

# DBH OLIVE AVE ROOF REPLACEMENT AND FAÇADE REPAIRS

5555 E. Olive Avenue  
Fresno, CA 93727

Contract # 24-S-08

**The County of Fresno**  
**Department of Public Works and Planning**  
2220 Tulare St., 8<sup>th</sup> Floor  
Fresno, California 93721

## PROJECT MANUAL

Pre-bid Conference: Tuesday, October 15, 2024, 10:00 A.M.

**Bid Date:** Thursday, October 31, 2024  
2:00 P.M. (1400 hours and 00 seconds)

Budget / Account – 0400 / 10072 / 8872 / 8150 / 91940



*Development Services & Capital Projects Division*

*Department of Public Works and Planning*

CONTRACT # 24-S-08

**SECTION 000107 - COUNTY ADOPTION AND ACKNOWLEDGEMENT & SEALS**

**DBH OLIVE AVE ROOF REPLACEMENT AND FAÇADE REPAIRS**

Contract # 24-S-08

Nathan Magsig, Chairman  
Buddy Mendes, Vice Chairman  
Brian Pacheco  
Sal Quintero  
Steve Brandau

5<sup>th</sup> District  
4<sup>th</sup> District  
1<sup>st</sup> District  
3<sup>rd</sup> District  
2<sup>nd</sup> District

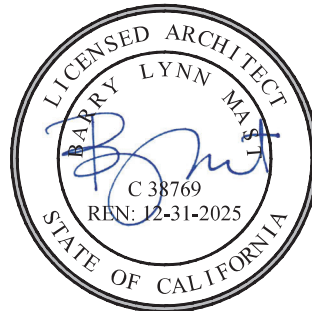
Paul Nerland, County Administrative Officer

**Steve White** Digitally signed by Steve White  
Date: 2024.10.01 11:30:39 -07'00'

Steven E. White, Director  
Department of Public Works and Planning

09-30-2024

Date Signed



**Architect:** \_\_\_\_\_

Barry Mast, Lic.# C-38769

FRESNO COUNTY  
**Department of Public Works and Planning**  
**Development Services and Capital Projects Division**  
m/a 2220 Tulare Street, Eighth Floor  
Fresno, CA 93721 (559) 600-4536  
[bmast@fresnocountyca.gov](mailto:bmast@fresnocountyca.gov)

CONTRACT # 24-S-08

DBH OLIVE AVE ROOF REPLACEMENT  
AND FAÇADE REPAIRS, FRESNO, CA

COUNTY ADOPTION AND  
ACKNOWLEDGMENT & SEALS  
SECTION 000107 - 2

**09-30-2024**

\_\_\_\_\_  
Date Signed



**Architectural Consultant:** \_\_\_\_\_

Robina Wright, #C-32283

**Robina Wright Architects & Associates, Inc.**

448 East Olive Avenue  
Fresno, California 93728 (559) 307-7232  
[robina@robinawrightarchitect.com](mailto:robina@robinawrightarchitect.com)

CONTRACT # 24-S-08

DBH OLIVE AVE ROOF REPLACEMENT  
AND FAÇADE REPAIRS, FRESNO, CA

COUNTY ADOPTION AND  
ACKNOWLEDGMENT & SEALS  
SECTION 000107 - 3

09-30-2024

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Date Signed

**Structural Engineer Consultant:**



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Dwight Drew, Lic. # S-2629

**Structural One Corp**  
42380 Bald Mountain Road  
Auberry, CA 93602 (559) 285-2727  
[dwight@structuralonecorp.com](mailto:dwright@structuralonecorp.com)



CONTRACT # 24-S-08

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DBH OLIVE AVE ROOF REPLACEMENT  
AND FAÇADE REPAIRS, FRESNO, CA

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**BOARD OF SUPERVISORS COUNTY OF FRESNO STATE OF CALIFORNIA**  
**NOTICE TO BIDDERS**

Sealed proposals will be received at:

<https://www.bidexpress.com/businesses/36473/home>

and at the Fresno County Department of Public Works and Planning, Office of the Design Engineer, Seventh Floor, Fresno County Plaza Building, 2220 Tulare Street, Fresno, CA 93721 until

**2:00 P.M., (1400 hours and 00 seconds)**  
**Thursday, October 31, 2024**

at which time the bidding will be closed.

**If you have any questions about bid submission, please contact us at [DesignServices@fresnocountyca.gov](mailto:DesignServices@fresnocountyca.gov) or calling (559) 353-4919 or (559) 600-4543.**

Promptly following the closing of the bidding, all timely submitted bids will be publicly opened and viewable via a livestream (the link for which will be posted at: <http://www.fresnocountyca.gov/planholders>), for construction in accordance with the project specifications therefor, to which special reference is made as follows:

**DBH OLIVE AVE ROOF REPLACEMENT AND FAÇADE  
REPAIRS**

**5555 E. OLIVE AVENUE  
FRESNO, CA 93727**

**Contract No. 24-S-08**

The work to be done, in general, consists of replacing the existing roof and repairing the existing exterior brick wall facade and concrete tilt-up panels of the Department of Behavioral Health building, covering approximately 115,000 square feet, located at 5555 E. Olive Avenue, Fresno, CA, 93727.

A pre-bid conference will be held at 10:00 a.m., on Tuesday, October 15, 2024. A discussion of the project will be held and the project sites will be open for examination. Contractors should meet at 5555 E. Olive Avenue Fresno, CA 93727. Attendance at the pre-bid is **mandatory** for general contractors; attendance by subcontractors is encouraged, but not required. The scheduled pre-bid will be the

only opportunity for prospective bidders to visit the site in the presence of County staff, and requests for individual site visits with County staff will not be granted.

**This project is subject to the contracting requirements and implementing regulations as amended in Title 13, Section 2449 General Requirements for In-Use Off-Road Diesel-Fueled Fleets, of the California Code of Regulations (13 CCR § 2449(i)). Bidders must submit a valid Certificate of Reported Compliance (CRC) issued by the California Air Resources Control Board at the time of bidding. Bidders are responsible for submitting their listed subcontractors' CRCs and any supporting documentation within five (5) calendar days of bid opening. Failure to submit the required CRCs may render a bid non-responsive.**

Bidders may fill out a Request to be Added to Planholders list:

<https://www.fresnocountyca.gov/Departments/Public-Works-and-Planning/Construction-Bidding-Opportunities/Request-to-Be-Added-to-the-Planholders-List-Form>

Requesters will then be listed as a planholder for the project on the website and receive notifications and addenda issued for the project.

Prospective bidders may also select the project on <https://www.bidexpress.com/businesses/36473/home>. Those that demonstrate interest in the project will be added to the planholders list, and receive notifications and addenda issued for the project.

Electronic copies (in ".pdf" file format) of the official project plans and specifications and such additional supplemental project information as may be provided, are available to view, download, and print at <http://www.fresnocountyca.gov/planholders>.

Electronic versions of the bid documents are available online at: <https://www.bidexpress.com/businesses/36473/home> and bids may be submitted electronically through that website.

If a bidder is unable to submit a bid via Bid Express, Bid Books, which contain bid proposal sheets necessary to submit a bid, may be obtained within the Project Manual/Specifications documents posted on the Fresno County website and bids shall be submitted in a sealed, opaque envelope addressed to the Department and labeled with the name of the bidder, the name of the project, the contract number, and the statement "Do Not Open Until The Time Of Bid Opening."

Bid security in the amount of ten (10) percent of the amount of the bid, and in the form of a bid bond issued by an admitted surety insurer licensed by the California Department of Insurance, cash, cashier's check, or certified check shall accompany the bid. Bid security shall be made in favor of the County of Fresno.



Hardcopy bid bonds shall be submitted in a sealed envelope addressed to the Department and labeled with the name of the bidder, the name of the project and the statement "Do Not Open Until The Time Of Bid Opening – BID BOND"

A Summary of Bids and a list of subcontractors for the apparent low bidder will be posted at the above listed website, generally within 24 hours of the Bid Opening.

The apparent lowest bidder shall submit a Cost Distribution of the bid, otherwise known as a "Schedule of Values," (refer to Section 002113 Instructions to Bidders 1.16 Post-Bid / Pre-Award Information and Requirements) within eight (8) days of the Bid Opening.

All requests for substitutions (refer to Section 012500, Substitution Procedures) and questions regarding this project shall be in writing and shall be received by the Department of Public Works and Planning, Design Division, no later than 2:00 P.M. on the tenth (10th) calendar day prior to bid opening. All substitution requests and questions received after this deadline will not receive a response unless the Department of Public Works and Planning elects to issue an addendum to revise the bid opening date. In the event that the bid opening date is revised, the deadline for questions will be extended to no later than 2:00 P.M. on the tenth (10th) calendar day before the revised bid opening date. Questions shall be submitted on the "Request for Clarification" form provided on the project website at:

<http://www.fresnocountyca.gov/Departments/Public-Works-and-Planning/Construction-Bidding-Opportunities/24-S-08-DBH-Olive-Ave-Roof-Replacement-and-Facade-Repairs/Request-for-Clarification-Form>

Any changes to, or clarification of, the Contract documents and specifications, including approved substitutions, shall be in the form of a written addendum issued to planholders of record. Questions that prompt a change or clarification shall be included in the addendum with the subsequent answer.

Any oral explanation or interpretations provided with regard to this project are not binding.

No contract will be awarded to a contractor who has not been licensed in accordance with the provisions of the Contractors State License Law, California Business and Professions Code, Division 3, Chapter 9, as amended, or whose bid is not on the proposal form included in the contract document. A valid California Contractor's License, **Class B, General Building Contractor**, is required for this project.

Bidders are required to possess asbestos certification from the Contractors State License Board and registration with the Division of Occupational Safety and Health prior to the opening of bids for this project.

Non-friable asbestos containing material (ACM) is to be removed as a part of this project, and it is anticipated that removal of ACM will not result in release of airborne

asbestos fibers to the atmosphere. This material consists of roof mastic at vent curbs and jacks.

The Contractor and their subcontractors shall comply with all applicable statutes and regulations, and all provisions of Sections 2.51, 2.52 and 2.55 of the General Conditions, regarding payment of wages, hours of work and all other labor compliance issues.

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the county, or counties, in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available at County of Fresno, Department of Public Works and Planning, 2220 Tulare Street, Sixth Floor, Fresno CA 93721-2104 and available from the California Department of Industrial Relations' Internet web site at <http://www.dir.ca.gov/DLSR/PWD>. Future effective general prevailing wage rates, which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This contract is subject to state contract nondiscrimination and compliance requirements pursuant to Government Code, Section 12990.

The Board of Supervisors hereby specifies that portions of the work can only be performed outside the regular working hours as defined in the applicable collective bargaining agreement filed with the Director of Industrial Relations in accordance with Labor Code Section 1773.1, and that the overtime requirements for Saturdays, and holidays are hereby waived for these portions of the work, as more particularly described in the specifications. However, this exemption shall not negate the overtime provisions specified in Labor Code Section 1815.

Bids are required for the entire work described herein. Bids will be compared on the basis of the total lump sum bid.

In addition to the bid bond required by law of all bidders on public works projects, the successful bidder shall furnish a faithful performance bond, a payment bond and a

warranty bond in accordance with the provisions of Section 2.36 of the General Conditions.

The successful bidder shall furnish a faithful performance bond in the amount of 100 percent of the contract amount and a payment bond in the amount of 100 percent of the contract amount. Each bond specified in this Notice (bid bond, faithful performance bond and payment bond) shall meet the requirements of all applicable statutes, including but not limited to those specified in Public Contract Code section 20129 and Civil Code section 3248.

Each bond specified in this Notice shall be issued by a surety company designated as an admitted surety insurer in good standing with and authorized to transact business in this state by the California Department of Insurance, and acceptable to the County of Fresno. Bidders are cautioned that representations made by surety companies will be verified with the California Department of Insurance. Additionally, the County of Fresno, in its discretion, when determining the sufficiency of a proposed surety company, may require the surety company to provide additional information supported by documentation. The County generally requires such information and documentation whenever the proposed surety company has either a Best's Key Rating Guide of less than **A** and a financial size designation of less than **VIII**. Provided, however, that the County expressly reserves its right to require all information and documentation to which the County is legally entitled from any proposed surety company.

Pursuant to Public Contract Code Section 22300, substitution of securities for any moneys withheld by the County of Fresno to ensure performance under the contract shall be permitted.

The Board of Supervisors reserves the right to reject any or all bids.

Board of Supervisors, County of Fresno

Paul Nerland, County Administrative Officer

Bernice E. Seidel, Clerk to the Board

Issue Date: October 1, 2024

## INSTRUCTIONS TO BIDDERS

### 1.01 EXPLANATION TO BIDDERS

An explanation desired by bidders regarding the meaning or interpretation of the bid documents must be requested in writing no later than 10 days prior to the bid opening.

Oral explanations given before the award of the contract will not be binding. Any interpretation made will be in the form of an addendum to the bid documents, said addendum will only be issued by the County's Director of Public Works and Planning ("Director"). Any addenda or supplemental information will be published on the Fresno County website at <https://www.fresnocountyca.gov/planholders> and the planholders of record will be notified.

### 1.02 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS AND SITE OF WORK

The bidder is required to examine carefully the proposal, plans, specifications, special provisions, and contract forms for submitting a proposal. It is mutually agreed that the submission of a proposal shall be considered prima facie evidence that the bidder has made such examination and is satisfied with the conditions to be encountered in performing the work and as to the requirements of the plans, specifications, and special provisions of the contract documents.

### 1.03 PROPOSAL GUARANTEE

The bidder shall furnish a proposal guarantee, consisting of a bid bond, cash, certified check, or cashier's check, for ten percent (10%) of the total amount bid, including additives.

If security is provided in the form of a certified check or cashier's check, the County may make such disposition of same as will accomplish the purpose for which submitted. Checks deposited by unsuccessful bidders will be returned as soon as practicable after the bid opening.

### 1.04 PREPARATION OF PROPOSALS

The bidder shall prepare a proposal on the blank proposal form furnished by the County.

The bidder's proposal shall be executed by the individual, by one or more partners of the partnership, or by one or more of the officers of the corporation submitting it. If the proposal is made by an individual, a name and post office address must be shown. If made by a partnership, the name of each member of the partnership must be shown. If made by a corporation, the proposal must show the name of the state under which the corporation was chartered and the name of the president, vice president, secretary and treasurer.

### 1.05 SUBCONTRACTORS

Every person submitting a bid to perform the work called for in the bid request shall set forth in this bid:

- A. The name and the location of the place of business, and the California contractor's license number, and the public works contractor registration number issued pursuant to Section 1725.5 of the Labor Code, of each subcontractor who will perform work or labor or render service to the general contractor in or about the construction of the work or improvement in an amount in excess of one-half (1/2) of one percent (1%) of the general contractor's total bid; and
- B. The portion of the work which will be done by each subcontractor.

The attention of bidders is directed to the provisions of Public Contract Code Section 4100 et seq which set forth the consequences and possible penalties which may result from a failure to comply strictly with the foregoing requirements for listing of subcontractors.

### 1.06 SUBMISSION OF PROPOSAL

#### A. Electronic Bid Submittal

The bidder has the option to submit the bid for this Project electronically. The bidder must either attach an electronic bid bond or provide an original bid bond (or other form of bid security authorized by Public Contract Code Section 20129(a)), prior to the bid opening.

Bidders submitting online may use one of the accepted electronic sureties (Tinubu Surety or Surety 2000) to submit their bid bond; or may submit cash, cashier's check, certified check, or a bidder bond to Design Services at 2220 Tulare St., Seventh Floor, Fresno, CA 93721. Those submitting bid bonds directly to Design Services must submit their bid bond:

1. Under sealed cover
2. Marked as a bid-bond
3. Identifying the contract number and the bid opening date on the cover

**If necessary, please e-mail [DesignServices@fresnocountyca.gov](mailto:DesignServices@fresnocountyca.gov) or call (559) 353-4919 or (559) 600-4543, so that arrangements may be made to hand deliver your bid bond.**

Each proposal shall be submitted in a sealed envelope labeled to clearly indicate the contract and contents.

#### B. Bid Submittal by Personal Delivery or by Mail

The bidder has the option to submit the bid by personal delivery or by mail. The bidder shall specify, on the blank Proposal form, a lump sum price in both words and figures for each bid item, including alternates, additives and supplemental items. If the bid is not submitted electronically, then all words and figures shall be written on the Proposal form in ink. In the case of a discrepancy between the prices written in words and those written in figures,

the written words shall govern. The bidder's proposal shall be signed in ink by the individual executing the bid on behalf of the bidder.

The required Proposal Guarantee must accompany the proposal.

When sent by mail, a sealed proposal must be addressed to the Fresno County Department of Public Works and Planning, Office of the Design Engineer, Sixth Floor, Fresno County Plaza Building, 2220 Tulare Street, Fresno, CA 93721. All proposals shall be filed prior to the time and at the place specified in the NOTICE TO BIDDERS. Proposals received after the time for opening of the proposals will be returned to the bidder unopened.

#### 1.07 IRREGULAR PROPOSALS

Proposals that do not conform to bid requirements may be rejected as nonresponsive. Proposals shall be considered irregular and may be rejected for various reasons, including but not limited to the following:

- A. The proposal forms furnished by the County are not used or are altered.
- B. There are unauthorized additions, conditional or alternate proposals or irregularities of any kind which tend to make the proposal incomplete or indefinite.
- C. The bidder adds any provision reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.
- D. The bid fails to contain a price for each bid component.

#### 1.08 DISQUALIFICATION OF BIDDERS

Any one or more of the following may be considered to constitute sufficient cause for disqualification of a bidder and rejection of that bidder's proposal:

- A. More than one proposal for the same work from an individual, partnership or corporation.
- B. Evidence of collusion among bidders. Participants in such collusion will receive no recognition as bidders for any future work of the County until such participant shall have been reinstated as a qualified bidder.
- C. Lack of competency or inadequate machinery, plant or other equipment as considered necessary to perform this project, as may be revealed by financial statement if required.
- D. Unsatisfactory performance record as shown by past work for the County, judged from the standpoint of workmanship and progress.
- E. Prior commitments or obligations which in the judgment of the County might hinder or prevent the prompt completion of the work.

- F. Failure to pay, or satisfactorily settle, all bills due for labor or materials which remain pending under any former contract(s) at the time of submittal of the bid for this project.
- G. Failure to comply with any prequalification requirements of the County.
- H. Failure to furnish full amount of Proposal Guarantee with bid or failure to sign bid bond.

#### 1.09 WITHDRAWAL OR REVISION OF PROPOSALS

A bidder may, without prejudice, withdraw a proposal after it has been deposited, provided the request for such withdrawal is received in writing before the time set for opening proposals. The request shall be executed by the bidder or the bidder's duly authorized representative and shall include the name of the individual authorized to receive the withdrawn proposal. Said individual shall be required to present photo identification prior to withdrawing the proposal. The bidder may then submit a revised proposal provided it is received prior to the time set for opening proposals.

#### 1.10 PUBLIC OPENING OF PROPOSALS

Proposals will be opened and read publicly at the time and place indicated in the Notice to Bidders. Bidders or their authorized agents are invited to be present.

#### 1.11 BID PROTEST PROCEDURE / RELIEF OF BIDDER

##### A. BID PROTEST PROCEDURE

Any bid protest must be submitted in writing and delivered by the Bidder by either of the following means: (1) via e-mail to [DesignServices@fresnocountyca.gov](mailto:DesignServices@fresnocountyca.gov); or (2) via certified mail, return receipt requested to the following address: Design Division, Department of Public Works and Planning, 2220 Tulare Street, Sixth Floor, Fresno, CA 93721.

The bid protest must be received no later than 5:00 p.m. of the seventh (7th) calendar day following the deadline for submittal of the specific bid document(s) placed at issue by the protest. Any Bidder filing a protest is encouraged to submit the bid protest via e-mail, because the deadline is based on the Department's receipt of the bid protest. A bid protest accordingly may be rejected as untimely if it is not received by the deadline, regardless of the date on which it was postmarked. The Bidder's compliance with the following additional procedures also is mandatory:

The initial protest document shall contain a complete statement of the grounds for the protest, including a detailed statement of the factual basis and any supporting legal authority.

The protest shall identify and address the specific portion of the document(s) forming the basis for the protest.

The protest shall include the name, address and telephone number of the person representing the protesting party.

The Department will provide a copy of the initial protest document and any attached documentation to all other Bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.

The Board of Supervisors will issue a decision on the protest. If the Board of Supervisors determines that a protest is frivolous, the party originating the protest may be determined to be irresponsible and that party may be determined to be ineligible for future contract awards.

The procedure and time limits set forth herein are mandatory and are the Bidder's sole and exclusive remedy in the event of a bid protest. Failure by the Bidder to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including the subsequent filing of a Government Code Claim or legal proceedings.

#### B. RELIEF OF BIDDER

A bidder who claims a mistake in their bid must follow the procedures in Public Contract Code Section 5100 et seq in seeking relief of their bid.

#### 1.12 AWARD OF CONTRACT

The award of the contract, if it is awarded, will be to the lowest responsible bidder whose proposal complies with all the prescribed requirements. The award, if made, will be within 54 days after the opening of proposals.

If the County finds that it will be unable to award the contract within 54 calendar days after the opening of proposals, the Director may request any or all bidders to extend all terms of their proposal(s) to a specified date. It is possible that additional extensions may subsequently be requested. If a bidder does not elect to extend the terms of their proposal beyond the 54 calendar days following opening of proposals, or does not respond within 10 days to any request for an extension, that bidder's proposal will be deemed as having expired 54 calendar days following opening of the proposals, and that bidder's proposal will not be considered for award of the contract.

The successful bidder will be notified in writing, by letter mailed to the address shown on their proposal, that their bid has been accepted and that they have been awarded the contract.

The right is reserved by the County to reject any or all proposals, to waive technicalities (such as immaterial bid irregularities), to advertise for new proposals, or to proceed to do this work otherwise, if in the judgment of the awarding authorities the best interests of the County will be promoted thereby.



### 1.13 CANCELLATION OF AWARD

The awarding authority reserves the right to cancel the award of any contract at any time before the execution of said contract by all parties without any liability against the County.

### 1.14 CONTRACT BONDS

The bidder to whom the award is made shall, within ten days, enter into a written contract with the County. The bidder shall forfeit the Proposal Guarantee in case the bidder does not follow through with execution of the written contract within ten days after the contract is awarded.

The successful bidder shall furnish a faithful performance bond in the amount of 100 percent (100%) of the contract amount and a payment bond in the amount of 100 percent (100%) of the contract amount, and one-year Warranty Bond in the amount of 10 percent (10%) of the contract amount. Said bonds shall be submitted in triplicate.

The payment bond shall contain provisions such that if the Contractor or their subcontractors shall fail to pay (a) amounts due under the Unemployment Insurance Code with respect to work performed under the contract, or (b) any amounts required to be deducted, withheld and paid over to the Employment Development Department and to the Franchise Tax Board from the wages of the employees of the Contractor and subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor, then the surety will pay these amounts. In case suit is brought upon the payment bond, the surety will pay a reasonable attorney's fee to be fixed by the court.

The contract form is attached hereto for the Contractor's information only. Execution of the contract by the successful bidder will not be required until after the bid award is made. Liability and Workers Compensation Insurance requirements shall be as set forth in the Agreement.

### 1.15 BUILDERS RISK INSURANCE

The Contractor shall obtain and maintain in force Builder's Risk Insurance against loss or damage from all perils. The policy shall cover the entire structure on which the work of this contract is to be done, up to the full insurable value thereof (except that if the contract is for remodeling, alteration, repair, or maintenance, then the policy shall cover the value of the contract therefore), including items of labor and materials connected therewith on the site, materials in place or to be used as part of the permanent construction including materials stored and partially paid for by the County as provided in Division 00-General Conditions, surplus materials, shanties, protective fences, bridges, or temporary structures, miscellaneous materials and supplies incident to the work, and such scaffolding, stagings, towers, forms and equipment as are not owned or rented by the Contractor, the cost of which is included in the cost of the work. EXCLUDED: This insurance does not cover any tools owned by mechanics, any tools, equipment, scaffolding, staging, towers, and forms owned or rented by the Contractor, the capital value of which is not included in the cost of the work, or any structures erected for the Contractor's administration of the project.

All subcontractors shall be insured to the extent of their portion of the work under the Contractor. The Contractor shall request, and is responsible to confirm with its insurer, that

the County and all subcontractors are named, both as additional insured and as additional loss payees, on the Builder's Risk insurance policy. The County, Contractor, and all subcontractors waive all rights, each against the others, for damages arising from perils covered by the insurance required under the terms of this article, except such rights as they may have to the proceeds of the Builder's Risk insurance obtained and maintained by the Contractor. The Contractor shall file a certificate of such insurance with the County upon issuance of the policy, and with any subcontractors upon its request.

#### 1.16 POST-BID / PRE-AWARD INFORMATION

Within eight (8) calendar days after bid opening, the apparent low bidder shall submit the following information to the [DesignServices@fresnocountyca.gov](mailto:DesignServices@fresnocountyca.gov):

- a. A cost distribution of the bid, with costs shown for major items of work as defined by either the project specification index, the Uniform Construction Index (UCI), or other method as appropriate for the project and approved by the Engineer.
- b. The cost distribution shall distinguish between work to be done by the bidder's own forces and work that will be subcontracted (including those who are to furnish materials or equipment fabricated to a special design); all subcontractors shall be named, regardless of the dollar amount of subcontracted work. Bidders' attention is also directed to California Public Contract Code Section 4100 et seq regarding subcontracting.

The County reserves the right to reject any proposed subcontractor, installer, or supplier who cannot show satisfactory evidence of meeting the qualifications required by the specification documents. In the event of such rejection, the apparent low bidder shall, within five working days, submit the name and qualifications of a replacement subcontractor, installer, or supplier satisfactory to the County. Such replacement submittal shall be in accordance with all specification requirements.

No adjustment of bid prices shall be made in the event of such replacement.

This information may be used in the evaluation of bids. If the project is awarded, the cost distribution will be used in determining amounts payable on progress payments and final payment.

The County may request that bidders other than the apparent low bidder submit similar cost distribution or qualification information, for the purpose of evaluating bids.

Upon completion of the bid evaluation process, cost distributions or qualification information submitted by other than the apparent low bidder will be returned upon request.

**END OF SECTION**

**BIDDERS' CHECKLIST (BUILDING CONTRACTS)**

Because of numerous technical irregularities resulting in rejected proposals for projects, the following checklist is offered for the bidders' information and use in preparing the proposal. This checklist is not to be considered as part of the contract documents. Bidders are cautioned that deleting or not submitting a form supplied in the bid documents (even if the form does not require signature) may result in an irregular bid.

**PROPOSAL/BID SHEET (Section 004213)**

Bidder name on each sheet. Price for each item including: each additive, deductive, supplemental or alternate items. Make no additions such as "plus tax", "plus freight", or conditions such as "less 2% if paid by 15th". Use ink or typewriter. Acknowledge addenda.

**BID SECURITY FORM - Read the Notices and Notes (Section 004313)**

Indicate type of bid security provided.  
Provide contract license information.

**State business name and if business is a:**

Corporation - list officers

Partnership - list partners

Joint Venture - list members

If Joint Venture members are corporations or partnerships, list their officers or partners.

Individual - list Owner's name and firm name style

**Signature of Bidder –BID MUST BE SIGNED!**

Corporation - by an officer

Partnership - by a partner

Joint Venture - by a member

Individual - by the Owner

If signature is by a Branch Manager, Estimator, Agent, etc., the bid must be accompanied by a power of attorney authorizing the individual to sign bids, otherwise the bid may be rejected.

**Business Address - Firm's Street Address**

**Mailing Address - P.O. Box or Street Address**

**BID SECURITY (PROPOSAL GUARANTEE)**

Ten percent (10%) of the total amount bid (to include supplemental or additive items).

**Type of Bid Security:**

Cash - Not recommended; cash is deposited in a clearing account and is returned to bidders by County warrant. This process may take several weeks.

Cashier's or Certified Checks - Will be held until the bid is no longer under consideration. If submitted by a potential awardee, they will be returned when the contract bonds are submitted and approved.

Bid Bonds - Must be signed by the bidder and by the attorney-in-fact for the bonding company. Signature of attorney-in-fact should be notarized and the bond should be accompanied by bonding company's affidavit authorizing attorney-in-fact to execute bonds. An unsigned bid bond will be cause for rejection. If the bid is submitted electronically, then the bidder must either attach an electronic bid bond or provide an original bid bond (or other form of bid security authorized by Public Contract Code Section 20129(a)), prior to the bid opening, as more thoroughly specified in the Instructions to Bidders, Section 1.04.A ("Electronic Bid Submittal").

**SUBCONTRACTOR LIST** (Section 004336)

One firm for each type of work to be subcontracted. Fill out as completely as possible. Name and location of place of business, California contractor's license number, public works contractor registration number issued pursuant to Section 1725.5 of the Labor Code, and description of work to be performed are required to be listed for each subcontractor in accordance with Public Contract Code section 4104.

**NON-COLLUSION DECLARATION** (Section 004519)

Must be completed, signed, and returned with bid.

**TITLE 13 CARB CERTIFICATION** (Section 004556)

Contractors, if applicable, must submit valid Certificates of Reported Compliance with their bid. Subcontractor certificates will be due no later than 4:00 PM on the fifth (5<sup>th</sup>) calendar day after the bid opening if not submitted with the bid.

**GUARANTY OF WORK** (Section 006536)

Does not need to be submitted with the bid. (Must be signed and submitted by the successful bidder together with the executed contract and requisite bonds and insurance certificates, within ten days after award of the Project.)

**OTHER**

If the bid forms have been removed from the specifications booklet, staple the pages together.

Make sure the bid envelope is sealed and shows the project name, bid package and contract number.

If the bid is mailed, allow sufficient time for postal delivery prior to the bid closing time. Bids received after the scheduled time will be returned unopened. Be sure the statement "**DO NOT OPEN UNTIL TIME OF BID OPENING**" is on the envelope.

**END OF SECTION**

## PROPOSAL TO THE COUNTY OF FRESNO

Contract: **DBH OLIVE AVENUE ROOF REPLACEMENT AND FAÇADE REPAIRS**

Contract No.: **24-S-08**

Fund / Subclass / Org / Account / Program or Memo No.: **0400 / 10072 / 8872 / 8150 / 91940**

Work to be performed: The work to be done, in general, consists of replacing the existing roof and repairing the existing exterior brick wall facade and concrete tilt-up panels of the Department of Behavioral Health building, covering approximately 115,000 square feet, located at 5555 E. Olive Avenue, Fresno, CA, 93727.

The work to be done is shown on a set of Plans, entitled: "Roof Replacement and Façade Repairs"

Building No.: **632**

Project Address:  
**5555 E. Olive Avenue  
Fresno, CA 93727**

In case of a discrepancy between words and figures, the words shall prevail.

If this proposal shall be accepted and the undersigned shall fail to contract, as aforesaid, and to give the two bonds in the sums to be determined as aforesaid, each issued by a surety satisfactory to the Awarding Authority, within ten (10) days after the award of the contract, the Awarding Authority, at its option, may determine that the bidder has abandoned the contract, and thereupon this proposal and the acceptance thereof shall be null and void, and the forfeiture of such security accompanying this proposal shall operate and the same shall be the property of the County.

The undersigned, as bidder, declares that all addenda issued with respect to this bid have been received and incorporated into this Proposal. The bidder's signature on this Proposal also constitutes acknowledgement of all addenda.

The undersigned, as bidder, declares that the only persons, or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other person, firm or corporation; that the bidder has carefully examined the annexed proposed form of contract, and the plans therein referred to; and the bidder proposes and agrees if this proposal is accepted, that the bidder will contract with the County of Fresno to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the contract in the manner and time therein prescribed, and according to the requirements of the County as therein set forth, and that the bidder will take in full payment therefor the following lump sum price, to-wit:

**BIDDER:** \_\_\_\_\_

| <b>Contract No.:</b> 24-S-08<br><b>Project:</b> DBH Olive Avenue Roof Replacement and Façade Repairs |                   |
|--|-------------------|
| <b>Lump Sum Price Written In Words</b>   | <b>In Figures</b> |
| 1.) Base Bid<br><br><br><br><br><br><br><br><br><br>_____ Dollars                                    | \$ _____          |

|                                    |             |                    |             |
|------------------------------------|-------------|--------------------|-------------|
| <b>Acknowledgment of Addendum:</b> |             |                    |             |
| Addendum No. _____                 | Dated _____ | Addendum No. _____ | Dated _____ |
| Addendum No. _____                 | Dated _____ | Addendum No. _____ | Dated _____ |

END OF PROPOSAL FORM  
**END OF SECTION**

**BID SECURITY FORM**

**CONTRACT: DBH OLIVE AVE ROOF REPLACEMENT AND FAÇADE REPAIRS**

**CONTRACT: #24-S-08**

Accompanying this proposal is security (check one only) in an amount equal to at least ten percent (10%) of the total amount of the bid:

Bid Bond ; Certified Check ; Cashier's Check ; Cash (\$ \_\_\_\_\_ )

The names of all persons interested in the foregoing proposal as principals are as follows:

Business Name \_\_\_\_\_

*Note: If bidder or other interested person is a corporation, state legal name of corporation. If bidder is a co-partnership, state true name of firm.*

Business Owners and Officers Names \_\_\_\_\_

*Note: If bidder or other interested person is:*

- a corporation, list names of the president, secretary, treasurer and manager thereof
- a partnership, list names of all individual co-partners composing firm.
- an individual, state first and last name in full.

Names of Owners and Key Employees \_\_\_\_\_

*Note: List majority owners of your firm. If multiple owners, list all. Also include anyone, including key employees, who are actively promoting the contract. (SB1439)*

Licensed in accordance with an act providing for the registration of Contractors:

Class \_\_\_\_\_ Contractor License No. \_\_\_\_\_ Expires \_\_\_\_\_

DIR Registration Number \_\_\_\_\_

Business Address: \_\_\_\_\_

Zip Code

Mailing Address: \_\_\_\_\_

Zip Code

Business Phone: (\_\_\_\_) \_\_\_\_\_ Fax Number: (\_\_\_\_) \_\_\_\_\_

Email Address \_\_\_\_\_

Signature of Bidder: \_\_\_\_\_ Dated: \_\_\_\_\_

**NOTE:** If bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation; if bidder is a co-partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign contracts on behalf of the co-partnership; and if bidder is an individual, their signature shall be placed above. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a Power of Attorney must be on file with the Owner prior to opening bids or submitted with the bid; otherwise, the bid will be disregarded as irregular and unauthorized.

**END OF SECTION**

CONTRACT # 24-S-08

**BIDDER:** \_\_\_\_\_

**SUBCONTRACTORS**

The following named subcontractor(s) will perform with labor, or otherwise render services to the general contractor in or about the construction of the work or improvement in an amount in excess of one-half of one percent of the total bid presented herewith. Submission of subcontractor's name, location of business and description of work, California contractor's license number and public works contractor registration number issued pursuant to Section 1725.5 of the Labor Code, all are REQUIRED, by Section 4104 of the California Public Contract Code, to be submitted prior to bid opening. (The "location of business" must specify the city in which the subcontractor's business is located, and the state if other than California.) All other requested information shall be submitted, either with the bid or within 24 hours after bid opening.

Please fill out as completely as possible when submitting your bid. Use subcontractor's business name style as registered with the License Board.

**FAILURE TO LIST SUBCONTRACTORS AS DIRECTED MAY RENDER THE BID NON-RESPONSIVE, OR MAY RESULT IN ASSESSMENT OF A PENALTY AGAINST THE BIDDER IN ACCORDANCE WITH SECTION 4110 OF THE CALIFORNIA PUBLIC CONTRACT CODE.**

|   |
|---|
| <p><b>SUBCONTRACTOR:</b> _____</p> <p>Business Address: _____</p> <p>Class: _____ License No. _____ DIR Registration No. _____</p> <p>Item No. or Description of Work: _____</p> <p>Dollar Amount: _____ <b>OR</b> Percentage of Total Bid: _____</p> <p>Email Address: _____</p> |
|---|

|   |
|---|
| <p><b>SUBCONTRACTOR:</b> _____</p> <p>Business Address: _____</p> <p>Class: _____ License No. _____ DIR Registration No. _____</p> <p>Item No. or Description of Work: _____</p> <p>Dollar Amount: _____ <b>OR</b> Percentage of Total Bid: _____</p> <p>Email Address: _____</p> |
|---|



**BIDDER:** \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**BIDDER:** \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**BIDDER:** \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**BIDDER:** \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**SUBCONTRACTOR:** \_\_\_\_\_

Business Address: \_\_\_\_\_

Class: \_\_\_\_\_ License No. \_\_\_\_\_ DIR Registration No. \_\_\_\_\_

Item No. or Description of Work: \_\_\_\_\_

Dollar Amount: \_\_\_\_\_ **OR** Percentage of Total Bid: \_\_\_\_\_

Email Address: \_\_\_\_\_

**CONTRACT:** DBH OLIVE AVE ROOF REPLACEMENT AND FAÇADE REPAIRS  
**CONTRACT NO.:** 24-S-08

To the Board of Supervisors, County of Fresno:

NONCOLLUSION DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH  
BID \*

The undersigned declares:

"I am the \_\_\_\_\_ of  
(Owner, Partner, Corporate Officer (list title), Co-Venturer)

\_\_\_\_\_, the party making the  
foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, and has not paid, and will not pay, any person or entity for that purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_, 2024,  
at \_\_\_\_\_, \_\_\_\_\_."  
[city] [state]

\_\_\_\_\_  
(Printed or Typed Name)

\_\_\_\_\_  
(Signature)

(See Title 23 United States Code Section 112; Calif Public Contract Code Section 7106)

\* NOTE: Completing, signing, and returning the Non-collusion Declaration is a required part of each Proposal. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

**END OF SECTION**

**TITLE 13, CALIFORNIA CODE OF REGULATIONS § 2449(I) GENERAL REQUIREMENTS  
FOR IN-USE OFF-ROAD DIESEL-FUELED FLEETS**

In conformance with Title 13 § 2449(i), bidders will be required to attach copies of valid Certificates of Reported Compliance for the fleet selected for the contract and their listed subcontractors.

