change is in conjunction with the visual sensitivity of the Project site. A noticeable visual impact is a function of the combination of Project features, context, and viewing conditions (angle of view, distance, and primary viewing directions). The key factors determining the degree of visual change are visual contrast, Project dominance, and view blockage.

**Visual Contrast** is a measure of the degree of change in line, form, color, and texture that the Project would create, when compared to the existing landscape. Visual contrast ranges from none to strong, and may be defined as:

- None –The element contrast is not visible or perceived
- Weak –The element contrast can be seen but does not attract attention
- Moderate –The element contrast begins to attract attention and begins to dominate the characteristic landscape
- Strong – The element contrast demands the viewer's attention and cannot be overlooked

**Visual dominance** is a measure of a Project feature's apparent size relative to other visible landscape features in the viewshed.

**View blockage or impairment** is a measure of the degree to which Project features would obstruct or block views of aesthetic features due to the Project's position and/or scale.

**Overall adverse visual impact** reflects the composite visual changes to both the directly affected landscape and from sensitive viewing locations.

## 4 Analysis of Visual Effects

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### 4.1 KOP Evaluation – Lithium-Ion Battery Option

The lithium-ion battery option of the Project would include battery storage units, a substation, and a new generation transmission line. Figure 11 and Figure 12, presented at the end of this section, show how the Project components for the lithium-ion battery option would appear to viewer groups (motorists) at KOPs when compared to existing (pre-Project) views at these locations.

#### 4.1.1 KOP 1

Figure 11, Photograph 1 documents the existing west-southwestern view toward the Project site from West Jayne Avenue near its intersection with an agricultural access road approximately 1 mile east of the Project site. The existing view to westbound motorists on West Jayne Avenue includes a patchwork of agricultural fields with varying states of growth ranging from empty, fallow lands to seedlings and saplings, to mature row crops and orchards. Along the south side of West Jayne Avenue where the road surface meets the soil, stormwater has eroded away a drainage culvert and created an irregular crack several feet in depth. Wooden posts with distribution lines run parallel to the roadway on either side. Barren agricultural fields dominate the view, with tall, metal transmission towers and wires line in the middleground and hills in the distance.

Figure 11, Photograph 2 shows a simulation of the view as it would appear after construction of the lithium-ion battery option. As shown in the simulated view, the energy storage facility presents with weak visual contrast as a faintly visible dotted, linear feature in the middleground of the view, beyond the vast agricultural fields. The existing high voltage transmission lines are skylined above the hills and mountains in the distance and remain the most prominent visual features in the middleground of the view. From KOP 1, the proposed infrastructure is nearly indistinguishable for motorists along West Jayne Avenue, and motorists would have low sensitivity to visual changes on the Project site. Existing high voltage electric transmission infrastructure and the mountains to the south and west remain the most prominent visual features.

#### 4.1.2 KOP 2

Figure 12, Photograph 1 documents the existing west-southwest view toward the Project site from West Jayne Avenue, approximately 0.2 mile east of the Project site. The existing view for westbound motorists on West Jayne Avenue includes an extremely flat landscape flush with row crops and distant orchards. Large, metal pipes are laid atop the tan soil along the south side of West Jayne Avenue. Large, metal transmission structures and wooden distribution poles are strung along the roadway and throughout the surrounding agricultural fields. The Kettleman and Gujarral Hills are faintly visible in the distance. The existing high voltage transmission lines are skylined above the hills and mountains in the distance and remain the most prominent visual features.

Figure 12, Photograph 2 shows a simulation of the view as it would appear after construction of the lithium-ion battery option. As shown in the simulated view, new BESS and PCS enclosures, transformers, and substation components associated with the energy storage system facility would be moderately visible. Considering the flat terrain and frequent traffic along West Jayne Avenue, motorists would have a moderate sensitivity to visual changes on the Project site, as the new infrastructure contrasts somewhat with the low vegetation in the foreground. However, the

proposed infrastructure is consistent with the existing utility infrastructure, and the existing high voltage electric transmission lines would remain the most prominent visual feature.

