

ANTELOPE VALLEY COLLEGE CAMPUS RESTROOM REMODEL – PHASE 1

for ANTELOPE VALLEY COMMUNITY COLLEGE DISTRICT
3041 WEST AVENUE K • LANCASTER, CALIFORNIA 93536-5426

PROJECT MANUAL

June 19, 2017 • KBZ JOB NO. 14-063

Owner: ANTELOPE VALLEY COLLEGE COMMUNITY COLLEGE DISTRICT
3041 West Avenue K • Lancaster, CA 93536-5426 • Phone (661) 722-6300



Architect: KRUGER BENSEN ZIEMER ARCHITECTS, INC.
30 W Arrellaga St • Santa Barbara, CA 93101
Phone (805) 963-1726 • Fax (805) 963-2951

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SPECIFICATION MANUAL
for the
ANTELOPE VALLEY COLLEGE
CAMPUS RESTROOM REMODEL PHASE 1

KRUGER BENSEN ZIEMER ARCHITECTS, INC.
30 West Arrellaga Street. Santa Barbara, CA 93101

Principal Architect	License No.	Stamp
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STRUCTURAL ENGINEER
KANDA AND TSO
511 Mission Street, South Pasadena, CA 91030

Project Engineer	License No.	Stamp
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MECHANICAL ENGINEER:
dHA + CALPEC
105 South Arroyo Parkway Suite 100, Pasadena, CA 91105

Project Engineer	License No.	Stamp
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ELECTRICAL ENGINEER:
dHA + CALPEC
105 South Arroyo Parkway Suite 100, Pasadena, CA 91105

Project Engineer

License No.

Stamp

**SPECIFICATIONS MANUAL
for the
ANTELOPE VALLEY COLLEGE
CAMPUS RESTROOM REMODEL – PHASE 1
3041 West Avenue K
Lancaster, California**

DISTRICT: BOARD OF EDUCATION
Antelope Valley Community College District
3041 West Avenue K
Lancaster, CA 93536
(661) 722-6300

ARCHITECT: KRUGER BENSEN ZIEMER ARCHITECTS, INC.
30 West Arrellaga Street
Santa Barbara, CA 93101
(805) 963-1726
(805) 963-2951 fax

STRUCTURAL ENGINEER: KANDA & TSO ASSOCIATES
511 Mission Street
South Pasadena, CA 91030
(626) 441-1211
(626) 441-1011 fax

MECHANICAL & ELECTRICAL: dHA + CALPEC
105 South Arroyo Parkway, Suite 100
Pasadena, CA 91105
(626) 445-8580
(626) 445-8081 fax

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Not Used

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Not Used

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Not Used

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Not Used

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**ANTELOPE VALLEY COMMUNITY COLLEGE DISTRICT
 BID AND CONTRACT DOCUMENTS**

**Campus Restroom Remodel Phase 1
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DSA – FORM 103 STATEMENT OF STRUCTURAL TESTS & INSPECTIONS

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NOTICE TO CONTRACTORS CALLING FOR BIDS

DISTRICT	ANTELOPE VALLEY COMMUNITY COLLEGE DISTRICT
PROJECT DESCRIPTION	Campus Restroom Remodel Phase 1 Bid #AVC2017/2018-2
LATEST TIME/DATE FOR SUBMISSION OF BID PROPOSALS	See Paragraph 3 below.
LOCATION FOR SUBMISSION OF BID PROPOSALS	ANTELOPE VALLEY COMMUNITY COLLEGE DISTRICT 3041 West Ave K Lancaster, California 93536-5426 Building: Facilities Services Office/Room: FS102
LOCATION FOR OBTAINING BID AND CONTRACT DOCUMENTS	Bid and Contract Documents are available in electronic digital format by contacting the Construction Manager Ledesma & Meyer Construction Co. Inc. Attn: Jenny Johnson at jenniferj@lmcci.com

NOTICE IS HEREBY GIVEN that the above-named California Community College District, through its Board of Trustees (“the District”) will accept Bid Proposals for the Contract for **Campus Restroom Remodel Phase 1** (“the Work” or “the Project”). Bid procedures are pursuant to the Uniform Public Construction Cost Accounting Act, Public Contract Code §22032.

1. Submittal of Bid Proposals. All Bid Proposals shall be submitted at or prior to the date and time set forth above on forms furnished by the District in a sealed envelope envelopes bearing on the outside the Bidder’s name and address along with the Project Name and an identification of the Bid Package for which the Bid Proposal is submitted.
2. The Project and the Project Scope. Remodel of the existing Student Services restrooms, one (1) each mens and womens.