Before May 15th of each year, the prime contractor must collect a new valid Certificate of Reported Compliance for the current compliance year, as defined in section 2449(n), from all fleets that have an ongoing contract with the prime contractor as of March 1 of that year. Prime contractors must not write contracts to evade this requirement. Annual renewals must be provided to the Resident Engineer at least one week prior to the expiration date of the current certificate.

<https://ww2.arb.ca.gov/resources/fact-sheets/fact-sheet-contracting-requirements>

Choose all that apply:

- Bidder's Certificate of Reported Compliance has been attached to the bid.
- Bidder does not have a fleet subject to this regulation as outlined in Section 2449(i)(1)-(4).
- Listed subcontractors' certificates have been attached or will be submitted within five (5) calendar days of the bid opening.
- The following subcontractors do not have a fleet subject to this regulation as outlined in Section 2449(i)(1)-(4):

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

**FAILURE TO PROVIDE THE CERTIFICATES OF REPORTED COMPLIANCE AS  
DIRECTED MAY RENDER THE BID NON-RESPONSIVE.**

## AGREEMENT

THIS AGREEMENT is made at Fresno, in Fresno County, California, by and between \_\_\_\_\_, hereinafter "Contractor", and the County of Fresno, hereinafter "Owner".

WITNESSETH, the Contractor and the Owner, for the consideration hereinafter named, agree as follows:

**ARTICLE I.** The Contractor agrees to furnish all labor, equipment and materials, including tools, implements, and appliances required, and to perform all the work in a good and workmanlike manner, free from any and all liens and claims of mechanics, materialmen, subcontractors, artisans, machinists, teamsters, and laborers required for:

### **DBH OLIVE AVE ROOF REPLACEMENT AND FAÇADE REPAIRS Contract No. 24-S-08**

Located at 5555 E. Olive Avenue, Fresno, California, all in strict compliance with the plans, drawings, and specifications therefore prepared by the Director of the Fresno County Department of Public Works and Planning and his authorized representatives, hereinafter called the Project Manager, and other contract documents relating thereto.

**ARTICLE II.** The Contractor and the Owner agree that the Advertisement (Notice to Bidders), the Wage Scale, the Proposal hereto attached, the Instructions to Bidders, the General Conditions of the contract, the Technical Specifications, the Drawings, and the Addenda and Bulletins thereto, the Contract Bonds and Certificates of Liability and Workers Compensation Insurance, and the Contract Change Orders, together with this Agreement form the Contract Documents, and they are as fully a part of the contract as if hereto attached or herein repeated. The Specifications and Drawings are intended to cooperate so that any work exhibited in the drawings and not mentioned in the specifications, or vice versa, is to be executed the same as if both are mentioned in the specifications and set forth in the drawings, to the true intent and meaning of the said drawings and specifications when taken together. Provided, however, that no part of said specifications that is in conflict with any portion of this Agreement, or that is not actually descriptive of the work to be done thereunder, or of the manner in which the said work is to be executed, shall be considered as any part of this Agreement, but shall be utterly null and void, and anything that is expressly stated, delineated or shown in or upon the specifications or Detailed Scope of Work shall govern and be followed, notwithstanding anything to the contrary in any other source of information or authority to which reference may be made.

**ARTICLE III.** The Contractor agrees that the work under the contract shall be completed as determined by the Owner within **ONE HUNDRED THIRTY-SEVEN (137) CALENDAR DAYS** from the date shown in the Notice to Proceed. Time of performance shall be deemed as of the essence hereof and it is agreed that actual damages to the Owner from any delay in completion beyond the date provided for herein, or any extension thereof until the work is completed or accepted, shall be all provable damages plus liquidated damages in the amount of **ONE THOUSAND 00/100 DOLLARS (\$1,000.00)** per day; that said liquidated damage was arrived at by a studied estimate of loss to the Owner in the event of a delay considering the following damage items which are extremely difficult or impossible to determine: Additional construction expense resulting from delay of completion including, but not limited to, engineering, inspection, rental and utilities; provided, however, the Owner may conditionally accept the work and occupy

and use the same if there has been such a degree of completion as shall in its opinion render the same safe, fit and convenient for the use for which it is intended and in such cases the Contractor and Surety shall not be charged for liquidated damages for any period subsequent to such conditional acceptance and occupation by the Owner but Owner may assess actual damages caused by failure of total completion during such period. The time during which the Contractor is delayed in said work by the acts or neglects of the Owner or its employees or those under it by contract or otherwise, or by the acts of God which the Contractor could not have reasonably foreseen and provided for, or by storms and inclement weather which delays the work, or by any strikes, boycotts, or like obstructive action by employee or labor organizations, or by any general lockouts or other defensive action by employers, whether general, or by organizations of employers, shall be added to the time for completion as aforesaid.

**ARTICLE IV. COMPENSATION:** The Owner agrees to make payments on account thereof as provided in the General Conditions in the total amount of \_\_\_\_\_ **AND** /100 DOLLARS (\$ \_\_\_\_\_ ) in current funds for the performance of the contract which sum is computed as follows: **TOTAL BID LUMP SUM.**

**ARTICLE V.** The Contractor and the Owner agree that changes in this Agreement or in the work to be done under this Agreement shall become effective only when written in the form of a supplemental agreement or change order and approved and signed by the Owner and the Contractor. It is specifically agreed that the Owner shall have the right to request any alterations, deviations, reductions, or additions to the contract, plans, and/or specifications and the amount of the cost thereof shall be added to or deducted from the amount of the contract price aforesaid by fair and reasonable valuations thereof.

This contract shall be deemed completed when the work is finished in accordance with all Contract Documents as amended by such changes. No such change or modification shall release or exonerate any surety upon any guaranty or bond given in connection with this contract.

**ARTICLE VI.** In the event of a dispute between the Owner or Project Manager and the Contractor as to an interpretation of any of the specifications or as to the quality of sufficiency of material or workmanship, the decision of the Project Manager shall for the time being prevail and the Contractor, without delaying the job, shall proceed as directed by the Project Manager without prejudice to a final determination by negotiation, arbitration by mutual consent or litigation and should the Contractor be finally determined to be either wholly or partially correct, the Owner shall reimburse him for any added costs he may have incurred by reason of work done or material supplied beyond the terms of the contract as a result of complying with the Project Manager's directions as aforesaid. In the event the Contractor shall neglect to prosecute the work properly or fail to perform any provisions of this contract, the Owner, after three days' written notice to the Contractor, may, without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due to the Contractor, subject to final settlement between the parties as in this paragraph hereinabove provided.

**ARTICLE VII. TERMINATION:** If the Contractor should be adjudged a bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he or any of his subcontractors should persistently violate any of the provisions of the contract, or if he should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled



workmen or proper material, or if he should fail to make prompt payment to subcontractors or for material or labor or persistently disregard laws, ordinances or the instructions of the Project Manager, then the Owner may, upon the certificate of the Project Manager, when sufficient cause exists to justify such action, serve written notice upon the Contractor and his surety of its intention to terminate the contract, such notice to contain the reasons for such intention to terminate the contract, and unless within five (5) days after the serving of such notice, such violations shall cease and satisfactory arrangements for correction thereof be made, the contract shall, upon the expiration of said five days, cease and terminate.

In the event of any such termination, the Owner shall immediately serve written notice thereof upon the surety and the Contractor, and the surety shall have the right to take over and perform the contract, provided, however, that if the surety within ten (10) days after the serving upon it of notice of termination does not give the Owner written notice of its intention to take over and perform the contract or does not commence performance thereof within the ten (10) days stated above from the date of the serving of such notice, the Owner may take over the work and prosecute the same to completion by contract or by any other method it may deem advisable for the account and at the expense of the Contractor, and the Contractor and his surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event the Owner may without liability for so doing, take possession of and utilize in completing the work, such materials, appliances, plant and other property belonging to the Contractor as may be on the site or the work and necessary therefore. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished.

If the unpaid balance of the contract price shall exceed the expense of finishing the work, including compensation for additional managerial and administrative services, such excess shall be paid to the Contractor. If such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner. The expense incurred by the Owner as herein provided, and damage incurred through the Contractor's default, shall be certified by the Project Manager.

**ARTICLE VIII.** The Contractor and his subcontractors shall comply with Sections 1770 – 1780 of the California Labor Code and the provisions of Sections 2.52 and 2.55 of the General Conditions concerning the payment of wages to all workers and mechanics, and the employment and payment of apprentices by the Contractor or any subcontractor for all work performed under this Agreement.

**ARTICLE IX.** The Contractor and his subcontractors shall comply with Sections 1810 to 1815 of the California Labor Code and the provisions of Section 2.51 of the General Conditions, concerning hours of work and payment of overtime compensation for all work performed under this Agreement.

The Board of Supervisors hereby specifies that portions of the work can only be performed outside the regular working hours as defined in the applicable collective bargaining agreement filed with the Director of Industrial Relations in accordance with Labor Code Section 1773.1, and that the overtime requirements for Saturdays, and holidays are hereby waived for these portions of the work, as more particularly described in the specifications. However, this exemption shall not negate the overtime provisions specified in Labor Code Section 1815.

**ARTICLE X. INDEMNIFICATION:** To the fullest extent permitted by law, Contractor agrees to and shall indemnify, save, hold harmless and at County's request, defend County and its officers, agents and employees, and the Project Manager and their respective officers, agents and employees, from any and all costs and expenses, attorney fees and court costs, damages,

liabilities, claims and losses occurring or resulting to County, or the Project Manager in connection with the performance, or failure to perform, by Contractor, its officers, agents or employees under this Agreement, and from any and all costs and expenses, attorney fees and court costs, damages, liabilities, claims and losses occurring or resulting to any person, firm or corporation who may be injured or damaged by the performance, or failure to perform, of Contractor, its officers, agents or employees under this Agreement. In addition, Contractor agrees to indemnify County for Federal, State of California and/or local audit exceptions resulting from non-compliance herein on the part of Contractor.

In any and all claims against the County, the Project Manager, or any of their respective officers, agents or employees, initiated by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation set forth in the immediately preceding paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefit acts.

**ARTICLE XI. INSURANCE:** Without limiting the Owner's right to obtain indemnification from Contractor or any third parties, Contractor, at its sole expense, in accordance with the provisions of Section 2.40 of the General Conditions, shall maintain in full force and effect the following insurance policies throughout the term of this Agreement, excepting only those policies for which a longer term is specified:

- A. Course of Construction (Builder's All Risk) Insurance, with scope and amount of coverage as specified in Section 2.40 E.1 of the General Conditions.
- B. Commercial General Liability Insurance, with scope and amount of coverage as specified in Section 2.40 E.2 of the General Conditions.
- C. Automobile Liability Insurance, with scope and amount of coverage as specified in Section 2.40 E.2 of the General Conditions.
- D. Professional Liability Insurance, with scope and amount of coverage as specified in Section 2.40 E.3 of the General Conditions.
- E. Worker's Compensation Insurance, with scope and amount of coverage as specified in Section 2.40 E. 4 of the General Conditions.

The Certificate of Insurance shall be issued in triplicate, to the County of Fresno, and all other participating agencies, whether or not said agencies are named herein, who contribute to the cost of the work or have jurisdiction over areas in which the work is to be performed and all officers and employees of said agencies while acting within the course and scope of their duties and responsibilities.

**ARTICLE XII. MISCELLANEOUS PROVISIONS:**

1. AUDITS AND INSPECTIONS: The Contractor shall at any time during business hours, and as often as the Owner may deem necessary, make available to the Owner for examination all of its records and data with respect to the matters covered by this Agreement. The Contractor shall, upon request by the Owner, permit the Owner to audit and inspect all of such records and data necessary to ensure Contractor's compliance with the terms of this Agreement. If this Agreement exceeds ten thousand dollars (\$10,000.00), Contractor shall be subject to the examination and audit of the Auditor General for a period of three (3) years after final payment under contract (Government Code Section 8546.7).

2. INDEPENDENT CONTRACTOR: In performance of the work, duties, and obligations assumed by Contractor under this Agreement, it is mutually understood and agreed that Contractor, including any and all of Contractor officers, agents and employees, will at all times be acting and performing as an independent contractor, and shall act in an independent capacity and not as an officer, agent, servant, employee, joint venture, partner, or associate of the Owner. Contractor and Owner shall comply with all applicable provisions of law and the rules and regulations, if any, of governmental authorities having jurisdiction over matters of the subject thereof. Because of its status as an independent contractor, Contractor shall have absolutely no right to employment rights and benefits available to Owner's employees. Contractor shall be solely liable and responsible for providing to, or on behalf of, its employees all legally-required employee benefits. In addition, Contractor shall be solely responsible and save Owner harmless from all matters related to payment of Contractor's employees, including compliance with social security, withholding, and all other regulations governing such matters. It is acknowledged that during the term of this Agreement, Contractor may be providing services to others unrelated to the Owner or to this Agreement.

3. DISCLOSURE OF SELF-DEALING TRANSACTIONS: This provision is only applicable if the Contractor is operating as a corporation (a for-profit or non-profit corporation) or if during the term of the agreement, the Contractor changes its status to operate as a corporation. Members of the Contractor's Board of Directors shall disclose any self-dealing transactions that they are a party to while Contractor is providing goods or performing services under this agreement. A self-dealing transaction shall mean a transaction to which the Contractor is a party and in which one or more of its directors has a material financial interest. Members of the Board of Directors shall disclose any self-dealing transactions that they are a party to by completing and signing a Self-Dealing Transaction Disclosure Form, attached hereto as Exhibit A and incorporated herein by reference, and submitting it to the Owner prior to commencing with the self-dealing transaction or immediately thereafter.

**ARTICLE XIII.** The Contractor represents that he has secured the payment of Workers Compensation in compliance with the provisions of the Labor Code of the State of California and Paragraphs B.3, C.3 and E.4 of Article 2.40 of the General Conditions, and will continue so to comply with such statutory and contractual provisions for the duration and entirety of the performance of the work contemplated herein.

DBH OLIVE AVE ROOF REPLACEMENT  
AND FAÇADE REPAIRS, FRESNO, CA

AGREEMENT  
SECTION 005213 - 6

This Contract, **24-S-08**, was awarded by the Board of Supervisors on \_\_\_\_\_, 2024.  
It has been reviewed by the Department of Public Works and Planning and is in proper  
order for signature of the Chairman of the Board of Supervisors.

IN WITNESS WHEREOF, they have executed this Agreement this \_\_\_\_\_ day of  
\_\_\_\_\_, 2024

\_\_\_\_\_  
(CONTRACTOR)

COUNTY OF FRESNO  
\_\_\_\_\_  
(OWNER)

\_\_\_\_\_  
(Taxpayer Federal I.D. No.)

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

By: \_\_\_\_\_

Nathan Magsig, Chairman  
of the Board of Supervisors of the  
County of Fresno

ATTEST:  
Bernice E. Seidel  
Clerk of the Board of Supervisors  
County of Fresno, State of  
California

By: \_\_\_\_\_

Deputy

FOR ACCOUNTING USE ONLY  
VARIOUS ORGS.  
0400 / 10072 / 8872 / 8150 / 91940

**END OF SECTION**

### **SELF-DEALING TRANSACTION DISCLOSURE FORM**

In order to conduct business with the County of Fresno (hereinafter referred to as "County"), members of a corporation's board of directors of the Consultant, must disclose any self-dealing transactions that they are a party to while providing goods, performing services, or both for the County. A self-dealing transaction is defined below:

*"A self-dealing transaction means a transaction to which the corporation is a party and in which one or more of its directors has a material financial interest."*

The definition above will be utilized for purposes of completing this disclosure form.

### INSTRUCTIONS

- (1) Enter board member's name, job title (if applicable), and date this disclosure is being made.
- (2) Enter the board member's company/agency name and address.
- (3) Describe in detail the nature of the self-dealing transaction that is being disclosed to the County. At a minimum, include a description of the following:
  - a. The name of the agency/company with which the corporation has the transaction; and
  - b. The nature of the material financial interest in the Corporation's transaction that the board member has.
- (4) Describe in detail why the self-dealing transaction is appropriate based on applicable provisions of the Corporations Code.
- (5) Form must be signed by the board member that is involved in the self-dealing transaction described in Sections (3) and (4).

| <b>(1) Company Board Member Information:</b>  |  |              |  |
|---|--|--------------|--|
| <b>Name:</b>  |  | <b>Date:</b> |  |
| <b>Job Title:</b>   |  |              |  |
| <b>(2) Company/Agency Name and Address:</b>   |  |              |  |
|   |  |              |  |
| <b>(3) Disclosure (Please describe the nature of the self-dealing transaction you are a party to):</b>                  |  |              |  |
|   |  |              |  |
| <b>(4) Explain why this self-dealing transaction is consistent with the requirements of Corporations Code 5233 (a):</b> |  |              |  |
|   |  |              |  |
| <b>(5) Authorized Signature</b>   |  |              |  |
| <b>Signature:</b>   |  | <b>Date:</b> |  |

**CONTRACT NO: 24-S-08**

This guaranty shall be executed by the successful bidder in accordance with Section 2.32 of the General Conditions. The bidder may execute the guaranty on this page at the time of submitting the bid or may, in the alternative, submit it with the insurance certificates and bonds within ten (10) days after award.

**G U A R A N T Y**

To the Owner: County of Fresno

The undersigned guarantees the construction and installation of the following work included in this project:

**ALL WORK**

Should any of the materials or equipment prove defective or should the work as a whole prove defective, due to faulty workmanship, material furnished or methods of installation, or should the work or any part thereof fail to operate properly as originally intended and in accordance with the plans and specifications, due to any of the above causes, all within twelve (12) months after the date on which this contract is accepted by the Owner, the undersigned agrees to reimburse the Owner, upon demand, for its expenses incurred in restoring said work to the condition contemplated in said project, including the cost of any such equipment or materials replaced and the cost of removing and replacing any other work necessary to make such replacement or repairs, or, upon demand by the Owner, to replace any such material and to repair said work completely without cost to the Owner so that said work will function successfully as originally contemplated.

The Owner shall have the unqualified option to make any needed replacement or repairs itself or to have such replacements or repairs done by the undersigned. In the event the Owner elects to have said work performed by the undersigned, the undersigned agrees that the repairs shall be made and such materials as are necessary shall be furnished and installed within a reasonable time after the receipt of demand from the Owner. If the undersigned shall fail or refuse to comply with their obligations under this guaranty, the Owner shall be entitled to all costs and expenses reasonably incurred by reason of said failure or refusal.

Name (Printed): \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Contractor: \_\_\_\_\_

**END OF SECTION**

## GENERAL CONDITIONS

### 2.01 IDENTIFICATION OF CONTRACT

- A. The Agreement shall be signed by the Contractor and the Owner.
- B. The Contract Documents are defined in ARTICLE II of the Agreement.
- C. The Contract Documents form the Contract for Construction ("Contract"). This Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification as defined above. The Contract Documents shall not be construed to create any contractual relationship of any kind between the Architect of record and the Contractor, but the Architect of record shall be entitled to performance of the obligations of the Contractor intended for their benefit and to enforcement thereof. Nothing contained in the Contract Documents shall create any contractual relationship between the Owner and any Subcontractor or Sub-subcontractor.

### 2.02 EXECUTION, CORRELATION, AND INTENT OF CONTRACT DOCUMENTS

- A. The Contract Documents are complementary and anything called for by one shall be supplied as if called for by all, providing it comes clearly within the scope of the Contract.
- B. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. Words and abbreviations that have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.
- C. Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with the local conditions under which the Work is to be performed, and has correlated personal observations with the requirements of the Contract Documents.
- D. All work and material shall be the best of the respective kinds specified or indicated. Should any workmanship or materials be required that are not directly or indirectly called for in the Contract Documents, but which nevertheless are necessary for proper fulfillment of the obvious intent thereof, said workmanship or materials shall be the same for similar parts that are detailed, indicated or specified, and the Contractor shall understand the same to be implied and provide for it in his/her tender as if it were particularly described or delineated.



### 2.03 OWNERSHIP AND USE OF DOCUMENTS

All Contract Documents and copies thereof furnished shall remain the property of the Owner. With the exception of one (1) contract set for each party to the Contract, such documents are to be returned by Contractor or suitably accounted for to the Owner upon request at the completion of the Work. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's common law copyright or other reserved rights. The Owner's use of the documents will not increase the Architect's design liability beyond the Project and the site for which the design was originally intended.

### 2.04 DEFINITIONS

The following words, or variations thereof, as used in these documents have meanings as defined:

- A. The Work – The Work comprises the completed construction required of the Contractor by the Contract Documents, and includes all labor, materials, equipment and services necessary to produce such construction, and all materials, other permits and equipment incorporated or to be incorporated in such construction.
- B. The Project – The collective improvements to be constructed by the Contractor pursuant to the construction of the Sheriff Substation, Vehicle/Evidence Storage building, parking, and associated site improvements for Fresno County.
- C. Owner – The County of Fresno, State of California, as represented by the Fresno County Board of Supervisors and so named in the Agreement. The term Owner additionally includes the Owner's authorized representative (also known as the Project Manager) for this Project.
- D. Architect of record – The Owner and his/her authorized representative, as defined in Section 2.04C, or a duly California licensed Architect.
- E. Contractor – When used in the General Conditions refers to person(s) or entity (partnership or corporation) so named in Agreement and when used in the body of the Specifications, refers to the Contractor for that specific work, whether it be the General Contractor, Subcontractor, or other Contractor. The term Contractor means the Contractor or the Contractor's authorized representative.
- F. Subcontractor – Person, persons, entity, co-partnership or corporation having direct contract with Contractor to perform any of the Work at the site. The term Subcontractor means a Subcontractor or a Subcontractor's authorized representative. The term Subcontractor does not include any separate contractor or any separate contractor's subcontractors.

- G. Sub-subcontractor – Person, persons, entity, co-partnership or corporation having a direct or indirect contract with a Subcontractor to perform any of the Work at the site (i.e. a second-tier, third-tier or lower-tier Subcontractor). The term Sub-subcontractor means a Sub-subcontractor or an authorized representative thereof.
- H. Notice to Proceed – A written notice issued by the Owner directing the Contractor to proceed with construction activities to complete the Project.
- I. Technical Specifications – Contains the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.
- J. Days – All days shall be measured in calendar days unless specifically noted otherwise in these documents or referenced codes.
- K. Year – One year shall be measured in terms of 365 calendar days.

## 2.05 SPECIFICATIONS AND DRAWINGS

- A. Precedence – Anything mentioned in the Specifications and not shown on the Drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. Subject to Section 2.02, in cases of discrepancy concerning dimension, quantity and location, the Drawings shall take precedence over the Specifications. Explanatory notes on the Drawings shall take precedence over conflicting drawn indications. Large scale details shall take precedence over smaller scale details and figured dimensions shall take precedence over scaled measurement. Where figures are not shown, scale measurements shall be followed but shall in all cases be verified by measuring actual conditions of Work already in place. In cases of discrepancy concerning quality and application of materials and non-technical requirements over materials, the specifications shall take precedence over Drawings.
- B. Division of Specifications – For convenience of reference and to facilitate the letting of independent contracts, this specification may be separated into certain sections; such separation shall not operate to oblige the Owner, Architect or Professional Consultant to establish the limits of any contract between the Contractor and Sub-Contractor each of whom shall depend upon his/her own contract stipulations. The General Conditions apply with equal force to all work, including extra work.
- C. Governing Factors – Dimensions figured on drawings shall be followed in every case in preference to scale of drawings.

- D. Discrepancies – Should the Contractor, at any time, discover a discrepancy in a drawing or specification, or any variation between dimensions on drawings and measurements at site, or any lacking of dimensions or other information, he/she shall report at once to the Project Manager requesting clarification and shall not proceed with the work affected thereby until such clarification has been made. If the Contractor proceeds with work affected by such discrepancies, without having received such clarification, he/she does so at his/her own risk. Any adjustments involving such circumstances made by the Contractor, prior to approval by the Project Manager, shall be at the Contractor's risk and the settlement of any complications or disputes arising therefrom shall be at the Contractor's sole expense and Contractor shall indemnify, hold harmless and defend Owner, Owner's representatives, and Project Manager from any liability or loss with respect to said adjustments.
- E. Scope of Drawings – The drawings shall be held to determine the general character of the Work as well as its details. Parts not detailed shall be constructed in accordance with best standard practice for work of this class, so as to afford the requisite strength and logically complete the parts they compose. Where it is obvious that a drawing illustrates only a part of a given work or of a number of items, the remainder shall be deemed repetitious and so construed. The Contractor shall be responsible for all errors made in using any drawings which have been superseded.
- F. Shop Drawings, Product Data and Samples –
1. Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or any Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the Work. Samples are physical examples that illustrate materials, equipment or workmanship, and establish standards by which the work will be judged.
  2. The Contractor shall prepare, review, approve and submit to the Project Manager, with reasonable promptness and in such sequence as to cause no delay in the Work or in the work of the Owner or any separate contractor, all Shop Drawings, Product Data and Samples required by the Contract Documents.
  3. By preparing, approving and submitting Shop Drawings, Product Data and Samples, the Contractor represents that the Contractor has determined and verified all materials, field measurements and field construction criteria related thereto, or will do so with reasonable promptness, and has checked and coordinated the information contained within such submittals with the requirements of the Work, the Project, the Work Order and the Contract Documents.

4. The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Architect's review of Shop Drawings, Product Data or Samples, unless the Contractor has specifically informed the Project Manager in writing of such deviation at the time of submission and the Architect has reviewed the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Architect's review of them.
5. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications. The cost of such certifications shall be borne by the Contractor. Owner may elect to have an independent certification performed at its own expense. The Owner shall have final approving authority for performance-based items.
6. The Contractor shall direct specific attention, in writing or on resubmitted Shop drawings, Product Data, or Samples, to revisions other than those requested by the Architect on previous submittals.
7. No portion of the Work requiring submission of a Shop Drawing, Product Data or Sample shall be commenced until the submittal has been reviewed by the Architect. All such portions of the Work shall be in accordance with reviewed submittals.
8. Submission of Shop Drawings and Samples to the Project Manager is required for only those items specifically mentioned in the Specification Sections. If Contractor submits Shop Drawings for items other than the above, the Project Manager will not be obligated to distribute or review them. Contractor shall be responsible for the procuring of Shop Drawings for his/her own use as he/she may require for the progress of the Work.
9. The term "Shop Drawings" as used herein also includes but is not limited to fabrication, erection, layout and setting drawings, manufacturer's standard drawings, descriptive literature, catalogs, brochures, performance and test data, wiring and control diagrams, all other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment or systems and the positions and layout of each conform to the Contract requirements. As used herein the term "manufactured" applies to standard units usually mass-produced, and the term "fabricated" means items specifically assembled or made out of selected materials to meet individual design requirements. Shop Drawings shall establish the actual detail of all manufactured or fabricated items; indicate proper relation to adjoining work; amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure; and incorporate minor changes of design or construction to suit actual conditions.

10. Drawings: Following Contractor's review and approval, Contractor shall submit to the Project Manager for approval four (4) minimum to six (6) maximum prints and/or PDF submission of the same information via email. (Required delivery methods and quantities of submittals will be determined at the time of the Pre-Construction Meeting.) The Project Manager will check the submittal to see if it is complete. If complete, the Project Manager will forward the drawings to the Owner and the Architect. The Architect and Owner will check the drawings and note Architect and Owner comments and affix a stamp to the drawings indicating the status of acceptance, and will return same to the Project Manager, each retaining prints for his/her records. The Architect or his/her consultants, as applicable, will review the Shop Drawings; mark the prints with required revisions; stamp the prints and indicate "No Exceptions Taken", "Make Corrections Noted", "Revise and Resubmit", "Submit Specified Item", or "Rejected", and return the prints. The Project Manager will return the prints to the Contractor. The Contractor shall then print and distribute the appropriate number of copies to his/her job personnel as required. If a drawing is stamped "Rejected" or "Revise and Resubmit", the Contractor shall correct and resubmit as outlined above. When stamped "Make Corrections Noted", or similar instructions, the Contractor shall correct and resubmit for record only, three (3) prints of each drawing. Also see Technical Specifications, Division I, General Requirements.
11. Samples: Following Contractor's review and approval, Contractor shall submit to the Architect, five (5) minimum samples of all materials in quantities and sizes as specified herein as requested by the Architect. Submittals shall be given to the Architect at a time determined by the Contractor, which allows for any necessary resubmittal and which will not cause any delay in the Work. Samples will be forwarded to the Architect. If a sample is stamped "Rejected" or "Revise and Resubmit", one sample so noted will be returned to the Contractor. The Contractor shall correct and resubmit as outlined above. If a sample is stamped "Make Corrections Noted", one sample so noted will be returned. Corrected samples shall be resubmitted for approval as per the original submittal. Also see Technical Specifications and General Requirements.
12. Brochures: Following Contractor's review and approval, Contractor shall submit to the Architect, five (5) copies of all manufacturer's catalogs or brochures as required. Brochures will be forwarded to the Architect for review. If a brochure is stamped "No Exception Taken", two (2) copies will be returned to the Contractor. If stamped "Rejected", one marked copy and two (2) unmarked copies will be returned. Corrected copies shall be resubmitted for approval as per the original submittal. Also see General Requirements.
13. Manufacturer's Instructions: Where any item or work is required by Specifications to be furnished, installed or performed in accordance with a specified product manufacturer's instructions, Contractor shall procure and distribute the necessary copies of such instructions to all concerned parties.

- G. Materials – All materials, unless otherwise specified, shall be new and of good quality, proof of which shall be furnished by the Contractor; in case of doubt as to kind or quality required, samples shall be submitted to the Architect through the Project Manager who will specify the kind and use of the material appropriate to the location and the function of the item in question. Contractor shall furnish such item accordingly. Before final payment, all material rejected by the Architect or Project Manager shall be promptly removed from the premises by the Contractor, whether or not completely installed, and promptly and properly replaced with correct materials, including any other work adjoining if disturbed, in accordance with the contract and without expense to the Owner; the Contractor also shall pay for work of other Contractors as is affected by such removals and replacements.

## 2.06 THE ARCHITECT

- A. The Owner may delegate all or a portion of its rights and responsibilities to a California licensed Architect as deemed necessary.
- B. The Architect advises the Project Manager in all aspects of the construction phase of the Project. The Architect's functions include advice and assistance to the Project Manager in the correct interpretation and application of the Contract Documents. The Architect is not authorized independently to issue Addenda, Clarifications, Field Orders, Work Authorizations, or Supplemental Work Orders, or in any other way to bind the Owner in discussions with the Contractor.
- C. The Contractor shall deliver all correspondence relating to the proper execution of the Work to the Project Manager. The Project Manager reserves the right to consult with the Architect and Owner prior to responding to the Contractor's correspondence.
- D. When discussions between the Contractor and the Project Manager occur either on the site or elsewhere, but the Architect is not present, the Project Manager reserves the right to consult with the Architect and Owner prior to issuing his/her final decision or instruction.
- E. The Architect shall review or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for conformance with the design concept of the Work and the information given in the Contract Documents. Such action shall generally be taken within ten (10) working days, however under certain circumstances such as very complex submittals or if large number of submittals are submitted at one time it may take longer. In this case the Contractor will be notified and given the opportunity to advise the Architect of priorities. The Architect's review of a specific item shall not indicate review of an assembly of which the item is a component.

## 2.07 THE PROJECT MANAGER

- A. The Project Manager is the authorized representative of the Owner in all aspects of administering the construction contract on behalf of the Owner. All communications from and to the Contractor will be channeled through the Project Manager. However, the Project Manager does not have the authority to bind the Owner in matters affecting adjustments to the time or cost of the Project as defined in the Agreement for Construction.
- B. The Project Manager will be the Owner's representative during the construction and warranty periods, and until final payment to all contractors is due. The Project Manager will advise and consult with the Owner. All instructions to the Contractor shall be forwarded through the Project Manager. The Project Manager will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified by written instrument.
- C. The Project Manager will be on site during construction to monitor the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. On the basis of on-site observations and communication with the Contractor, the Project Manager will keep the Owner informed of the progress of the Work, and will endeavor to guard the Owner against defects and deficiencies in the Work of the Contractor.
- D. The Project Manager shall at all times have access to the Work wherever it is in preparation and progress. The Contractor shall provide facilities for such access so that the Project Manager may perform its functions under the Contract Documents.
- E. Based on the Project Manager's observations, and an evaluation of the Contractor's Application for Payment, the Project Manager will determine the amount owing to the Contractor and will issue to the Owner Certificates for Payment incorporating such amount.
- F. The Project Manager will be the initial interpreter of the requirements of the Contract Documents and the initial judge of the performance hereunder by the Contractor. The Owner will have final authority of all such matters.
- G. The Project Manager will render interpretations necessary for the proper execution or progress of the Work, with reasonable promptness and in accordance with agreed upon time limits. Either party to the Contract may make written request to the Project Manager for such interpretations.
- H. Claims, disputes and other matters in question between the Contractor and the Project Manager relating to the execution or progress of the Work or the interpretation of the Contract Documents shall be referred to the Owner (or his/her designee).
- I. All interpretations and decisions of the Project Manager will be in writing or in graphic form, and shall be both consistent with the intent of the Contract Documents and reasonably inferable therefrom.

- J. The Project Manager will have the authority to reject, or recommend to the Owner the rejection, of any work that does not conform to the Contract Documents. Whenever, in the Project Manager's opinion, it is considered necessary or advisable for the implementation of the intent of the Contract Documents, the Project Manager will have authority to require special inspection or testing of the Work whether or not such work be then fabricated, installed or completed.
- K. The Project Manager will receive from the Contractor and review all Shop Drawings, Product Data and Samples, and forward same to Architect and Owner for review.
- L. Following consultation with the Owner, the Project Manager will take appropriate action on changes, and will have authority to order minor changes in the Work as provided herein.
- M. The Project Manager will conduct inspections to determine the date of Completion, and will receive and forward to the Owner for the Owner's review written warranties and related documents required by the Contract Documents and assembled by the Contractor. The Project Manager will issue a final Project Certificate for Payment upon compliance with the requirements for completion and final payment. The Project Manager will monitor the warranty for a period of 365 Calendar Days from and after the date of acceptance of the Work, unless otherwise specified as a longer term.
- N. The duties, responsibilities and limitations of authority of the Project Manager as the Owner's representative during construction, as set forth in the Contract Documents, will not be modified or extended without written consent of the Owner, the Contractor and the Project Manager, which consent shall not be unreasonably withheld. Failure of the Contractor to respond within ten (10) business days to a written request shall constitute consent by the Contractor.
- O. In case of the termination of the employment of the Project Manager, the Owner may appoint a successor Project Manager, whose status and duties under the Contract Documents shall be the same as those of the former Project Manager.

## 2.08 OWNER

- A. Information and Services Required of the Owner
  - 1. Unless otherwise provided in the Contract Documents, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for the construction, use or occupancy of permanent structures or for permanent changes in existing facilities.
  - 2. Information or services under the Owner's control shall be furnished by the Owner with reasonable promptness to avoid delay in the orderly progress of the Work.
  - 3. The Owner shall forward all instructions to the Contractor through the Project Manager.



B. Owner's Right to Stop the Work

If the Contractor fails to correct defective work as required by Section 2.42 herein or persistently fails to carry out the Work in accordance with the Contract Documents, the Owner, by a written order signed personally or by an agent specifically so empowered by the Owner in writing, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of any contractor or any other person or entity, except to the extent required by Section 2.12.C.

C. Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails after written notice from the Owner to correct such default or neglect with diligence and promptness, the Owner may, after an additional written notice and without prejudice to any other remedy the Owner may have, make good such deficiencies. In such case an appropriate Contract Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the additional services of the Architect or other professionals made necessary by such default, neglect or failure. Such action by the Owner and the amount charged to the Contractor are both subject to the prior approval of the Architect. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner, or Owner may require payment by the surety on the performance or warranty bonds as appropriate. Such action shall, in no way, affect the status of either party under contract, nor be held as a basis of any claim by the Contractor for damages or extension of time.

2.09 CONTRACTOR RESPONSIBILITIES

A. Review of Contract Documents and Field Conditions

1. The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Project Manager any discrepancy or inconsistency that may be discovered. The Contractor shall not be liable to the Owner or the Project Manager for any damage resulting from any such inconsistencies or discrepancies in the Contract Documents unless the Contractor recognized such inconsistencies or discrepancies and knowingly failed to report it to the Project Manager. The Contractor shall perform no portion of the Work at any time unless authorized by the Contract Documents or, where required, approved Shop Drawings, Product Data or Samples for such portion of the Work.

2. Neither the Owner nor the Project Manager or Architect assume any responsibility for an understanding or representation made by any of their agents or representation prior to the execution of the Agreement unless (1) such understanding or representations are expressly stated in the Agreement, and (2) the Agreement expressly provides that responsibility therefor is assumed by the Owner.
3. Failure by the Contractor to acquaint himself/herself with all available information will not relieve him/her from responsibility for estimating properly the difficulty or cost of successfully performing the Work.
4. The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Any inconsistencies or discrepancies discovered by the Contractor shall be reported to the Project Manager at once.
5. Before submitting any Request for Information (RFI), or other contractor-initiated request for information, the Contractor shall determine that the information requested is not clearly provided in the Contract Documents. RFI's shall be submitted to the Project Manager only from the Contractor, or Owner, and not from any subcontractor, supplier or other vendor, and shall be on a form approved by the Project Manager. The Contractor shall provide a revised and updated RFI Priority Schedule on a weekly basis. The RFI Priority Schedule shall rank RFI's in order of priority and include a brief statement of reason for priority. Owner initiated RFI's will not be listed on the Contractor's RFI Priority Schedule. The Owner will provide the Architect a separate list of Owner initiated RFI's upon request of the Architect. The Architect will endeavor to respect the order of priorities as requested by the Contractor or Owner for the overall benefit of the Project. The RFI process is for information and clarification only and may not be utilized to obtain approval for changes in Work Order Price or time. Also see Division 01 - General Requirements.

B. Supervision Procedures

1. The Contractor shall efficiently supervise and direct the Work, using therein the Contractor's best skill and diligence for which he/she is remunerated in the Contract Price. The Contractor shall carefully inspect the site and study and compare the Contract Documents, as ignorance of any phase of any of the features or conditions affecting the Contract will not excuse him/her from carrying out its provisions to its full intent.