### 4.1.3 Summary of Anticipated Visual Effects

As described above and illustrated in Figures 10, 11, and 12, the proposed lithium-ion battery option is minimally discernable in the landscape. Looking east along West Jayne Avenue, views of the Project site are generally obscured by the parcels of existing, mature orchards to the immediate west and northwest of the Project site. Looking west along West Jayne Avenue, the proposed Project adds slightly more industrial character to the landscape, but the degree of contrast introduced to the view is low. The proposed BESS and PCS enclosures, transformers, and substation components would be similar in form but less visually prominent than existing electrical infrastructure in the Project vicinity. Overall, the lithium-ion battery option would not substantially degrade the existing visual character or quality of public views of the Project site vicinity and its surroundings.

**Figure 11 KOP 1 – Lithium-Ion Battery Option**



**Photograph 1.** Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue.



**Photograph 2.** Simulated view after construction of the proposed lithium-ion battery option.



**Figure 12 KOP 2 – Lithium-Ion Battery Option**



**Photograph 1.** Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue, approximately 0.2 mile east of the Project site.



**Photograph 2.** Simulated view after construction of the proposed lithium-ion battery option.

## 4.2 KOP Evaluation – Iron Flow and Lithium-Ion Option

The iron flow and lithium-ion battery option would include electrolyzer and BESS powertrain units, battery storage units, a substation, and a new generation transmission line. Figure 13 and Figure 14, presented at the end of this section, show how the components for the iron flow and lithium-ion battery option would appear to viewer groups (motorists) at KOPs when compared to existing (pre-Project) views at these locations.

### 4.2.1 KOP 1

Figure 13, Photograph 1 documents the existing west-southwestern view toward the Project site from West Jayne Avenue near its intersection with an agricultural access road approximately 1 mile east of the Project site. The existing view to westbound motorists on West Jayne Avenue includes a patchwork of agricultural fields with varying states of growth ranging from empty, fallow lands to seedlings and saplings, to mature row crops and orchards. Along the south side of West Jayne Avenue where the road surface meets the soil, stormwater has eroded away a drainage culvert and created an irregular crack several feet in depth. Wooden posts with distribution lines run parallel to the roadway on either side. Barren agricultural fields dominate the view, with tall, metal transmission towers and wires line in the middleground and hills in the distance.

Figure 13, Photograph 2 shows a simulation of the view as it would appear after construction of the iron flow and lithium-ion battery option. As shown in the simulated view, the majority of the energy storage facility presents with weak visual contrast as a faintly visible dotted, linear feature in the middleground of the view, beyond the vast agricultural fields. The electrolyzer tanks are more distinct, sitting higher than the energy storage enclosures, and present as a thick, tan, line on the northern parcel. The existing high voltage transmission lines are skylined above the hills and mountains in the distance and remain the most prominent visual features in the middleground of the view. From KOP 1, the proposed infrastructure is faintly distinguishable for motorists along West Jayne Avenue, and motorists would have low sensitivity to visual changes on the Project site. Existing high voltage electric transmission infrastructure and the mountains to the south and west remain the most prominent visual features.

### 4.2.2 KOP 2

Figure 14, Photograph 1 documents the existing west-southwest view toward the Project site from West Jayne Avenue, approximately 0.2 mile east of the Project site. The existing view for westbound motorists on West Jayne Avenue includes an extremely flat landscape flush with row crops and distant orchards. Large, metal pipes are laid atop the tan soil along the south side of West Jayne Avenue. Large, metal transmission structures and wooden distribution poles are strung along the roadway and throughout the surrounding agricultural fields. The Kettleman and Gujarral Hills are faintly visible in the distance. The existing high voltage transmission lines are skylined above the hills and mountains in the distance and remain the most prominent visual features.

Figure 14, Photograph 2 shows a simulation of the view as it would appear after construction of the iron flow and lithium-ion battery option. As shown in the simulated view, new BESS and PCS enclosures, transformers, and substation components associated with the energy storage system facility would be moderately visible. The cylindrical electrolyzer tanks present more distinctly as a taller, tan mass amidst the surrounding Project components. Considering the flat terrain and frequent traffic along West Jayne Avenue, motorists would have a moderate sensitivity to visual

changes on the Project site, as the height of Project infrastructure contrasts with the low vegetation in the foreground. However, the proposed infrastructure is consistent with the existing utility infrastructure, and while the electrolyzer tanks compete for visual dominance in the middle ground, the existing high voltage electric transmission lines would remain the most prominent visual feature.