Project Construction Schedule: Notice to Proceed anticipated September 18, 2017
 Project Duration: 125 Calendar Days
 Project Construction Estimate: \$TBD

3. Multiple Prime Contractors Project Delivery. The District will utilize a multiple prime contractor delivery method to complete Project construction. The District’s Construction Manager (“CM”) for Project construction is Ledesma & Meyer Construction Co., Inc. The District will award separate prime contracts for the scopes of Work necessary to complete the Project. The Contractors awarded a Contract for a Bid Package will be required to work at the Project Site that is shared by other Contractors, to cooperate with such other Contractors, and to coordinate their Bid Package work with the work of the other Bid Packages. The following are the Bid Packages for the Project:

Bid Package No.	Bid Package Description	Contractors’ License	Bid Proposal Due Date and Time
4	General Construction	B	1:00 PM Thursday, August 24, 2017

4. Bid and Contract Documents. The Bid and Contract are available to Bidders in electronic digital format. The District will not furnish or provide physical “hard” copies of any portion of the Bid or Contract Documents. A Bidder may, at its sole cost and expense, print physical “hard” copies of

any portion of the Bid or Contract Documents for the Bidder's use.

5. Documents Accompanying Bid Proposal. **Each Bid Proposal shall be accompanied by: (i) the required Bid Security; (ii) Subcontractors List; (iii) Non-Collusion Affidavit; (iv) Statement of Bidder's Qualifications; (v) Verification of Contractor and Subcontractor DIR Registration; and (vi) CWA Letter of Assent.**
6. Prevailing Wage Rates. The Contractor and all Subcontractors shall pay not less than the applicable prevailing wage rate for the classification(s) of labor provided by their respective workers; prevailing wage rates are available for review at http://www.dir.ca.gov/dlsr/statistics_research.html. During the Work, the Department of Industrial Relations ("DIR") will monitor compliance with prevailing wage rate requirements and enforce the Contractor's prevailing wage rate obligations.
7. Bidder and Subcontractors DIR Registered Contractor Status. Each Bidder must be a DIR Registered Contractor when submitting a Bid Proposal. The Bid Proposal of a Bidder who is not a DIR Registered Contractor will be rejected for non-responsiveness. All Subcontractors identified in a Bidder's Subcontractors' List must be DIR Registered contractors at the time the Bid Proposal is submitted. The foregoing notwithstanding, a Bid Proposal is not subject to rejection for non-responsiveness for listing Subcontractor(s) on the Subcontractors List who is/are not DIR Registered contractors if such Subcontractor(s) complete DIR Registration pursuant to Labor Code §1771.1(c)(1) or (2). If any listed Subcontractor(s) who is/are not DIR Registered contractors and such Subcontractor(s) do not become DIR Registered pursuant to Labor Code §1771.1(c)(1) or (2), but the Bidder, if awarded the Contract, must request consent of the District to substitute a DIR Registered Subcontractor for the non-DIR Registered Subcontractor pursuant to Labor Code §1771.1(c)(3), without adjustment of the Contract Price or the Contract Time.
8. Contractors' License Classification. The District requires that Bidders possess the classification(s) of California Contractors License designated above for each Bid Package.
9. Contract Time. Substantial Completion of the Work shall be achieved as set forth in the Contract Documents; Liquidated Damages will be assessed for delayed Substantial Completion.
10. Bid Security. Each Bid Proposal shall be accompanied by Bid Security in an amount not less than ten percent (10%) of the maximum amount of the Bid Proposal, inclusive of the pricing proposed for any additive Alternate Bid Item(s). A Bid Proposal not accompanied by the required Bid Security is non-responsive and will be rejected by the District.
11. Alternate Bid Items. If the bidding for a Bid Package include(s) Alternate Bid Items, each Bidder for such a Bid Package must propose pricing for each Alternate Bid Item. If Alternate Bid Items are included in the bidding for a Bid Package, the District's selection of Alternate Bid Items for determination of the lowest priced bid proposal for such Bid Packages will be **"The lowest priced Bid Proposal shall be the lowest bid price proposed for the base contract without consideration of prices proposed for additive or deductive alternate items."**
12. No Withdrawal of Bid Proposals. Bid Proposals shall not be withdrawn by any Bidder for **ninety (90)** days after the opening of Bid Proposals. During this time, all Bidders shall guarantee prices quoted in their respective Bid Proposals.
13. Job-Walk. The District will conduct a **Non-Mandatory** Job Walk on Wednesday, August 02, 2017 beginning at 10:00 AM Bidders are to meet at Facilities Services, 3041 West Ave. K, Lancaster, CA 93536 for the Job Walk.
14. Pre-Bid Inquiries. Bidders may submit pre-bid inquiries or clarification requests no later than 3:00 PM, August 14, 2017. Pre-bid inquiries or clarification requests shall be submitted to: Jenny Johnson at jenniferj@lmcci.com.