2. The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during the progress of the Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be so confirmed upon written request in each case. The Superintendent who begins the Project shall remain on the Project until the Project is completed, as long as the Contractor employs that person. The Superintendent shall not be replaced without the approval of the Owner.
3. The Contractor shall be responsible to the Owner for the acts and omissions of his/her employees, subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the Contractor.
4. The Contractor shall at all times enforce strict discipline and good order among his/her employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him/her.
5. The Contractor shall not be relieved from his/her obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Owner or the Architect in his/her administration of the Contract, or by inspections, tests or approvals required or performed by persons other than the Contractor.
6. Contractor shall alert and inform their employees that State law requires that the identities of inmates/wards/patients/clients be kept confidential. Revealing the identities of inmates/wards/patients/clients is punishable by law.

C. Construction Procedures

1. Means and Methods – The Contractor shall be solely responsible for and control of construction means, methods, techniques, sequences, coordination and procedures for all the Work of this contract. Additionally, the Contractor shall be responsible for safety precautions and programs in connection with the Work.
2. Laws of County and State – The Contractor must comply with all laws, rules, regulations, provisions and ordinances of the County in which the Work is being done, and all State laws pertaining to the Work.
3. Safeguards – The Contractor shall provide, in conformity with all local codes and ordinances and as may be required, such temporary walls, fences, guard-rails, barricades, lights, danger signs, enclosures, etc., and shall maintain such safeguards until all work is completed.

4. Housekeeping – Contractor shall keep the premises free of excess accumulated debris. Clean up as required and as directed by the Project Manager. At completion of work all debris shall be removed from the site. Refer to General Requirements for additional requirements.
5. Labor and Materials – Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.
6. The Contractor shall deliver to the Project Manager, prior to final acceptance of the Work as a whole, signed certificates from suppliers of materials and manufactured items stating that such items conform to the Contract Documents.
7. The Contractor, immediately upon receipt of the Notice to Proceed (or where shop drawings, samples, etc., are required, immediately upon receipt of review thereof), shall place orders for all materials, work fabrication, and/or equipment to be employed by him/her in connection with that portion of the contracted Work. The Contractor shall keep all materials, work fabrications and/or equipment specified and shall advise the Project Manager promptly, in writing, of all orders placed and of such materials, work fabrications and/or equipment which may not be available in a timely manner for the purposes of the Contract.
8. Any worker whose work is unsatisfactory to the Owner or the Architect, or are considered by the Owner or Architect to be careless, incompetent, unskilled or otherwise unfit, shall be dismissed from work under the Contract upon written request to the Contractor from the Owner or the Architect.
9. Temporary Facilities – Contractor may connect to existing water and electricity available on the site, provided it is suitable to the Contractor's requirements. Water and electricity used will be paid by the Owner. Contractor shall bear all expenses for carrying the water or electricity to the appropriate locations and to connect or tap into existing lines. Toilet facilities may be available on a site to the workmen engaged in the performance of this contract. It shall be the responsibility of the Contractor to confirm with the Owner the availability of toilet facilities on the site. The use of such facilities may be revoked in the event of excess janitorial requirements.
10. Contractor shall not perform any fire hazardous operation adjacent to combustible materials. Any fire hazardous operation shall have proper fire extinguisher close by and the adjacent area shall be policed before stopping work for the day. Contractor shall provide not less than one OSHA/NFPA Class 6-ABC fire extinguisher for each 9,000 square feet of Project area or fraction thereof.

11. Contractor shall erect temporary dust separation partitions and floor mats as necessary to confine dust and debris within area of work. Contractor shall post signs, erect and maintain barriers and warning devices for the protection of the general public and Owner personnel.
12. Trenching and Excavation – In accordance with Section 7104 of the California Public Contract Code, the following provisions shall apply to any contract involving digging of trenches or other excavations that extend deeper than four (4) feet below the surface:
  - a. The Contractor shall promptly, and before the following conditions are disturbed, notify the Owner, in writing, of any:
    - i. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
    - ii. Subsurface or latent physical conditions at the Project site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.
    - iii. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.
  - b. The Owner shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work, shall issue a Contract Change Order in accordance with the provisions of Section 2.09 of the General Conditions.
  - c. In the event that a dispute arises between the Owner and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

## 2.10 SUBCONTRACTORS

- A. Agreements – Agreements between the Contractor, Subcontractors, and Subcontractors of lower tier shall be subject to the approval of the Owner, but in no case does such approval relieve the Contractor of any conditions imposed by the Contract Documents. The Contractor shall only use those subcontractors that are required to be listed and included in his/her sealed bid Subcontractor List, section 004336, unless any proposed substitution is first approved by the Owner pursuant to statute. The Contractor shall not use any subcontractor who is ineligible to perform work on a Public Works Project pursuant to section 1777.1 or 1777.7 of the Labor Code. Notwithstanding any other provision of the Contract Documents, subcontractors may be added, deleted or substituted only in accordance with the provisions of Public Contract Code Section 4100 et seq.
- B. Relation with Subcontractor – By an appropriate agreement, written where legally required for enforceability, the Contractor shall bind every Subcontractor and require therein that every Subcontractor agrees to be bound by the terms of the Contract Documents to carry out their provisions insofar as applicable to their work; and the Contractor further agrees to pay to each Subcontractor promptly upon issuance of Certificate of Payment, his/her or their due portion. Said agreement shall preserve and protect the rights of the Owner and the Architect under the Contract Documents with respect to the work to be performed by the Subcontractor so that the subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the Contractor-Subcontractor Agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, under the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with their Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontract, copies of the Contract Documents to which the Subcontractor will be bound by this Paragraph and identify to the Subcontractor any terms and conditions of the proposed Subcontract which may be at variance with the Contract Documents. Each Subcontractor shall similarly make copies of Contract Documents available to their Sub-subcontractors. Nothing contained herein shall be deemed to create an agency relationship between the Owner and any Subcontractor or material supplier.
- C. Owner's Relation – Neither the acceptance of the name of Subcontractor nor the suggestion of such name nor any other act of the Owner or Architect nor anything contained in any Contract Document is to be construed as creating any contractual relation between the Owner (or Owner's authorized representatives) and any Subcontractor of any tier nor as creating any contractual relation between the Architect and any Subcontractor of any tier.
- D. All Subcontractors employed by the Contractor shall be appropriately licensed in conformity with the laws of the State of California.

- E. Jurisdictional disputes between Subcontractors or between Contractor and Subcontractor shall not be mediated or decided by the Owner or the Architect. The Contractor shall be responsible for the resolution of all such disputes based upon his/her contractual relationship with his/her Subcontractors.

#### 2.11 OWNER'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS

- A. The Owner reserves the right to perform work related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other work on the site under these or similar Conditions of the Contract. If the Contractor claims that the Owner's action results in delay, damage or additional cost attributable thereto, the Contractor shall make such claim as provided elsewhere in the Contract Documents.
- B. When separate contracts are awarded for different portions of the Project or other work on the site, the term Contractor in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.
- C. The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules when directed to do so. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors, and the Owner, until subsequently revised.
- D. Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights which apply to the Contractor under the Conditions of the Contract.

#### 2.12 MUTUAL RESPONSIBILITY

- A. The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

- B. When any part of the Contractor's Work depends upon proper execution or results of the work of the Owner or any separate contractor, the Contractor shall, prior to proceeding with the Work, promptly report to the Project Manager any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acceptance of the Owner's or separate contractor's work as fit and proper to receive the Work, except as to defects which may subsequently become apparent in such work by others.
- C. If, following the reporting of any discrepancy or defect as required herein above, the Contractor suffers damage due to disruption or delay caused by the separate contractor, without fault by the Owner, the Contractor's remedy shall be limited to seeking recovery from the separate contractor.
- D. Any costs caused by defective or ill-timed work shall be borne by the Contractor responsible therefor.
- E. Should the Contractor cause damage to the work or property of the Owner, or to other work or property on the site, the Contractor shall promptly remedy such damage as provided herein.
- F. Should the Contractor wrongfully delay or cause damage to the work or property of any separate contractor, the Contractor shall, upon due notice, promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. If such separate contractor sues the Owner on account of any delay or damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor who shall defend such proceedings, and if any judgment or award against the Owner (or Owner's authorized representatives) arises therefrom, the Contractor shall pay or satisfy such judgment or award in full and shall reimburse the Owner for all costs which the Owner has incurred in connection with such matter.

#### 2.13 OWNER'S RIGHT TO CLEAN UP

If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up as required in the Contract Documents, the Owner may clean up and the contractor responsible shall pay Owner such portions of the cost as the Project Manager shall determine to be just.

#### 2.14 GOVERNING LAW

The Contract shall be governed by the law of the State of California.



## 2.15 INSPECTION

- A. All material and workmanship (if not otherwise designated by the Contract Documents) shall be subject to inspection, examination, and test by the Owner and Project Manager at any and all times during manufacture and/or construction and at any and all places where such manufacture and/or construction are carried on. The Owner and Project Manager shall have the right to reject defective material and workmanship or require its correction.
- B. The Contractor shall furnish promptly without additional charge, all reasonable facilities, labor, and materials necessary for the safe and convenient inspection and tests that may be required by the Owner and Project Manager.
- C. Where the Contract Documents, instructions by the Owner, laws, ordinances, or any public authority having jurisdiction requires work to be inspected, tested or approved before work proceeds, such work shall not proceed, nor shall it be concealed prior to inspection.
- D. The Contractor shall give the Project Manager at least two (2) business days advance notice of the readiness for any Contract compliance inspection by the Inspector. The Contractor shall give notice as required by all other inspecting and testing agencies of jurisdiction for Code and regular compliance inspection. In all cases, the Contractor shall schedule inspections so as not to delay the Work.
- E. If the Project Manager determines that any work requires additional special inspection beyond that identified in the specifications, the Project Manager will, upon written authorization from the Owner, instruct the Contractor to order such special inspection, testing or approval, and the Contractor shall give notice as provided above. If such special inspection or testing reveals a failure of the Work to comply with the requirements of the Contract Documents, the Contractor shall bear all costs thereof, including compensation for the Project Manager's additional services, testing or inspections made necessary by such failure; otherwise the Owner shall bear such costs, and an appropriate Contract Change Order shall be issued.
- F. Should it be considered necessary or advisable by the Project Manager at any time, either before acceptance of the entire Work, or after acceptance and within the guaranty period, to make an examination of work already completed, by removing or tearing out same, the Contractor shall on request promptly furnish all necessary facilities, labor, and material. If such work is found to be defective in any material respect, due to the fault of the Project Manager or his/her Subcontractors, he/she shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, any compensation deemed appropriate shall be handled by issuance of a Contract Change Order to the Contractor and he/she shall, in addition, if completion of the work has been delayed thereby, be granted a suitable extension of time on account of the additional work involved.
- G. Required certificates of inspection, testing, or approval shall be secured by the Contractor and the Contractor shall promptly deliver them to the Project

Manager for review and evaluation of compliance with the appropriate specifications and standards.

- H. When the work is completed, the Contractor shall notify the Project Manager in writing that the work will be ready for final inspection and test on a definite date, which shall be stated in such notice.

2.16 TAXES, PERMITS, FEES, AND INDEMNIFICATION FOR PATENT INFRINGEMENT CLAIM

- A. The Contractor shall pay for and include all Federal, State, and local taxes direct or indirect for the work or portions thereof provided by the Contractor which are legally enacted at the time the Notice to Proceed is issued, whether or not yet enacted, and secure and pay all fees and charges for permits and licenses, unless otherwise specified.
- B. Royalty and license fees incidental to the use of any patented material, device, or process shall be paid by the Contractor and in the event of a claim of alleged infringement of patent copyright, or Trade Secret rights, the Contractor shall indemnify, save the Owner (and Owner's authorized representatives) free and harmless, and defend, at the Contractor's own expense, any and all suits that may be brought in such connection.
- C. Unless otherwise provided in the Contract Documents, the Owner shall secure and pay for the building permit, permanent utility connection fees, and right-of-way encroachment permit. The Contractor shall secure and pay for temporary construction utilities, and all other permits and governmental fees, licenses, and inspections necessary for the proper execution and completion of the Work.
- D. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the Work.
- E. It is not the responsibility of the Contractor to make certain that the Contract Documents are in accordance with applicable laws, statutes, building codes and regulations. If the Contractor observes that any of the Contract Documents are at variance therewith in any respect, the Contractor shall promptly notify the Project Manager in writing, and any necessary changes shall be accomplished by appropriate Modification.
- F. If the Contractor performs any work knowing it to be contrary to any laws, ordinances, rules, and regulations, without notice to the Project Manager, the Contractor shall assume full responsibility therefor and shall bear all costs attributable thereto.
- G. Any reference in the Contract Documents to codes, standard specifications, or manufacturer's instructions, shall mean the latest printed edition of each in effect at the Contract date.

## 2.17 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Within thirty (30) calendar days after receipt of Notice to Proceed, the Contractor shall submit a Construction Schedule in CPM (Critical Path Method) form to the Project Manager for approval. The Construction Schedule shall be sufficiently detailed to accurately depict all the work required by the Contract. CPM Construction Schedule shall reflect shop drawings; submittals due and return dates, fabrication and delivery times, cost loading, crew mix, and equipment loading data. The Contractor shall thereafter adhere to the Construction Schedule, as updated monthly, or as necessary in accordance with the Contract Documents, including any scope changes or changes in the work approved by the Owner during the course of construction. "Slack" or "float" time on the CPM Construction Schedule is not intended, and shall not be, for the sole benefit of either the Owner or Contractor.
- B. Within fourteen (14) calendar days after the pre-construction conference, the Contractor shall provide a Submittal and Procurement Schedule indicating time periods for review of Shop Drawings, Data, Samples, and procurement of material and equipment required for the Work. Contractor shall allow time for submittal review in accordance with the General Requirements Section – Construction Progress Documentation. All items that require review by the Project Manager and/or are not readily available from stock and requiring more than thirty-five (35) days lead-time shall be included in the Submittal and Procurement Schedule. Items listed in the Submittal and Procurement Schedule shall also be identified as activities on the CPM Construction Schedule. Contractor shall identify items requiring coordination with work of separate contractors. The working day to calendar date correlation shall be based upon the Contractor's proposed work week with adequate allowance for legal holidays, days lost due to abnormal weather, and any special requirements of the Project.
- C. The Construction Schedule shall be prepared and maintained by the Contractor.
- D. The Owner, Project Manager, Contractor, and other Contractor(s) shall jointly review the progress of the work weekly. Should this review, in the opinion of the Project Manager, indicate that the work is behind the schedule established by currently reviewed Construction Schedule, the Contractor shall either (a) provide a plan to the Project Manager indicating the steps the Contractor intends to take in order to recover the time behind schedule and conform to the reviewed Construction Schedule; or (b) submit a revised Construction Schedule for completion of the work, remaining within the contract completion time, to the Project Manager for review by the next weekly meeting. If the Contractor's recovery or revised schedule requires work to occur during other than normal working hours, the Contractor will be responsible for any resulting costs incurred by the Owner, including but not limited to, the costs for construction management, contract administration, inspection, testing, and staffing.

- E. The Contractor shall deliver copies of his/her daily job logs to the Project Manager and Owner on a weekly basis or as otherwise agreed to by Owner. At a minimum, the Contractor's daily job log should include the sub-contractors working onsite, number of workers and their trade classification, description of work, visitors, temperature and weather conditions, accidents, delays, and any other important information pertaining to the Project that day. The Contractor will schedule and coordinate the Work of all sub-contractors on the Project. The Contractor will keep the Sub-contractors informed of the Construction Schedule to enable the Contractor to plan and perform the Work properly.

#### 2.18 RECORDS, DOCUMENTS, AND SAMPLES AT THE SITE

- A. The Contractor shall maintain all records of required Review Agencies, County, or State inspections, and shall promptly notify the Project Manager of the results of any inspection. Copies of all such records shall be provided to the Owner.
- B. The Contractor shall secure and maintain required certificates of inspection, testing, or approval and shall promptly deliver them to the Project Manager.
- C. The Contractor shall maintain at the Project site, on a daily basis, one (1) record copy of all Drawings, Specifications, Addenda, Change Orders, and other Modifications, in good order and marked currently to record all changes made during construction, and reviewed Shop Drawings, Product Data, and Samples. These shall be available to the Project Manager and the Owner and reviewed weekly, and shall be delivered to the Project Manager for forwarding to the Owner upon completion of the Project. The Contractor shall advise the Project Manager on a current basis of all changes in the Work made during construction. Payment may be withheld from Contractor for failure to maintain current Record Documents.

#### 2.19 USE OF SITE

- A. The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits, and the Contract Documents, and shall not unreasonably encumber the site with any materials or equipment.
- B. The Contractor shall coordinate all of the Contractor's operations with, and secure approval from, the Project Manager before using any portion of the site. Also see Technical Specifications, Division 01, General Requirements.

#### 2.20 CUTTING AND PATCHING OF WORK

- A. The Contractor shall be responsible for all cutting, fitting, or patching that may be required to complete the Work or to make its several parts fit together properly.

- B. The Contractor shall not damage or endanger any portion of the Work or the work of the Owner, or any separate contractors by cutting, patching or otherwise altering any work, or by excavation. The Contractor shall not cut or otherwise alter the work of the Owner or any separate contractor except with the written consent of the Owner and of such separate contractor. The Contractor shall not unreasonably withhold from the Owner or any separate contractor consent to cutting or otherwise altering the Work.
- C. The Contractor in all cases shall exercise extreme care in any cutting operations, and perform such operations under adequate supervision by competent mechanics skilled in the applicable trade. Openings shall be neatly cut and shall be kept as small as possible to avoid unnecessary damage. Careless and/or avoidable cutting damage, etc., will not be tolerated, and the Contractor will be held responsible for such avoidable or willful damage.
- D. All replacing, patching, and repairing of all materials and surfaces cut or damaged in the execution of the Work shall be performed by experienced mechanics of the several trades involved. All work of such nature shall be done with the applicable materials, in such a manner that all surfaces so replaced, repaired, or patched, will, upon completion of the Work, match the surrounding similar surfaces.

#### 2.21 CLEANING UP

- A. The Contractor shall at all times keep the premises free from accumulation of waste materials or rubbish caused by the Contractor's operations. At the completion of the Work, the Contractor shall remove all the Contractor's waste materials and rubbish from and about the Project as well as all the Contractor's tools, construction equipment, machinery and surplus materials.
- B. If the Contractor fails to clean up at the completion of the Work, the Owner may do so, and the cost thereof shall be paid by the Contractor.

#### 2.22 INDEMNIFICATION

- A. To the fullest extent permitted by law, Contractor agrees to and shall indemnify, save, hold harmless and at Owner's request, defend Owner and its officers, agents and employees, and the Architect and Consultants and their respective officers, agents and employees, from any and all costs and expenses, attorney fees and court costs, damages, liabilities, claims and losses occurring or resulting to Owner, the Architect or Consultants in connection with the performance, or failure to perform, by Contractor, its officers, agents or employees under this Agreement, and from any and all costs and expenses, attorney fees and court costs, damages, liabilities, claims and losses occurring or resulting to any person, firm or corporation who may be injured or damaged by the performance, or failure to perform, of Contractor, its officers, agents or employees under this Agreement. In addition, Contractor agrees to indemnify Owner for Federal, State of California and/or local audit exceptions resulting from non-compliance herein on the part of Contractor.

- B. In any and all claims against the Owner, the Architect or Consultants, or any of their respective officers, agents or employees, initiated by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation set forth in the immediately preceding paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workmen's compensation acts, disability benefit acts or other employee benefit acts.

## 2.23 FAIR EMPLOYMENT PRACTICES CLAUSE

Nondiscrimination: In connection with the performance of Work under the contract, the Contractor agrees (as prescribed in Chapter 6 of Division 3 of Title II of the Government Code of the State of California, commencing at Section 12900 and by Labor Code Section 1735) not to discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, or sex. The aforesaid provisions shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post hereafter in conspicuous places, available for employees and applicants for employment, Notices to be provided by the County, setting forth the provisions of this discrimination clause. The Contractor further agrees to insert the foregoing provisions in all subcontracts hereunder, except subcontracts for standard commercial supplies of raw materials.

## 2.24 PAYMENT

### A. CONTRACT SUM

The Contract Sum is stated in the Owner-Contractor Agreement ("the Agreement"), Section 005213, and, including authorized adjustments thereto, is the total amount payable by the Owner to the Contractor for the performance of the Work under the Contract Documents.

### B. SCHEDULE OF VALUES

Before the first Application for Payment, and within eight (8) days of the bid opening, the Contractor shall submit to [DesignServices@fresnocountyca.gov](mailto:DesignServices@fresnocountyca.gov) a Schedule of Values allocated to the various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Project Manager may require. This schedule, unless objected to by the Project Manager, shall be used only as a basis for the Contractor's Applications for Payment.

C. APPLICATIONS FOR PAYMENT

The Owner will make progress payments to the Contractor upon completion of portions of the Work, as covered by the Contract Documents, in accordance with established Owner procedures. Before submitting an Application for Payment (Final or Partial), the Contractor shall reach an agreement with the Project Manager (in consultation with the Architect) concerning the percentage complete of the Work and the dollar value for which the Application for Payment may be submitted.

1. On or about the twentieth (20<sup>th</sup>) day of the month in which the work was performed, the Contractor shall submit to the Project Manager an itemized Application for Payment, notarized if required, supported by such data substantiating the Contractor's right to payment as the Owner or the Project Manager may require, including appropriate updates to the Construction Schedule, and reflecting retainage, if any, as provided elsewhere in the Contract Documents. Payment is expressly conditioned upon submission by the Contractor of conditional and unconditional waivers and release of lien rights upon progress payment as the Owner or the Architect may require. Waiver and Release forms must be submitted on forms approved by the Owner. Copies of said forms shall comply with Civil Code Section 8132 through 8138, inclusive.
2. Unless otherwise provided in the Contract Documents, payments may be made on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site and, if approved in advance by the Owner, payments may similarly be made for materials or equipment suitably stored at some other location agreed upon in writing. Payments for materials or equipment stored on or off the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner's title to such materials or equipment or otherwise protect the Owner's interest, including applicable insurance and transportation to the site for those materials and equipment stored off the site.
3. The Contractor warrants that title to all work, materials, and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the construction or upon receipt of payment by the Contractor, whichever occurs first, free and clear of all liens, stop notices, claims, security interest or encumbrances, hereinafter referred to as "liens"; and that no work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.
4. On or about the twentieth (20<sup>th</sup>) day of the month following the month in which the work was performed, the Owner shall pay to the Contractor ninety-five percent (95%) of the value of said work in place, as checked and approved by the Project Manager. The balance of five percent (5%) of the estimate shall be retained by the Owner until the time of

final acceptance of said work. In lieu of the five percent (5%) retainage, the Contractor may substitute securities as provided herein below.

- a. If the Owner does not pay the Contractor within thirty (30) days after receipt of an undisputed and properly submitted payment request for a progress payment, excluding that portion of the final payment designated by the contract as retention earnings, then the Owner shall pay interest to the Contractor as provided by Public Contract Code Section 20104.50. Said interest penalty is the sole recourse of Contractor and Contractor shall have no right to stop the Work until payment of the amount owing has been received, nor shall the contract completion time be extended, nor shall the Contract Sum be increased in any way, including by reason of any costs incurred by Contractor, except to the extent of said interest payment.
  - b. Pursuant to Public Contract Code Section 7107, in the event of a dispute between the Owner and Contractor, the Owner may withhold from the final payment an amount not to exceed one hundred and fifty percent (150%) of the disputed amount. Except as so provided, the Owner shall release the retention withheld within sixty (60) days after the date of completion of the Work, as "completion" is defined in Public Contract Code Section 7107. In the event that retention payments are not made within the time periods required by Public Contract Code Section 7107, the Owner may be subject to the interest provisions of Public Contract Code Section 7107.
5. Security Substitutions and Escrow for Moneys Withheld to Insure Contractor's Performance. Pursuant to Public Contract Code section 22300, the Contractor may deposit in an escrow, equivalent securities for any moneys withheld to ensure performance and have said moneys paid directly to Contractor, or, in the alternative, have the Owner deposit such moneys directly into an escrow. Upon the closing of any such escrow, Contractor shall pay to each Subcontractor, not later than twenty (20) days after receipt of the closing payment, the respective amount of interest earned, net of costs attributed to retention withheld from each Subcontractor, on the amount of retention withheld to insure the performance of the Contractor. Any escrow established pursuant to this article shall be with a state or federally chartered bank, shall be at the sole expense of the Contractor, and shall be established using an escrow agreement in substantially the following form:



(Begin Escrow Agreement)

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**ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION**

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This Escrow Agreement is made and entered into by and between the County of Fresno, (hereinafter called "Owner"), \_\_\_\_\_, (hereinafter called \_\_\_\_\_ "Contractor"); and \_\_\_\_\_, a state or federally chartered bank in California, (hereinafter called "Escrow Agent").

For the consideration hereinafter set forth, the Owner, Contractor, and Escrow Agent agree as follows:

1. Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by Owner pursuant to the Construction Contract entered into between the Owner and Contractor for \_\_\_\_\_ in the amount of \$ \_\_\_\_\_, and dated \_\_\_\_\_ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the Owner shall make payments of the retention earnings directly to the Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the Owner within ten (10) days of the deposit. The market value of the securities at the time of the substitution, as valued by the Owner, shall be at least equal to the cumulative total cash amount then required to be withheld as retention under the terms of the contract between Owner and Contractor. If the Owner determines that the securities are not adequate, it will notify Contractor and Escrow Agent, and Contractor shall deposit additional security as further determined by the Owner. Securities shall be held in the name of the Owner and shall designate the Contractor as the beneficial owner.
2. Securities eligible for investment under subdivision (c) of the above-referenced Section 22300 shall include those listed in Section 16430 of the Government Code, and shall also include bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, and standby letters of credit. Deposit of any other type of security may be permitted only by mutual agreement of the Contractor and the Owner, evidenced by an amendment to this agreement executed by all of the parties hereto.
3. Upon the deposit of adequate securities, Owner shall make progress payments to the Contractor for such funds which otherwise would be withheld from progress payments pursuant to the Contract provisions.
4. When the Owner, at Contractor's written request, makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until such time as the escrow created under this contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the Owner pays the Escrow Agent directly.

5. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account and all expenses of the Owner. The Owner, Contractor, and Escrow Agent shall determine these expenses and payment terms.
6. The interest earned on the securities, or the money market accounts held in escrow, and all interest earned on that interest, shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the Owner.
7. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from Owner to the Escrow Agent that Owner consents to the withdrawal of the amount sought to be withdrawn by Contractor.
8. The Owner shall have the right to draw upon the securities or any amount paid directly to Escrow Agent in the event of default by the Contractor. Upon seven (7) days written notice to the Escrow Agent from the Owner of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash, including any amounts paid directly to Escrow Agent, as instructed by the Owner. Escrow Agent shall not be concerned with the validity of any notice of default given by Owner pursuant to this paragraph, and shall promptly comply with Owner's instructions to pay over said escrowed assets. Escrow Agent further agrees not to interplead the escrowed assets in response to conflicting demands and hereby waives any present or future right of interpleader.
9. Upon receipt of written notification from the Owner certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payment of fees and charges.
10. Escrow Agent shall rely on the written notifications from the Owner and Contractor pursuant to Sections (6), (7), (8), and (9) of this Agreement and the Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.
11. The venue of any litigation concerning the rights and obligations of the parties to this agreement shall be the County of Fresno and the parties hereto waive the removal provisions of Code of Civil Procedure Section 394.
12. The names of the persons who are authorized to give written notice or to receive written notice on behalf of the Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

**On Behalf of Owner:**

Title – **Business Manager**

Name – **Lemuel Asprec**

Signature \_\_\_\_\_

Address: **2220 Tulare St, 6<sup>th</sup> Floor  
Fresno, CA 93721**

**On behalf of Contractor:**

Title

Name

Signature \_\_\_\_\_

Address:

**On behalf of Escrow Agent:**

Title

Name

Signature

Address

At the time the Escrow Account is opened, the Owner and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Agreement

IN WITNESS WHEREOF, the parties have executed this Agreement by their proper officers on the date first set forth above.

**Owner:**

Title – **Steve White, Director**

**Department of Public Works  
and Planning**

Signature \_\_\_\_\_

Address – **2220 Tulare St, 6<sup>th</sup> Floor  
Fresno, CA 93721**

**Contractor:**

Title

Name

Signature \_\_\_\_\_

Address

**Escrow Agent:**

Title

Name

Signature

Address

\_\_\_\_\_  
(End Escrow Agreement)

6. Itemized Breakdown: The Contractor shall submit a financial breakdown of the work, itemized by crafts or sections as designated by the Owner. The Contractor's payment shall be based upon the monthly percentage of completion of these items.
7. Lien Waivers: The Owner may require the Contractor to submit, along with the progress payment request, notarized lien waivers from each Subcontractor, materials, or equipment supplier. Lien waivers shall comply with Civil Code Section 8132, et seq., and the aggregate sum thereof shall reflect all progress payments previously made.

D. CERTIFICATES FOR PAYMENT

1. The Project Manager shall, within seven (7) days after the receipt of the Project Application for Payment, review the Project Application for Payment and either issue a Project Certificate for Payment to the Owner for such amounts as the Project Manager determines are properly due, or notify the Contractor in writing of the reasons for withholding a Certificate provided in Part F of this Section 2.24.
2. The issuance of a Project Certificate for Payment will constitute a representation by the Project Manager to the Owner that, based on the Project Manager's observations at the site as provided herein and the data comprising the Project Application for Payment, the Work has progressed to the point indicated and that, to the best of the Project Manager's knowledge, information and belief, the quality and timeliness of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Completion of the Work, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in the Certificate); and that based upon all currently available information, the Contractor is entitled to payment in the amount certified. However, by issuing a Project Certificate for Payment, the Project Manager shall not thereby be deemed to represent that the Project Manager has made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, has reviewed the construction means, methods, techniques, sequences, or procedures, or has made any examination to ascertain how or for what purpose the Contractor has used the monies previously paid on account of the Contract Sum.

E. PROGRESS PAYMENTS

1. After the Project Manager has issued a Project Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents.

2. The Contractor shall promptly pay each Subcontractor upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's Work, the amount to which Subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to the Contract on account of such Subcontractor's Work. The Contractor shall, by an appropriate agreement with each Subcontractor, require each Subcontractor to make payments to their Sub-subcontractors in similar manner.
3. The Project Manager may on request of any Subcontractor, at the Project Manager's discretion, furnish to that Subcontractor, if practicable, information regarding the percentages of completion or the amounts applied for by the Contractor and the action taken thereon by the Project Manager on account of Work done by such Subcontractor.
4. Neither the Owner nor the Project Manager shall have any obligation to pay or to see to the payment of any monies to any Subcontractor or Material Suppliers except as may otherwise be required by law.
5. Neither certification of a progress payment, delivery of a progress payment, nor partial or entire use or occupancy of the Project by the Owner, shall constitute an acceptance of any Work not performed in accordance with the Contract Documents.

F. PAYMENTS WITHHELD

1. The Project Manager may decline to certify payment and may withhold the Certificate in whole or in part to the extent necessary to reasonably protect the Owner, if, in the Project Manager's opinion, the Project Manager is unable to make representations to the Owner as provided herein above for Certificates for Payment. If the Project Manager is unable to make representations to the Owner and certify payment in the amount of the Project Application, the Project Manager will notify the Contractor as provided herein. If the Contractor and the Project Manager cannot agree on a revised amount, the Project Manager will promptly issue a Project Certificate for Payment for the amount for which the Project Manager is able to make such representations to the Owner. The Project Manager may also decline to certify payment or, because of subsequently discovered evidence or subsequent observations, the Project Manager may nullify the whole or any part of any Project Certificate for Payment previously issued to such extent as may be necessary, in the Project Manager's opinion, to protect the Owner from loss because of:
  - a. Defective Work not remedied;
  - b. Third party claims filed or reasonable evidence indicating probable filing of such claims, including claims by separate contractors;
  - c. Failure of the Contractor to make payments properly to Subcontractors, or for labor, materials or equipment;
  - d. Architect's determination, based upon reasonable evidence, that the Work cannot be completed for the unpaid balance of the Contract Sum;

- e. Damage to the Owner or another contractor;
  - f. Architect's determination, based upon reasonable evidence, that the Work will not be accomplished in compliance with the Work Order Completion Time;
  - g. Persistent failure to carry out the Work in accordance with the Contract Documents;
  - h. Failure of the Contractor to submit Construction Schedules or Submittal and Procurement Schedules as required;
  - i. Failure of the Contractor to maintain record drawings on a current basis;
  - j. Failure of the Contractor to submit notarized lien waivers from each Subcontractor, materials, or equipment supplier;
  - k. Failure of the Contractor to submit certified payroll reports;
  - l. Stop notice served upon the Owner.
2. A retention in the amount of one-thousand dollars (\$1,000) will be withheld from the Contractor's monthly progress payment for each and every required document not submitted in a timely manner by the Contractor or its subcontractors up to a maximum of ten-thousand dollars (\$10,000). For purposes of this Paragraph, the term "required document" includes, but is not limited to, certified payrolls, labor compliance documents, Disadvantaged Business Enterprise documents, and any other information or documents required to be submitted by the Contractor or any of its subcontractors under the terms of this Agreement or pursuant to applicable federal, state, or local laws or regulations. The retention provided for in this Paragraph shall be in addition to any other deduction or retention allowed under this Agreement, and shall be in addition to any other remedy or consequence provided by law for untimely submission of any required document. Such retention shall remain in effect only until such time as the required documents have been submitted by the Contractor or its subcontractor(s) and have been determined by the Owner to be both complete and acceptable as to form.
3. When the grounds as noted above are removed, payment shall be made for amounts withheld on the basis thereof.

G. COMPLETION AND FINAL PAYMENT

1. Following the Contractor's completion of the Work, the Contractor shall forward to the Project Manager a written notice that the Work is ready for final inspection and acceptance, and shall also forward to the Project Manager a final Application for Payment. Upon receipt, the Project Manager will promptly make such inspection. When the Project Manager finds the Work acceptable under the Contract documents and the Contract fully performed, the Project Manager will issue a Project Certificate for Payment which will certify the final payment due the Contractor. This certification will constitute a representation that, to the best of the Project Manager's knowledge, information and belief, and on the basis of observations and inspections, the Work has been completed in accordance with the Terms and Conditions of the Contract Documents and that the entire balance found to be due the Contractor, and noted in said Certificate, is due and payable. The Project Manager's certification of said Project Certificate for Payment will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment as set forth herein below have been fulfilled.
2. Neither the final payment nor the remaining retainage shall become due until the Contractor submits to the Project Manager (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might in any way be responsible, have been paid or otherwise satisfied, (2) consent of surety, if any, to final payment, and (3) other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as may be designated by the Owner. If any Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against any such lien. The bond cannot be from the original surety insurer for the Project or any affiliate of the original surety. If any such lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such lien.
3. All provisions of this Agreement, including without limitation those establishing obligations and procedures, shall remain in full force and effect notwithstanding the making or acceptance of final payment, and the making of final payment shall not constitute a waiver of any claims by the Owner.
4. Upon completion and acceptance of all work whatsoever required, and upon the release of all claims against the Owner as specified, the Owner shall file a written Notice of Completion with the County Recorder as to the entire amount of work performed.

5. Final payment will be released within sixty (60) days after the date of acceptance of the Work as reflected in the Notice of Completion filed with the County Recorder's Office; provided, that Owner may withhold from the final payment, in the event of a dispute between Owner and Contractor, retentions in, and amount not exceeding, one hundred fifty percent (150%) of the disputed amount. At the Contractor's option, the Owner may release retention upon receipt of an unconditional lien release for the full value of the Work and any of its Contract Change Orders.
6. All manufacturers' warranties required by the Contract Documents shall commence on the date of the Notice of Completion for the Work. It shall be the Contractor's responsibility, through appropriate contractual arrangements with all subcontractors, materialmen, and suppliers, to ensure compliance with this requirement.
7. The acceptance by the Contractor of the final payment, after the date of Notice of Completion of the Project, shall be and shall operate as a release to the Owner of all claims and of all liability to the Contractor, under the Contract Documents or otherwise, for all things done or furnished in connection with this Work, excepting only the Contractor's claims for interest upon final payment, if such final payment be improperly delayed. No payments, however, final or otherwise, shall operate to release the Contractor or his/her sureties from any obligations under the Contract Documents, including but not limited to the Performance and Payment Bonds.

## 2.25 CHANGES TO THE WORK

- A. The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletion, or other revisions. All such changes in the Work shall be authorized by a Contract Change Order, and shall be performed under the applicable conditions of the Contract Documents.
- B. **CONTRACT CHANGE ORDER:** A Change Order issued to add or delete Work from the Contract. Only an executed Contract Change Order will effectuate change in either the Contract Sum and/or the contract time. A Change Order is a written order to the Contractor dually signed to show both the approval of the Architect and Authorization of the Owner, issued after execution of the Contract. A Change Order signed by the Contractor indicates the Contractor's agreement therewith, including any adjustment in the Contract Sum or the contract time, and the full and final settlement of all costs (direct, indirect, and overhead) related to the Work authorized by the Change Order.
- C. All claims for additional compensation to the Contractor shall be presented in writing before the expense is incurred, and will be adjusted as provided herein. No work shall be allowed to lag pending such adjustment, but shall be promptly executed as directed, even if a disputed claim arises. No claim will be considered after the work in question has been done unless a Contract Change Order has been issued or a timely written notice of claim has been made by Contractor.



- D. Costs mean an itemized breakdown of all labor (by crafts), materials, sales taxes, equipment rentals, etc., for each portion of the Work which comprises the Change Order including any Subcontractor's itemized breakdown, plus not more than twenty percent (20%) to cover all profits and administration.
1. Under no circumstance will the total sum of allowable mark up for General Conditions, General Requirements, supervision, overhead (excluding small tools) and profit, exceed a cumulative total of twenty percent (20%), including markups for all parties involved in a change.
    - i. Work done by Contractor's own forces, not including bond and insurance premiums, shall not exceed a cumulative total of fifteen percent (15%);
    - ii. Work done by subcontractors, all tiers, including bond and insurance premiums, if any, shall not exceed a cumulative total of fifteen percent (15%);
    - iii. General Conditions, General Requirements, Supervision, Overhead and Profit for Contractor on Subcontractor's work, shall not exceed a cumulative total of five percent (5%).
  2. The cost or credit to the Owner resulting from a change in the Work shall be determined in one or more of the following ways:
    - i. By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
    - ii. By unit prices state in the Contract Documents or subsequently agreed upon;
    - iii. By cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
    - iv. By the method provided under Article 2.26.
- E. The amount of credit to be allowed by the Contractor to the Owner, as confirmed by the Project Manager, for any deletion or change that results in a decrease in the Contract Sum will be the amount of the actual cost. When both additions and credits covering related Work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase, if any, with respect to that change.