### 4.2.3 Summary of Anticipated Visual Effects

As described above and illustrated in Figures 10, 13 and 14, the iron flow and lithium-ion battery option is moderately discernable in the landscape. Looking east along West Jayne Avenue, views of the Project site are generally obscured by the parcels of existing, mature orchards to the immediate west and northwest of the Project site. Looking west along West Jayne Avenue, the iron flow and lithium-ion battery option adds more industrial character to the landscape, but the degree of contrast introduced to the view is low to moderate. The electrolyzer tanks are cylindrical and would add a variety in form and massing, and moderately contrast from their surroundings. The proposed BESS and PCS enclosures, transformers, and substation components would be similar in form but less visually prominent than existing electrical infrastructure in the Project vicinity. Overall, the iron flow and lithium-ion battery option would not substantially degrade the existing visual character or quality of public views of the Project site vicinity and its surroundings.

**Figure 13 KOP 1 – Iron Flow and Lithium-Ion Battery Option**



**Photograph 1.** Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue.



**Photograph 2.** Simulated view after construction of the proposed iron flow and lithium-ion battery option.

**Figure 14 KOP 2 – Iron Flow and Lithium-Ion Battery Option**



**Photograph 1.** Existing view looking west-southwest toward the Project site vicinity from West Jayne Avenue, approximately 0.2 mile east of the Project site.



**Photograph 2.** Simulated view after construction of the proposed iron flow and lithium-ion battery option.

## 5 References

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## Exhibit 13

### Revised Mitigation Measure

**Mitigation Measure 3.10-2: Traffic Management Plan.** At least 30 days prior to the issuance of construction or building permits, including for the initiation of on-site work to install power lines across West Jayne Avenue, the Project owner and/or its construction contractor shall prepare and submit a traffic management plan to the Fresno County Public Works Department and Caltrans District 6, as appropriate, for approval. The traffic management plan must be prepared in accordance with both the Caltrans Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook and must include, but not be limited to, the following elements:

- A temporary traffic control plan that addresses traffic safety and control through the work zone, including during temporary lane closures (if needed) to accommodate materials delivery, transmission line stringing activities, or any other utility connections.
- Identification of the timing of deliveries of heavy equipment and building materials and duration of proposed road closures or obstructions.
- Requirement for designated construction staff to be assigned as flaggers to direct traffic into and/or through temporary traffic control zones, as needed.
- Requirement to place temporary signage, lighting, and traffic control devices if required, including but not limited to appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic and to advise of alternate routes.
- Measures to ensure access for emergency vehicles to the Project site.
- Maintenance of access to adjacent properties.
- Specification of construction-related vehicle travel and oversize-load haul routes, minimization of construction traffic during the a.m. and p.m. peak hours, distribution of construction traffic flow across alternative routes to access the Project site, and avoidance of residential neighborhoods to the maximum extent feasible.
- Requirement to obtain all necessary permits for the work within the road right-of-way or the use of oversized/overweight vehicles that would utilize County-maintained roads, which may require escort by the California Highway Patrol or a pilot car. Copies of the approved traffic plan and issued permits shall be submitted to the Fresno County Divisions of Public Works and Planning.
- Due to the anticipated volume of truck traffic associated with construction of the project, the Applicant shall be required to construct a Hot Mix Asphalt (HMA) overlay on Jane Avenue from Interstate 5 and extending across the project frontage, approximately 1.54 miles east of Bute Avenue. The overlay shall be constructed prior to issuance of any development permits.
- ~~A secured agreement between the Applicant and Fresno County to ensure that any County roads that are demonstrably damaged by Project-related activities are promptly repaired and, if necessary, paved, slurry sealed, or reconstructed as per requirements of the state and/or Fresno County. The traffic management plan elements listed above would reduce the potentially significant effects of short-term and intermittent construction-related congestion caused by construction vehicles/equipment on local roadways. Imp~~