15. Copies of Agreement and Bonds. The number of required executed copies of the Agreement are FOUR (4) The number of required executed copies of the Performance Bond and the Labor & Materials Payment are FOUR (4).
16. Community Workforce Agreement. The District has entered into the “Community Workforce Agreement” with the Los Angeles and Orange Counties Building and Construction Trades Council which can be accessed and viewed on-line at: [https://www.boarddocs.com/ca/avc/Board.nsf/files/AK8STV7447E8/\\$file/Antelope%20Valley%20College%202.2.17%20clean%20draft.pdf](https://www.boarddocs.com/ca/avc/Board.nsf/files/AK8STV7447E8/$file/Antelope%20Valley%20College%202.2.17%20clean%20draft.pdf). The Bidder awarded the Contract for the Work and all Subcontractors must agree to be bound by the CWA during performance of the Work. Each Bidder must submit a completed and executed Letter of Assent with its Bid Proposal; failure of a Bid Proposal to be accompanied by the Bidder’s completed and executed Letter of Assent will render the Bid Proposal non-responsive and rejected. If awarded a Contract for a Bid Package, the successful Bidder shall comply with provisions of the Contract Documents relating to the CWA, including without limitation: (i) craft labor hiring practices; (ii) alternative dispute resolution procedures for Site grievances and jurisdictional disputes; and (iii) prevailing wage rate responsibilities.
17. Award of Bid Package Contracts; Waiver of Irregularities. The Contract for each Bid Package, if awarded, will be by action of the District’s Board of Trustees to the responsible Bidder submitting the lowest priced responsive Bid Proposal for the Bid Package. If Alternate Bid Items are included in the bidding for a Bid Package, the lowest priced Bid Proposal will be determined in accordance with Paragraph 11 above. The District reserves the right to reject all Bid Proposals or to waive any irregularities or informalities in any Bid Proposal or in the bidding.

Advertisement publication dates:

Friday, July 28, 2017 (Newspaper advertisement)

Friday, July 21, 2017 (Trade Journals notice)

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INSTRUCTIONS FOR BIDDERS

1. **Bid Proposal.** Bid Proposals not conforming to these Instructions for Bidders and the Notice to Contractors Calling for Bids (“Call for Bids”) may be deemed non-responsive and rejected.
 - 1.1. **Completion of Bid Proposal.** Where required, numbers shall be stated by words and figures; conflicts between numbers stated in words and in figures are governed by the words. Bid Proposals are non-responsive and will be rejected if: (i) partially completed; (ii) submitted on forms other than those required by the District; (iii) erasures, interlineations or other corrections are not suitably authenticated by the initials of the person(s) signing the Bid Proposal adjacent to such erasure, interlineations or correction; (iv) a Bid Proposal, or portions thereof, is/are determined by the District to be illegible, ambiguous or inconsistent.
 - 1.2. **Submittal.** Bid Proposals shall be submitted in sealed envelopes bearing on the outside the Bidder’s name and address along with the Project Name and an identification of the Bid Package for which the Bid Proposal is submitted. A Bid Proposal is deemed submitted only if the outer envelope containing the Bid Proposal is stamped by the District’s date/time stamp machine at the location where Bid Proposals are to be submitted.
 - 1.3. **Separate Bid Proposals for Separate Bid Packages.** A Bidder may submit Bid Proposals for multiple Bid Packages by submitting separate Bid Proposals for each Bid Package. A Bid Proposal incorporating proposed pricing for multiple Bid Packages will be rejected for non-responsiveness.
 - 1.4. **Withdrawal; Modification.** No oral modification or withdrawal of a submitted Bid Proposal will be considered; a written request to modify or withdraw a submitted Bid Proposal will be considered only if the written request is received by the District before the public opening of Bid Proposals.
2. **Contractors’ License.** No Bid Proposal will be considered from a Bidder who, at the time Bid Proposals are opened, is not licensed to perform the Work of a Bid Package in accordance with licensing requirements set forth in the Call for Bids. This requirement will not be waived by the District or its Board of Trustees.
3. **Bidder’s Qualifications.** Each Bidder shall submit with its Bid Proposal the form of Statement of Qualifications, which is included within the Contract Documents. All information required by Statement of Qualifications shall be completely and fully provided. Any Bid Proposal not accompanied by the Statement of Qualifications completed with all information required and bearing the signature of the Bidder’s duly authorized representative under penalty of perjury will render the Bid Proposal non-responsive and rejected. The Bid Proposal of a Bidder whose response to any question in the Essential Requirements section of the Statement of Qualifications resulted in a “Not Qualified” status will be rejected for non-responsiveness. If the District determines that any information provided by a Bidder in the Statement of Qualifications is false or misleading, or is incomplete so as to be false or misleading, the District may reject the Bid Proposal submitted by such Bidder as being non-responsive.
4. **Bid Security.** Each Bid Proposal shall be accompanied by Bid Security in the form of: (i) cash; (ii) certified or cashier’s check payable to the District; or (iii) a Bid Bond, in the form and content incorporated into the Contract Documents (the “Bid Security”) in an amount not less than ten percent (10%) of the maximum amount of the Bid Proposal. Bid Bonds must conform to the following: (i) the Bid Bond is in the form and content included herein; and (ii) the Surety is an Admitted Surety Insurer under Code of Civil Procedure §995.120; (iii) authorized employees or representatives of the Bidder and Surety execute the Bid Bond and their signatures are duly notarized; (iv) the Surety’s representative’s authority to bind the Surety is attached to the Bid Bond and duly attested to by the Surety; and (v) all other information required by the form of the Bid Bond is completely and accurately provided.
5. **Job-Walk.** The District will conduct a Job-Walk at the time(s) and place(s) designated in the Call

for Bids. Attendance by representatives of the Bidder's Subcontractors at a Mandatory Job Walk without attendance by a representative of the Bidder is not sufficient to meet the Bidder's obligations hereunder and will render the Bid Proposal of such Bidder to be non-responsive. Notwithstanding the non-compulsory attendance of Bidders at a Non-Mandatory Job Walk, all Bidders are encouraged to attend Non-Mandatory Job Walks.