2.26 CHANGES TO THE CONTRACT (EXTRA WORK AT FORCE ACCOUNT)

- A. If none of the methods set forth in Section 2.25.D, is agreed upon, the Contractor, provided that a written order signed by the Owner is received, shall promptly proceed with the Work involved. The cost of such Work shall then be determined by the Project Manager, on the basis of reasonable expenditures or savings of those performing the Work attributable to the change, including, in the case of an increase in the Contract Sum, not more than twenty percent (20%) for all overhead and profit. In such case, and also under Section 2.25.D, Paragraph 3, the Contractor shall keep and present, in such form as the Owner or the Project Manager may prescribe, an itemized accounting of actual cost together with appropriate supporting data for inclusion in a Contract Change Order. Unless otherwise provided in the Contract Documents, cost shall be limited to the following:
1. Labor Cost is the cost of labor for the workers (including working foremen) used in the actual and direct performance of the extra work, whether employed by the Contractor, or Subcontractors and Specialized Forces of any tier. Labor Cost shall include:
    - a. Actual Wages paid to the works, plus employer payments to or on behalf of the workers for health and welfare, pension, vacation, and training. If required by the Project Manager, certified payrolls shall be submitted with extra work reports as verification of wages paid to the workers.
    - b. A Labor Surcharge of twenty percent (20%) (thirty five percent (35%) for demolition work and roofing work) will be added to the Actual Wages as defined above. The Labor Surcharge shall constitute full compensation for all payments imposed by State and Federal laws, including Workers Compensation Insurance, Social Security, and Unemployment Insurance.
    - c. Subsistence and Travel Allowance if actually paid to the workers. Labor Surcharge will not be added to Subsistence and Travel Allowance.
  2. Equipment Cost is the payment made for the equipment actually used in the performance of the extra work.
    - a. Equipment valued at three hundred dollars (\$300) or less shall be considered as small tools, and no payment will be made therefor.
    - b. Equipment costs will be paid in accordance with the rental rates listed in the "Cal-Trans Equipment Rental Rates, County of Fresno, Department of Public Works and Planning," in effect at the time of bid, available from the Department, Suite 711, Fresno County Plaza Building, 2220 Tulare Street, Fresno, CA 93721.

- c. In the event that any of the equipment to be used is not listed in the above publication, the rental rate shall be agreed upon in writing by the Contractor and CM before the extra work is begun.
3. Materials Cost is the payment made for materials incorporated into the Work.
  - a. Materials Cost shall include sales tax, freight, and delivery charges, less any available discounts whether or not said discounts are taken.
  - b. Materials Cost shall be based upon supplier's or manufacturer's invoice. If invoices or other satisfactory evidence of cost are not furnished within sixty (60) days of delivery or within fifteen (15) days after acceptance of the Contract, whichever occurs first, then the Project Manager shall determine the Materials Cost, in his/her sole discretion, on the basis of available information and on his/her considered experience.
4. Specialized Services are those services or items of extra work that, by agreement of the Contractor and the Project Manager, cannot be performed by forces of the Contractor or his/her Subcontractors, and may be performed by a specialist.
  - a. Specialized Services may be paid for by invoice if the established practice of the specialized force industry does not provide complete itemization of Labor, Equipment, and Materials Costs.
5. Markup for Profit, Home Office and Field Office Overhead, Bond Premium, insurance, taxes, and supervision will be added to the total of Labor Cost, Equipment Cost, Materials Cost, and Specialized Services.
  - a. Markup will be added only once on any Extra Work at Force Account, regardless of the number of contractors and subcontractors involved.
  - b. It is recognized that individual contractors and subcontractors have different overhead costs, profit requirements, and bond premium rates. The amount to be added to Extra Work for markup shall include compensation for profit, overhead and bond premium without distinguishing among these items.
  - c. The markup to be added for Extra Work at Force Account on this Project shall be fifteen percent (15%) plus 1-1/2% for Performance and Payment Bonds for Contractor only.

6. Records shall be maintained by the Contractor and Subcontractors in such a manner as to provide a clear distinction between the costs of Extra Work paid for on a forced account basis and the costs of other operations. From these records, the Contractor shall furnish the Project Manager a completed extra work report for each day's extra work to be paid for on a force account basis. Extra work reports shall itemize the materials used, equipment rental charges, and specialized services costs, and shall provide names or identifications and classifications of workmen, the hourly rate of pay, and hours worked. Extra work reports shall be compiled and submitted to the Project Manager daily for verification and signature. Extra work reports shall be signed by the Contractor or his/her authorized representative.
7. If the Contractor disputes the Architect's cost determination, the Contractor may initiate a claim in compliance with the Claims and Disputes Resolution provisions of these General Conditions.

## 2.27 SITE CONDITIONS

- A. Where investigations have been conducted by the Owner of existing conditions on a site, including subsurface conditions, such investigations are made for the purpose of design only and for the information of bidders. The results of such investigations represent only the statement by the Owner as to the circumstance and character of materials actually encountered by the Owner during the investigations. The Owner makes no guarantee or warranty, express or implied, that the conditions indicated are representative of conditions existing throughout the site of a Project or any part of it, or that unanticipated conditions might not occur.
- B. All excavation work shall be performed on an "unclassified basis"; that is, such work shall include the removal of all material encountered including earth or rock formations, regardless of the type or hardness thereof, or groundwater conditions in the excavation, the cost of such excavations being included in the Contract Sum. Unclassified excavation Work includes drilling or blasting operations.
- C. If site conditions are discovered that materially differ from previous information that the Contractor has received, and that could not have been discovered by the Contractor through prudent and reasonable investigation prior to developing the Contract Sum for the Work, the Contractor shall be compensated for additional costs incurred in working with the unknown site conditions, but only to the extent that such previously unknown and undiscoverable site conditions cause the Contractor to incur costs in addition to the Contract Sum for that portion of the Work. The Contractor must be able to demonstrate clearly the original Contract Sum for that portion of the Work (plus any Contract Change Orders applicable to that portion of the Work) and the additional costs incurred as a direct result of the unknown site conditions. Only additional costs over and above the amount of the Contract Sum for that portion of the Work will be compensated upon a recommendation of approval by the Project Manager.

## 2.28 REQUEST FOR EQUITABLE ADJUSTMENT

- A. If the Contractor considers a Request for Equitable Adjustment is justified for any increase in the contract time, the Contractor shall promptly, upon first observance of the condition giving rise to the request, provide the Project Manager and Owner written notice of such condition and circumstance. This notice shall be given by the Contractor before proceeding to execute the Work, except in emergency endangering life or property, in which case the Contractor shall proceed in accordance with the Emergency provisions of these General Conditions. No such request shall be valid unless so made. A Contract Change Order shall be required to authorize any change in the contract time resulting from such request for equitable adjustment.
- B. If the Contractor requests that additional cost or time is involved because of, but not limited to, (1) any written interpretation pursuant to Section 2.07.G, (2) any order by the Owner to stop the Work pursuant to Section 2.08 where the Contractor was not at fault, or any such order by the Project Manager as the Owner's agent, (3) any written order for a minor change in the Work issued pursuant to Section 2.29, the Contractor shall make such request for equitable adjustment as provided in Section 2.28.A.

## 2.29 MINOR CHANGES IN THE WORK

The Project Manager will have authority to order minor changes in the Work not involving an adjustment in the Contract Sum or extension of the contract time and not inconsistent with the intent of the Contract Documents. Such changes shall be enacted by written order issued through the Project Manager, and shall be binding on the Owner and the Contractor. The Contractor shall carry out such written orders promptly.

## 2.30 SUCCESSORS AND ASSIGNS

The Owner and the Contractor, respectively, bind themselves, their partners, successors, assigns, and legal representatives to the other party hereto and to the partners, successors, assigns, and legal representatives of such other party with respect to all covenants, agreements, and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other.

### 2.31 ASSIGNMENT OF MONEYS

The Contractor shall not assign moneys due or to become due him/her under the contract without the written consent of the Auditor-Controller of Fresno County. Any assignment of moneys shall be subject to all proper set-offs in favor of the County of Fresno and to all deductions provided for in the contract and particularly all money withheld, whether assigned or not, shall be subject to being used by the County of Fresno for the completion of the work in the event that the Contractor should be in default therein.

### 2.32 GUARANTEE OF WORK

- A. The Contractor warrants to the Owner that all materials and equipment and the Work as a whole furnished under this Contract will be new unless otherwise specified, and that all Work will be of good quality, free from faults and defects, and in conformance with the Contract Documents, for a period of 365 Calendar Days from the date of acceptance of the Work as specified in the Notice of Completion, unless a longer period is otherwise specified. All manufacturer's warranties required by the Contract Documents shall commence on the date of the filing of the Notice of Completion for the Work (which date necessarily will follow the performance under separate contracts). It shall be the Contractor's responsibility, through appropriate contractual arrangements with all subcontractors, materialmen, and suppliers, to ensure compliance with this requirement. All Work not conforming to these requirements, including substitutions not properly reviewed and authorized, may be considered defective. If required by the Project Manager, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.
- B. If repairs or changes are required in connection with guaranteed work within any guaranteed period, which, in the opinion of the Project Manager is rendered necessary as the result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the Contract Documents, the Contractor shall, promptly upon receipt of notice from the Owner, and without expense to the Owner, (1) place in satisfactory condition in every particular all of such guaranteed work, correct all defects therein; and (2) make good all damage to the building or site, or equipment or contents thereof, which, in the opinion of the Project Manager, is the result of the use of materials, equipment, or workmanship which are inferior, defective, or not in accordance with the Contract Documents; and (3) make good any work or materials, or the equipment and contents of said building or site disturbed in fulfilling any such guarantee.
- C. If the Contractor disturbs any work guaranteed under another contract in fulfilling the requirements of the contract or of any guarantee, embraced in or required thereby, he/she shall restore such disturbed work to a condition satisfactory to the Project Manager and guarantee such restored work to the same extent as it was guaranteed under such other contract.
- D. The Owner may have the defects corrected if the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee and the Contractor and his/her surety shall be liable for all costs and expenses incurred in connection therewith.

- E. All special guarantees applicable to definite parts of the work that may be stipulated in the Contract Documents shall be subject to the terms of this Article 2.32 during the first (1<sup>st</sup>) year (365 Calendar Days) of the life of such special guarantee.

### 2.33 RESPONSIBILITY FOR DAMAGE

- A. Neither the Owner, the Architect, nor any officer or employee of the County, or officer or employee thereof, within the limits of which the work is being performed, shall be answerable or accountable in any manner, for any loss or damage that may happen to the work or any part thereof; or for any of the materials or other things used or employed in performing the work; or for injury to any person or persons, either workmen or the public, for damage to property from any cause which might have been prevented by the Contractor, or his/her workmen, or anyone employed by him/her, against all of which injuries or damages to persons and property the Contractor having control over such work must properly guard.
- B. The Contractor shall be responsible for any liability imposed by law for any damage to any person or property resulting from defects or obstructions or from any cause whatsoever during the progress of the work or at any time before the issuance of the Notice of Completion.
- C. The Contractor shall indemnify and hold harmless the Owner, the Project Manager, the Architect, and all of their respective officers and employees, from all claims, lawsuits or actions of every kind and nature whatsoever, brought for, or on account of any injuries or damages received or sustained by any person or persons, resulting from any act or admission by the Contractor or his/her servants or agents, in the construction of the work or by or in consequence of any negligence in guarding the same, in improper materials used in its construction, or by or on account of any act or omission of the Contractor or his/her agents in the performance of Contractor's obligations under the Contract Documents. In addition to any remedy authorized by law, so much of the money due the Contractor under and by virtue of the contract as shall be considered necessary by the Owner may be retained by the Owner until disposition has been made of such claims, lawsuits, or actions for damages as aforesaid.

### 2.34 WRITTEN NOTICE

Subject to any additional requirements that may be applicable to claims under the immediately following Article 2.35 RESOLUTION OF CONTRACT CLAIMS AND DISPUTES, formal service, when required, of written notice shall be deemed to have been duly served if delivered in person, to the individual or member of the firm or entity or to an officer of the corporation for whom it was intended, or if sent by registered or certified mail to the listed address of that entity for the attention of such individual.

## 2.35 RESOLUTION OF CONTRACT CLAIMS AND DISPUTES

- A. A Claim is a demand or assertion, sent by registered mail or certified mail with return receipt, requested by one (1) of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time, or a request for equitable adjustment or Contract Change Order which cannot be resolved per provisions of Section 2.25 - CHANGES TO THE WORK. Any Claim shall be reduced to writing and filed with the Project Manager, within ten (10) calendar days after the Contractor has notice of the condition giving rise to the Claim, and final action per Section 2.25 - CHANGES TO THE WORK procedures has taken place or has been declared as such in writing, by either party. Such ten (10)-day notice of an asserted claim is in addition to the requirement for prompt notice required per Section 2.25 - CHANGES TO THE WORK.
- B. The Contractor shall not claim or recover any overhead cost administrative or otherwise, particularly 'Home Office' expenses, 'Extended site overhead', or any other overhead cost on the basis of any 'Home Office' damages formula, 'Eichleay' formula, 'Total Cost' recovery formula or any other such formula.
- C. REQUIREMENTS FOR FILING A CLAIM. Claims shall be submitted to the Project Manager. Claims must be filed within the time specified above, but in no event shall any claim be considered by the Project Manager that is filed later than the date of final payment of the Project. The claim shall be in writing and shall be a sum certain, if known. If unknown, Contractor shall specify the basis for establishing the sum certain. Claim shall include a statement of the reasons for the asserted entitlement and include the documents necessary to substantiate the claim. Such documents may include, but are not limited to, payroll records, purchase orders, quotations, invoices, estimates, subcontracts, daily logs, supplier contracts, subcontract billings, bid takeoffs, equipment rental invoices, ledgers, journals, daily reports, job diaries, and any documentation related to the requirements of Section 2.25 - CHANGES TO THE WORK. In the case of a continuing delay, only one (1) claim is necessary. If adverse weather conditions are the basis for a claim for additional time, such claim shall be documented by data substantiating that weather conditions were abnormal for the period of time and could not have been reasonably anticipated, and that weather conditions had an adverse effect on the critical activities on the construction schedule. The Contractor shall certify, at the time of submission of a claim, as follows:



"I, \_\_\_\_\_, being the \_\_\_\_\_ (MUST BE AN OFFICER) of \_\_\_\_\_ (GENERAL CONTRACTOR), declare under penalty of perjury under the laws of the State of California, and do personally certify and attest that: I have thoroughly reviewed the attached claim for additional compensation and/or extension of time, and know its contents, and said claim is made in good faith; the supporting data is truthful and accurate; the amount requested accurately reflects the contract adjustment for which the Contractor believes the Owner is liable; and, further, that I am familiar with California Penal Code Section 72 and California Government Code Section 12560, et seq, pertaining to false claims, and further know and understand that submission or certification of a false claim may lead to fines, imprisonment and/or other severe legal consequences."

By: \_\_\_\_\_  
(Contractor's signature) (Date)

D. Nothing in this Article is intended to extend the time limit or supersede notice requirements otherwise provided by this contract or by applicable law for the filing of claims. Any formal claim shall be processed in accordance with the provisions of Public Contract Code Section 9204 and Section 20104 et. seq., each of which establishes a process for resolution of claims, the provisions of which are consistent with and effectively summarized by the following:

1. The Owner (or his/her designee), shall review the facts pertinent to the claim, obtain additional information deemed necessary for a decision (if any), review recommendations of the Project Manager, coordinate with the contract administrator (if any), and secure assistance from legal and other advisors, and render a written decision on the claim within forty-five (45) days of receipt of the claim. If additional information or documentation is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the Owner (or his/her designee) and claimant. The Owner's (or his/her designee's) written response to the claim, as supplemented by any additional information and/or documentation provided by claimant, shall be submitted to the claimant within fifteen (15) days after receipt of the further information and/or documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.

a. For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the Owner (or his/her designee), shall respond in writing to all written claims within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the Owner (or his/her designees) may have against the claimant.

2. If the claimant disputes the written response of Owner (or his/her designee), or Owner fails to respond within the time prescribed, the claimant may so notify the Owner (or his/her designee), in writing, either within fifteen (15) days of receipt of the Owner (or his/her designee's) response or within fifteen (15) days of the Owner (or his/her designee's) failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the Owner (or his/her designee) shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute.
3. Within ten (10) business days following conclusion of the meet and confer conference, any unpaid portion of the claim remaining in dispute shall be submitted to nonbinding mediation, as that term is defined by Public Contract Code Section 9204(d)(2)(C).
4. If following the conclusion of the meet and confer conference and mediation process, the claim or any portion thereof remains in dispute, the claimant may file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his/her written claim pursuant to subdivision (a) until the time the claim is denied, including any period of time utilized by the meet and confer conference and mediation process as described in the immediately preceding Paragraphs 2 and 3 of this Section D.
5. In the event of any perceived conflict between the summary of the procedure set forth in this Article and the actual provisions of the Public Contract Code Section 9204 and Section 20104, et seq., the statutory provisions shall control; and in the event of any perceived conflict between the provisions of Section 9204 and Section 20104, et seq., the provisions of Section 9204 shall control.

E. PROCEDURES FOR CIVIL ACTIONS TO RESOLVE DISPUTED CLAIMS.  
Non-binding Mediation: Within sixty (60) days, but no earlier than thirty (30) days, following the filing of a responsive pleading, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation by both parties. The mediation process shall provide for the selection within fifteen (15) days by both parties of a disinterested third person as mediator, shall be commenced within thirty (30) days of the submittal, and shall be concluded within fifteen (15) days from the commencement of the mediation unless a time requirement is extended upon a good cause shown to the court. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

Judicial Arbitration: If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of the code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this

subsection consistent with the rules pertaining to judicial arbitration. Arbitrators shall be experienced in construction law.

Appeals: As provided by statute (specifically Public Contract Code section 20104.4(b)(3) and Code of Civil Procedure section 1141.21), any party appealing an arbitration award who does not obtain a more favorable judgment shall, in addition to payment of costs and fees, also pay the attorneys' fees on appeal of the other party.

- F. CLAIMS AND DISPUTES EXEMPT FROM FILING REQUIREMENTS. The requirements and procedures imposed by this Article do not apply to:
1. Any claims by the Owner; or
  2. Any claim for or respecting personal injury or death or reimbursement or other compensation arising out of or resulting from liability for personal injury or death; or
  3. Any claim or dispute relating to stop payment requests or stop notices; or
  4. Any claim or dispute related to the approval, refusal to approve, or substitution of Subcontractors, regardless of tier, and suppliers.
- G. PAYMENT OF UNDISPUTED PORTION OF CLAIM. Owner shall pay claimant such portion of a claim that is undisputed except as otherwise provided in the contract.
- H. CONTINUE WORK DURING DISPUTE. In the event of any disputed claim or other dispute between the Owner and the Contractor, the Contractor will not stop work but will prosecute the work diligently to completion in his/her manner directed by the Owner, and the dispute shall be resolved by a court of law after completion of the Work. However, Contractor must submit all disputes in accordance with the provisions of this Section 2.35.
- I. SUIT IN FRESNO COUNTY ONLY. Any litigation arising out of this Contract shall be brought in Fresno County and Contractor hereby waives the removal provisions of California Code of Civil Procedure Section 394.
- 2.36 PERFORMANCE BOND, LABOR AND MATERIAL PAYMENT BOND, AND WARRANTY BOND
- A. The Contractor shall furnish Performance Bond in the amount of one hundred percent (100%) of the Contract Sum, and Payment Bond in the amount of one hundred percent (100%) of the Contract Sum and One Year Warranty Bond in the amount of ten percent (10%) of the Final Contract Sum, which is the cumulative amount that will have been paid to Contractor for all of the Work performed under the Contract once the Project has been completed and the Work has been accepted by the County.

- B. All bonds required, whether Bid bonds, Performance, Payment, Warranty, or other bonds, shall be issued by an admitted surety insurer authorized by the California Insurance Commissioner to transact surety insurance in the state. The same admitted surety insurer must issue the Bid Bond, Performance Bond, Payment Bond, and Warranty Bond. The payment, performance, and warranty bonds required by these specifications will neither be accepted nor approved by the Owner unless the bonds are underwritten by an admitted surety and the requirements of California Code of Civil Procedure section 995.630 are met. The bonds must include a physical mailing address, phone number, and contract person for the admitted surety insurer. The Owner further reserves the right to satisfy itself as to the acceptability of the surety and the form of bond. Upon request of the Owner, the bidder must submit the following documents:
1. The original, or a certified copy, of the unrevoked appointment, power of attorney, bylaws, or other instrument authorizing the person who executed the bond to do so.
  2. A certified copy of the certificate of authority of the insurer issued by the California Insurance Commissioner.
  3. A certificate from the county clerk that the certificate of authority has not been surrendered, revoked, canceled, annulled, or suspended, or in the event that it has, that renewed authority has been granted.
  4. A financial statement of the assets and liabilities of the insurer to the end of the quarter calendar year prior to thirty (30) days next preceding the date of the execution of the bond, in the form of an officers' certificate as defined in Corporations Code section 173.

## 2.37 RIGHTS AND REMEDIES

- A. The duties and obligations imposed by the Contract Documents and the rights and remedies available hereunder shall be in addition to, and not a limitation of, any duties, obligations, rights, and remedies otherwise imposed or available by law.
- B. No action or failure to act by the Owner, or by the Project Manager or Architect, regarding any deficiency, breach, or default in performance by the Contractor under the Contract Documents, shall be deemed or construed to constitute acquiescence of the Owner in connection therewith or with regard to any subsequent deficiency, breach, or default in performance by the Contractor; nor shall any such prior act of failure to act by or on behalf of Owner be deemed or construed as a waiver of any rights in favor of Owner regarding any such deficiency, breach, or default in performance by the Contractor, regardless of the similarity to the prior incident or circumstance when no action was taken regarding any alleged deficiency, breach, or default in performance by the Contractor.

2.38 TIME, DELAYS, AND LIQUIDATED DAMAGES

A. DEFINITIONS

1. Unless otherwise provided, the contract time is the period of time allotted in the Contract Documents for completion of the Work, including authorized adjustments thereto.
2. The Date of Commencement of the Work is the date established in the Notice to Proceed.
3. The Date of Completion of the Work is the date on which the work is certified as complete by the Project Manager as specified in the Notice of Completion.
4. The term "day" as used in the Contract Documents shall mean calendar day unless specifically designated otherwise.

B. PROGRESS AND COMPLETION

1. Time is of the essence regarding all time limits stated in the Contract Documents. By executing the Agreement, the Contractor confirms that the contract time is a reasonable period for performing the Work.
2. The Contractor shall begin the Work on the Date of Commencement. The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required herein to be furnished by the Contractor. The Date of Commencement of the Work shall not be changed by the effective date of such insurance.
3. The Contractor shall carry the Work forward expeditiously with adequate forces and shall achieve Completion of the Work within the contract time.

C. DELAYS AND EXTENSIONS OF TIME

1. Delays in prosecution of parts or classes of the Work that are not demonstrated to prevent or delay completion of the entire Project or specific milestones within the contract time are not "unavoidable delays" for purposes of this section.
2. In all cases, the time authorized for extension of the contract time shall be no greater than the number of days directly attributable to the event or circumstances which causes unavoidable delay in the completion of the Project. Contractor shall be entitled, in the case of unavoidable delays, to an extension in the contract time, but not to any increase to the Contract Sum. "Unavoidable delay" for this purpose shall be defined as follows:

- a. Unavailable Materials. That materials or articles called for in the Contract Documents are not obtainable within the time required for timely completion; provided that such materials or articles were listed by the Contractor in the schedule required by Section 2.17 - CONTRACTOR'S CONSTRUCTION SCHEDULE; that the Contractor demonstrates that the unavailability of the materials is in fact the cause for the delay, and could not have been avoided by an appropriate adjustment in the Construction Schedule; and that the unavailability of such materials is due to circumstances beyond the Contractor's control. If good cause for delay is demonstrated pursuant to this subsection, the Owner, at its sole discretion, may grant a time extension.
- b. Force Majeure. That delays in construction have resulted from circumstances beyond the control of the Contractor and which the Contractor could not have provided against by the exercise of reasonable care, prudence, foresight, and diligence. Unavoidable delays within the meaning of this subparagraph shall be those caused by acts of God, war, insurrection, civil disorder, fire, floods, epidemic, or strikes.
- c. Unseasonable Weather. An extension of contract time may be granted due to weather which is unsuitable for the Work currently in progress, upon the determination of the Owner that the weather conditions in fact caused the delay in completion of the Project and that such weather conditions were not, and could not in the exercise of reasonable diligence, have been foreseen by the Contractor. Seasonable weather that, in the exercise of reasonable foresight and diligence, should be expected in the area at the time of year in question is not cause for an extension of time.
- d. Time Extensions Due to Contract Change Orders or Work Authorizations. A time extension may be granted due to additional work that results in a delay in the Project caused by the approval by the Owner of a Contract Change Order or Work Authorization. The Contractor shall be entitled to a contract time extension Change Order only when the extra Work is demonstrated by the Contractor to have caused a delay in the Project.
- e. Owner-Caused Delays. In the event that the Project is delayed by acts of the Owner not authorized by the Contract Documents which the Contractor demonstrates will or have caused an unavoidable delay, the Contractor shall be entitled to a contract time Change Order to offset the extra time incurred by the Contractor. The Contractor will not be entitled to adjustments in the Contract Sum. Extra time shall be limited to that which is directly identified as critical by the delay.

4. The Contractor specifically agrees that a time extension as provided herein is its sole remedy for Owner-caused delays, and agrees to make no claim or demand for additional damages, nor claim an acceleration of the time for performance.
5. The Contractor shall not be entitled to any contract time extension nor Contract Sum adjustment for alleged Owner delays if the Owner has acted within the time limits specified by the Contract Documents.

D. NOTICE OF DELAYS

1. Contractor shall notify the Project Manager promptly whenever the Contractor foresees any event or circumstance that may delay the prosecution of the Work and in Contractor's opinion may provide grounds for an extension, and shall in any event notify the Project Manager immediately upon the occurrence of any such delay. The Contractor shall take immediate steps to prevent, if possible, the occurrence or continuance of the delay. If this cannot be done, the Project Manager shall determine how long the delay shall continue and to what extent the prosecution and completion of the Work are being delayed thereby. Such notification shall specify with detail the cause asserted by the Contractor to constitute grounds for an extension. Failure of the Contractor to submit such a notice within ten (10) days after the initial occurrence of the event giving rise to the delay shall constitute a waiver by the Contractor of any request for a time extension, and no extension shall be granted as a consequence of such delay.
2. If the Contractor believes that the delay in prosecution in the Work will result in an unavoidable delay in completion of the entire Project, the Contractor shall submit evidence to support that belief, together with its request for a time extension. Such evidence shall include a demonstration that the delayed portion of the Work will affect the Critical Path Scheduling of the entire Project. The Contractor shall also submit a proposed revised Construction Schedule, which accounts for the delay in completion of the entire Project caused by the delay in prosecution of part of the Project, and includes a revised Critical Path demonstrating how the Project will be completed within the proposed revised contract time.

E. INVESTIGATION; PROCEDURE

1. Upon receipt of a request for Time extension, the Project Manager shall conduct an investigation of the facts asserted by the Contractor to constitute grounds for an extension. The results of this investigation shall be reported by the Project Manager to the Contractor and shall indicate whether he/she will recommend for or against such extension to the Owner. The performance of this investigation by the Project Manager shall not be construed as direction or recommendation to the Contractor regarding scheduling of the work. Scheduling this work is the sole responsibility of the Contractor.

2. The Project Manager may, in his/her sole discretion, defer this recommendation to allow the accumulation of time extensions due to Work Authorizations into a periodic or final Contract Change Order request.
3. Upon receiving the Project Manager's recommendation to the Owner regarding the Contractor's request for a time extension, the Contractor may either withdraw its application for extension, or request that it be scheduled for action by the Owner. If the Owner disallows the request, there shall be no allowance made for the time during which the request was pending, and the Contractor shall remain obligated to complete the Work in the time specified.
4. If the Owner approves the time extension Contract Change Order, the new Construction Schedule submitted by the Contractor and approved by the Owner shall be deemed to amend the original Construction Schedule approved by the Owner; thereafter, the amended Construction Schedule shall have the same force and effect as the originally approved Progress Schedule.
5. The revised Construction Schedule must be submitted within seven (7) calendar days of the date on which the Owner approves the change.
6. The Contractor agrees that the Owner's determination as to the existence of grounds for an extension, and the duration of any such extension, shall be final and binding upon both Owner and Contractor.

F. DISCRETIONARY TIME EXTENSION FOR BEST INTEREST OF OWNER

1. The Owner reserves the right to extend the contract time for completion of the Work if the Director of Public Works and Planning or designee determines that such extension is in the best interest of the Owner.
2. In the event that such discretionary extension is made at the request of the Contractor, the Owner shall have the right to charge to the Contractor all or any part, as the Board may deem proper, of the actual cost to the Owner for engineering, inspection, supervision, contract administration, incidental, and other overhead expenses that accrue during the period of such extension, and to deduct all or any portion of such amounts from the final payment for the Work.
3. In the event such extension is ordered over the objection of the Contractor, the Contractor shall be entitled to a Contract Change Order adjusting the price paid to reflect the actual costs incurred by the Contractor as a direct and proximate result of the delay, upon his/her written application therefor, accompanied by such verification of costs as the Project Manager requires. Only additional direct costs incurred at the site will be reimbursable by Contract Change Order.



G. LIQUIDATED DAMAGES

1. If the Work is not completed by Contractor in the time specified in the Work Order, or within any period of extension authorized pursuant to this Article, the Contractor acknowledges and admits that the Owner will suffer damage, and that it is impracticable and infeasible to fix the amount of actual damages. Therefore, it is agreed by and between the Contractor and the Owner that the Contractor shall pay to the Owner as fixed and liquidated damages, and not as a penalty, the sum specified in Section 005213, Agreement, Article III for each calendar day of delay until the Work is completed and accepted, and that both the Contractor and the Contractor's surety shall be liable for the total amount thereof, and that the Owner may deduct said sums from any monies due or that may become due to the Contractor.
2. This liquidated damages provision shall apply to all delays of any nature whatsoever, save and except only unavoidable delays approved by the Owner pursuant to the provisions of Article 2.38.C.2 hereinabove, or discretionary time extensions approved by the Board of Supervisors pursuant to the provisions of Article 2.38.F hereinabove.

H. EXTENSION OF TIME NOT A WAIVER

1. Any extension of contract time granted pursuant to this Article shall not constitute a waiver by the Owner, nor a release of the Contractor, from his/her obligations to perform the Work within the allotted contract time.
2. Granting of a time extension due to one (1) circumstance on one (1) request therefore shall not constitute a granting by the Owner of an extension of time for any other circumstance or the same circumstance occurring at some other time, and shall not be interpreted as a precedent for any other request for extension.

2.39 PROTECTION OF PERSONS AND PROPERTY

A. SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work.

B. SAFETY OF PERSONS AND PROPERTY

The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to:

1. All employees on the Work and all other persons who may be affected thereby;
2. All the work and all materials and equipment to be incorporated therein, whether in storage or off the site, and that is under the care, custody, or control of the Contractor or any of the Contractor's Subcontractors or Sub-subcontractors;
3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction; and
4. The work of the Owner or other separate contractors.

C. The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

D. The Contractor shall erect and maintain, as required by existing conditions and the progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent facilities.

E. When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

F. The Contractor shall promptly remedy all damage or loss to any property referred to above caused in whole or in part by the Contractor, any Subcontractor, any Sub-subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, and for which the Contractor is responsible under the above noted clauses, except damage or loss attributable solely to the acts or omissions of the Owner, the Project Manager, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, and not attributable in any degree to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under the Indemnification provisions provided herein.

G. The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and the Project Manager.

H. The Contractor shall not load or permit any part of the Work to be loaded in a manner that could endanger its safety or pose a risk to anyone working at the Project site.

I. EMERGENCIES

In any emergency affecting the safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in the provisions herein for Changes in the Work.

## 2.40 INSURANCE

### A. CONTRACTOR'S INSURANCE

1. Bidders' attention is directed to the insurance requirements below. It is highly recommended that Bidders confer with their respective insurance carriers or brokers to determine in advance of bid submission the availability of the insurance certificates and endorsements required below. A bidder who is awarded a contract and thereafter fails to comply strictly with the insurance requirements, will be deemed to be in default of its obligations.
2. Contractor shall procure and maintain for the duration of the Contract, and for three (3) years thereafter, insurance against claims for injuries to persons or damages to property which may arise from, or in connection with, the performance of the work hereunder by the Contractor, his agents, representatives, employees, or subcontractors. The cost of such insurance shall be included in the Contractor's bid.
3. No later than ten (10) calendar days following the Award of the Contract, and prior to execution of the Agreement for Construction by the Owner, the Contractor shall submit certificates of insurance, signed by an authorized agent of the insurer, attesting to insurance coverage of the Contractor as required by this Article.

### B. MINIMUM SCOPE AND LIMITS OF INSURANCE

Coverage shall be at least as broad as:

1. Commercial General Liability (CGL): Insurance Services Office (ISO) Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury, and personal & advertising injury with limits no less than five million dollars (\$5,000,000) per occurrence and an annual aggregate of ten million dollars (\$10,000,000). If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be three times the required occurrence limit.

2. Automobile Liability: Insurance Services Office (ISO) Form CA 0001 covering Code 1 (any auto), with limits no less than five million dollars (\$5,000,000) per accident for bodily injury and property damage. Coverage should include owned and non-owned vehicles used in connection with this Agreement and all applicable endorsements.
3. Workers' Compensation insurance as required by the State of California, with Statutory Limits, and Employers' Liability insurance with a limit of no less than one million dollars (\$1,000,000) per accident for bodily injury or disease.
4. If Contractor is a licensed professional or employs professional staff, (e.g., Architect, Engineer, Surveyor, etc.) in providing services, Professional Liability with limits no less than \$2,000,000 per occurrence or claim, and \$3,000,000 annual aggregate.
5. Builder's Risk (Course of Construction) insurance utilizing an "All Risk" (Special Perils) coverage form, with limits equal to the completed value of the project and no coinsurance penalty provisions.

If Contractor maintains broader coverage and/or higher limits than the minimums shown above, the Owner requires and shall be entitled to the broader coverage and/or the higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Owner.

#### *Self-Insured Retentions*

Self-insured retentions must be declared to and approved by the Owner. At the option of the Owner, either: the Contractor shall obtain coverage to reduce or eliminate such self-insured retentions as respects the Owner, its officers, officials, employees, and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the Owner guaranteeing payment of losses and related investigations, claim administration, and defense expenses. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or Owner.

#### C. OTHER INSURANCE PROVISIONS

Contractor's insurance policies are to contain, or be endorsed to contain, the following provisions:

1. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, officials, employees, or volunteers.

2. The County of Fresno, its officers, officials, employees, and volunteers are to be named individually and collectively, as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations and automobiles owned, leased, hired, or borrowed by or on behalf of the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, officials, employees, or volunteers.
3. The insurer shall agree to waive all rights of subrogation against the Owner, its officers, officials, employees, and volunteers for losses arising from work performed by the Contractor for the Owner.
4. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance coverage at least as broad as ISO CG 20 01 04 13 as respects the Owner, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the Owner, its officers, officials, employees, or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
5. Any failure to comply with reporting provisions of the policies shall not affect Coverage provided to the Owner, its officers, officials, employees, agents, Engineers, Consulting Engineers, or volunteers.
6. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
7. All Contractor's insurance policies for coverage required under this agreement shall not be cancelled or changed, such as a reduction in coverage, without a minimum of thirty (30) days advance written notice given to Owner. The 30-day notice of cancellation applies to all reasons for cancellation, including cancellation for non-payment of premiums.
8. The insurer shall agree to waive all rights of subrogation against the Owner, its officers, officials, employees, and volunteers for losses arising from work performed by the Contractor for the Owner.
9. The Builder's Risk (Course of Construction) policy shall be an "All Risk" (Special Perils) coverage form, with limits equal to the completed value of the project and no coinsurance penalty provisions. All subcontractors shall be insured to the extent of their portion of the work under the Contractor. The Contractor shall request, and is responsible to confirm with its insurer, that the County of Fresno and all subcontractors are named, both as additional insured and as additional loss payees, on the Builder's Risk insurance policy. The Contractor and all subcontractors waive all rights, each against the others, for damages arising from perils covered by the insurance required under the terms of this article, except such rights as they may have to the proceeds of the Builder's Risk insurance obtained and maintained by the Contractor.

D. ACCEPTABILITY OF INSURERS

Contractor shall obtain the policies and coverages specified herein from an admitted insurer in good standing with and authorized to transact business in this state by the California Department of Insurance, and having a Best's rating of no less than A FSC VIII.

E. SUBCONTRACTORS

Contractor shall include all Subcontractors as insured under its policies or shall furnish separate certificates and endorsements for each Subcontractor.

F. EVIDENCE OF COVERAGE

Within ten (10) days of bid award, Contractor shall furnish the Owner with original Certificates of Insurance including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this Article 2.40) and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to Owner. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The Owner reserves the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

Certificates of Insurance and Endorsements for all policies must be signed by a person authorized by the insurer to bind coverage on its behalf, indicate the name and address of the official who will administer this contract, state that such insurance coverages have been obtained and are in full force and effect, and clearly indicate that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice has been given to the Owner.

Commercial General Liability Endorsements must name the County of Fresno, its officers, agents and employees, individually and collectively, as additional insured, but only insofar as the operations under this Agreement are concerned; that such coverage for additional insured shall apply as primary insurance and any other insurance, or self-insurance, maintained by Owner, its officers, agents and employees, shall be excess only and not contributing with insurance provided under Contractor's policies herein.

#### 2.41 UNCOVERING WORK

- A. This Section shall apply to any Work installed and covered up by the Contractor that is required by the Building Code or other statutory or regulatory requirement to undergo inspection or special inspection and/or testing approval by an appropriate official representing the Owner or other public authority having jurisdiction to conduct such inspection and/or testing. Work covered up by the Contractor, Contractor's Subcontractors, or Suppliers prior to inspection/special inspection and/or testing approval shall be uncovered and repaired or replaced after inspection approval at the sole expense of the Contractor. This shall apply to all labor and material needed to complete both physical and cosmetic repairs, and any additional inspection costs associated with restoring the Work.
- B. This Section also shall apply to any Work installed and covered up by the Contractor, Contractor's Subcontractors, or Suppliers that is determined by the Owner or its Project Manager, during construction or within the Warranty period, to be defective, broken, or inoperative. Work covered up by the Contractor, Contractor's Subcontractors, or Suppliers that is found to be defective, broken, or inoperative shall be uncovered and repaired or replaced at the sole expense of the Contractor. This shall apply to all labor and material needed to complete both physical and cosmetic repairs, and any additional inspection costs associated with restoring the Work.

#### 2.42 CORRECTION OF WORK

- A. The Contractor shall promptly correct all Work rejected by the Project Manager as defective or as failing to conform to the Contract Documents, whether or not fabricated, installed, or completed. The Contractor shall submit a plan of action, within twenty-four (24) hours of notification of the rejected work by the Project Manager, for correcting the rejected work. The Contractor shall bear all costs of correcting such rejected Work, including compensation for the additional architectural and/or engineering services made necessary thereby.
- B. If, within 365 Calendar Days after the date of acceptance of the Work as specified in the Notice of Completion, or designated portion thereof, or within 365 Calendar Days after acceptance by the Owner of designated equipment, or within such longer period of time as may be prescribed by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found by Owner to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. This obligation shall survive both final payment for the Work or designated portion thereof and termination of the Contract. The Owner shall give such notice promptly after discovery of the condition.
- C. The Contractor shall, at his/her sole expense, remove from the site all portions of the Work that are defective or nonconforming and which have not been corrected under Articles 2.32, 2.42.A, and 2.42.B, unless the Owner waives removal.

- D. If the Contractor fails to submit a plan of action, within twenty-four (24) hours of notification of the rejected work by the Project Manager, for correcting the rejected work, or fails to correct defective or nonconforming Work as provided herein in Articles 2.32, 2.42.A, and 2.42.B, the Owner may correct it in accordance with Article 2.08.C.
- E. If the Contractor does not take action under the plan to initiate such correction of such defective or nonconforming Work within ten (10) days of written notice from the Project Manager, the Owner may remove it and may store the materials or equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten (10) days thereafter, the Owner may, upon ten (10) additional days' written notice, sell such Work at auction or at private sale and shall account for the proceeds thereof, after deducting all the costs that should have been borne by the Contractor, including compensation for the Project Manager, Architect, or other Professional's additional services made necessary thereby. If such proceeds of sale do not cover all costs that the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate Supplemental Work Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.
- F. The Contractor shall bear the cost of making good all work of the Owner or separate contractors destroyed or damaged by such correction or removal.
- G. Nothing contained in this Section 2.42 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including Section 2.32 hereof. The establishment of the time periods noted in this Section 2.42, or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents, relates only to the specific obligation of the Contractor to correct the defective or nonconforming Work, and has no relationship to the time within which the Contractor's obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the defective or nonconforming Work.

#### 2.43 ACCEPTANCE OF DEFECTIVE OR NONCONFORMING WORK

If the Owner prefers to accept defective or nonconforming Work, the Owner may do so instead of requiring its removal and correction, in which case a Contract Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable. Such adjustment shall be given effect whether or not final payment has been made. The Project Manager shall determine the amount of reduction in the Contract Sum.



#### 2.44 TERMINATION BY THE OWNER

- A. If the Contractor is adjudged bankrupt, or makes a general assignment for the benefit of creditors, or if a receiver is appointed on account of the Contractor's insolvency, or stop notices are served upon the Owner, or if the Contractor persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or fails to make prompt payment to Subcontractors or for materials or labor, or persistently disregards applicable laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, or otherwise is guilty of a substantial violation of a provision of the Contract Documents, and fails after written notice to commence and continue correction of such default, neglect, or violation with diligence and promptness, the Owner upon certification by the Project Manager that sufficient cause exists to justify such action, may, after an additional written notice and without prejudice to any other remedy the Owner may have, terminate the Contract and take possession of all materials, equipment, tools, construction equipment, and machinery thereon owned by the Contractor and may finish the Work by whatever methods the Owner may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.
- B. If the unpaid balance of the Contract Sum exceeds the costs of finishing the Work, including compensation for the Project Manager's and Architect's additional services made necessary thereby, Contractor will only be paid for his/her actual unpaid costs from such excess. If such costs exceed the unpaid balance, the contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or to the Owner, as the case may be, shall be certified by the Project Manager, upon application, in the manner provided in Section 2.24 and this obligation for payment shall survive the termination of the Contract.

#### 2.45 SUBSTITUTION OF MATERIALS

- A. When a specific manufacturer, trade name, or material is specified, or indicated, it is to establish a standard of quality and shall not be construed as limiting competition. The intent of the Contract Documents is to specify high-grade standard material and equipment, and it is not the intent of these Contract Documents to exclude or omit the products of any responsible manufacturer, if such products are equally acceptable in terms of quality, finish, performance, durability, and serviceability, in the judgment of the Owner and the Architect, to those specified herein. Wherever an article, or any class of materials, is specified by the trade name or by the name of any particular patentee, manufacturer, or dealer, it shall be taken as intending to mean and specify the article of material described or any other equal thereto in quality, finish, performance, durability, and serviceability, in the judgment of the Owner and the Architect, for the purpose for which it is or they are intended.

- B. If the Contractor desires to use material or equipment other than that specified, he/she shall submit a request for approval of such substitution, in writing, to the Project Manager by no later than ten (10) days prior to bid opening. Substitution requests will not be considered if received after the time stipulated.
- C. The Owner does not guarantee that alternative articles, components, materials, or equipment other than the item specified by trade name or other specific identification, will fit within the design parameters of the Project without alteration of the Project design by the Contractor.
- D. The Owner has the right to reject any proposed alternative material which requires alteration of the project design which impacts the safety of the public or the user of a completed facility. If the proposed alternative material requires alteration of the design of the Project or any aspect thereof, and said alterations are acceptable to the Owner, the Contractor shall be responsible for performing said alterations at no additional cost to the Owner.
- E. Submittals for approval of substitute materials shall contain sufficient detailed information, descriptive brochures, drawings, samples, or other data as is necessary to provide a detailed side-by-side comparison to the specified materials. It is the sole responsibility of the Contractor to submit complete descriptive and technical information so the Project Manager can make proper appraisal. Lack of either proper or sufficient information shall constitute cause for rejection. Reference to product data will not be acceptable.
- F. It is the Contractor's responsibility to confirm and correlate all quantities and dimensions, and coordinate with all trades whose work may be affected by the requested substitution.

#### 2.46 REFERENCE TO STANDARDS

- A. Reference to known standards shall mean and intend the latest edition or amendment published prior to date of these Specifications, unless specifically indicated otherwise, and to such portions of it that relate and apply directly to the material or installation called for on the Project.
- B. Where material is specified solely by reference to standard specifications, the Contractor shall, if requested by the Project Manager, submit to the Project Manager for his/her approval, data on all such material proposed to be incorporated into the Work of the Contractor, listing the name and address of the vendor, the manufacturer or producer, and the trade or brand names of such materials.

## 2.47 SPECIFICATIONS

- A. The Specifications are organized into Divisions, Sections, and Trade headings based on the Construction Specifications Institute's Master format and the Master format numbering system. This organization shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of the Work to be performed by any trade. The Contractor shall be responsible for examining all Sections of the Specifications for interrelated items of the Work, and for furnishing each item identified or specified.
- B. No responsibility will be assumed by the Owner, Architect, or the Project Manager for omissions or duplications by the Contractor in the completion of the Contract due to any alleged discrepancy in the arrangement of the material in these Specifications, nor shall any such segregation of work and materials operate to make the Project Manager an arbiter in defining the limits to the agreements between the Contractor and his/her Subcontractors or suppliers.
- C. The misplacement, addition, or omission of any letter, word, or punctuation mark shall in no way damage the true spirit, intent, or meaning of these Specifications.
- D. The words "shown", "indicated", "noted", "scheduled" or words of that effect shall be understood to mean that reference is made to Drawings accompanying these Specifications.
- E. Where reference herein is made to colors or finishes "as selected", the reference is to the Architect with concurrence by the Owner.

## 2.48 APPROVED APPLICATORS

- A. Where specific instructions in these Specifications require that a particular product and/or materials be installed and/or applied by an "approved applicator" of the manufacturer, it shall be the Contractor's responsibility to ensure that any Subcontractors used for such work be approved applicators.
- B. Contractor accordingly shall bear any and all costs, and shall reimburse Owner for any such costs incurred by Owner, resulting from Contractor's failure to insure the use of an "approved applicator".

## 2.49 DELIVERY AND STORAGE OF MATERIALS

- A. Deliver all manufactured materials in the original packages, containers, or bundles (with the seals intact), bearing the name or identification mark of all manufacturers.
- B. Deliver fabrications in as large assemblies as practicable and where specified to be shop-primed or shop-finished; they shall be packaged or crated as required to preserve such priming or finish intact and free from abrasion.

- C. Store all materials in such manner as necessary to properly protect same from damage, as materials or equipment damaged by handling, weather, dirt or from any other cause will not be acceptable.
- D. Store materials so as to cause no obstructions (i.e. stored off all sidewalks and other walkways, roadways, and underground services). The Contractor shall be responsible for protecting from damage all material and equipment furnished under the Contract.

#### 2.50 QUALITY OF WORK

- A. Where not more specifically described in any of the various Sections of these Specifications, the quality of work shall conform to all of the methods and operations of best standards and accepted practices of the trade or trades involved, and shall include all items of fabrication, construction, or installation regularly furnished or required for completion of the work (including any finish), and for successful operation as intended of the Project and the component thereof corresponding to that work.
- B. All Work shall be executed by mechanics skilled in their respective lines of work.
- C. When completed, all parts shall have been durably and substantially built and shall present a neat, finished appearance.

#### 2.51 HOURS OF WORK

- A. Eight (8) hours of labor shall constitute a legal day's work upon all work done hereunder, and it is expressly stipulated that no worker employed at any time by the Contractor, or by a Subcontractor under this Contract, upon the Work, shall be required or permitted to work thereon more than eight (8) hours in any one (1) calendar day and forty (40) hours in any one (1) calendar week, except as provided in Sections 1810-1815 inclusive, of the Labor Code of the State of California, all the provisions of which are deemed to be incorporated herein as if set forth in full; and it is further expressly stipulated that for each and every violation of said last named stipulation, said Contractor shall forfeit, as a penalty to the Owner, fifty dollars (\$50.00) for each worker employed by the Contractor in the execution of this Contract, for each calendar day during which said worker is required or permitted to labor more than eight (8) hours in any one (1) calendar day and forty (40) hours in any one (1) calendar week in violation of any of said provisions of the Labor Code.
- B. Notwithstanding the above stipulations, pursuant to Section 1815 of the Labor Code, work performed by employees of contractors in excess of eight (8) hours per day and forty (40) hours during any one (1) week shall be permitted on the Project upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and a half (1 1/2) times the basic rate of pay.

## 2.52 WAGE RATES AND RELATED LABOR COMPLIANCE REQUIREMENTS

- A. This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations (DIR), including the obligation to submit certified payroll records directly to the DIR Compliance Monitoring Unit (CMU) at least monthly using the CMU's eCPR system. Detailed information may be obtained on the State of California's Department of Industrial Relations website, [www.dir.ca.gov/dlse/cmu/CMU](http://www.dir.ca.gov/dlse/cmu/CMU).

The Contractor shall also submit certified payroll records of the Contractor, Subcontractors, and all Sub-subcontractors of any tier to the Inspector of Record at least monthly.

- B. Contractor shall, and shall cause each of its Subcontractors (as defined in Labor Code section 1722.1) to provide written proof that they are currently registered with the California Department of Industrial Relations at the time of bid submittal, and have paid the applicable annual fee and are thereby qualified to submit a bid and to perform public work pursuant to Labor Code section 1725.5, prior to award of this Contract or any subcontract hereunder. No bid shall be accepted, nor shall this Contract or any subcontract hereunder, be entered into without such proof.
- C. Pursuant to Section 1770-1780 of the Labor Code of the State of California, the Director of the Department of Industrial Relations has determined the general prevailing rates of wages and rates for legal holidays and overtime in the locality in which this work is to be performed, which under Labor Code Section 1773.1 are deemed to include employer payments for health and welfare, pension, vacation, travel time, and subsistence pay, and apprenticeship or other authorized training programs, for each craft or type of worker or mechanic needed to perform this contract. Said wage rates are available only at the Fresno County Department of Public Works and Planning, Design Division, and will be made available to any interested person upon request. Minimum wage rates for this Project, as predetermined by the Secretary of Labor, are set forth in the Special Provisions. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the Prevailing Wage Rates predetermined by the Director of the Department of Industrial Relations of the State of California for similar classifications of labor, the contractor and his subcontractors shall pay not less than the higher wage rate.
- D. It shall be mandatory upon the Contractor to whom the Contract is awarded, and upon any Subcontractor under him/her, to pay not less than the said specified rates to all laborers, workers, and mechanics employed by them in the execution of the Contract, and to pay all laborers, workers, and mechanics not less often than once weekly. The Contractor to whom the Contract is awarded shall post a copy of the determination of prevailing wages at the job site. The Contractor shall require all Subcontractors to comply with Sections 1770-1780 of the Labor Code of the State of California and shall insert into every subcontract the requirements contained therein.

- E. The Contractor shall comply with Labor Code Section 1775. In accordance with said Section 1775, it is hereby further agreed that the Contractor shall forfeit to the Owner, as a penalty, fifty dollars (\$50.00) for each laborer, worker, or mechanic employed for each calendar day or portion thereof, who is paid less than the said stipulated rates for any work done under the Contract, by him/her, or by any Subcontractor under him/her. The difference between said stipulated rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than said stipulated rate, shall be paid to each worker by the Contractor. The Contractor, and each Subcontractor, shall keep or cause to be kept an accurate record showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed by him/her in connection with the public work. The records shall be open at all reasonable hours to the inspection of the Owner, to its officers and agents, and to the Division of Labor Law Enforcement of the State Department of Industrial Relations, its deputies and agents, or as otherwise provided by applicable law (including but not limited to Labor Code 1776).
- F. In case it becomes necessary for the Contractor or any Subcontractor to employ on the Work under this Contract any person in a trade or occupation (except executive, supervisory, administrative, clerical, or other non-manual workers as such) for which no minimum wage rate is specified, the Contractor shall immediately notify the Owner, who shall promptly thereafter determine the prevailing rate for such additional trade or occupation from the time of the initial employment of the person affected and during the continuance of such employment.

#### 2.53 APPLICATION OF HIGHEST STANDARDS AND REQUIREMENTS

Whenever two (2) or more standards or requirements appear in these General Conditions or in any other part of the Contract Documents that form the Contract, the highest standard or requirement shall be applied and followed in the performance under this Contract.

#### 2.54 NONDISCRIMINATION IN EMPLOYMENT

Contractor shall comply with all Federal and State Laws prohibiting discrimination in employment, including the following:

- A. California Labor Code Section 1735, which prohibits discrimination in employment on any basis listed in subdivision (a) of Section 12940 of the Government Code, as those bases are defined in Sections 12926 and 12926.1 of the Government Code, except as otherwise provided in Section 12940 of the Government Code, and applies to all employers, employment agencies and labor organizations.

- B. Title VII of the Federal 1964 Civil Rights Act (42 U.S.C. Section 2000e - 2000e - 17) which prohibits employment discrimination on the basis of race, color, sex, religion, or national origin, and applies to all employers that employ at least fifteen (15) workers during each working day in each of twenty (20) or more calendar weeks in the current or preceding year.
- C. In addition to these two (2) laws of general application listed in the immediately preceding paragraphs A and B, there are other Federal and State laws that prohibit employment discrimination in particular cases.
- D. The Owner is an Affirmative Action Employer and expects all of its contractors and suppliers to familiarize themselves with, and comply with, all applicable laws relating to employment discrimination.
- E. To the extent required by law, the Contractor shall meet all requirements of law relating to the participation of minority, women, and disabled veteran business enterprise contracting goals, and shall comply with Public Contract Code 10115 et seq. and all applicable regulations. Contractor further agrees that, when required, Contractor shall ensure compliance by all Subcontractors and shall complete all forms required by all agencies exercising jurisdiction over the Project.

#### 2.55 APPRENTICES

- A. Pursuant to Sections 1770-1780 of the Labor Code of the State of California, the Director of the Department of Industrial Relations has determined the general prevailing rate of wages in the locality for each craft or type of worker needed to execute the work. Said wage rates pursuant to Section 1773.2 of the Labor Code are on file with the Clerk of the Fresno County Board of Supervisors, and will be made available to any interested person on request. A copy of this wage scale may also be obtained at the following Web Site: <https://www.dir.ca.gov/OPRL/>.
- B. Pursuant to Section 1775 of the Labor Code of the State of California, nothing in this Article shall prevent the employment of properly registered apprentices upon public works. Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he/she is employed, and shall be employed only at the work of the craft or trade to which he/she is registered.
- C. Only apprentices, as defined in Section 3077, who are in training under apprenticeship standards and written apprentice agreements under Chapter 4 (commencing at Section 3070), Division 3, of the Labor Code, are eligible to be employed on public works. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which he/she is training.

#### 2.56 PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted, and this contract shall be read and enforced as though it

were included, and if through mistake or otherwise, any provision is not inserted or is not correctly inserted, upon application of either party the contract shall be amended to make the insertion or correction.

## 2.57 DRUG-FREE WORKPLACE CERTIFICATION

- A. The Contractor shall comply with Government Code Section 8355 in matters relating to providing a drug-free workplace.
- B. The Contractor shall publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of controlled substance is prohibited, and specifying actions to be taken against employees for violations, as required by Government Code Section 8355(a).
- C. The Contractor shall establish a Drug-Free Awareness Program as required by Government Code 8355(a)(2), to inform employees about all of the following:
  - 1. The dangers of drug abuse in the workplace,
  - 2. The Contractor's policy for maintaining a drug-free workplace,
  - 3. Any available counseling, rehabilitation, and employee assistance programs,
  - 4. Penalties that may be imposed upon employees for drug abuse violations.
- D. Provide as required by Government Code 8355(c), that everyone who provides work under the Agreement:
  - 1. Will receive a copy of the company's drug-free policy statement, and
  - 2. Will agree to abide by the terms of the Contractor's statement as a condition of employment on the contract.

## 2.58 BUILDING PERMIT AND OTHER PERMITS

The Building permit shall be obtained and paid for by the Owner. All other required permits are the responsibility of the Contractor to obtain. Fees for all other required permits shall be reimbursed to the Contractor at actual cost when the County is presented with a valid receipt.

## 2.59 CODES AND REGULATIONS

All work, materials, and equipment shall be in full compliance with the California Building Code; California Plumbing Code; California Electrical Code; California Mechanical Code; California Fire Code; California Energy Code; as those codes may be amended from time to time; Cal/OSHA Safety Regulations; and all Federal, State,



and Local laws, ordinances, regulations and Fresno County Charter provisions in effect and applicable in the performance of the work.

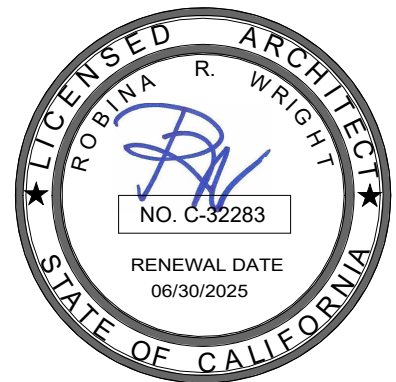
**END OF SECTION**

# SPECIFICATIONS

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## SECTION 012500 - SUBSTITUTION PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
  - 1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

#### 1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

#### 1.3 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
  - 1. Substitution Request Form: Use CSI Form 13.1A
  - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
    - b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
    - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
    - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
    - e. Samples, where applicable or requested.
    - f. Certificates and qualification data, where applicable or requested.
    - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.

- h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
    - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
    - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
    - k. Cost information, including a proposal of change, if any, in the Contract Sum.
    - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
    - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
  3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
    - a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
    - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

#### 1.4 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

### PART 2 - PRODUCTS

#### 2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals unless more restrictive conditions is indicated on specific sections of the Specifications.
  1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied:

- a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
- b. Requested substitution will not adversely affect Contractor's construction schedule.
- c. Requested substitution has received necessary approvals of authorities having jurisdiction.
- d. Requested substitution is compatible with other portions of the Work.
- e. Requested substitution has been coordinated with other portions of the Work.
- f. Requested substitution provides specified warranty.
- g. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

## SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
1. Coordination drawings.
  2. Requests for Information (RFIs).
  3. Project meetings.

#### 1.2 DEFINITIONS

- A. RFI: Request from Owner, Construction Manager, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
1. Name, address, and telephone number of entity performing subcontract or supplying products.
  2. Number and title of related Specification Section(s) covered by subcontract.
  3. Drawing number and detail references, as appropriate, covered by subcontract.

#### 1.4 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
  3. Make adequate provisions to accommodate items scheduled for later installation.

- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
  - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

#### 1.5 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
  - 1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
    - a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
    - b. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

#### 1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
  - 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
  - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
  - 1. Project name.
  - 2. Project number.
  - 3. Date.
  - 4. Name of Contractor.
  - 5. Name of Architect.
  - 6. RFI number, numbered sequentially.
  - 7. RFI subject.
  - 8. Specification Section number and title and related paragraphs, as appropriate.

9. Drawing number and detail references, as appropriate.
  10. Field dimensions and conditions, as appropriate.
  11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  12. Contractor's signature.
  13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Architect.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow 15 working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
    - a. Requests for approval of submittals.
    - b. Requests for approval of substitutions.
    - c. Requests for coordination information already indicated in the Contract Documents.
    - d. Requests for adjustments in the Contract Time or the Contract Sum.
    - e. Requests for interpretation of Architect's actions on submittals.
    - f. Incomplete RFIs or inaccurately prepared RFIs.
  2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Software log with not less than the following:
1. Project name.
  2. Name and address of Contractor.
  3. Name and address of Architect
  4. RFI number including RFIs that were dropped and not submitted.
  5. RFI description.
  6. Date the RFI was submitted.
  7. Date Architect's response was received.
- F. On receipt of Architect's, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect 7 days if Contractor disagrees with response.
1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
  2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.



## 1.7 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
  2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
  3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within five days of the meeting.
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
1. Attendees: Authorized representatives of Owner, Owner's representative, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Tentative construction schedule.
    - b. Phasing.
    - c. Critical work sequencing and long-lead items.
    - d. Designation of key personnel and their duties.
    - e. Procedures for processing field decisions and Change Orders.
    - f. Procedures for RFIs.
    - g. Procedures for testing and inspecting.
    - h. Procedures for processing Applications for Payment.
    - i. Distribution of the Contract Documents.
    - j. Submittal procedures.
    - k. Preparation of record documents.
    - l. Use of the premises and existing building.
    - m. Work restrictions.
    - n. Working hours.
    - o. Owner's occupancy requirements.
    - p. Responsibility for temporary facilities and controls.
    - q. Procedures for moisture and mold control.
    - r. Procedures for disruptions and shutdowns.
    - s. Construction waste management and recycling.
    - t. Parking availability.
    - u. Office, work, and storage areas.
    - v. Equipment deliveries and priorities.
    - w. First aid.
    - x. Security.
    - y. Progress cleaning.

3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
  2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
    - a. Contract Documents.
    - b. Options.
    - c. Related RFIs.
    - d. Related Change Orders.
    - e. Purchases.
    - f. Deliveries.
    - g. Submittals.
    - h. Review of mockups.
    - i. Possible conflicts.
    - j. Compatibility problems.
    - k. Time schedules.
    - l. Weather limitations.
    - m. Manufacturer's written instructions.
    - n. Warranty requirements.
    - o. Compatibility of materials.
    - p. Acceptability of substrates.
    - q. Temporary facilities and controls.
    - r. Space and access limitations.
    - s. Regulations of authorities having jurisdiction.
    - t. Testing and inspecting requirements.
    - u. Installation procedures.
    - v. Coordination with other work.
    - w. Required performance results.
    - x. Protection of adjacent work.
    - y. Protection of construction and personnel.
  3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
  4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
  5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Conduct progress meetings at biweekly intervals.

1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
  - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    - 1) Review schedule for next period.
  - b. Review present and future needs of each entity present, including the following:
    - 1) Interface requirements.
    - 2) Sequence of operations.
    - 3) Status of submittals.
    - 4) Deliveries.
    - 5) Off-site fabrication.
    - 6) Access.
    - 7) Site utilization.
    - 8) Temporary facilities and controls.
    - 9) Progress cleaning.
    - 10) Quality and work standards.
    - 11) Status of correction of deficient items.
    - 12) Field observations.
    - 13) Status of RFIs.
    - 14) Status of proposal requests.
    - 15) Pending changes.
    - 16) Status of Change Orders.
    - 17) Pending claims and disputes.
    - 18) Documentation of information for payment requests.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
  - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

## SECTION 017329 - CUTTING AND PATCHING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract
- B. Including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for cutting and patching.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 2 Section "Selective Demolition" for demolition of selected portions of the building for alterations.
  - 2. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
    - a. Requirements of this Section apply to mechanical and electrical installations.

#### 1.3 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures well in advance of the time cutting and patching will be performed if the Owner requires approval of these procedures before proceeding. Request approval to proceed. Include the following information, as applicable, in the proposal:
  - 1. Describe the extent of cutting and patching required. Show how it will be performed and indicate why it cannot be avoided.
  - 2. Approval by the Architect to proceed with cutting and patching does not waive the Architect's right to later require complete removal and replacement of unsatisfactory work.

#### 1.4 QUALITY ASSURANCE

- A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.
- B. Operational Limitations: Do not cut and patch operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safety.
- C. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Architect's opinion, reduce the building's

aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patched in a visually unsatisfactory manner.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible if identical materials are unavailable or cannot be used. Use materials whose installed performance will equal or surpass that of existing materials.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.

### 3.2 PREPARATION

- A. Temporary Support: Provide temporary support of work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.

### 3.3 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
  - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.
  - 1. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily

- cover openings when not in use.
  2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
  3. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
  4. Where services are required to be removed, relocated, or abandoned, by-pass utility services, such as pipe or conduit, before cutting. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after bypassing and cutting.
- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
  2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
  3. Where removing walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.
  4. Patch, or repair, existing ceilings as necessary to provide an even-plane surface of uniform appearance.

### 3.4 CLEANING

- A. Clean areas and spaces where cutting and patching are performed.

END OF SECTION 017329

## SECTION 024119 - SELECTIVE DEMOLITION

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused or recycled.

#### 1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- C. Existing: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed, and salvaged, or removed and reinstalled.

#### 1.3 FIELD CONDITIONS

- A. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- B. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- C. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
1. Maintain fire-protection facilities in service during selective demolition operations.

#### 1.4 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.



## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate, and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- D. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.

### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
  - 1. Arrange to shut off indicated utilities with utility companies.
  - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
  - 3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
    - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.

- b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
- c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
- d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
- e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
- f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
- g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.

### 3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

### 3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
  - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
  - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
  - 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
  - 4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
  - 5. Dispose of demolished items and materials promptly.

- B. Reuse of Building Elements: Project has been designed to result in end-of-Project rates for reuse of building elements as follows. Do not demolish building elements beyond what is indicated on Drawings without Architect's approval.
- C. Removed and Salvaged Items:
  - 1. Clean salvaged items.
  - 2. Pack or crate items after cleaning. Identify contents of containers.
  - 3. Store items in a secure area until delivery to Owner.
  - 4. Transport items to Owner's storage area **designated by Owner**.
  - 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
  - 1. Clean and repair items to functional condition adequate for intended reuse.
  - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
  - 3. Protect items from damage during transport and storage.
  - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition **and cleaned** and reinstalled in their original locations after selective demolition operations are complete.

### 3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
  - 1. Do not allow demolished materials to accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

### 3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

## SECTION 040120 - MAINTENANCE OF UNIT MASONRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes maintenance of unit masonry consisting of **brick** clay masonry restoration and cleaning as follows:
1. Repairing unit masonry, including replacing units.
  2. Repointing joints.
  3. Preliminary cleaning, including removing plant growth.
  4. Cleaning exposed unit masonry surfaces.

#### 1.2 DEFINITIONS

- A. Low-Pressure Spray: [**0 to 400 psi 4 to 6 gpm**].

#### 1.3 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Contractor will **Engage** a qualified testing agency to perform preconstruction testing on masonry units as follows.
1. Existing **Brick**: Test each type of existing masonry unit indicated for replacement, according to testing methods in ASTM C 67 for compressive strength, 24-hour cold-water absorption, 5-hour boil absorption, saturation coefficient, and initial rate of absorption (suction). Carefully remove **five** existing units from locations designated by Architect. Take testing samples from these units.
  2. Existing Mortar: Test according to ASTM C 295, modified as agreed by testing service and Architect for Project requirements, to determine proportional composition of original ingredients, sizes and colors of aggregates, and approximate strength. Use X-ray diffraction, infrared spectroscopy, and differential thermal analysis as necessary to supplement microscopical methods. Carefully remove existing mortar from within joints at **five** locations designated by **testing service**.
  3. Temporary Patch: Provide temporary materials at locations from which existing samples were taken.
  4. Replacement **Brick**: Test each proposed type of replacement masonry unit, according to sampling and testing methods in ASTM C 67 for compressive strength, 24-hour cold-water absorption, 5-hour boil absorption, saturation coefficient, and initial rate of absorption (suction).

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

- B. Shop Drawings: For the following:
  - 1. Full-size patterns with complete dimensions for new **specially molded brick shapes** and their jointing, showing relation of existing to new units.
  - 2. Provisions for expansion joints or other sealant joints.
- C. Samples: For each exposed product and for each color and texture specified.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Preconstruction test reports.

#### 1.6 QUALITY ASSURANCE

- A. Restoration Specialist Qualifications: Engage an experienced masonry restoration and cleaning firm to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience installing standard unit masonry is not sufficient experience for masonry restoration work.
  - 1. At Contractor's option, work may be divided between two specialist firms: one for cleaning work and one for repair work.
  - 2. Field Supervision: Restoration specialist firms shall maintain experienced full-time supervisors on Project site during times that clay masonry restoration and cleaning work is in progress.
  - 3. Restoration Worker Qualifications: Persons who are experienced in restoration work of types they will be performing. When masonry units are being patched, assign at least one worker among those performing patching work who is trained and certified by manufacturer of patching compound to apply its products.
- B. Mockups: Prepare mockups of restoration and cleaning to demonstrate aesthetic effects and set quality standards for materials and execution and for fabrication and installation.
  - 1. Masonry Repair: Prepare sample areas for each type of masonry material indicated to have repair work performed. If not otherwise indicated, size each mockup not smaller than 2 adjacent whole units or approximately 48 inches in least dimension. Erect sample areas in existing walls unless otherwise indicated, to demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:
    - a. Replacement:
      - 1) **Four** brick units replaced.
    - b. Patching: Three small holes at least 1 inch in diameter for each type of masonry material indicated to be patched, so as to leave no evidence of repair.
  - 2. Repointing: Rake out joints in 2 separate areas, each approximately 36 inches high by 48 inches wide for each type of repointing required and repoint one of the areas.

3. Cleaning: Clean an area approximately 25 sq. ft. for each type of masonry and surface condition.

C. Preinstallation Conference: Conduct conference at Project site.

## PART 2 - PRODUCTS

### 2.1 MASONRY MATERIALS

A. Face Brick: Provide face brick, including specially molded, ground, cut, or sawed shapes where required to complete masonry restoration work.

1. Provide units with physical properties, colors, color variation within units, surface texture, size, and shape to match existing brickwork.

- a. For existing brickwork that exhibits a range of colors or color variation within units, provide brick that proportionally matches that range and variation rather than brick that matches an individual color within that range.

2. Special Shapes:

- a. Provide specially molded, 100 percent solid shapes for applications where core holes or "frogs" could be exposed to view or weather when in final position and where shapes produced by sawing would result in sawed surfaces being exposed to view.

- b. Provide specially ground units, shaped to match patterns, for arches and where indicated.

- c. Mechanical chopping or breaking brick, or bonding pieces of brick together by adhesive, are not acceptable procedures for fabricating special shapes.

3. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Boston Valley Terra Cotta.

- b. Gladding, McBean; a Division of PABCO Building Products, LLC.

- c. Studio S Pottery.

- d. Superior Clay Corporation.

### 2.2 MORTAR MATERIALS

A. Portland Cement: ASTM C 150, Type I or Type II, white or gray or both where required for color matching of exposed mortar.

B. Hydrated Lime: ASTM C 207, Type S.

C. Mortar Sand: ASTM C 144 unless otherwise indicated.

1. Color: Provide natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
2. For pointing mortar, provide sand with rounded edges.
3. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.

D. Water: Potable.

### 2.3 MANUFACTURED REPAIR MATERIALS

A. Masonry Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching masonry.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
  - a. Cathedral Stone Products, Inc.; Jahn M100 Terra Cotta and Brick Repair Mortar.
  - b. Conproco Corporation;
  - c. Edison Coatings, Inc.; Custom System 45.
2. Use formulation that is vapor- and water permeable (equal to or more than the masonry unit), exhibits low shrinkage, has lower modulus of elasticity than the masonry units being repaired, and develops high bond strength to all types of masonry.
3. Formulate patching compound used for patching **brick** in colors and textures to match each masonry unit being patched.

### 2.4 PAINT REMOVERS

A. Covered or Skin-Forming Alkaline Paint Remover: Manufacturer's standard covered or skin-forming alkaline formulation for removing paint coatings from masonry.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
  - a. ABR Products, Inc.; Grip 'N Strip 800 Fast Acting.
  - b. Diedrich Technologies Inc.; 606 Multi-Layer Paint Remover or 606X Extra Thick Multi-Layer Paint Remover with pull-off removal system.
  - c. Dumond Chemicals, Inc.; Peel Away 1 System.
  - d. PROSOCO; Enviro Klean Safety Peel 1 or Enviro Klean Safety Peel 3 with Enviro Klean Overcoat.

B. Solvent-Type Paint Remover: Manufacturer's standard water-rinseable, solvent-type gel formulation for removing paint coatings from masonry.

1. Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
  - a. ABR Products, Inc.; Super Bio Strip Gel.

- b. Diedrich Technologies Inc.; 505 Special Coatings Stripper.
  - c. Dumond Chemicals, Inc.; Peel Away 2.
  - d. Hydroclean, Hydrochemical Techniques, Inc.; Hydroclean HT-300 Solvent Paint Remover.
  - e. Price Research, Ltd.; Price Strip-All.
  - f. PROSOCO; Sure Klean Fast Acting Stripper.
- C. Low-Odor, Solvent-Type Paint Remover: Manufacturer's standard low-odor, water-rinseable solvent-type gel formulation, containing no methanol or methylene chloride, for removing paint coatings from masonry.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. ABR Products, Inc.; Super Bio Strip Gel.
    - b. Cathedral Stone Products, Inc.; S-301 S-303 or S-305.
    - c. Dumond Chemicals, Inc.; Peel Away 6
    - d. PROSOCO; [Enviro Klean Safety Peel 1 or Enviro Klean Safety Peel 3.

## 2.5 CLEANING MATERIALS

- A. Water: Potable.
- B. Job-Mixed Detergent Solution: Solution prepared by mixing 2 cups of tetrasodium polyphosphate, 1/2 cup of laundry detergent, and 20 quarts of hot water for every 5 gal. of solution required.
- C. Job-Mixed Mold, Mildew, and Algae Remover: Solution prepared by mixing 2 cups of tetrasodium polyphosphate, 5 quarts of 5 percent sodium hypochlorite (bleach), and 15 quarts of hot water for every 5 gal. of solution required.
- D. Nonacidic Gel Cleaner: Manufacturer's standard gel formulation, with pH between 6 and 9, that contains detergents with chelating agents and is specifically formulated for cleaning masonry surfaces.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Price Research, Ltd.; Price Marble Cleaner-Gel.
    - b. PROSOCO; Sure Klean 942 Limestone and Marble Cleaner.
- E. Nonacidic Liquid Cleaner: Manufacturer's standard mildly alkaline liquid cleaner formulated for removing mold, mildew, and other organic soiling from ordinary building materials, including polished stone, brick, aluminum, plastics, and wood.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Diedrich Technologies Inc.; Diedrich 910PM Polished Marble Cleaner.



- b. Dominion Restoration Products, Inc.; Bio-Cleanse.
  - c. Dumond Chemicals, Inc.; Safe n' Easy Architectural Cleaner/Restorer.
  - d. Price Research, Ltd.; Price Non-Acid Masonry Cleaner.
  - e. PROSOCO; Enviro Klean 2010 All Surface Cleaner.
- F. Mild Acidic Cleaner: Manufacturer's standard mildly acidic cleaner containing no muriatic (hydrochloric), hydrofluoric, or sulfuric acid; or ammonium bifluoride or chlorine bleaches.
- 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. ABR Products, Inc.; X-190 Limestone & Concrete Cleaner.
    - b. Diedrich Technologies Inc.; Envirostore 100.
    - c. Dominion Restoration Products, Inc.; DR-60 Stone and Masonry Cleaner.
    - d. PROSOCO; Enviro Klean BioWash.

## 2.6 ACCESSORY MATERIALS

- A. Setting Buttons: Resilient plastic buttons, nonstaining to masonry, sized to suit joint thicknesses and bed depths of masonry units without intruding into required depths of pointing materials.