6. Examination of Site and Contract Documents. Each Bidder shall, at its sole cost and expense, inspect the Site and to become fully acquainted with the Contract Documents and conditions affecting the Work. The submission of a Bid Proposal is prima facie evidence of the Bidder's full compliance with the foregoing requirements.
7. Pre-Bid Questions; Contract Document Interpretation and Modifications. Any Bidder in doubt as to the true meaning of any part of the Contract Documents; finds discrepancies, errors or omissions therein; or finds variances in any of the Contract Documents with the Laws ("Pre-Bid Questions"), shall submit a request for an clarification, interpretation or correction thereof using the form of Pre-Bid Inquiry included with the Contract Documents. Bidders are solely and exclusively responsible for submitting Pre-Bid Questions no later than the time/date designated in the Call for Bids. Responses to Pre-Bid Questions will be by written addendum issued by, or on behalf of, the District. A copy of any such addendum will be mailed or otherwise delivered to each Bidder receiving a set of the Contract Documents. Failure to request interpretation or clarification of any portion of the Contract Documents pursuant to the foregoing is a waiver of any discrepancy, defect or conflict therein.
8. Interpretation of Drawings, Specifications or Contract Documents. Interpretations, modifications or corrections of the Contract Documents will be by written addendum issued by or on behalf of the District. No person is authorized to render an oral interpretation or correction of any portion of the Contract Documents to any Bidder, and no Bidder is authorized to rely on any such oral interpretation or correction.
9. Bidder's Assumptions. The District is not responsible for any assumptions made or used by the Bidder in calculating its Bid Proposal Amount including, without limitation, assumptions regarding costs of labor, materials, equipment or substitutions/alternatives for any material, equipment, product, item or system incorporated into or forming a part of the Work which have not been previously expressly approved and accepted by the District. Unless the District has accepted proposed substitution of any materials, equipment, product, item or system specified in the Contract Documents ("Specified Items") prior to the latest date/time for submittal of Bid Proposals, the submission of a Bid Proposal is deemed the Bidder's agreement to furnish and install Specified Materials. If the District has accepted a proposed substitution of any Specified Items prior to the latest date/time for submittal of Bid Proposals, Bid Proposals must specifically indicate if the Bid Proposal is based on the Specified Items or the District accepted substitution of Specified Items. The successful Bidder, upon award of the Contract by the District, if any, will be required to complete the Work for the amount bid in the Bid Proposal within the Contract Time and in accordance with the Contract Documents.
10. District's Right to Modify Contract Documents. Before the public opening and reading of Bid Proposals, the District may modify the Work, the Contract Documents, or portion(s) thereof by the issuance of written addenda disseminated to all Bidders who have obtained the Bid and Contract Documents pursuant to the Call for Bids. Failure of a Bidder to acknowledge addenda in its Bid Proposal will render the Bid Proposal non-responsive and rejected. The foregoing notwithstanding, the District may, in the sole discretion of the District, waive rejection of a Bid Proposal for non-responsiveness if the Bid Proposal does not acknowledge an addenda issued by the District that has no effect on the scope of the Bid Package, the requirements of the Bid Package or the proposed pricing to complete the Work of a Bid Package.
11. Erasures; Inconsistent or Illegible Bid Proposals. Bid Proposals must not contain any erasures,

interlineations or other corrections unless the same are suitably authenticated by affixing in the margin immediately opposite such erasure, interlineations or correction the initials of the person(s) signing the Bid Proposal. If a Bid Proposal, or portions thereof, are determined by the District to be illegible, ambiguous or inconsistent, whether by virtue of any erasures, interlineations, corrections or otherwise, the District may reject such a Bid Proposal as being non-responsive.

12. Bidders Interested in More Than One Bid Proposal; Non-Collusion Affidavit. No person, firm, corporation or other entity shall submit or be interested in more than one Bid Proposal for the same Work; provided, however, that a person, firm or corporation that has submitted a sub-proposal to a Bidder or who has quoted prices for materials to a Bidder is not thereby disqualified from submitting a sub-proposal, quoting prices to other Bidders or submitting a Bid Proposal for the proposed Work to the District. Failure of a Bidder to submit a completed and executed Non-Collusion Affidavit with its Bid Proposal will render the Bid Proposal non-responsive.