## 2.7 MORTAR MIXES

- A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
- B. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.
  - 1. Mortar Pigments: Where mortar pigments are indicated, do not exceed a pigment-to-cement ratio of 1:10 by weight.
- C. Do not use admixtures in mortar unless otherwise indicated.
- D. Mortar Proportions: Mix mortar materials in the following proportions:
  - 1. Pointing Mortar for Brick: 1 part portland cement, 2 parts lime, and 6 parts sand.
    - a. Add mortar pigments to produce mortar colors required.
  - 2. Pointing Mortar for Terra Cotta: 1 part white portland cement, 1 part lime, and 6 parts sand.
    - a. Add mortar pigments to produce mortar colors required.

3. Rebuilding (Setting) Mortar: Comply with ASTM C 270, Proportion Specification, Type N unless otherwise indicated; with cementitious material limited to Portland cement and lime.

## 2.8 CHEMICAL CLEANING SOLUTIONS

- A. Dilute chemical cleaners with water to produce solutions not exceeding concentration recommended by chemical-cleaner manufacturer.
- B. Acidic Cleaner Solution for **Brick**: Dilute with water to produce hydrofluoric acid content of 3 percent or less, but not greater than that recommended by chemical-cleaner manufacturer.

## PART 3 - EXECUTION

### 3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.
- B. Comply with chemical-cleaner manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical-cleaning solutions from coming into contact with people, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.
  1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners used unless chemical cleaners being used will not damage adjacent surfaces. Use materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. When no longer needed, promptly remove masking to prevent adhesive staining.
  2. Keep wall wet below area being cleaned to prevent streaking from runoff.

### 3.2 BRICK REMOVAL AND REPLACEMENT

- A. At locations indicated, remove bricks that are damaged, spalled, or deteriorated. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
- B. Support and protect remaining masonry that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
- C. Notify Architect of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.
- D. Remove in an undamaged condition as many whole bricks as possible.

1. Remove mortar, loose particles, and soil from brick by cleaning with hand chisels, brushes, and water.
  2. Remove sealants by cutting close to brick with utility knife and cleaning with solvents.
- E. Clean bricks surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.
- F. Replace removed damaged brick with other removed brick in good quality, where possible, or with new brick matching existing brick, including size. Do not use broken units unless they can be cut to usable size.
- G. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
1. Maintain joint width for replacement units to match existing joints.
  2. Use setting buttons or shims to set units accurately spaced with uniform joints.
- H. Lay replacement brick with completely filled bed, head, and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place. Wet both replacement and surrounding bricks that have ASTM C 67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min.. Use wetting methods that ensure that units are nearly saturated but surface is dry when laid.
1. Rake out mortar used for laying brick before mortar sets and point new mortar joints in repaired area to comply with requirements for repointing existing masonry, and at same time as repointing of surrounding area.
  2. When mortar is sufficiently hard to support units, remove shims and other devices interfering with pointing of joints.

### 3.3 MASONRY UNIT PATCHING

#### A. Patching Bricks:

1. Remove loose material from masonry surface. Carefully remove additional material so patch will not have feathered edges but will have square or slightly undercut edges on area to be patched and will be at least 1/4 inch thick, but not less than recommended by patching compound manufacturer.
2. Mask adjacent mortar joint or rake out for repointing if patch will extend to edge of masonry unit.
3. Mix patching compound in individual batches to match each unit being patched.
4. Rinse surface to be patched and leave damp, but without standing water.
5. Brush-coat surfaces with slurry coat of patching compound according to manufacturer's written instructions.
6. Place patching compound in layers as recommended by patching compound manufacturer, but not less than 1/4 inch or more than 2 inches thick. Roughen surface of each layer to provide a key for next layer.
7. Trowel, scrape, or carve surface of patch to match texture and surrounding surface plane or contour of the masonry unit. Shape and finish surface before or after curing, as determined by testing, to best match existing masonry unit.
8. Keep each layer damp for 72 hours or until patching compound has set.

### 3.4 CLEANING MASONRY, GENERAL

- A. Proceed with cleaning in an orderly manner; work from **bottom to top** of each scaffold width and from one end of each elevation to the other. Ensure that dirty residues and rinse water will not wash over cleaned, dry surfaces.
- B. Use only those cleaning methods indicated for each masonry material and location.
  - 1. Do not use wire brushes or brushes that are not resistant to chemical cleaner being used. Do not use plastic-bristle brushes if natural-fiber brushes will resist chemical cleaner being used.
  - 2. Use spray equipment that provides controlled application at volume and pressure indicated, measured at spray tip. Adjust pressure and volume to ensure that cleaning methods do not damage masonry.
    - a. Equip units with pressure gages.
  - 3. For chemical-cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone-shaped spray tip.
  - 4. For water-spray application, use fan-shaped spray tip that disperses water at an angle of 25 to 50 degrees.
- C. Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces.
- D. Water-Spray Application Method: Unless otherwise indicated, hold spray nozzle at least 6 inches from surface of masonry and apply water in horizontal back and forth sweeping motion, overlapping previous strokes to produce uniform coverage.
- E. Chemical-Cleaner Application Methods: Apply chemical cleaners to masonry surfaces to comply with chemical-cleaner manufacturer's written instructions; use brush application. Do not allow chemicals to remain on surface for periods longer than those indicated or recommended by manufacturer.
- F. Rinse off chemical residue and soil by working upward from bottom to top of each treated area at each stage or scaffold setting. Periodically during each rinse, test pH of rinse water running off of cleaned area to determine that chemical cleaner is completely removed.
  - 1. Apply neutralizing agent and repeat rinse if necessary to produce tested pH of between 6.7 and 7.5.

### 3.5 PRELIMINARY CLEANING

- A. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to cleaning methods being used. Extraneous substances include paint, calking, asphalt, and tar.

1. Carefully remove heavy accumulations of material from surface of masonry with a sharp chisel. Do not scratch or chip masonry surface.
2. Remove paint and calking with alkaline paint remover.
  - a. Comply with requirements in "Paint Removal" Article.
  - b. Repeat application up to two times if needed.
3. Remove asphalt and tar with solvent-type paint remover.
  - a. Comply with requirements in "Paint Removal" Article.
  - b. Apply paint remover only to asphalt and tar by brush without prewetting.
  - c. Allow paint remover to remain on surface for 10 to 30 minutes.
  - d. Repeat application if needed.

### 3.6 PAINT REMOVAL

#### A. Paint Removal with Covered or Skin-Forming Alkaline Paint Remover:

1. Remove loose and peeling paint using low-pressure spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
2. Apply paint remover to dry, painted masonry with trowel, spatula, or as recommended by manufacturer.
3. Apply cover, if required by manufacturer, per manufacturer's written instructions.
4. Allow paint remover to remain on surface for period recommended by manufacturer or as determined in test panels.
5. Scrape off paint and remover and collect for disposal.
6. Rinse with hot water applied by low-pressure spray to remove chemicals and paint residue.
7. Apply acidic cleaner or manufacturer's recommended afterwash to masonry, while surface is still wet, using low-pressure spray equipment or soft-fiber brush. Let cleaner or afterwash remain on surface as a neutralizing agent for period recommended by chemical-cleaner or afterwash manufacturer.
8. Rinse with cold water applied by low-pressure spray to remove chemicals and soil.

#### B. Paint Removal with Solvent-Type Paint Remover:

1. Apply thick coating of paint remover to painted masonry with natural-fiber cleaning brush, deep-nap roller, or large paint brush.
2. Rinse with hot water applied by low-pressure spray to remove chemicals and paint residue.

### 3.7 CLEANING MASONRY

#### A. Detergent Cleaning:

1. Wet masonry with cold water applied by low-pressure spray.
2. Scrub masonry with detergent solution using medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar

- joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that masonry surface remains wet.
3. Rinse with coldwater applied by low-pressure spray to remove detergent solution and soil.

**B. Mold, Mildew, and Algae Removal:**

1. Wet masonry with cold water applied by low-pressure spray.
2. Apply mold, mildew, and algae remover by brush.
3. Scrub masonry with medium-soft brushes until mold, mildew, and algae are thoroughly dislodged and can be removed by rinsing. Use small brushes for mortar joints and crevices. Dip brush in mold, mildew, and algae remover often to ensure that adequate fresh cleaner is used and that masonry surface remains wet.
4. Rinse with cold water applied by low-pressure spray to remove mold, mildew, and algae remover and soil.

**3.8 REPOINTING MASONRY**

**A. Rake out and repoint joints to the following extent:**

1. Joints where mortar is missing or where they contain holes.
2. Cracked joints where cracks can be penetrated at least 1/4 inch by a knife blade 0.027 inch thick.
3. Cracked joints where cracks are 1/8 inch or more in width and of any depth.
4. Joints where they sound hollow when tapped by metal object.
5. Joints where they are worn back 1/4 inch or more from surface.
6. Joints where they are deteriorated to point that mortar can be easily removed by hand, without tools.
7. Joints where they have been filled with substances other than mortar.
8. Joints indicated as sealant-filled joints.

**B. Do not rake out and repoint joints where not required.**

**C. Rake out joints as follows, according to procedures demonstrated in approved mockup:**

1. Remove mortar from joints to depth of joint width plus 1/8 inch but not less than 1/2 inch or not less than that required to expose sound, unweathered mortar.
2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
3. Do not spall edges of masonry units or widen joints. Replace or patch damaged masonry units as directed by Architect.
  - a. Cut out mortar by hand with chisel and resilient mallet. Do not use power-operated grinders.

**D. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.**

**E. Pointing with Mortar:**

1. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
  2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch until a uniform depth is formed. Fully compact each layer thoroughly and allow it to become thumbprint hard before applying next layer.
  3. After low areas have been filled to same depth as remaining joints, point all joints by placing mortar in layers not greater than 3/8 inch. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing masonry units have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to featheredge the mortar.
  4. When mortar is thumbprint hard, tool joints to match original appearance of joints as demonstrated in approved mockup. Remove excess mortar from edge of joint by brushing.
  5. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours including weekends and holidays.
- F. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

### 3.9 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, spray applied at low pressure.
1. Do not use metal scrapers or brushes.
  2. Do not use acidic or alkaline cleaners.

END OF SECTION 040120

## SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Framing with dimension lumber.
2. Rooftop equipment bases and support curbs.
3. Wood blocking, cants, and nailers.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
1. Preservative-treated wood.
  2. Fire-retardant-treated wood.
  3. Power-driven fasteners.

### PART 2 - PRODUCTS

#### 2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
1. Factory mark each piece of lumber with grade stamp of grading agency.
  2. Provide dressed lumber, S4S, unless otherwise indicated.

#### 2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2
1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.



- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat all miscellaneous carpentry unless otherwise indicated.
  - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.

### 2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
  - 1. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
  - 2. Design Value Adjustment Factors: Treated lumber shall be tested according ASTM D 5664, and design value adjustment factors shall be calculated according to ASTM D 6841.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.
- C. Application: Treat all miscellaneous carpentry unless otherwise indicated.
  - 1. Framing for raised platforms.
  - 2. Concealed blocking.
  - 3. Roof framing and blocking.
  - 4. Wood cants, nailers, curbs, equipment support bases, blocking, and similar members in connection with roofing.
  - 5. Plywood backing panels.

### 2.4 DIMENSION LUMBER FRAMING

- A. Framing : Construction or No. 2 grade of any species.
  - 1. Hem-fir (north); NLGA.
  - 2. Southern pine; SPIB.
  - 3. Douglas fir-larch; WCLIB or WWPA.
  - 4. Spruce-pine-fir; NLGA.
  - 5. Douglas fir-south; WWPA.
  - 6. Hem-fir; WCLIB or WWPA.

7. Douglas fir-larch (north); NLGA.
8. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

## 2.5 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
  1. Blocking.
  2. Nailers.
  3. Rooftop equipment bases and support curbs.
  4. Cants.
  5. Furring.
  6. Grounds.
  7. Utility shelving.
- B. For items of dimension lumber size, provide Construction or No. 2 lumber of any species.
- C. For concealed boards, provide lumber with 15 percent maximum moisture content and any of the following species and grades:
  1. Mixed southern pine, No. 2 grade; SPIB.
  2. Eastern softwoods, No. 2 Common grade; NELMA.
  3. Northern species, No. 2 Common grade; NLGA.
  4. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

## 2.6 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: DOC PS 1, Exterior, AC in thickness indicated or, if not indicated, not less than 5/8-inches nominal thickness.

## 2.7 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
  1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Power-Driven Fasteners: NES NER-272.
- C. Screws for Fastening to Metal Framing: ASTM C 1002, length as recommended by screw manufacturer for material being fastened.

2.8 MISCELLANEOUS MATERIALS

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit.
- B. Where wood-preserved-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- C. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels.
- E. Do not splice structural members between supports unless otherwise indicated.
- F. Comply with AWWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- G. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  - 1. Table 2304.9.1, "Fastening Schedule," CBC 2022

3.2 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

## SECTION 070100 PREPARATION FOR RE-ROOFING

### PART 1- GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Removal of the existing roofing system in preparation for a new roof membrane system.
2. Installation of the new roofing membrane system over existing roofing system.

#### 1.2 REFERENCES

- A. ASTM C208 Standard Specification for Cellulosic Fiber Insulating Board.
- B. CBC - California Building Code

#### 1.3 SYSTEM DESCRIPTION

- A. Roof Areas as Indicated: Remove existing roofing gravel, perimeter flashings, base flashings, counter flashings, vent stack flashings, roofing membrane, insulation and vapor retardant.
- B. Remove roof mounted mechanical equipment and electrical equipment.

#### 1.4 QUALIFICATIONS

- A. Materials Removal Firm: Company specializing in performing the work of this section with minimum 3-years documented experience.

#### 1.5 ENVIRONMENTAL REQUIREMENTS

- A. Do not remove existing roofing membrane when weather conditions threaten the integrity of the building contents or intended continued occupancy.
- B. Maintain continuous temporary protection during and prior to installation of new roofing system.

## 1.6 SCHEDULING

- A. Schedule the work to coincide with the commencement of the installation of new roofing system.
- B. Remove only existing roofing materials that can be replaced with new materials the same day.

## 1.7 COORDINATION

- A. Coordinate work under provisions of Section 013100.
- B. Coordinate work with other affected mechanical and electrical work associated with roof penetrations.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Temporary Protection: Sheet fiber reinforced plastic; provide weights as necessary to retain sheeting in position.
- B. Protection Board: ASTM C208, Roof Insulating Board type, cellulose fiberboard

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify existing site conditions under provisions of Section 013100.
- B. Verify that existing roof surface is clear and ready for work of this section.

### 3.2 PREPARATION

- A. Sweep roof surface clean of loose matter, remove loose debris, and dispose off-site.

### 3.3 MATERIALS REMOVAL

- A. Remove metal counter flashings, and fold up metal counter flashings to permit access to top edge of base flashings.
- B. Scrape roofing gravel from membrane surface without causing serious damage to membrane felts.

- C. Remove all roofing membrane, perimeter base flashings, flashings around roof protrusions, pitch pans, and pockets.
- D. Remove insulation and fasteners, cant strips and blocking.
- E. Remove vapor retarder, sheathing paper and underlay.
- F. Repair any existing deck surface to provide smooth working surface for new roof system.

### 3.4 TEMPORARY PROTECTION

- A. Provide temporary protective sheeting over uncovered deck surfaces.
- B. Turn sheeting up and over parapets and curbing.
  - 1. Retain sheeting in position with weights and temporary fasteners.
- C. Provide for surface drainage from sheeting to existing drainage facilities.
- D. Do not permit traffic over unprotected or repaired deck surface.

### 3.5 FIELD QUALITY CONTROL

- A. Perform all field inspection and testing.
- B. Test Reports: Indicate existing insulation moisture content and existing bitumen quality.

END OF SECTION 070100

## SECTION 070191 – JOINT SEALANT REHABILITATION AND REPLACEMENT

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Rehabilitation and replacement of exterior elastomeric weatherproofing sealants.

B. Related Sections:

1. Section 088513 "Glazing Sealants" for sealants for glazing installation, glazing framing perimeters, and structural glazing.
2. Section 099653 "Silicone Elastomeric Coatings" for water-repelling liquid silicone elastomeric coatings for exterior surfaces.

#### 1.2 REFERENCE STANDARDS

A. ASTM International (ASTM): [www.astm.org](http://www.astm.org):

1. ASTM C 661 - Standard Test Method for Indentation Hardness of Elastomeric Type Sealants by Means of a Durometer.
2. ASTM C 719 - Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants under Cyclic Movement (Hockman Cycle).
3. ASTM C 920 - Specification for Elastomeric Joint Sealants.
4. ASTM C 1135 - Standard Test Method for Determining Tensile Adhesion Properties of Structural Sealants.
5. ASTM C 1184 - Standard Specification for Structural Silicone Sealants.
6. ASTM C 1193 - Standard Guide for Use of Joint Sealants.
7. ASTM C 1248 - Test Method for Staining of Porous Substrate by Joint Sealants.
8. ASTM C 1330 - Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.
9. ASTM D 2240 - Standard Test Method for Rubber Property - Durometer Hardness.
10. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension.

B. Sealant, Waterproofing, and Restoration Institute (SWRI): [www.swrionline.org](http://www.swrionline.org):

1. SWRI Validation Program.

### 1.3 ADMINISTRATIVE REQUIREMENTS

- A. Performance Requirements: It is the intention of this specification section and the drawings to form a guide for a complete and operable system. Any items not specifically noted but necessary for a complete and operable system shall be provided under this section.
  - 1. Provide elastomeric sealants for exterior applications that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staining or deterioration of joint substrates.
- B. Coordination: Coordinate installation of joint sealants with cleaning of joint sealant substrates and other operations that may impact installation or finished joint sealant work.
- C. Preinstallation Conference: Conduct conference at Project Site.

### 1.4 MANUFACTURER'S RESPONSIBILITY AND CERTIFICATION

- A. Contractor shall require sealant manufacturer to review the Project joint conditions and details for this Section of the work. Contractor shall submit to the Architect written certification from the sealant manufacturer that joints are of the proper size and design, that the materials supplied are compatible with adjacent materials and backing, that the materials will properly perform to provide permanent watertight, airtight or vapor tight seals (as applicable), and that materials supplied meet specified performance requirements

### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of joint sealant product specified, including:
  - 1. Preparation instructions and recommendations.
  - 2. Standard drawings illustrating manufacturer's recommended sealant joint profiles and dimensions applicable to Project.
- B. Joint Sealant Schedule: Indicate joint sealant location, joint sealant type, manufacturer and product name, and color, for each application. Utilize joint sealant designations included in this Section.
- C. Samples for Color Selection: For each joint sealant type.
- D. Samples for Verification: For each exterior joint sealant product, for each color selected.

### 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified applicator.



- B. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.
- C. Preconstruction compatibility and adhesion test reports.
- D. Preconstruction field-adhesion test reports.
- E. Field quality control adhesion test reports.
- F. Warranty: Sample of unexecuted manufacturer and installer special warranties.

#### 1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Experienced Installer equipped and trained for application of joint sealants required for this Project with record of successful completion of projects of similar scope.
- B. Single Source Responsibility: Provide exterior joint sealants by a single manufacturer responsible for testing of Project substrates to verify compatibility and adhesion of joint sealants.
- C. Preconstruction Compatibility, Staining, and Adhesion Testing: Submit four samples of material that will be in contact with or affect joint sealants. Test sealants with substrate materials using manufacturer's standard test method to determine requirements for joint preparation, including priming. Test sealants with related materials to verify compatibility.
- D. Preconstruction Field-Adhesion Testing: Prior to installing joint sealants, field test adhesion to joint substrates using ASTM C 1193 Method A or method recommended by manufacturer. Verify adhesion is adequate. Modify joint preparation recommendations for failed joints and re-test. Submit written report to Architect.
- E. Mockups: Provide joint sealant application within mockups required in other sections identical to specified joint sealants and installation methods.

#### 1.8 FIELD CONDITIONS

- A. Hazardous Materials: Testing has not been performed to indicate that materials to be removed or rehabilitated do not contain hazardous materials.
  - 1. If suspected hazardous materials are encountered, do not disturb materials, and immediately notify Architect and Owner.

#### 1.9 WARRANTY

- A. Special Installer's Warranty: Installer shall provide a warranty statement with their letterhead in which Installer agrees to repair or replace joint sealants that demonstrate deterioration or failure within warranty period specified.

1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint sealant manufacturer agrees to furnish joint sealants to repair or replace those that demonstrate deterioration or failure under normal use within warranty period specified.
  1. Warranty Period for Silicone Sealants: 20 years date of Substantial Completion.
- C. Warranty Conditions: Special warranties exclude deterioration or failure of joint sealants in normal use due to structural movement resulting in stresses on joint sealants exceeding sealant manufacturer's written specifications, joint substrate deterioration, mechanical damage, or normal accumulation of dirt or other contaminants.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

- A. Basis-of-Design Product: Provide joint sealant products manufactured by Dow Corning Corp., Midland MI; (877) SEALANT, (877) 732-5268; email: [construction@dowcorning.com](mailto:construction@dowcorning.com); website: [www.dowcorning.com/construction](http://www.dowcorning.com/construction), or comparable products of other manufacturer approved by Architect.

### 2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants and accessory materials that are compatible with one another, with joint substrates, and with materials in close proximity under use conditions, as demonstrated by sealant manufacturer by testing and related experience.
- B. Joint Sealant Standard: Comply with ASTM C 920 and other specified requirements for each liquid-applied joint sealant.
- C. Stain Test Characteristics: Where sealants are required to be nonstaining, provide sealants tested per ASTM C 1248 as non-staining on porous joint substrates indicated for Project.

### 2.3 WEATHERPROOFING LIQUID SILICONE JOINT SEALANTS

- A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use T, NT; SWRI validation. [Application for above-grade high movement expansion and control joints.]
  1. Basis of Design Product: DOW CORNING® 790 Silicone Building Sealant.
  2. Hardness, ASTM C 661: 15 durometer Shore A.
  3. Volatile Organic Compound (VOC) Content: 26 g/L maximum.
  4. Staining, ASTM C 1248: None on concrete, granite, limestone, and brick.

5. Color: As selected by Architect from manufacturer's full line of not less than 10 colors.
- B. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, for Use NT; SWRI validation. [Weatherproofing porous stone, metal panels, curtain wall framing, and other above-grade expansion and control joints for both new and remedial construction].
1. Basis of Design Product: DOW CORNING® 756 SMS Building Sealant.
  2. Hardness, ASTM C 661: 35 durometer Shore A, minimum.
  3. Volatile Organic Compound (VOC) Content: 60 g/L maximum.
  4. Staining, ASTM C 1248: None on white marble.
  5. Color: As selected by Architect from manufacturer's full line of not less than 10.
- C. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, for Use NT; SWRI validation. [Silicone sealant for general glazing and above-grade weather sealing in curtainwalls and building facades for both new and remedial construction.]
1. Basis of Design Product: DOW CORNING® 791 Silicone Weatherproofing Sealant.
  2. Hardness, ASTM D 2240: 34 durometer Shore A, minimum.
  3. Volatile Organic Compound (VOC) Content: 30 g/L maximum.
  4. Staining, ASTM C 1248: None on concrete, granite, limestone, and brick.
  5. Color: As selected by Architect from manufacturer's full line of not less than 6 colors.
- D. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, for Use NT; SWRI validation. [Silicone sealant for structural and non-structural glazing, structural attachment for panel systems, as well as above-grade weather sealing joints with most common constructions materials for both new and remedial construction].
1. Basis of Design Product: DOW CORNING® 795 Silicone Building Sealant.
  2. Hardness, ASTM D 2240: 35 - 45 durometer Shore A, minimum.
  3. Volatile Organic Compound (VOC) Content: 32 g/L maximum.
  4. Staining, ASTM C 1248: None on concrete, marble, granite, limestone, and brick.
  5. Color: As selected by Architect from manufacturer's full line of not less than 10.
- E. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT; SWRI validation. [Above-grade weather-sealing joints]
1. Basis of Design Product: DOW CORNING® 758 Silicone Weather Barrier Sealant.
  2. Hardness, ASTM D 2240: 45 durometer Shore A, minimum.
  3. Volatile Organic Compound (VOC) Content: 61 g/L maximum.
  4. Color: White.
- F. Single-Component, Nonsag, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT. [For glazing butt and lap shear joints and sealing curtainwall and other glass, plastic and metal assemblies].
1. Basis of Design Product: DOW CORNING® 999-A Silicone Building & Glazing Sealant
  2. Hardness, ASTM D 2240: 25 durometer Shore A, minimum.
  3. Volatile Organic Compound (VOC) Content: 36 g/L maximum.

4. Color: As selected by Architect from manufacturer's full line of not less than 6.

## 2.4 PRE-FORMED JOINT SEALANTS

- A. Preformed Silicone Elastomer Extrusion: Highly flexible low-modulus flashing and transition material for bonding to substrates with silicone sealant. SWRI validation. [For flashing and transitions in new construction and as a joint overlay in joint sealant rehabilitation work].
  1. Basis of Design Product: DOW CORNING® 123 Silicone Seal.
  2. Surface: Grooved to facilitate bending.
  3. Bonding Sealant: Manufacturer's recommended neutral-curing silicone.
  4. Hardness, ASTM D 2240: 25 durometer Shore A, minimum.
  5. Color: As selected by Architect from manufacturer's full line.
- B. Preformed Silicone Elastomer Custom Two- and Three- Dimension Extrusion: Flexible flashing for bonding to substrates with silicone sealant. [For repair of failed sealant joints or use in new construction splices, mitered joints, boots, and molded corners].
  1. Basis of Design Product: DOW CORNING® 123 Silicone Seal Custom Designs H.C.
  2. Formulation: [General Purpose] [High Tear].
  3. Shape: Multi-dimensional as indicated on drawings and approved shop drawings and as required to fit and functionally seal specific application and prevent air and water penetration
  4. Bonding Sealant: Manufacturer's recommended neutral-curing silicone.
  5. Color: As selected by Architect from manufacturer's full line.

## 2.5 ACCESSORIES

- A. Joint Substrate Primers: Substrate primer recommended by sealant manufacturer for application.
- B. Cylindrical Sealant Backing: ASTM C 1330, Type B non-absorbent, bi-cellular material with surface skin, or Type O open-cell polyurethane, as recommended by sealant manufacturer for application.
- C. Bond Breaker Tape: Polymer tape compatible with joint sealant materials and recommended by sealant manufacturer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- D. Examination of Existing Joint Sealants: Examine existing joint sealants and indicate extent of joint sealant replacement and rehabilitation on shop drawings. Examine joints for compliance

with requirements for joint configuration, installation tolerances, condition of joint substrate, and other conditions affecting joint-sealant performance.

- E. Preinstallation Testing: Perform preinstallation adhesion tests in accordance with manufacturer's instructions and with ASTM C 1193, Method A. Verify substrate preparation and priming result in adhesion of sealants meeting sealant manufacturer's published performance data.
  - 1. If adhesion does not comply with published data, modify preparation and priming in accordance with sealant manufacturer's written instructions and retest.
- F. Submit report indicating conditions that cannot be corrected to comply with joint sealant manufacturer's recommendations as part of the specified joint replacement or rehabilitation. Proceed with work once non-complying conditions are corrected.

### 3.2 PREPARATION

- A. Removal of Failed Joint Sealant Materials: Cut out and remove joint materials and associated backing materials as identified during examination of existing joint sealants.
- B. Surface Cleaning of Joint Substrates: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
  - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
  - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods in addition to solvent cleaning to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Remove laitance and form-release agents from concrete.
  - 3. Clean porous and nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.

### 3.3 APPLICATION

- A. Masking: Mask adjacent surfaces to prevent staining or damage by contact with sealant or primer.
- B. Joint Priming: Prime joint substrates when recommended by sealant manufacturer or when indicated by preconstruction testing or experience. Apply recommended primer using sealant manufacturer's recommended application techniques.

- C. Joint Backing: Select joint backing materials recommended by sealant manufacturer to be compatible with sealant material. Install backing material at depth required to produce profile of joint sealant allowing optimal sealant movement.

- 1. Install bond breaker tape over substrates when sealant backings are not used.

- D. Sealant Application: Install sealants using methods recommended by sealant manufacturer, in depths between 1/4 and 1/2 inch unless otherwise recommended for application. Apply in continuous operation from bottom to top of joint vertically and horizontally in a single direction. Apply using adequate pressure to fill and seal joint width.

- 1. Tool sealants immediately with appropriately shaped tool to force sealants against joint backing and joint substrates, eliminating voids and ensuring full contact.
  - 2. Using tooling agents approved by sealant manufacturer for application.

### 3.5 CLEANING

- A. Cleaning: Remove excess sealant using materials and methods approved by sealant manufacturer that will not damage joint substrate materials.

- 1. Remove masking tape immediately after tooling joint without disturbing seal.
  - 2. Remove excess sealant from nonporous surfaces while still uncured.

### 3.6 FIELD QUALITY CONTROL

- A. Retain testing agency to perform the following tests:

- 1. Verification that substrate preparation meets requirements.
  - 2. Testing and certification that joint sealant materials comply with requirements.
  - 3. Testing of application for compliance with adhesion requirements.

- B. Field-Adhesion Testing: Perform adhesion tests in accordance with manufacturer's instructions and with ASTM C 1193, Method A.

- 1. Perform 5 tests for the first 1000 feet of joint length for each kind of sealant and joint substrate, and one test for each 1000 feet of joint length thereafter.
  - 2. For sealant applied between dissimilar materials, test both sides of joint.

- C. Remove sealants failing adhesion test, clean substrates, reapply sealants, and re-test. Test adjacent sealants to failed sealants.

- D. Submit report of field adhesion testing indicating tests, locations, dates, results, and remedial actions taken.

### 3.7 EXTERIOR JOINT-SEALANT SCHEDULE

- A. Exterior construction joints in cast-in-place concrete.

- 1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant : DOW CORNING® 790.
  - 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

- B. Exterior movement joints in concrete unit masonry.
  - 1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant: .
  - 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.
- C. Exterior movement joints in brick masonry.
  - 1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant: DOW CORNING ®790 or 795.
  - 2. Joint-Sealant Color, Vertical Joints: brick at vertical joints.
  - 3. Joint-Sealant Color, Horizontal Joints: mortar at horizontal joints.
- D. Exterior movement joints in stone masonry.
  - 1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant: .
  - 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.
- E. Exterior joints within exterior insulation finish systems.
  - 1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant: .
  - 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.
- F. Exterior joints in metal panel cladding systems.
  - 1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant: .
  - 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.
- G. Exterior concealed watertight joints in cladding systems.
  - 1. Joint Sealant: Single-component neutral-curing silicone sealant: .
- H. Exterior joints between different materials listed above.
  - 1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant: .
  - 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.
  - 3. Multiple colors required to match several conditions.
- I. Exterior perimeter joints at frames of doors, windows, storefront frames, curtain wall frames, and louvers.
  - 1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant: .
  - 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range.
  - 3. Multiple colors required to match several conditions.
- J. Aluminum Storefront Framing and Curtain Wall Joints, Glazing, and Structural Glazing: Refer to Division 08 Section: Glazing Sealants.
- K. All other exterior non-traffic joints.
  - 1. Joint Sealant: Single-component neutral-curing silicone sealant: .

**County of Fresno**  
5555 East Olive Avenue, Fresno  
Roof Replacement and Façade Repairs

Project No. 2024\_10

END OF SECTION 070191



SECTION 07 27 26 – FLUID-APPLIED MEMBRANE AIR BARRIERS, VAPOR RETARDING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes fluid-applied, vapor-permeable membrane air barriers.

1.2 RELATED REQUIREMENTS

- 1. Section 04 01 20 "Maintenance of Unit Masonry"
- 2. Division 07 roofing Sections for roof assembly air barriers and interface coordination.

1.3 REFERENCES

- A. References, General: Versions of the following standards current as of the date of issue of the project apply to the Work of this Section.
- B. ASTM International (ASTM): [www.astm.org](http://www.astm.org):
  - 1. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants
  - 2. ASTM C 1193 - Guide for Use of Joint Sealants
  - 3. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension
  - 4. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials
  - 5. ASTM E 96/E 96M - Standard Test Methods for Water Vapor Transmission of Materials
  - 6. ASTM E 162 - Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source
  - 7. ASTM E 783 - Standard Test Method for Field Measurement of Air Leakage through Installed Exterior Windows and Doors
  - 8. ASTM E 1186 - Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems
  - 9. ASTM E 2178 - Standard Test Method for Air Permeance of Building Materials
  - 10. ASTM E 2357 - Standard Test Method for Determining Air Leakage of Air Barrier Assemblies

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate installation of joint sealants with cleaning of joint sealant substrates and other operations that may impact installation or finished joint sealant work.
- B. Preinstallation Conference: Conduct conference at Project Site.
  - 1. Review requirements for air barrier products and installation, project and manufacturer's details, mockups, testing and inspection requirements, and coordination and sequencing of air barrier work with work of other Sections.

2. Review manufacturer's instructions for air barrier application meeting Project requirements for substrates specified, including three-dimensional video model demonstrating proper application of components at wall openings.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of air barrier product specified, including:
  1. Technical data indicating compliance with requirements.
  2. Substrate preparation instructions and recommendations.
- B. Shop Drawings: Show locations for air barrier. Show details for each type of substrate, joints, and edge conditions, including flashings, counter flashings, penetrations, transitions, and terminations.
  1. Show location of transition and accessory materials providing connectivity throughout the assemblies.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer, manufacturer, and Air Barrier Inspector.
  1. Certification of manufacturer's approval of Installer.
- B. Manufacturer's Product Compatibility Certificate: Certify compatibility of air barrier products with adjacent materials.
- C. Product Test Reports: Test data for air barrier products and air barrier assembly, by qualified testing agency, indicating proposed membrane air barrier meets performance requirements, when requested by Architect.
- D. Warranty: Sample of unexecuted manufacturer and installer special warranties.
- E. Field quality control reports.

#### 1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A manufacturer-approved firm with minimum three years' experience in installation of specified products in successful use on similar projects, employing workers trained by manufacturer, including a full-time on-site supervisor with a minimum of three years' experience installing similar work, able to communicate verbally with Contractor, Architect, and employees.
- B. Manufacturer Qualifications: A qualified manufacturer with minimum five years' experience in manufacture of air barrier membrane as one of its principal products.
  1. Manufacturer's product submitted has been in satisfactory operation on five similar installations for at least five years.

2. Approval of Manufacturers and Comparable Products: Submit the following in accordance with project substitution requirements, within time allowed for substitution review:
    - a. Completed and signed Substitution Request form.
    - b. Product data, including certified independent test data indicating compliance with requirements.
    - c. Sample shop drawings from similar project.
    - d. Project references: Minimum of five installations of similar system not less than five years old, with Owner and Architect contact information.
    - e. Sample warranty.
  - C. Air Barrier Inspector Qualifications: A technical representative of manufacturer not engaged in the sale of products and experienced in the installation and maintenance of the specified air barrier system, qualified to perform observation and inspection specified in Field Quality Control Article, to determine Installer's compliance with the requirements of this Project, and approved by the manufacturer to issue warranty certification. The Inspector shall be one of the following:
    1. An authorized full-time technical employee of the manufacturer.
    2. A independent party certified as an air barrier inspector or other certifying organization acceptable to Architect, retained by the Contractor.
  - D. Mockups: Provide air barrier mockup application within mockups required in other sections, or if not specified, in an area of not less than 150 sq. ft. of wall surface where directed by Architect for each type of backup wall construction. Include examples of surface preparation, crack and joint treatment, air barrier application, and flashing, transition, and termination conditions, to set quality standards for execution.
    1. Include intersection of wall air barrier with roof air barrier and with foundation wall intersection.
- 1.8 DELIVERY, STORAGE AND HANDLING
- A. Accept materials on site in manufacturer's unopened original packaging.
  - B. Store products in weather protected environment, clear of ground and moisture, within temperature ranges recommended by air barrier manufacturer.
- 1.9 ENVIRONMENTAL REQUIREMENTS
- A. Environmental Limitations: Apply air barrier within the range of ambient and substrate temperatures recommended by air-barrier manufacturer.
    1. Protect substrates from environmental conditions that affect air-barrier performance.
    2. Do not apply air barrier to a damp or wet substrate or during snow, rain, fog, or mist.
- 1.10 SCHEDULING
- A. Coordinate installation of membrane air barrier with completion of roofing and other work requiring interface with air barrier.

- B. Schedule work so air barrier applications may be inspected prior to concealment.
- C. Ensure air barrier materials are cured before covering with other materials.

#### 1.11 WARRANTY

- A. Special Manufacturer's Warranty: Manufacturer's standard form in which air barrier manufacturer agrees to furnish and install air barrier material to repair or replace those materials installed according to manufacturer's written instructions that exhibit material defects or otherwise fail to perform as specified under normal use within warranty period specified.
  - 1. Access for Repair: Owner shall provide unimpeded access to the Project and the air barrier system for purposes of testing, leak investigation, and repair, and shall reinstall removed cladding materials upon completion of repair.
  - 2. Cost Limitation: Manufacturer's obligation for repair or replacement shall be limited to the original installed cost of the work.
  - 3. Warranty Period: 30 years date of Substantial Completion.
- B. Special warranties specified in this article exclude deterioration or failure of air barrier materials from the following:
  - 1. Movement of the structure caused by structural settlement or stresses on the air barrier exceeding manufacturer's written specifications for elongation.
  - 2. Mechanical damage caused by outside agents.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Basis-of-Design Products: Provide air barrier products manufactured by Tremco, Inc., Commercial Sealants and Waterproofing Division, An RPM Company, Beachwood OH; (866) 321-6357; email: [techresources@tremcoinc.com](mailto:techresources@tremcoinc.com); [www.tremcosealants.com](http://www.tremcosealants.com), or comparable products of other manufacturer approved by Architect.

#### 2.2 MATERIALS, GENERAL

- A. Source Limitations: Obtain air-barrier materials from single source from single manufacturer.
- D. Compatibility: Provide membrane air barrier materials that are compatible with one another and with adjacent materials under conditions of service and application required, as demonstrated by membrane air barrier manufacturer based on testing and field experience.

#### 2.3 PERFORMANCE REQUIREMENTS

- A. General: Membrane air barrier shall be capable of performing as a continuous vapor- permeable air barrier and as a moisture drainage plane transitioned to adjacent flashings and discharging water to the building exterior. Membrane air barriers shall accommodate substrate movement and seal expansion and control joints, construction material transitions, opening transitions, penetrations, and perimeter conditions without moisture deterioration and air leakage exceeding performance requirements.

- B. Air-Barrier Assembly Air Leakage: Maximum 0.04 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft., when tested according to ASTM E 2357.

#### 2.4 MEMBRANE AIR BARRIER

- A. Fluid-Applied, Vapor-Retarding Membrane Air Barrier: Elastomeric, polymer-modified bituminous membrane.
  - 1. Basis of Design Product: Tremco, Inc., ExoAir 120.
  - 2. Air Permeance, ASTM E 2178: Less than 0.004 cfm/sq. ft of surface area at 1.57-lbf/sq. ft. pressure difference.
  - 3. Vapor Permeance, ASTM E 96/E96M: Maximum 0.08 perms.
  - 4. Elongation, Ultimate, ASTM D 412, Die C: 1,000 percent, minimum.
  - 5. Thickness of Membrane Air Barrier: Not less than 60 mils (wet) and 40 mils (dry), applied in single continuous coat.
  - 6. VOC Content: Less than XX g/L

#### 2.5 ACCESSORY MATERIALS

- A. General: Accessory materials as described in manufacturer's written installation instructions, recommended to produce complete air barrier assembly meeting performance requirements, and compatible with air barrier membrane material and adjacent materials.
- B. Primer: Liquid primer meeting VOC limitations, recommended for substrate by membrane air barrier manufacturer, when installing modified bituminous self-adhered membranes.
- C. Transitions:
  - 1. Counterflashing Strip: Modified bituminous, 40 mils thick self-adhering composite sheet consisting of 32 mils of SBS rubberized asphalt laminated to an 8 mils high-density, cross-laminated polyethylene film, for counterflashing of metal flashings and for substrate transitions and for termination of air barrier to bituminous roof membranes and to air barrier terminations at openings.
    - a. Basis of Design Product: Tremco, Inc., ExoAir TWF Thru-Wall Flashing.
  - 2. High Temperature Flashing Strip and Underlayment: Butyl, 24 mil thick self-adhering composite sheet consisting of 20 mils of butyl laminated to 4 mil polyethylene film; thermally stable under intermittent, non-continuous exposure up to 240 deg F.
    - a. Basis of Design Product: Tremco, Inc., ExoAir 110AT.
  - 3. Foil Flashing Strip: Butyl, 22 mil thick self-adhering composite sheet consisting of 16 mils of butyl laminated to 6 mil polypropylene film; thermally stable under intermittent, non-continuous exposure up to 240 deg F.
  - 4. Opening Transition Assembly: Cured low-modulus silicone extrusion, with reinforcing ribs, sized to fit opening widths, with aluminum race for insertion into aluminum framing extrusions, with the following characteristics:

- a. Basis of Design Product: Tremco, Inc., Proglaze ETA Engineered Transition Assembly. Tear Strength: 110 lb/in.
5. Preformed Silicone-Sealant Extrusion: Manufacturer's standard system consisting of cured low-modulus silicone extrusion, sized to fit opening widths, with manufacturer's recommended silicone sealant for bonding extrusions to substrates.
  - a. Basis of Design Product: Tremco, Inc.; Spectrem SimpleSeal.
- A. Liquid Joint Sealants
  1. ASTM C 920, single-component polyurethane sealant, approved by air barrier manufacturer for adhesion and compatibility with membrane air barrier and accessories.
    - a. Basis of Design Product: Tremco, Inc., Dymonic 100.
  2. ASTM C 920, single-component, neutral-curing silicone, approved by air barrier manufacturer for adhesion and compatibility with membrane air barrier and accessories.
    - a. Basis of Design Product: Tremco, Inc., Spectrem 1.
- B. Sprayed Polyurethane Foam Sealant: Sprayed Polyurethane Foam Sealant: Foamed-in-place, 1.5- to 2.0-lb/cu. ft. density, with flame-spread index of 25 or less per ASTM E 162, for filling of gaps at openings and penetrations.
  - a. Basis of Design; Tremco Inc., Flexible Low Expanding Foam (LEF)

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Surface Condition: Before applying air barrier materials, examine substrate and conditions to ensure substrates are fully cured, smooth, clean, dry, and free from high spots, depressions, loose and foreign particles and other deterrents to adhesion, and conditions comply with manufacturer's written recommendations.
  1. Verify concrete and masonry surfaces are visibly dry, have cured for time period recommended by membrane air barrier manufacturer, and are free from release agents, curing agents, and other contaminants.
  2. Test for capillary moisture by method recommended in writing by air barrier manufacturer.
  3. Verify masonry joints are filled with mortar and struck flush.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 INTERFACE WITH OTHER WORK

- A. Commencement of Work: Commence work once air barrier substrates are adequately protected from weather and will remain protected during remainder of construction.

- B. Sequencing of Work: Coordinate sequencing of air barrier work with work of other sections that form portions of building envelope air barrier to ensure that flashings and transition materials can be properly installed and inspected. Roofing systems shall be capped and sealed, or top of walls protected, in such a way as to eliminate the ability of water to saturate the wall or interior space, both before and after, air barrier system installation. Coordinate installation of EXOAIR® 120 with the roofing trade to ensure compatibility and continuity with the roofing system.
- C. Subsequent Work: Coordinate air barrier work with work of other sections installed subsequent to air barrier to ensure complete inspection of installed air barrier and sealing of air barrier penetrations necessitated by subsequent work.

### 3.3 PREPARATION

- A. Clean, prepare, and treat substrate in accordance with air barrier manufacturer's written instructions.
  - 1. Mask adjacent finished surfaces.
  - 2. Remove contaminants and film-forming coatings from substrates.
  - 3. Remove projections and excess materials and fill voids with substrate patching material.
  - 4. Prepare and treat joints and cracks in substrate per ASTM C 1193 and membrane air barrier manufacturer's written instructions.

### 3.4 APPLICATION OF ACCESSORY MATERIALS

- A. General: Install strips, transition strips, and accessory materials according to air-barrier manufacturer's written instructions. Install transition materials and other accessories to form connect and seal membrane air barrier material to adjacent components of building air barrier system, including, but not limited to, roofing system air barrier, exterior fenestration systems, door framing, and other openings.
- B. Primer: Apply primer to substrates when recommended by air barrier manufacturer at required rate for those substrates that will be receiving a modified bituminous self-adhered membrane. Reprime areas not covered within 24 hours.
- C. Assembly Transitions: Connect and seal exterior wall air barrier material continuously to roofing-membrane air barrier, concrete below-grade structures, floor-to-floor construction, exterior glazing and window systems, glazed curtain-wall systems, storefront systems, exterior louvers, exterior door framing, and other construction used in exterior wall openings, using accessory materials.
  - 1. Opening Transitions: Fill gaps at perimeter of openings with foam sealant and apply approved transition or accessory material.
  - 2. Penetrations: Fill gaps at perimeter of penetrations with foam sealant and level with approved sealant or seal transition strips around penetrating objects and terminate with approved sealant.
  - 3. Joints: Bridge and cover isolation joints, expansion joints, and discontinuous joints between separate assemblies utilizing approved transition or accessory materials.
  - 4. Changes in Plane: Apply approved sealant beads at corners and edges to form smooth transition.

5. Substrate Gaps: Cover gaps with stainless steel sheet mechanically attached to substrate and providing continuous support for air barrier.
- D. Flashings: Seal top of through-wall flashings to membrane air barrier with a continuous bead of approved sealant recommended by air barrier manufacturer.
- E. Seal punctures, voids, and seams. Patch with approved transition and accessory materials following air barrier manufacturer's recommendations and extend repair beyond repaired areas to maintain continuity.

### 3.5 FLUID AIR-BARRIER MEMBRANE INSTALLATION

- A. General: Apply fluid air-barrier material to form a seal with transition materials and accessories to achieve a continuous air barrier according to air-barrier manufacturer's written instructions. Apply fluid air-barrier material within manufacturer's recommended application temperature ranges.
- B. Membrane Air Barrier: Apply fluid air barrier material in full contact with substrate to produce a continuous seal according to membrane air barrier manufacturers written instructions.
  1. Vapor-Retarding Membrane Air Barrier: Total dry film thickness as recommended in writing by manufacturer to meet performance requirements, but not less than 40-mil dry film thickness, applied in one or more equal coats, roller- or spray-applied.
- C. Connect and seal exterior wall air-barrier membrane continuously to subsequently-installed roofing-membrane air barrier, concrete below-grade structures, floor-to-floor construction, exterior glazing and window systems, glazed curtain-wall systems, storefront systems, exterior louvers, exterior door framing, wall openings, and other construction used in exterior wall openings, using approved transitions and accessory materials.
- D. Wall Openings: Apply approved sealant to adhere silicone extrusion to perimeter of windows, curtain walls, storefronts, doors, and louvers. Apply [opening transition assembly] [preformed silicone sealant extrusion] according to air barrier transition manufacturer's written instructions.
- E. Seal punctures, voids, and seams. Patch with approved transition and accessory materials following air barrier manufacturer's recommendations and extend repair beyond repaired areas to maintain continuity.
- F. Do not cover air barrier until it has been tested and inspected by Owner's testing agency.
- G. Correct deficiencies in or remove air barrier that does not comply with requirements; repair substrates and reapply air-barrier components.

### 3.6 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor shall engage a qualified Inspector to perform tests and inspections, including documenting of membrane air barrier prior to concealment.
  1. Inspections and testing shall be carried out at the following rate:



- a. Up to 10,000 sq. ft. : One inspection.
- b. 10,001 to 35,000 sq. ft.: Two inspections.
- c. 35,001 to 75,000 sq. ft. : Three inspections.
- d. 75,001 to 125,000 sq. ft. : Four inspections.
- e. 125,001 to 200,000 sq. ft. : Five inspections.
- f. Over 200,000 sq. ft.: Six inspections.

2. Scope of Testing: Testing shall include the following:

- a. Qualitative air-leakage testing per ASTM E 1186.
- b. Quantitative air-leakage testing per ASTM E 783.
- c. Photo documentation of work to be subsequently concealed.

B. Coordination of Testing: Cooperate with testing agency. Allow access to work areas and staging. Notify testing agency in writing of schedule for Work of this Section to allow sufficient time for testing and inspection.

1. Do not cover Work until testing and inspection is completed and accepted.

C. Reporting: Forward written inspection reports to the Architect within 10 working days of the inspection and test being performed.

D. Correction: Correct deficient applications not passing tests and inspections, make necessary repairs, and retest as required to demonstrate compliance with requirements.

3.7 CLEANING AND PROTECTING

A. Clean spills, stains, and overspray resulting application utilizing cleaning agents recommended by manufacturers of affected construction. Remove masking materials.

B. Protect membrane air barrier from damage from subsequent work. Protect membrane materials from exposure to UV light for period in excess of that acceptable to membrane air barrier manufacturer; replace overexposed materials and retest.

END OF SECTION 072726

## SECTION 075416 - KETONE ETHYLENE ESTER (KEE) ROOFING

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Mechanically-fastened thermoplastic KEE roofing system on wood deck, including:
2. Roof insulation.
3. Roof insulation cover board.
4. Walkway material.

##### B. Related Sections:

1. Division 06 Section "Miscellaneous Rough Carpentry" for wood nailers and blocking.
2. Division 07 Section "Preparation for Re-Roofing" for recover board beneath new membrane roofing.
3. Division 07 Section "Fluid Applied Membrane Air Barriers, Vapor Retarding" for requirements for sealing of air barrier at perimeter of roofing and within roofing system.
4. Division 07 Section "Sheet Metal Flashing and Trim" for shop-formed sheet metal items including roof drainage system items, roof penetration flashings, base and counterflashings and reglets, and formed copings and roof edge metal items.
5. Division 07 Section "Roof Accessories" for manufactured copings, roof edge flashings and counterflashings, and roof edge drainage systems.
6. Division 07 Section "Joint Sealant Rehabilitation and Replacement" for joint sealants, joint fillers, and joint preparation.

#### 1.2 DEFINITIONS

- ##### A. Roofing Terminology:
- Refer to ASTM D1079 "Standard Terminology Relating to Roofing and Waterproofing" and glossary in applicable edition of NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" for definition of terms related to roofing work in this Section.

#### 1.3 PREINSTALLATION MEETINGS

- ##### A. Preinstallation Roofing Conference:
- Conduct conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review drawings and specifications.
3. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
4. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
5. Examine substrate conditions and finishes for compliance with requirements, including flatness and fastening.
6. Review structural loading limitations of roof deck during and after roofing.
7. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
8. Review governing regulations and requirements for insurance and certificates if applicable.
9. Review temporary protection requirements for roofing system during and after installation.
10. Review roof observation and repair procedures after roofing installation.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. SDS: For each type of product indicated.
  1. Product Test Reports for Solar Reflectance: For roof materials, indicating that roof materials comply with Solar Reflectance Index requirement.
  2. Product Data and Laboratory Test Reports: For adhesives and sealants, indicating compliance with requirements for low-VOC/low-emitting materials.
- C. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work.
  1. Base flashings and membrane terminations.
    - a. Indicate details meet requirements of NRCA and FMG required by this Section.
  2. Tapered insulation, including slopes and crickets.

3. Roof plan showing types and orientation of roof deck and orientation of membrane roofing and fastening spacings and patterns for mechanically fastened membrane roofing if applicable.
4. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

#### 1.5 INFORMATIONAL SUBMITTALS

A. Contractor's Approval Certificate.

1. Include letter from Manufacturer written for this Project indicating approval of Installer.

B. Qualification Data: For Roofing Inspector.

1. Include a notarized letter from a corporate officer of the manufacturer stating that a manufacturer-employed inspector will provide three days per week jobsite inspections for the duration of the project.
2. Provide three sample job site inspection reports used on previous projects.
3. Provide five references of projects where three days per week jobsite inspections were performed by the manufacturer. Include customer name, point of contact, phone number and email address.

C. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

1. Submit evidence of compliance with performance requirements.
  - a. Include: UL listing certificate.
2. Product Compatibility: Indicate manufacturer has verified compatibility of roofing system components, including but not limited to: Roofing membrane, flashing sheets, adhesives, and sealants.

D. Warranties: Unexecuted sample copies of special warranties.

E. Inspection Reports: Reports of Roofing Inspector. Include weather conditions, description of work performed, tests performed, defective work observed, and corrective actions taken to correct defective work.

1. Submit reports within 48 hours after inspection.

#### 1.6 CLOSEOUT SUBMITTALS

A. Executed copies of warranties.

B. Maintenance Data: To include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. **Installer Qualifications:** An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of five years' experience installing products comparable to those specified, able to communicate verbally with Contractor, Architect, and employees, and qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
- B. **Manufacturer Qualifications:** Approved manufacturer listed in this Section, UL listed for roofing systems comparable to that specified for this Project, with minimum five years' experience in manufacture of thermoplastic roof membrane products in successful use in similar applications.
  - 1. **Approval of Comparable Products:** Submit the following in accordance with project substitution requirements, within time allowed for substitution review:
    - a. Product data, including certified independent test data indicating compliance with requirements.
    - b. Samples of each component.
    - c. Sample submittal from similar project.
    - d. Project references: Minimum of five installations of specified products not less than five years old, with Owner and Architect contact information.
    - e. Sample warranty.
  - 2. Substitutions following award of contract are not allowed except as stipulated in Division 01 General Requirements.
  - 3. Approved manufacturers must meet separate requirements of Submittals Article.
- C. **Roofing Inspector Qualifications:** A technical representative of manufacturer not engaged in the sale of products and experienced in the installation and maintenance of the specified roofing system, qualified to perform roofing observation and inspection specified in Field Quality Control Article, to determine Installer's compliance with the requirements of this Project, and approved by the manufacturer to issue warranty certification. The Roofing Inspector shall be one of the following:
  - 1. An authorized full-time technical employee of the manufacturer.
- D. **Manufacturer's Installation Instructions:** Obtain and maintain on-site access to manufacturer's written recommendations and instructions for installation of products.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
  - 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

#### 1.9 PROJECT / FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
- B. Daily Protection: Coordinate installation of roofing so insulation and other components of roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
  - 1. Provide tie-offs at end of each day's work to cover exposed roofing and insulation with a course of roofing sheet securely in place with joints and edges sealed.
  - 2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing.
  - 3. Remove temporary plugs from roof drains at end of each day.
  - 4. Remove and discard temporary seals before beginning work on adjoining roofing.

#### 1.10 WARRANTY

- A. Warranty, General: Warranties specified shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
- B. Manufacturer's Warranty: Manufacturer's standard or customized form, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks.
  - 1. Manufacturer's warranty includes roofing membrane, base flashings, fasteners, roofing membrane accessories and other components of roofing system specified in this Section.
  - 2. Warranty documents that exclude components not supplied by the manufacturer are not acceptable to the Owner.

3. Warranty document will not exclude damaged from windspeeds below 74 MPH.
  4. Warranty Period: 30 years from date of Substantial Completion.
- C. Installer's Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section and related Sections indicated above, including all components of membrane roofing such as single ply roofing membrane, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, roof pavers, and walkway products, for the following warranty period:
1. Warranty Period: Two years from date of Substantial Completion.
- D. Manufacturer Inspection Services: By manufacturer's technical representative, to report maintenance responsibilities to Owner necessary for preservation of Owner's warranty rights. The cost of manufacturer's inspections is included in the Contract Sum.
1. Inspections to occur in following years: 2, 5, 10, and 15 following completion.
  2. Inspections include rooftop housekeeping, including removal of incidental debris (such as leaves, branches, paper and similar items) from the roof membrane and drainage areas such as gutters. All debris will be disposed of at the Owner's approved on-site location.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Basis of Design: The roof system specified in this Section is based upon products of Tremco CPG Inc, Beachwood, OH, (800) 562-2728, [www.tremcoroofing.com](http://www.tremcoroofing.com) that are named in other Part 2 articles. Provide specified products.
1. Manufacturers of comparable products: Approved by Architect prior to bid.
- B. Source Limitations: Obtain components for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.

### 2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Membrane roofing and base flashings shall remain watertight.
1. Accelerated Weathering: Roofing system shall withstand 10,000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
  2. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D3746/D3746M, ASTM D4272/D4272M, or the "Resistance to Foot Traffic Test" in FM Approvals 4470.

- B. Flashings and Fastening: Provide base flashings, perimeter flashings, detail flashings and component materials and installation techniques that comply with requirements and recommendations of the following:
  - 1. NRCA Roofing Manual (Sixth Edition) for construction details and recommendations.
  - 2. SMACNA Architectural Sheet Metal Manual (Seventh Edition) for construction details.
  - 3. Comply with requirements of Division 07 Section "Sheet Metal Flashing and Trim".
- C. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E1980, based on testing identical products by a qualified testing agency.

## 2.3 MATERIALS, GENERAL

- A. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.

## 2.4 THERMOPLASTIC MEMBRANE MATERIALS

- A. KEE Roof Membrane:
  - 1. Thermoplastic Ketone Ethylene Ester (KEE) coated polyester fabric-reinforced sheet, ASTM D6754.
    - a. Basis of design product: Tremco, TremPly KEE Single Ply Roof Membrane.
    - b. Breaking Strength, minimum, ASTM D751: Machine direction, 500 lbf/in (87 kN/m); Cross machine direction, 400 lbf/in (70 kN/m).
    - c. Tear Strength, minimum, ASTM D751: Machine direction, 120 lbf (162 N/m); Cross machine direction, 140 lbf (190 N/m).
    - d. Elongation at Break, ASTM D751: 20 percent.
    - e. Dynamic Impact/Puncture Resistance, ASTM D5635: 30 J, minimum.
    - f. Minimum Membrane Thickness, nominal, less backing, ASTM D751: 60 mils (1.5 mm).
    - g. Thickness over fiber, optical method: 0.016 inches (0.406).
    - h. Accelerated Weathering, ASTM G155 and ASTM G154: Not greater than 15,000 hr., no cracking or crazing.
    - i. Abrasion Resistance, ASTM D3389: Not greater than 2,000 cycles, H-18 wheel, 1,000 g load.



- j. Color: White.
- k. Solar Reflectance Index (SRI), ASTM E1980: 110 (White, initial), 86 (White, 3-yr aged).

B. Sheet Flashing: Manufacturer's standard, smooth-backed, sheet flashing of same material, type, reinforcement, thickness and color as KEE roof membrane.

## 2.5 AUXILIARY ROOFING MATERIALS

A. General: Auxiliary membrane roofing materials recommended by roofing system manufacturer for intended use, and compatible with membrane roofing.

- 1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
- 2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
  - a. Plastic Foam Adhesives: 50 g/L.
  - b. Single-Ply Roof Membrane Sealants: 450 g/L.
  - c. Nonmembrane Roof Sealants: 300 g/L.
  - d. Sealant Primers for Nonporous Substrates: 250 g/L.
  - e. Sealant Primers for Porous Substrates: 775 g/L.
- 3. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

B. Flashing Membrane Adhesive:

- 1. Bonding adhesive, solvent based fast drying, VOC-compliant, for bonding KEE smooth-backed single ply membranes and flashings to substrates.
  - a. Basis of design product: Tremco, TremPly KEE LV Bonding Adhesive.
  - b. VOC, maximum, ASTM D 3960: 200 g/L.

C. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch (25 mm by 3 mm) thick; with anchors.

- D. Metal Stress Plates: Manufacturer's standard AZ50 Galvalume-coated steel formed plates, 0.047 inch thick, with radial corners and membrane-engaging barbs engineered to enhance wind resistance for mechanically-attached KEE membrane roofing systems. FMG approved.
  - 1. Product: TremPly KEE Plus Stress Plates.
- E. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening components to substrate, and acceptable to membrane roofing system manufacturer.
- F. Joint Sealant: Elastomeric joint sealant compatible with roofing materials, with movement capability appropriate for application.
  - 1. Joint Sealant, Polyurethane: ASTM C920, Type S, Grade NS, Class 50 single-component moisture curing sealant, formulated for compatibility and use in dynamic and static joints; paintable.
    - a. Basis of design product: Tremco, TremSEAL Pro.
    - b. Volatile Organic Compounds (VOC), maximum, ASTM D3960: 40 g/L.
    - c. Hardness, Shore A, ASTM C661: 40.
    - d. Adhesion to Concrete, ASTM C794: 35 pli.
    - e. Tensile Strength, ASTM D412: 350 psi (2410 kPa).
    - f. Color: White.
- G. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.
- H. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

## 2.6 ROOF INSULATION MATERIALS

- A. General: Preformed roof insulation boards manufactured or approved by roofing manufacturer, selected from insulation manufacturer's standard sizes, suitable for application, and of thicknesses indicated.
  - 1. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated, not less than two times the roof slope.
- B. Roof Insulation: Provide roof insulation product in thicknesses indicated in Part 3 as follows:
  - 1. Board Insulation, Polyisocyanurate: CFC- and HCFC- free, with recycled content glass-fiber mat facer on both major surfaces, ASTM C1289 Type II Class 1.

- a. Basis of design product: Tremco, Trisotech Insulation OR Equal.
- b. Compressive Strength, ASTM D1621: Grade 2: 20 psi (138 kPa).
- C. Conditioned Thermal Resistance at 75 deg. F (24 deg. C): 14.4 at 2.5 inches (50.8 mm) thick

## 2.7 ROOF INSULATION ACCESSORIES

- A. Cover Board:
  - 1. Gypsum panel, glass-mat-faced, ASTM C1177/C1177M.
    - a. Basis of design product: Tremco/GP Gypsum DensDeck or Equal.
    - b. Thickness: 1/2 inch (12 mm).
- B. Insulation Cant Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board.
- C. Tapered Edge Strips: ASTM C 208, Type II, Grade 1, cellulosic-fiber insulation board.
- D. Substrate Joint Tape: 6- or 8-inch- (150- or 200-mm-) wide, coated, glass fiber.
- E. Insulation Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.

## 2.8 WALKWAY MATERIALS

- A. Walkway / Protection Mat Material:
  - 1. Protection walkway roll, reinforced KEE membrane roll with diamond-tread, slip-resistant surface, fabricated for heat welding to compatible KEE membrane surface.
    - a. Basis of design product: Tremco, TremPly KEE Protection Walkway Roll.
    - b. Roll Size: 30 inches by 100 ft
    - c. Thickness: 0.060 inch.
    - d. Breaking strength: 450 lbs.
    - e. Color: Light Gray.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:

1. Verify that roof openings and penetrations are in place and curbs are set and braced and that roof drain bodies are securely clamped in place.
2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
3. Existing Prepared Roof Substrate: Verify that existing insulation and substrate is sound and dry. Refer to requirements of Division 07 Section "Preparation for Re-Roofing."
4. Wood Roof Deck: Verify that deck is sound and dry and securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch (1.6 mm) out of plane relative to adjoining deck.
5. Verify that existing insulation and substrate is sound and dry.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

### 3.3 INSTALLATION, GENERAL

- A. Install roofing system in accordance with manufacturer's written instructions and approved details.
- B. NRCA Installation Details: Install roofing system in accordance with applicable NRCA Manual Plates and NRCA recommendations; modify as required to comply with manufacturer's approved details and perimeter fastening requirements of FM Global references if applicable.

### 3.4 INSULATION INSTALLATION

- A. Coordinate installing membrane roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches (70 mm) or greater, install two or more layers with joints of each

succeeding layer staggered from joints of previous layer a minimum of 6 inches (150 mm) in each direction.

1. Flat Insulation System on Sloped Roof Deck: Install insulation at minimum thickness as follows:
  - a. Minimum total thickness of Continuous Insulation: 2 inches.
2. Insulation Drain Sumps: Tapered insulation sumps, not less than 2 by 2 ft. (600 by 600 mm), sloped to roof drain; sump to maximum depth of not more than 1 inch (25 mm) less than the Project-stipulated continuous insulation thickness based upon code requirements.

D. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

E. Mechanically Fastened Insulation: Install each layer of insulation and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.

1. Fasten insulation to resist uplift pressure at corners, perimeter, and field of roof.

F. Cover Boards: Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction. Loosely butt cover boards together.

1. Secure cover boards to resist uplift pressure at corners, perimeter, and field of roof.

2. Mechanically fasten cover boards.

### 3.5 MECHANICALLY FASTENED MEMBRANE ROOFING INSTALLATION

A. Mechanically fasten membrane roofing over area to receive roofing and install according to roofing system manufacturer's written instructions.

B. Start installation of membrane roofing in presence of roofing system manufacturer's technical personnel.

C. Accurately align membrane roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

D. Mechanically fasten or adhere membrane roofing securely at terminations, penetrations, and perimeter of roofing.

E. Apply membrane roofing with side laps shingled with slope of roof deck where possible.

F. In-Seam Attachment: Secure one edge of membrane sheet using fastening plates or metal battens centered within membrane seam and mechanically fasten membrane sheet to roof deck.

G. Metal Stress Plate Installation:

1. Locate plates in grid pattern in accordance with membrane manufacturer's instructions.
  2. Install plates in straight rows in the specified number and spacing to achieve the required wind uplift resistance in the main field, edges and corners of the roof.
  3. Install plates and separation pads using fasteners that comply with the specified applicable building code wind uplift rating and the fastener and membrane manufacturer's requirements. Ensure that all fasteners are properly driven normal to the surface of the sub-structure. Do not over-drive fasteners; plates that are recessed into and/or not flush with the surface of the insulation are not acceptable.
- H. Welded Seams: Clean seam areas, overlap membrane roofing, and hot-air weld side and end laps of membrane roofing and sheet flashings according to manufacturer's written instructions to ensure a watertight seam installation.
1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet membrane.
  2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.
  3. Repair tears, voids, and lapped seams in roofing that does not comply with requirements.
- I. Spread sealant bed over deck drain flange at roof drains and securely seal membrane roofing in place with clamping ring.
- J. Install membrane roofing and auxiliary materials to tie in to existing roofing to maintain weathertightness of transition. Install in such a manner as to not void warranty for existing membrane roofing system.
- 3.6 BASE FLASHING INSTALLATION
- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
  - B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.
  - C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
  - D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
  - E. Seal top termination of base flashing with a metal termination bar and a continuous bead of joint sealant.

3.7 WALKWAY INSTALLATION

- A. Flexible Walkways: Install walkway products in locations indicated. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.8 FIELD QUALITY CONTROL

- A. Manufacturer Inspector: Manufacturer will employ technical personnel to inspect the roof while it is being installed. Roof will be inspected a minimum of 3 times per week while in progress with jobsite reports, including photos, sent to all of the project stakeholders.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
- C. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.
- D. Additional inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.9 PROTECTING AND CLEANING

- A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements; repair substrates; and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075416

## SECTION 076200 - SHEET METAL FLASHING AND TRIM

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Manufactured reglets with counterflashing.
2. Formed roof-drainage sheet metal fabrications.
3. Formed low-slope roof sheet metal fabrications.
4. Formed wall sheet metal fabrications.

#### 1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: For sheet metal flashing and trim.

1. Include plans, elevations, sections, and attachment details.
2. Distinguish between shop- and field-assembled work.
3. Include identification of finish for each item.
4. Include pattern of seams and details of termination points, expansion joints and expansion-joint covers, direction of expansion, roof-penetration flashing, and connections to adjoining work.

- C. Samples: For each exposed product and for each color and texture specified.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Product certificates.

- B. Product test reports.

- C. Sample warranty.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Maintenance data.



## 1.6 QUALITY ASSURANCE

- A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
- B. Mockups: Build mockups to verify selections made under Sample submittals to demonstrate aesthetic effects and to set quality standards for fabrication and installation.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
  - 1. Temperature Change: 120 deg. F (67 deg C), ambient; 180 deg. F (100 deg C), material surfaces.

### 2.2 SHEET METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Copper Sheet: ASTM B 370, cold-rolled copper sheet, H00 or H01 temper.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Hussey Copper Ltd.
    - b. Revere Copper Products, Inc.
  - 2. Nonpatinated Exposed Finish: Mill.
- C. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required.

1. Factory Prime Coating: Where painting after installation is required, pretreat metal with white or light-colored, factory-applied, baked-on epoxy primer coat; minimum dry film thickness of 0.2 mil (0.005 mm).
  2. Clear Anodic Finish, Coil Coated: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.
  3. Color Anodic Finish, Coil Coated: AAMA 611, AA-M12C22A42/A44, Class I, 0.018 mm or thicker.
    - a. Color: Champagne
  4. Exposed Coil-Coated Finish:
    - a. Two-Coat Fluoropolymer: AAMA 620. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
  5. Color: As selected by Architect from manufacturer's full range.
- D. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304, dead soft, fully annealed; 2D (dull, cold rolled) finish.
- E. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A 653/A 653M, G90 (Z275) coating designation pre-painted by coil-coating process to comply with ASTM A 755/A 755M.
1. Surface: Manufacturer's standard clear acrylic coating on both sides.
    - a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
  2. Color: As selected by Architect from manufacturer's full range.

### 2.3 UNDERLAYMENT MATERIALS

- A. Felt: ASTM D 226/D 226M, Type II (No. 30), asphalt-saturated organic felt; nonperforated.
- B. Self-Adhering, High-Temperature Sheet: Minimum 30 mils (0.76 mm) thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer according to written recommendations of underlayment manufacturer.
  1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following
    - a. Kirsch Building Products, LLC; Sharkskin Ultra SA.

- b. Metal-Fab Manufacturing, LLC; MetShield.
  - c. Owens Corning; WeatherLock Specialty Tile & Metal Underlayment.
  - d. Polyguard Products, Inc.; Deck Guard HT.
  - e. Protecto Wrap Company; Protecto Jiffy Seal Ice & Water Guard HT.
  - f. SDP Advanced Polymer Products Inc; Palisade SA-HT.
2. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F or higher.
  3. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F or lower.
- C. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft. minimum.

## 2.4 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal unless otherwise indicated.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal.
1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
    - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
    - b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
    - c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
  2. Fasteners for Copper Sheet: Copper, hardware bronze or passivated Series 300 stainless steel.
  3. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
  4. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
  5. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.
- C. Solder:
1. For Copper: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead.
  2. For Stainless Steel: ASTM B 32, Grade Sn60, with acid flux of type recommended by stainless-steel sheet manufacturer.
  3. For Zinc-Coated (Galvanized) Steel: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead or Grade Sn60, 60 percent tin and 40 percent lead with maximum lead content of 0.2 percent.

- D. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
- E. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- F. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.
- G. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.
- H. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

## 2.5 MANUFACTURED REGLETS

- A. Reglets: Units of type, material, and profile required, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated with factory-mitered and -welded corners and junctions and with interlocking counterflashing on exterior face, of same metal as reglet.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Cheney Flashing Company.
    - b. Fry Reglet Corporation.
    - c. Heckmann Building Products, Inc.
    - d. Hickman, W. P. Company.
    - e. Hohmann & Barnard, Inc.
    - f. Keystone Flashing Company, Inc.
    - g. National Sheet Metal Systems, Inc.
    - h. Sandell Manufacturing.
  - 2. Material: Stainless steel, 0.019 inch thick, Galvanized steel, 0.022 inch thick.
  - 3. Finish: With manufacturer's standard color coating.

## 2.6 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
  - 1. Obtain field measurements for accurate fit before shop fabrication.

2. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
  3. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- B. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.
  2. Use lapped expansion joints only where indicated on Drawings.
- C. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.
- D. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- E. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.
- F. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

## 2.7 ROOF-DRAINAGE SHEET METAL FABRICATIONS

- A. Downspouts: Fabricate round downspouts to dimensions indicated, complete with mitered elbows. Furnish with metal hangers from same material as downspouts and anchors.
1. Hanger Style: According to SMACNA's "Architecture Sheet Metal Manual".
  2. Fabricate from the following materials:
    - a. Galvanized Steel: 0.022 inch thick.

## 2.8 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Roof Edge Flashing and Fascia Cap: Fabricate in minimum 96-inch- long, but not exceeding 12-foot- (3.6-m-) long sections. Furnish with 6-inch-wide, joint cover plates.
1. Fabricate from the Following Materials:
    - a. Galvanized Steel: 0.028 inch thick.
- B. Copings: Fabricate in minimum 96-inch- long, but not exceeding 12-foot- long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and interior leg. Miter corners, solder or weld watertight.
1. Fabricate from the Following Materials:
    - a. Galvanized Steel: see plan

- C. Base Flashing: Shop fabricate interior and exterior corners. Fabricate from the following materials:
  - 1. Galvanized Steel: 0.028 inch thick.
- D. Counterflashing and Flashing Receivers: Fabricate from the following materials:
  - 1. Galvanized Steel: 0.022 inch thick.
- E. Roof-Penetration Flashing: Fabricate from the following materials:
  - 1. Galvanized Steel: 0.028 inch thick.
- F. Roof-Drain Flashing: Fabricate from the following materials:
  - 1. Stainless Steel: 0.016 inch thick.

## 2.9 WALL SHEET METAL FABRICATIONS

- A. Opening Flashings in Frame Construction: Fabricate head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch- high, end dams. Fabricate from the following materials:
  - 1. Galvanized Steel: 0.022 inch thick.

## PART 3 - EXECUTION

### 3.1 UNDERLAYMENT INSTALLATION

- A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.
- B. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Prime substrate if recommended by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps and edges with roller. Cover underlayment within 14 days.

### 3.2 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
  2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
  3. Space cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
  4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
  5. Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
1. Coat concealed side of sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
  2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.
1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
  2. Use lapped expansion joints only where indicated on Drawings.
- D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."
- G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets with solder to width of 1-1/2 inches; however, reduce pre-tinning where pre-tinned surface would show in completed Work.
1. Do not solder metallic-coated steel sheet.
  2. Do not use torches for soldering.
  3. Heat surfaces to receive solder, and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.

### 3.3 ROOF-DRAINAGE SYSTEM INSTALLATION

- A. General: Install sheet metal roof-drainage items to produce complete roof-drainage system according to cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.
- B. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at top and bottom and at approximately 60 inches o.c.
- C. Splash Pans: Install where downspouts discharge on low-slope roofs. Set in asphalt roofing cement or elastomeric sealant compatible with the substrate.
- D. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints minimum of 4 inches in direction of water flow.

### 3.4 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.
- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate.
- C. Copings: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated.
- D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches over base flashing. Install stainless-steel draw band and tighten.
- E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints minimum of 4 inches
- F. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric butyl sealant and clamp flashing to pipes that penetrate roof.

### 3.5 WALL FLASHING INSTALLATION

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.



3.6 CLEANING AND PROTECTION

- A. Clean and neutralize flux materials. Clean off excess solder.
- B. Clean off excess sealants.
- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.

END OF SECTION 076200

## SECTION 077200 - ROOF ACCESSORIES

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Roof curbs.
2. Equipment supports.
3. Roof hatches.
4. Hatch-type heat and smoke vents.
5. Dropout-type heat and smoke vents.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of roof accessory indicated.
- B. Shop Drawings: For roof accessories.
- C. Samples: For each exposed product and for each color and texture specified.

#### 1.3 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Roof plans, drawn to scale, and coordinating penetrations and roof-mounted items.
- B. Warranty: Sample of special warranty.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

#### 1.5 WARRANTY

- A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finishes or replace roof accessories that show evidence of deterioration of factory-applied finishes within 20 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 METAL MATERIALS

- A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation.
  - 1. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat, with a minimum dry film thickness of 1 mil for topcoat.
- B. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, AZ5 coated.
  - 1. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat, with a minimum dry film thickness of 1 mil for topcoat.
- C. Aluminum Sheet: ASTM B 209, manufacturer's standard alloy for finish required, with temper to suit forming operations and performance required.
  - 1. Clear Anodic Finish: AAMA 611, Class II, 0.010 mm or thicker.
- D. Aluminum Extrusions and Tubes: ASTM B 221, manufacturer's standard alloy and temper for type of use, finished to match assembly where used, otherwise mill finished.
- E. Stainless-Steel Sheet and Shapes: ASTM A 240/A 240M or ASTM A 666, Type 304.
- F. Steel Shapes: ASTM A 36/A 36M, hot-dip galvanized according to ASTM A 123/A 123M unless otherwise indicated.

### 2.2 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.
- B. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, acceptable to authorities having jurisdiction, containing no arsenic or chromium, and complying with AWPA C2; not less than 1-1/2 inches thick.
- C. Fasteners: Roof accessory manufacturer's recommended fasteners suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened. Provide nonremovable fastener heads to exterior exposed fasteners.
- D. Sealants: As recommended by roof accessory manufacturer for installation indicated.