13. Subcontractors.

13.1. Subcontractors List. In accordance with Public Contract Code §4104, the Subletting and Subcontracting Fair Practices Act (California Public Contract Code §§4100 et seq.), each Bidder shall submit, on the form of Subcontractors List included with the Contract Documents, a list of its proposed Subcontractors for the Work of a Bid Package, including any Alternate Bid Items, who will perform/provide portions of the Work valued at or more than one-half (1/2) of one percent (1%) of the price proposed by the Bidder for the Work of a Bid Package. The Subcontractors List consists of four (4) columns, each of which requires the Bidder's disclosure of information relating to each listed Subcontractor as follows:

- Column A Name of Subcontractor
- Column B Subcontractor Address
- Column C Subcontractor California Contractors' License
- Column D Subcontractor Portion of the Work

All information in Columns A-D of the Subcontractors List must be completed for each listed Subcontractor; failure to do so will render the Bid Proposal non-responsive and rejected.

13.2. Work of Subcontractors. All Bidders are referred to the Contract Documents and the notation therein that all Contract Documents are intended to be complimentary and that the organization or arrangements of the Specifications and Drawings shall not limit the extent of the Work of the Contract Documents. Accordingly, all Bidders are encouraged to disseminate all of the Specifications, Drawings and other Contract Documents to all persons or entities submitting sub-bids to the Bidder. The omission of any portion or item of Work from the Bid Proposal or from the sub-bidders' sub-bids which is/are necessary to produce the intended results and/or which are reasonably inerrable from the Contract Documents is not a basis for adjustment of the Contract Price or the Contract Time. Dissemination of the Contract Documents to sub-bidders and dissemination of addenda issued during the bidding process is solely the responsibility of each Bidder.

13.3. Subcontractor Bonds. Pursuant to California Public Contract Code §4108, if a Bidder requires a bond or bonds of its Subcontractor(s), whether the expense of procuring such bond or bonds are to be borne by the Bidder or the Subcontractor(s), such requirements shall be specified in the Bidder's written or published request for sub-bids. Failure of the Bidder to comply with these requirements shall preclude the Bidder from imposing bonding requirements upon its Subcontractor(s) or rejection of a Subcontractor's bid under California Public Contract Code §4108(b).

14. Award of Contract. The District reserves the right to reject all Bid Proposals or to waive any irregularities or informalities in any Bid Proposal or in the bidding. Award of the Contract for a

Bid Package, if made by the District through action of its Board of Trustees, will be to the responsible Bidder submitting the lowest priced responsive Bid Proposal on the basis of the Base Bid Proposal or the Base Bid Proposal and Alternate Bid Items, if any, selected in accordance with the Call for Bids.

15. Alternate Bid Items.

15.1. Selection. Selection of Alternate Bid Items for determining the lowest priced Bid Proposal shall be as set forth in the Call for Bids. The Bid Proposal of a Bidder will be rejected for non-responsiveness if the Bidder fails to submit the completed/executed Alternate Bid Items Proposal in a sealed envelope separate from the Bid Proposal and other documents submitted with the Bid Proposal.

15.2. Alternate Bid Items Not Included in Award of Contract. Bidders are referred to the provisions of the Contract Documents permitting the District, during performance of the Work, add or delete from the scope of the Work any or all of the Alternate Bid Items with the cost or credit of the same being the amount(s) set forth by the successful Bidder in its Alternate Bid Items Proposal.

16. Unit Price Items. If the Bid Proposal for the Work includes proposal(s) for Unit Price Item(s), during Contractor's performance of the Work, the District may elect to add or delete any such Unit Price Item(s). If the District elects to add or delete any such Unit Price Item(s) pursuant to the foregoing, the debit or credit for such Unit Price Item(s) shall be in accordance with the amount(s) set forth in the Contractor's Unit Price Item(s) Proposal.

17. Responsive/Responsible Bids

17.1. Responsive Bid Proposal. A responsive Bid Proposal is a Bid Proposal which conforms, in all material respects, to requirements of the Bid and Contract Documents.

17.2. Hearing re Rejected Bid. If a Bidder's Bid Proposal is rejected by the District for non-responsiveness, but the Bidder contends that the basis of rejection is for Bidder responsibility, and not Bid Proposal responsiveness, the Bidder may request a responsibility hearing on that rejection: (i) if the District issues a notice of intent to award the Contract for a Bid Package to a Bidder with proposed pricing higher than pricing proposed in the rejected Bid Proposal; and (ii) the Bidder strictly complies with the following provisions relating to time limitations for requesting a responsibility hearing. To be considered by the District, such a request for a responsibility hearing must be in writing and submitted to the District's Chief Business Officer and must be actually received by the District's Chief Business Officer by the earlier of: (i) 5:00 PM one (1) business day after the District's notice to the Bidder of the District's rejection of the Bidder's Bid Proposal; or (ii) 5:00 PM one (1) business day after the date of the District's notice of intent to award a contract. If a Bidder does not request a responsibility hearing in strict conformity with the foregoing, such Bidder shall be deemed to have knowingly and voluntarily waive rights to a hearing. The District will grant or deny such request for a hearing based on the holding of the California Court of Appeal in *Great West Contractors, Inc. v. Irvine Unified School District* (2010) 187 Cal. App. 4th 1425. If a Bidder timely requests a hearing pursuant to the foregoing, the District will notify such Bidder in writing by 5:00 PM two (2) business days after the date of the Bidder's request for hearing is submitted of the District grant or denial of such a hearing. If the District grants a hearing, the District will schedule the hearing for a date not less than three (3) business days after the date of such notice to the Bidder requesting a hearing. If the District holds such a hearing, any Bidder may at its own expense: (i) be represented at the hearing by legal counsel; (ii) record the proceedings by court reporter; (iii) present oral and/or written statements and/or other documents.