### 2.3 ROOF CURBS

- A. Roof Curbs: Internally reinforced roof-curb units capable of supporting superimposed live and dead loads, including equipment loads and other construction indicated on Drawings; with welded or mechanically fastened and sealed corner joints, and integrally formed deck-mounting flange at perimeter bottom.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. AES Industries, Inc.
  - b. Curbs Plus, Inc.
  - c. Custom Solution Roof and Metal Products.
  - d. Greenheck Fan Corporation.
  - e. LM Curbs.
  - f. Metallic Products Corp.
  - g. Milcor Inc.; Commercial Products Group of Hart & Cooley, Inc.
  - h. Pate Company (The).
  - i. Roof Products, Inc.
  - j. Safe Air of Illinois.
  - k. Thybar Corporation.
  - l. Vent Products Co., Inc.

B. Material: Zinc-coated (galvanized) steel sheet, 0.052 inch thick.

1. Finish: Baked enamel or powder coat.
2. Color: As selected by Architect from manufacturer's full range.

C. Construction:

1. Insulation: Factory insulated with 1-1/2 inch thick cellulosic fiber board insulation.
2. Liner: Same material as curb, of manufacturer's standard thickness and finish.
3. Factory-installed wood nailer at top of curb, continuous around curb perimeter.
4. On ribbed or fluted metal roofs, form deck-mounting flange at perimeter bottom to conform to roof profile.
5. Fabricate curbs to minimum height of 12 inches unless otherwise indicated.
6. Top Surface: Level around perimeter with roof slope accommodated by sloping the deck-mounting flange.
7. Sloping Roofs: Where roof slope exceeds 1:48, fabricate curb with perimeter curb height tapered to accommodate roof slope so that top surface of perimeter curb is level. Equip unit with water diverter or cricket on side that obstructs water flow.

## 2.4 EQUIPMENT SUPPORTS

A. Equipment Supports: Internally reinforced metal equipment supports capable of supporting superimposed live and dead loads, including equipment loads and other construction indicated on Drawings; with welded or mechanically fastened and sealed corner joints, stepped integral metal cant raised the thickness of roof insulation, and integrally formed deck-mounting flange at perimeter bottom.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. AES Industries, Inc.
  - b. Curbs Plus, Inc.
  - c. Custom Solution Roof and Metal Products.

- d. Greenheck Fan Corporation.
- e. LM Curbs.
- f. Milcor Inc.; Commercial Products Group of Hart & Cooley, Inc.
- g. Pate Company (The).
- h. Roof Products, Inc.
- i. Thybar Corporation.
- j. Vent Products Co., Inc.

B. Material: Zinc-coated (galvanized) steel sheet, 0.052 inch thick.

1. Finish: Baked enamel or powder coat.
2. Color: As selected by Architect from manufacturer's full range.

C. Construction:

1. Insulation: Factory insulated with 1-1/2-inch- thick cellulosic-fiber board insulation.
2. Liner: Same material as equipment support, of manufacturer's standard thickness and finish.
3. Factory-installed continuous wood nailers, 3-1/2 inches wide at tops of equipment supports.
4. Metal Counterflashing: Manufacturer's standard, removable, fabricated of same metal and finish as equipment support.
5. On ribbed or fluted metal roofs, form deck-mounting flange at perimeter bottom to conform to roof profile.
6. Fabricate equipment supports to minimum height of 12 inches unless otherwise indicated.
7. Sloping Roofs: Where roof slope exceeds 1:48, fabricate each support with height to accommodate roof slope so that tops of supports are level with each other. Equip supports with water diverters or crickets on sides that obstruct water flow.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. General: Verify dimensions of roof openings for roof accessories. Install roof accessories according to manufacturer's written instructions.
1. Install roof accessories level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil canning, buckling, or tool marks.
  2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
  3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
  4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Coat concealed side of roof accessories with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
  2. Underlayment: Where installing roof accessories directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene sheet.
- C. Seal joints with sealant as required by roof accessory manufacturer.

### 3.2 REPAIR AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780.
- B. Touch up factory-primed surfaces with compatible primer ready for field painting according to Section 099113 "Exterior Painting" and Section 099123 "Interior Painting."
- C. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077200

## SECTION 08 85 13 – GLAZING SEALANTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Elastomeric glazing sealants including structural glazing.
2. Glazing opening weatherproofing sealants and weather barrier transition.

B. Related Sections:

1. Section 070191 "Joint Sealant Rehabilitation and Replacement" for renovation of exterior joint sealants.

#### 1.2 REFERENCE STANDARDS

A. ASTM International (ASTM): [www.astm.org](http://www.astm.org) :

1. ASTM C 661 - Standard Test Method for Indentation Hardness of Elastomeric Type Sealants by Means of a Durometer
2. ASTM C 719 - Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle).
3. ASTM C 920 - Specification for Elastomeric Joint Sealants.
4. ASTM C 1135 - Test Method for Determining Tensile Adhesion Properties of Structural Sealants
5. ASTM C 1184 - Standard Specification for Structural Silicone Sealants.
6. ASTM C 1193 - Standard Guide for Use of Joint Sealants.
7. ASTM C 1330 - Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.
8. ASTM E 283 – Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

B. Sealant, Waterproofing, and Restoration Institute (SWRI): [www.swrionline.org](http://www.swrionline.org)

1. SWRI Validation Program.

#### 1.3 ADMINISTRATIVE REQUIREMENTS

- A. Performance Requirements: The intent of this specification and the related drawings is to provide for a completely sealed glazing assembly. Items necessary for a completely sealed glazing system that may not be specifically noted on this Sections or Drawings shall be provided as indicated on this Section.

- B. Coordination: Coordinate installation of joint sealants with cleaning of joint sealant substrates and other operations that may impact installation or finished joint sealant work.
- C. Preinstallation Conference: Conduct conference at Project Site.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of joint sealant product specified, including:
  - 1. Preparation instructions and recommendations.
  - 2. Standard drawings illustrating manufacturer's recommended sealant joint profiles and dimensions applicable to Project.
- B. Joint Sealant Schedule: Indicate joint sealant location, joint sealant type, manufacturer and product name, and color, for each application. Utilize joint sealant designations included in this Section.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified applicator.
- B. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.
- C. Preconstruction compatibility and adhesion test reports for structural glazing.
- D. Manufacturer's instructions for installation and field quality control testing.
- E. Preconstruction field-adhesion test reports.
- F. Field quality control adhesion test reports.
- G. Warranty: Sample of unexecuted manufacturer and installer special warranties.

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Experienced Installer equipped and trained for application of joint sealants required for this Project with record of successful completion of projects of similar scope.
- B. Single Source Responsibility: Provide glazing sealants by a single manufacturer responsible for testing of Project substrates to verify compatibility and adhesion of joint sealants.
- C. Preconstruction Compatibility, Staining, and Adhesion Testing: Submit three samples of material that will be in contact with or affect joint sealants. Test sealants with substrate materials using manufacturer's standard test method to determine requirements for joint preparation, including cleaning and priming. Test sealants with related materials to verify compatibility.



- D. Preconstruction Field-Adhesion Testing: Prior to installing joint sealants, field test adhesion to joint substrates using ASTM C 1193 Method A or method recommended by manufacturer. Verify adhesion is adequate. Modify joint preparation recommendations for failed joints and re-test. Submit written report to Architect.
- E. Mockups: Provide glazing sealant and weather barrier transition application within mockups required in other sections identical to specified sealants and installation methods.

## 1.7 PROJECT CONDITIONS

- A. Do not install silicone sealants when shop conditions exceed temperature range limits or other non-standard dust or dirt conditions exist.
- B. Do not install sealants when ambient or surface temperatures are outside of range recommended by glazing sealant manufacturer.

## 1.8 WARRANTY

- A. Special Installer's Warranty: Provide a statement on Installer's letterhead in which Installer agrees to repair or replace joint sealants that demonstrate deterioration or failure within warranty period specified.
  - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Provide manufacturer's standard form in which joint sealant manufacturer agrees to furnish joint sealants to repair or replace those that demonstrate deterioration or failure under normal use within warranty period specified.
  - 1. Warranty Period for Silicone Sealants: 20 years date of Substantial Completion.
- C. Warranty Conditions: Special warranties exclude deterioration or failure of joint sealants in normal use due to structural movement resulting in stresses on joint sealants exceeding sealant manufacturer's written specifications, joint substrate deterioration, mechanical damage, or normal accumulation of dirt or other contaminants.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

- A. Basis-of-Design Product: Provide joint sealant products manufactured by The Dow Chemical Company, Midland MI; (877) SEALANT, (877) 732-5268; email: construction@dow.com; website: dow.com/construction.

### 2.2 MATERIALS, GENERAL

#### GLAZING SEALANTS

Robina Wright Architect & Associates, Inc

- A. Standard Compliance:
  - 1. Joint Sealants: Comply with ASTM C 920 and other specified requirements for each liquid-applied joint sealant.
  - 2. Structural Glazing Sealants: Comply with ASTM C 1184 and other specified requirements for each liquid-applied structural glazing sealant where indicated.
  
- B. Stain Test Characteristics: Where sealants are required to be nonstaining, provide sealants tested per ASTM C 1248 as non-staining on porous joint substrates indicated for Project.

### 2.3 SILICONE GLAZING SEALANTS

- A. Single-Component, Non-sag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, Use NT; ASTM C 1184; SWRI validation.
  - 1. Basis of Design Product: DOWSIL™ 795 Silicone Building Sealant.
  - 2. Hardness, ASTM D 2240: 35 - 45 durometer Shore A, minimum.
  - 3. Volatile Organic Compound (VOC) Content: 32 g/L maximum.
  - 4. Staining, ASTM C 1248: None on concrete, marble, granite, limestone, and brick.
  - 5. Color: Match existing color.
  
- B. Single-Component, Non-sag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, Use NT; ASTM C 1184; SWRI validation.
  - 1. Basis of Design Product: DOWSIL™ 995 Silicone Structural Sealant.
  - 2. Hardness, ASTM D 2240: 35 - 45 durometer Shore A, minimum.
  - 3. Volatile Organic Compound (VOC) Content: 34 g/L maximum.
  - 4. Color: Match existing.
  
- C. Two-Component, Non-sag, Neutral-Curing Silicone Joint Sealant : ASTM C 920, Type M, Grade NS, Class 25, Use NT; ASTM C1184, Type M, Use NT.
  - 1. Basis of Design Product: DOWSIL™ 983 Structural Glazing Sealant.
  - 2. Hardness, ASTM D 2240: 35 to 45 durometer Shore A.
  - 3. Volatile Organic Compound (VOC) Content As Mixed: 18 g/L maximum.
  - 4. Colors: Black.
  
- D. Two-Component, Non-sag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type M, Grade NS, Class 25, Use NT; ASTM C1184, Type M, Use NT.
  - 1. Basis of Design Product: DOWSIL™121 Structural Glazing Sealant.
  - 2. Hardness, ASTM D 2240: 35 to 45 durometer Shore A
  - 3. Volatile Organic Compound (VOC) Content As Mixed: 18 g/L maximum.
  - 4. Colors: Black.

## 2.4 WEATHERPROOFING LIQUID SILICONE JOINT SEALANTS

- A. Single-Component, Non-sag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, Use NT; ASTM C 1184; SWRI validation.
  - 1. Basis of Design Product: DOWSIL™ 756 SMS Building Sealant.
  - 2. Hardness, ASTM D 2240: 35 durometer Shore A, minimum.
  - 3. Volatile Organic Compound (VOC) Content: 60 g/L maximum.
  - 4. Staining, ASTM C 1248: None on white marble.
  - 5. Color: Match existing.
  
- B. Single-Component, Non-sag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, for Use NT; SWRI validation.
  - 1. Basis of Design Product: DOWSIL™ 791 Silicone Weatherproofing Sealant.
  - 2. Hardness, ASTM D 2240: 34 durometer Shore A, minimum.
  - 3. Volatile Organic Compound (VOC) Content: 30 g/L maximum.
  - 4. Staining, ASTM C 1248: None on concrete, granite, limestone, and brick.
  - 5. Color: Match existing.
  
- C. Single-Component, Non-sag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, Use NT; SWRI validation.
  - 1. Basis of Design Product: DOWSIL™ 795 Silicone Building Sealant.
  - 2. Hardness, ASTM D 2240: 35 - 45 durometer Shore A, minimum.
  - 3. Volatile Organic Compound (VOC) Content: 32 g/L maximum staining, ASTM C 1248: None on concrete, granite, limestone, and brick.
  - 4. Staining, ASTM C 1248: None on concrete, marble, granite, limestone, and brick.
  - 5. Color: Match existing.
  
- D. Single-Component, Non-sag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, Use NT; ASTM C1184; SWRI validation.
  - 1. Basis of Design Product: DOWSIL™ 995 Silicone Structural Sealant.
  - 2. Hardness, ASTM D 2240: 35 - 40 durometer Shore A, minimum.
  - 3. Volatile Organic Compound (VOC) Content: 34 g/L maximum.
  - 4. Color: As selected by Architect from manufacturers full line of not less than 3 colors.

## 2.5 WEATHER BARRIER TRANSITION

- A. Silicone Elastomer Weather Barrier Transition: Highly flexible clear flashing and transition sheet and pre-molded corners for bonding with silicone sealant to weather barrier substrates and to adjacent curtain wall, storefront, and window frames and other transition substrates.
1. Basis of Design Product: DOWSIL™ Silicone Transition Strip (STS).
  2. Air Infiltration, ASTM E 283: Maximum 0.025 cfm/sq. ft. (0.127 L/s per sq. m) at 6.24 lbf/sq. ft. (300 Pa).
  3. Water Penetration under Static Pressure, ASTM E 331: None at 15 lbf/sq. ft. (720 Pa).
  4. Movement Capability: Not less than plus 200, minus 75 percent.
  5. Tensile Strength, ASTM D 412: Not less than 800 psi (5.5 MPa).
  6. Tear Strength, ASTM D 624: Not less than 200 psi (16 kN/m).
  7. Elongation, ASTM D 412: Not less than 400 percent.
  8. Hardness, ASTM D 2240: 50 - 60 durometer Shore A.
  9. Bonding Sealant: Manufacturer's recommended neutral-curing silicone.
  10. Volatile Organic Compound (VOC) Content: 0 g/L

## 2.6 ACCESSORIES

- A. Joint Substrate Primers: Substrate primer recommended by sealant manufacturer for application.
- B. Cylindrical Sealant Backing: ASTM C 1330, Type B non-absorbent, bi-cellular material with surface skin, or Type O open-cell polyurethane, as recommended by sealant manufacturer for application.
- C. Bond Breaker Tape: Polymer tape compatible with joint sealant materials and recommended by sealant manufacturer.
- D. Glazing Setting Blocks and Spacers: Inorganic type compatible with silicone sealant and recommended by sealant manufacturer.
1. Acceptable materials include silicone, alcryn, polyurethane foam tape, and vinyl extrusions.
  2. Test setting blocks and spacers for compatibility prior to installation.
- E. Masking tape: non-staining, non-absorbent type compatible with silicone sealant and adjacent surfaces.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine joint profiles and surfaces to determine if work is ready to receive joint sealants. Verify joint dimensions are adequate for development of sealant movement capability. Proceed with joint sealant work once conditions meet sealant manufacturer's recommendations.
  
- B. Aluminum Framing:
  - 1. Verify framing surfaces to receive glazing are flat and smooth without slots, serrations, and other irregularities.
  - 2. Verify aluminum framing has alodine, anodized, fluorocarbon paint, polyester powder coat finish, or other acceptable finish or material.

### 3.2 PREPARATION

- A. Structural Silicone Joint Design: Install sealant in joint design configuration recommended by manufacturer and as follows:
  - 1. Glueline thickness: 1/4 inch (6 mm) minimum and not to exceed 1/2 inch (13 mm).
  - 2. Structural Bite: 1/4 inch (6 mm) minimum and equal to or greater than glueline thickness
  - 3. Bite-to-Glueline Ratio: 3:1 or less.
  - 4. Design and fill joint using manufacturer's recommended sealant application procedures.
  
- B. Joint Surface Cleaning: Clean joints prior to installing joint sealants using materials and methods recommended by sealant manufacturer.
  - 1. Remove laitance, form-release agents, dust, and other contaminants.
  - 2. Clean porous and nonporous surfaces utilizing chemical cleaners acceptable to sealant manufacturer.
    - 1. Use two-cloth solvent wipe in accordance with ASTM C 1193.

### 3.3 APPLICATION

- A. Masking: Mask adjacent surfaces to prevent staining or damage by contact with sealant or primer.
  
- B. Joint Priming: Prime joint substrates when recommended by sealant manufacturer or when indicated by preconstruction testing or experience. Apply recommended primer using sealant manufacturer's recommended application techniques.
  
- C. Joint Backing: Select joint backing materials recommended by sealant manufacturer to be compatible with sealant material. Install backing material at depth required to produce profile of joint sealant allowing optimal sealant movement. Install without gaps, twisting, stretching, or puncturing backing material. Use gage to ensure uniform depth to achieve correct profile, coverage, and performance.
  - 1. Install bond breaker tape over substrates when sealant backings are not used.

- D. Spacers and Setting Blocks: Install as indicated on drawings and reviewed shop drawings. Ensure joint openings and recesses are accurately sized.
- E. Temporary Glass Support: Use temporary fasteners, clips, two-sided adhesive, and other means to retain glass panels while sealant is applied and allowed to cure as approved by the design professional.
- F. Sealant Application: Install sealants using methods recommended by sealant manufacturer, in depths between 1/4 and 1/2 inch unless otherwise recommended for application. Apply in continuous operation from bottom to top of joint vertically and horizontally in a single direction. Apply using adequate pressure to fill and seal joint width.
  - 1. Complete horizontal joints prior to vertical joints. Lap vertical sealant over horizontal joints.
  - 2. Use sealant-dispensing equipment to push sealant bead into opening. Fill joint opening to full and proper configuration. Apply in continuous operation. Ensure sealant fills entire joint and firmly contacts all surfaces.
  - 3. Tool sealants immediately with appropriately shaped tool to force sealants against joint backing and joint substrates, eliminating voids and ensuring full contact.
    - 1. Provide concave, smooth, uniform, sealant finish. Eliminate air pockets and ensure complete contact on both sides of joint opening.
    - 2. Tool joints with one continuous stroke.
    - 3. Using tooling agents approved by sealant manufacturer for application. Do not use water, soap, or alcohol to facilitate tooling.
- G. Cleaning: Remove excess sealant using materials and methods approved by sealant manufacturer that will not damage joint substrate materials.
  - 1. Remove masking tape immediately after tooling joint without disturbing seal.
  - 2. Remove excess sealant from surfaces while still uncured.
  - 3. Allow sealant to fully cure before adhesive is stressed. Use test specimens formed at time of sealant application to verify curing time. When cured, remove temporary glass supports.
  - 4. Ensure installed sealant is not painted as part of other construction operations.

#### 3.4 WEATHER BARRIER TRANSITION APPLICATION

- A. Preparation: Prepare field of weather barrier surface and surface of adjacent substrate in accordance with sealant manufacturer's written instructions. Perform field adhesion testing to determine need for application of primer. Clean surfaces to dust free, and perform solvent wipe where recommended.
- B. Application: Apply bead of recommended liquid joint sealant to each side of joint in bead size recommended by manufacturer. Press transition extrusion into sealant using roller to ensure uniform and complete contact. Lap vertical and horizontal joints as indicated in manufacturer's instructions. Trim transition material. Remove excess sealant.

### 3.5 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: Perform adhesion tests in accordance with manufacturer's instructions and with ASTM C 1193, Method A.
  - 1. Perform [5] tests for the first [1000 feet (300 m)] of joint length for each kind of sealant and joint substrate, and one test for each [1000 feet (300 m)] of joint length thereafter or 1 test per each floor per building elevation, minimum.
  - 2. For sealant applied between dissimilar materials, test both sides of joint.
- B. Remove sealants failing adhesion test, clean substrates, reapply sealants, and re-test. Test adjacent sealants to failed sealants.
- C. Submit report of field adhesion testing to Architect indicating tests, locations, dates, results, and remedial actions taken.

### 3.6 GLAZING SEALANT SCHEDULE

- A. Structural glazing adhesive joints for glazing units located within aluminum storefront, aluminum entrance framing, and curtain wall systems.
  - a. Joint Sealant: Single-component neutral-curing non-staining silicone sealant: DOWSIL™ 795, DOWSIL™ 995
  - b. Joint Sealant Color: Match existing.
- B. Exterior non-structural exposed joints within glazed aluminum storefront, aluminum entrance framing and curtain wall systems.
  - 1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant DOWSIL™ 756 SMS .
  - 2. Joint Sealant Color: Match existing frame
- C. Exterior non-structural exposed joints within glazed[aluminum storefront, aluminum entrance framing systems.
  - 1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant : DOWSIL™ 791 Silicone Weatherproofing Sealant.
- D. Exterior exposed perimeter joints between aluminum storefront, aluminum entrance framing systems and adjacent materials.
  - 1. Joint Sealant: Single-component neutral-curing non-staining silicone sealant: DOWSIL™ 795 Silicone Building Sealant.
  - 2. Joint Sealant Color: Match existing.

END OF SECTION 088513

## SECTION 099113 - EXTERIOR PAINTING

### PART 1 - GENERAL

#### 1. RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 2. SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following exterior substrates both new and existing as indicated:
  - 1. Concrete where indicated to be painted.
  - 2. Steel.
  - 3. Galvanized metal.
- B. Related Requirements:
  - 1. Division 06 Sections for shop priming carpentry with primers specified in this Section.

#### 3. DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- E. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- F. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.



#### 4. ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
  - 1. Submit Samples on rigid backing, 8 inches square.
  - 2. Step coats on Samples to show each coat required for system.
  - 3. Label each coat of each Sample.
  - 4. Label each Sample for location and application area.
- C. Product List: For each product indicated, include the following:
  - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
  - 2. VOC content.

#### 5. MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

#### 6. QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
    - a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.
    - b. Other Items: Architect will designate items or areas required.
  - 2. Final approval of color selections will be based on mockups.
    - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
  - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Final Completion.

## 7. DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
  1. Maintain containers in clean condition, free of foreign materials and residue.
  2. Remove rags and waste from storage areas daily.

## 8. FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Basis-of-Design Product: The design for each coating system is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable products by one of the following:
  1. Dunn Edwards
  2. PPG Architectural Finishes, Inc. (PPG)
  3. Sherwin-Williams Company (The). (SW)
  4. Tnemec Co., Inc. (TN)

### 2.2 PAINT, GENERAL

- B. Material Compatibility:
  1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

- C. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.
- D. Colors: As selected by Architect from manufacturer's full range and as indicated in the Drawing color schedule.

## 2.2 MASONRY FILLERS

- A. Exterior Block Filler:
  - 1. Basis of Design: SW-Heavy Duty Block Filler B42W46.
  - 2. Comparable product of an approved manufacturer.

## 2.3 PRIMERS/SEALERS

- A. Concrete Primer:
  - 1. Basis of Design: TN – Series 180 “W.B. Tneme-Crete” Acrylic Emulsion.
  - 2. Comparable product of an approved manufacturer.
- B. Metal Primer:
  - 1. Basis of Design: TN – Series 161 “Tneme-Fascure” Polyamide Epoxy.
  - 2. Comparable product of an approved manufacturer.
- C. Galvanized Metal Primer:
  - 1. Basis of Design: TN – Series 161 “Tneme-Fascure” Polyamide Epoxy.
  - 2. Comparable product of an approved manufacturer.
- D. Galvanized Metal Handrail Primer:
  - 1. Basis of Design: TN – Series 1161 “Tneme-Fascure” Polyamide Epoxy.
  - 2. Comparable product of an approved manufacturer.
- E. Portland Cement Plaster (Stucco) Primer: Water-based modified polyamine epoxy:
  - 1. TN: Series 151-1051 Elasto-Grip FC.
  - 2. Comparable product of an approved manufacturer.

## 2.4 ACRYLIC PAINTS

- A. Acrylic Emulsion:
  - 1. Basis of Design: TN – Series 180 “W.B. Tneme-Crete” Acrylic Emulsion.

2. Comparable product of an approved manufacturer.
- B. Acrylate for Single-Wythe Concrete Masonry:
1. Basis of Design: TN – Series 156 “Enviro-Crete” Modified Waterborne Acrylate.
  2. Comparable product of an approved manufacturer.
- C. Aliphatic Acrylic Polyurethane
1. Basis of Design: TN – Series 73 “Endura-Shield” Aliphatic Acrylic Polyurethane.
  2. Comparable product of an approved manufacturer.
- D. Elastomeric Wall Coating for Plaster Cement:
1. Basis of Design: “Enduralastic 10” Elastomeric Wall Coating EDLX10-0 by Dunn Edwards.
  2. Comparable product of an approved manufacturer.
- E. Theme Park Coating for Plaster Cement (for accent color PT-4):
1. Basis of Design: TP20000 Series, Theme Paint by Modern Masters.
  2. Comparable product of an approved manufacturer.

## 2.5 ACRYLATE PAINTS

- A. Water-Based Modified Acrylate:
1. TN: Series 156 Enviro-Crete.
  2. Comparable product of an approved manufacturer.

## 2.6 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
  2. Testing agency will perform tests for compliance with product requirements.
  3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
  - 1. Concrete: 12 percent.
  - 2. Masonry: 12 percent.
  - 3. Gypsum Board: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
  - 1. Application of coating indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
  - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- B. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
  - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- C. Concrete Substrates: Clean using SP-12 method of power washing. Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- D. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.

- E. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer[.] but not less than the following:
  - 1. SSPC-SP 2, "Hand Tool Cleaning."
  - 2. SSPC-SP 3, "Power Tool Cleaning."
  - 3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
  - 4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
  
- F. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint by SSPC-SP 3, "Power Tool Cleaning" cleaning method, and paint exposed areas with indicated primer or approved equivalent for touching up shop-primed surfaces.
  - 1. Primer: Tnemec; Series 135 "Chembuild" Modified Polyamidoamine Epoxy (3.0 - 5.0 DFT).
  
- G. Passivated and Non-Passivated Galvanized-Metal Substrates: Remove all soluble and insoluble contaminants and corrosion from galvanized metal to produce clean surfaces. For non-passivated galvanized metal, additionally remove any storage stains per ASTM D 6386. Clean passivated and non-passivated galvanized metal by "Sweep (Abrasive) Blasting" method in accordance with ASTM D 6386 to achieve a uniform anchor profile of 1.0 to 2.0 DFT.

### 3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
  - 1. Use applicators and techniques suited for paint and substrate indicated.
  - 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
  - 3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
  - 4. Paint entire exposed surface of window frames and sashes.
  - 5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
  - 6. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
  
- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.
  
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
  
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed to view:
  - a. Equipment, including panelboards and switch gear.
  - b. Uninsulated metal piping.
  - c. Pipe hangers and supports.
  - d. Metal conduit.
  - e. Tanks that do not have factory-applied final finishes.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
1. Contractor shall touch up and restore painted surfaces damaged by testing.
  2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

- A. Concrete Substrates Where Indicated To Be Painted:
1. Prime Coat: Acrylic Emulsion, 6.0-8.0 mils DFT.
  2. Topcoat: Acrylic Emulsion, 6.0-8.0 mils DFT.

B. Steel Substrates (Egg-Shell):

1. Prime Coat: Metal Primer, 3.0-4.0 mils DFT.
2. Topcoat: Aliphatic Acrylic Polyurethane, 3.0-5.0 mils DFT.

C. Galvanized-Metal Substrates:

1. Prime Coat: Galvanized Metal Primer, 3.0-4.0 mils DFT.
2. Topcoat: Aliphatic Acrylic Polyurethane, 3.0-5.0 mils DFT.

D. Galvanized-Metal Handrail Substrates:

1. Prime Coat: Galvanized Metal Handrail Primer, 3.0-4.0 mils DFT.
2. Topcoat: Aliphatic Acrylic Polyurethane, 3.0-5.0 mils DFT

E. Portland Cement Plaster (Stucco) Substrates:

1. Prime Coat: Modified polyamine epoxy, 1.0-1.5 mils DFT.
2. Intermediate Coat: Elastomeric Coating, 11.0 – 13.0 mils DFT.
3. Topcoat: a.
4. Topcoat (for accent color PT-4):
  - a. Flat (2 coats minimum): Theme Park Paint, 1.5 – 2.0 mils DFT per coat.
  - b. Satin (2 coats minimum): Theme Park Paint, 1.5 – 2.0 mils DFT per coat.

END OF SECTION 099113



SECTION 099653 - SILICONE ELASTOMERIC COATINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes substrate preparation and application of silicone elastomeric coatings to the following exterior substrates:
  - 1. Concrete.
  - 2. Concrete unit masonry.
  - 3. Brick masonry.
  - 4. Stucco.
  - 5. Exterior insulation finish system (EIFS).

1.2 REFERENCE STANDARDS

- A. ASTM International (ASTM): [www.astm.org](http://www.astm.org):
  - 1. ASTM D 412 - Standard Test Method for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers - Tension.
  - 2. ASTM D 522 - Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings.
  - 3. ASTM D 711 - Standard Test Method for No-Pick-Up Time of Traffic Paint.
  - 4. ASTM D 1653 - Standard Test Method for Water Vapor Transmission of Organic Coatings.
  - 5. ASTM D 1737 - Method of Test for Elongation of Attached Organic Coatings with Cylindrical Mandrel Apparatus.
  - 6. ASTM D 2240 - Rubber Property Durometer Hardness.
  - 7. ASTM D 2369 - Standard Test Method for Volatile Content of Coatings.
  - 8. ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
  - 9. ASTM D 3274 - Standard Test Method for Evaluating Degree of Surface Disfigurement of Paint Films by Microbial (Fungal or Algal) Growth of Soil and Dirt.
- B. Sealant, Waterproofing, and Restoration Institute (SWRI): [www.swrionline.org](http://www.swrionline.org):
  - 1. SWRI Validation Program.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

- A. Product Data: For specified products, including:
  - 1. Preparation instructions and recommendations.
  - 2. Recommended primers and accessories.
- B. Samples for initial selection.
- C. Samples for Verification: For each elastomeric coating indicated, for each color and texture required. Submit on step-coated sample cards with each coat labeled.
- D. Product Schedule: For each product, color, and finish indicated. Provide cross reference to application areas, utilizing designations indicated on Drawings and in specifications.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified applicator.
- B. Preconstruction compatibility and adhesion test reports.
- C. Manufacturer's instructions for installation and field quality control testing.
- D. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each coating specified to be validated by SWRI's Coating Validation Program.
- E. Field quality control adhesion test reports.
- F. Warranty: Sample of special warranty.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials packaged for storage in unopened containers labeled with product name, color and texture information, and local source contact information.
  - 1. Provide one gallon of each type of product.

1.7 QUALITY ASSURANCE

- A. Applicator Qualifications: Employer of experienced applicators equipped and trained for application of elastomeric coatings required for this Project with record of successful completion of projects of similar scope.
- B. Single Source Responsibility: Provide elastomeric coatings and related silicone joint sealants by a single manufacturer through a single source.

- C. Mockups: Provide mockup of each coating system, color, and texture selected for approval by Architect. Locate as indicated or as directed. Final approval of color and texture selections will be based upon mockups. Approved mockups may remain as part of finished work.

## 1.8 PROJECT CONDITIONS

- A. Do not install elastomeric coatings during inclement weather or when such conditions are expected. Allow wet surfaces to dry.
- B. Do not install elastomeric coatings when temperature is above 100 deg F (38 deg C) or below 40 deg F (5 deg C).

## 1.9 WARRANTY

- A. Special Warranty, General: Manufacturer's standard project-specific form in which manufacturer agrees to repair or replace elastomeric coating that demonstrates deterioration or failure within warranty period specified due to material failure under normal use. Failure include water penetration through coating.
  - 1. Warranty Period: Ten years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

- A. Basis-of-Design Product: Provide elastomeric coatings manufactured by Dow Corning Corporation., Midland MI; (877) SEALANT, (877) 732-5268; email: [construction@dowcorning.com](mailto:construction@dowcorning.com); website: [www.dowcorning.com/construction](http://www.dowcorning.com/construction), or comparable products of other manufacturer approved by Architect in accordance with Division 01.

### 2.2 EXTERIOR FLAT WATERBORNE, PIGMENTED SILICONE ELASTOMERIC COATINGS

- A. Silicone Elastomeric Coating: Single-component, fluid-applied, water-based, pigmented silicone elastomer.
  - 1. Basis of Design Product: DOW CORNING® AllGuard Silicone Elastomeric Coating.
  - 2. Color: As selected by Architect from manufacturer's full line for number of colors indicated.
  - 3. Surface Profile: Smooth surface.
  - 4. Volatile Organic Compound (VOC) Content: 4 g/L maximum.
  - 5. Moisture-Vapor Transmission, ASTM D 1653: 43 perms, minimum.
  - 6. Hardness, ASTM D 2240: 38 durometer Shore A.
  - 7. Tensile Strength, ASTM D 412: 145 lbf/sq. in. (1.0 MPa), minimum.
  - 8. Elongation, ASTM D 412: 600 percent, minimum.
  - 9. Room Temperature Flexibility, ASTM D 522: 1/8 inch mandrel test; pass.

10. Low Temperature Flexibility, ASTM D 711: 1/4 inch mandrel test; pass.
11. Fungus Resistance, ASTM D 3274: No growth.
12. Mold Resistance, ASTM D 3273: No growth.
13. Solids Content, ASTM D 2369: Not less than 55 percent by weight.

### 2.3 ACCESSORY MATERIALS

- A. General: VOC content of primers and fillers, 107 g/L or less.
- B. Crack Fillers: Elastomeric coating manufacturer's recommended, factory-formulated crack fillers or sealants compatible with substrate and other materials.
- C. Primer: Elastomeric coating manufacturer's recommended, factory-formulated, alkali-resistant primer compatible with substrate and other materials indicated.
- D. Concrete Unit Masonry Block Filler: factory-formulated, high-performance latex block filler compatible with substrate and other materials indicated.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates to determine if work is ready to receive elastomeric coatings. Verify that surfaces are clean, dry, and free of frost, dust, dirt, grease, oil, curing compounds, form release agents, laitance, efflorescence, mildew, excess alkalinity, and other conditions affecting performance of work.
  1. Verify that new concrete and mortar to receive coating application has cured adequately in accordance with substrate and coating manufacturer's instructions.
- B. Preinstallation Testing: Prior to application of elastomeric coatings, perform the following tests to verify condition of substrate in accordance with manufacturer's instructions:
  1. Adhesion: Perform substrate field adhesion tests on each substrate to determine if primer is required to satisfactorily adhere elastomeric coatings to substrates.
  2. Alkalinity: Verify substrate is within alkalinity range acceptable to manufacturer.
  3. Moisture Level: Verify substrate moisture content is acceptable to manufacturer.
- C. Proceed with coating work once conditions meet elastomeric coating manufacturer's recommendations.

### 3.2 PREPARATION

- A. General: Comply with elastomeric coating manufacturer's written instructions for preparation of substrates.

- B. **Hardware Removal:** Remove hardware, accessories, plates, fixtures, and similar items that are not to be coated. If removal is not practical, provide protection for installed items prior to cleaning and preparation activities.
- C. **Cleaning:** Clean substrates to remove contaminants and foreign material by pressure cleaning, wire brushing, grinding or other method recommended by elastomeric coatings manufacturer.
- D. **Substrate Repair:** Repair deteriorated or damaged substrates, repair masonry joints, and fill cracks, voids, honeycomb, and other defects using materials as recommended by manufacturer. Allow patching materials to cure.
- E. **Protection:** Protect adjacent surfaces not designated to receive coatings. Provide protection for pedestrians, vehicles, landscaping, and surrounding areas to prevent contact with coating materials.

### 3.3 APPLICATION

- A. **Primer:** Apply primer to substrates where required based upon preinstallation testing and elastomeric coating manufacturer's recommendations, using application methods and rate of application recommended by manufacturer. Allow to dry prior to application of elastomeric coating.
  - 1. Apply block filler as primer on concrete masonry unit substrates where required to fill pores and provide smooth, continuous water-resistant finish coat(s).
- B. **Elastomeric Coating:** Apply elastomeric coating using application methods and rate of application recommended by manufacturer. Apply using nap roller, nylon brush, or airless sprayer, as allowed by authorities having jurisdiction.
  - 1. Apply elastomeric coating from top to bottom of substrate. Work down vertical surface and cover rundown in process. Avoid excessive overlapping.
  - 2. Apply coating free of cloudiness, spotting, laps, brush marks, roller tracks, and other surface imperfections. Cut in color breaks and terminations with sharp lines.
  - 3. Apply additional coats as required to provide cured film with uniform finish, color, and appearance.
  - 4. Provide a minimum of two coats of not less than 20 mil total wet film thickness (10 mil wet film thickness per coat) to provide finished dry film thickness of not less than 10 mils.
- C. **Cleaning:** Remove overspray and excess material using materials and methods approved by manufacturer that will not damage adjacent materials.
- D. **Curing and Protection:** Allow coatings to cure before exposure to traffic. Use test specimens formed at time of coating application to verify curing time. Prevent damage to coatings resulting from construction operations or other causes. Replace damaged coatings at time of Substantial Completion.

3.4 FIELD QUALITY CONTROL

- A. Owner may retain testing agency to perform the following tests:
  - 1. Verification that substrate preparation meets requirements.
  - 2. Testing and certification that coating materials comply with requirements.
  - 3. Testing of application for compliance with adhesion and film thickness requirements.
- B. If testing indicates products or work do not meet requirements, Owner may stop work and require Contractor to remove non-complying materials and materials applied over non-complying substrates, and correct application.

3.5 CLEANING AND PROTECTION

- A. Protect work of other trades against damage from application of elastomeric coatings.
- B. Remove rubbish and discarded materials from Project site daily. Clean overspray from adjacent surfaces as work progresses, using methods recommended by manufacturer.
- C. Remove temporary coverings and protection upon completion. Clean and repair adjacent surfaces damaged by water repellent application.
- D. Prior to substantial completion, touch up and restore damaged or defaced coated surfaces.

END OF SECTION 099653