17.3. Responsible Bidder.

- 17.3.1. Bidder Capacity. Factors affecting the Bidder's capacity to perform and complete the Work will be assessed, including: (i) Bidder's access to labor, materials and other resources necessary to complete the Work; (ii) Bidder's ability to complete the Work within the time established for completion of the Work, or portions thereof; and (iii) Bidder's ability to complete warranty obligations.
- 17.3.2. Bidder Character, Integrity. Factors reflecting the character and integrity of the Bidder, including: (i) other public agency finding/determination, within the past five (5) years, that the Bidder is not responsible; (ii) currently debarred from bidding public works projects or debarment from bidding within past five (5) years; and (iii) false claims liability within the past five (5) years under local, state or federal laws.
- 17.3.3. Bidder Financial Capability. Factors considered include: (i) sufficiency of the Bidder's financial resources; (ii) whether the Bidder is current in payment of debts and performance of other financial obligations; and (iii) bankruptcy or insolvency proceedings have been instituted within the past five (5) years.
- 17.3.4. Bidder Prior Performance. The Bidder's prior performance on prior public works contracts, including without limitation: (i) cost overruns; (ii) compliance with general conditions and other contractual requirements, including schedule development, schedule updates and coordination of labor, material/equipment procurements and subcontractors; (iii) completion within allocated time; (iv) submittal of unsubstantiated, unsupported or excessive cost proposals, claims or contract adjustment requests; (v) completion of a project by a surety; (vi) owner's exercise of default remedies; and (vii) finding or determination by any public agency that the Bidder is not a responsible bidder.
- 17.3.5. Safety. Factors include: (i) findings of serious or willful safety violations of safety laws, regulations or requirements by any local, state or federal agency within the past five (5) years; (ii) adequacy and implementation of safety plans, programs for on-site and off-site construction and construction related activities; and (iii) Workers Compensation Insurance EMR rating exceeding 1.25.
18. Notice of Intent to Award Contract. Following the public opening and reading of Bid Proposals, the District will issue a Notice of Intent to Award the Contract for a Bid Package, identifying the Bidder to whom the District intends to award the Contract and the date/time/place of the District's Board of Trustees meeting at which award of the Contracts for Bid Packages will be considered.
19. Agreement and Bonds Upon Award of Contract. If the Bidder submitting a Bid Proposal is awarded the Contract for a Bid Package, the undersigned will execute and deliver to the District the Contract in the form attached hereto within five (5) calendar days after notification of award of the Contract. Concurrently with delivery of the executed Agreement to the District, the Bidder awarded the Contract shall deliver to the District: (i) Certificates of Insurance evidencing all insurance coverage required under the Contract Documents; (ii) the Performance Bond; (iii) the Labor and Material Payment Bond; (iv) the Certificate of Workers' Compensation Insurance; and (v) the Drug-Free Workplace Certificate. Failure of the Bidder awarded the Contract to strictly comply with the preceding may result in the District's rescission of the award of the Contract and/or forfeiture of the Bidder's Bid Security. In such event, the District may, in its sole and exclusive discretion elect to award the Contract to the responsible Bidder submitting the next lowest priced Bid Proposal, or to reject all Bid Proposals. The required number of executed copies of the Agreement and the form and content of the Performance Bond and the Payment Bond and other documents or instruments required at the time of execution of the Agreement are specified in the Contract Documents.
20. Workers' Compensation Insurance. Pursuant to California Labor Code §3700, the successful

Bidder shall secure Workers' Compensation Insurance for its employees engaged in the Work of the Contract. The successful Bidder shall sign and deliver to the District the Certificate of Workers Compensation Insurance incorporated into the Contract Documents.

21. Drug Free Workplace Certificate. The successful Bidder will be required to execute a Drug Free Workplace Certificate pursuant to California Government Code §§8350 et seq., concurrently with execution of the Agreement.
22. Bid Security Return. The Bid Security of the Bidders submitting the three (3) lowest priced responsive Bid Proposals for each Bid Package will be held by the District for ten (10) days after the period for which Bid Proposals must be held open, as set forth the Call for Bids, or until posting by the successful Bidder(s) of the bonds, certificates of insurance required and return of executed copies of the Agreement, whichever first occurs, at which time the Bid Security of such other Bidders will be returned to them.
23. Forfeiture of Bid Security. If the Bidder awarded a Contract for a Bid Package fails or refuses to execute the Agreement within five (5) calendar days from the date of receiving notification that it is the Bidder to whom the Contract has been awarded, the District may declare the Bidder's Bid Security forfeited as damages caused by the failure of the Bidder to enter into the Contract and may thereupon award the Contract for the Bid Package to the responsible Bidder submitting the next lowest priced Bid Proposal or may call for new bids, in its sole and exclusive discretion.
24. Non-Discriminatory Employment Practices. It is the policy of the District that there be no discrimination against any prospective or active employee engaged in the Work because of race, color, ancestry, national origin, religious creed, sex, age, marital status or other legally protected classification. All Bidders agree to comply with the District's non-discrimination policy and all applicable Federal and California anti-discrimination laws including but not limited to the California Fair Employment & Housing Act beginning with California Government Code §§ 12940 et seq. and California Labor Code § 1735. In addition, all Bidders agree to require like compliance by any Subcontractor employed by them on the Work of the Contract.
25. Sexual Harassment. It is the policy of the District to ensure that everyone complies with Education Code, Government Code, Title V of the Administrative Code, and all other related statutes related to the prevention of Sexual Harassment. All Bidders agree to comply with the District's Sexual Harassment Prevention Program and all applicable Federal and California laws including but not limited to the California Fair Employment & Housing Act commencing with California Government Code §12950, *et seq.* In addition, all Bidders agree to require like compliance by any Subcontractor employed by them on the Work of the Contract.
26. Public Records. Bid Proposals and other documents responding to the Call for Bids become the exclusive property of the District upon submittal to the District. At such time as the District issues the Notice of Intent to award the Contract pursuant to these Instructions for Bidders, all Bid Proposals and other documents submitted in response to the Call for Bids become a matter of public record and shall be thereupon be considered public records, except for information contained in such Bid Proposals deemed to be Trade Secrets (as defined in California Civil Code §3426.1) confidential or proprietary. The District is not liable or responsible for the disclosure of such records, including those exempt from disclosure if disclosure is deemed required by law, by an order of Court, or which occurs through inadvertence, mistake or negligence on the part of the District or its officers, employees or agents. When Bid Proposals are deemed a matter of public record, pursuant to the above, any Bidder or other party shall be afforded access for inspection and/or copying of such Bid Proposals pursuant to the California Access to Public Records Act, California Government Code §§6250, *et seq.* If the District is required to defend or otherwise respond to any action or proceeding wherein request is made for the disclosure of the contents of any portion of a Bid Proposal deemed exempt from disclosure hereunder, the Bidder submitting the materials sought by such action or proceeding agrees to defend, indemnify and

hold harmless the District in any action or proceeding from and against any liability, including without limitation attorneys' fees arising there from. The party submitting materials sought by any other party shall be solely responsible for the cost and defense in any action or proceeding seeking to compel disclosure of such materials; the District's sole involvement in any such action shall be that of a stakeholder, retaining the requested materials until otherwise ordered by a court of competent jurisdiction.

27. Bid Protest. Any Bidder submitting a Bid Proposal to the District may file a protest of the District's intent to award the Contract provided that each and all of the following are complied with: (i) the bid protest is in writing; (ii) the bid protest is filed and received by the District's Chief Business Officer, not more than five (5) calendar days following the date of issuance of the District's Notice of Intent to Award the Contract; and (iii) the written bid protest sets forth, in detail, all grounds for the bid protest, including without limitation all facts, supporting documentation, legal authorities and argument in support of the grounds for the bid protest; any matters not set forth in the written bid protest shall be deemed waived. All factual contentions must be supported by competent, admissible and credible evidence. Any bid protest not conforming to the foregoing shall be rejected by the District as invalid. Provided that a bid protest is filed in strict conformity with the foregoing, the District's Chief Business Officer, or such individual(s) as may be designated by him/her, shall review and evaluate the basis of the bid protest. Either the Chief Business Officer, or other individual designated by him/her shall provide the bidder submitting the bid protest with a written statement concurring with or denying the bid protest. The rendition of a written statement by the District's Chief Business Officer, (or his/her designee) is an express conditions precedent to the institution of any judicial proceedings relative to the bidding process, the District's intent to award the Contract, the District's disposition of any bid protest or the District's decision to reject all Bid Proposals. If any such judicial proceedings are instituted and the District is named as a party thereto, the prevailing party(ies) shall recover from the other party(ies), as costs, all attorneys' fees and costs incurred in connection with any such proceeding, including any appeal arising there from.

[END OF SECTION]

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BID PACKAGES SCOPE DESCRIPTIONS

Bid Package descriptions and a general description of the scope of Work incorporated into each Bid Package are set forth in attachments to the Special Conditions.

Singular Bid Package under General Contractor for the Campus Restroom Remodel Phase 1 located within the Student Center building.

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BID TIME PROJECT SCHEDULE

The Bid Time Construction Schedule is set forth in attachments to the Special Conditions.

Refer to Specification Section 01310 Project Construction Schedule.

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BID PROPOSAL

PROJECT: Campus Restroom Remodel Phase 1

Bid Package No. _____ ; **Bid Package Description:** _____

Bidder Name	_____	
Bidder Representative(s)	Name and Title _____	
	Name and Title _____	
Bidder Representative(s) Contact Information	Email _____	Phone/Fax _____
	_____	(_____) Telephone _____
Bidder Mailing Address	_____	
	Address _____	
California Contractors' License	_____	
	Number _____	
	Classification and Expiration Date _____	

1. Bid Proposal.

1.1. Bid Proposal Price. The undersigned Bidder proposes and agrees to furnish and install the Work of the above-identified Bid Package including, without limitation, providing and furnishing any and all labor, materials, tools, equipment and services necessary to complete, in a workmanlike manner in accordance with the Contract Documents for the sum of:

\$, , . Dollars
 (in words; printed or typed)

The Bid Proposal Amount includes all Allowances set forth in Paragraph 1.3, below and the total Composite Unit Price, if any, set forth in Paragraph 1.4 and detailed in Attachment A. The Bidder confirms that it has checked all of the above figures and understands that neither the District nor any of its agents, employees or representatives shall be responsible for any assumptions, errors or omissions on the part of the undersigned Bidder in preparing and submitting this Bid Proposal.

1.2. Acknowledgment of Bid Addenda. The Bidder confirms that this Bid Proposal incorporates and is inclusive of, all items or other matters contained in Bid Addenda, if any, issued by or on behalf of the District.

_____ **Addenda Nos.** _____ received, acknowledged
 (initial) and incorporated into this Bid Proposal.

1.3. Allowance. The Bidder and District acknowledge that the Bid Proposal Price set forth above includes an Allowance Amount in the aggregate amount of _____ Dollars (\$_____), which is allocated as follows:

Allowance Description	Allowance Amount
	Dollars (\$ _____)
	Dollars (\$ _____)
	Dollars (\$ _____)

Although included in the Bid Proposal Price, Allowances belong solely to the District and shall be expended only upon written direction by the District in the sole discretion of the District. Any Allowance amount not fully consumed shall belong solely to the District and shall be credited against the Contract Price by a Deductive Change Order. By submitting this Bid Proposal, the Bidder confirms that the Bid Price proposed in Paragraph 1.1 is inclusive of all Allowances.

1.4. Unit Price Items. If applicable, the Bidder’s price proposals for Unit Price Items are set forth in the form of a Composite Unit Price Item Proposal included herewith as Attachment A hereto. The amount of the Composite Unit Price Proposal in Attachment A hereto is included in the Bid Proposal Price set forth above in Paragraph 1.1. Although the Unit Price Items will be considered in the determination of the lowest priced Bid Proposal, Unit Price Items will not form the basis for the District’s Contract Price for any Contract awarded. During performance of the Work, the District may elect to add or delete any Unit Price Item set forth in Attachment A. If the District elects to add or delete any Unit Price Item set forth below, the debit or credit for such Unit Price Item shall be in accordance with the Unit Prices set forth in Attachment A hereto.

1.5. Alternate Bid Items. The Bidder’s proposed pricing for each Alternate Bid Item, if any, are set forth in the accompanying form of Alternate Bid Items Proposal, Attachment B. Failure of a Bidder to propose pricing for each Alternate Bid Item set forth in the accompanying Alternate Bid Items Proposal will result in the Bid Proposal being deemed non-responsive and rejected.

2. Documents Accompanying Bid Proposal. **The Bidder has submitted with this Bid Proposal the following: (i) Bid Security; (ii) Subcontractors List; (iii) Statement of Qualifications; (iv) Non-Collusion Affidavit; (v) DIR Registration Verification; and (vi) CWA Letter of Assent.** The Bidder acknowledges that if this Bid Proposal and the foregoing documents are not fully in compliance with applicable requirements set forth in the Call for Bids, the Instructions for Bidders and in each of the foregoing documents, the Bid Proposal may be rejected for non-responsiveness.

3. Community Workforce Agreement (CWA). **By submitting this Bid Proposal, the Bidder acknowledges and agrees that if it is awarded the Contract for the Bid Package, the Bidder and its Subcontractors of any tier each agree to comply with the terms and conditions of the CWA.**

4. Award of Contract. Within five (5) days after notification of award of the Contract, the Bidder awarded the Contract shall execute and deliver to the District the Contract in the form attached hereto along with: (i) Certificates of Insurance evidencing all insurance coverages required under the Contract Documents; (ii) the Performance Bond; (iii) the Labor and Material Payment Bond; (iv) the Certificate of Workers’ Compensation Insurance; and (v) the Drug-Free Workplace Certificate. Failure of the Bidder awarded the Contract to strictly comply with the preceding may result in the District’s recession of the award of the Contract and/or forfeiture of the Bidder’s Bid

Security. In such event, the District may, in its sole and exclusive discretion elect to award the Contract to the responsible Bidder submitting the next lowest priced Bid Proposal, or to reject all Bid Proposals.

5. Contractors' License. The Bidder certifies that: (i) it is duly licensed, in the necessary class(es), for performing the Work of the Contract Documents, as designated by the District; (ii) that such license shall be in full force and effect throughout the duration of the performance of the Work under the Contract Documents; and (iii) that all Subcontractors providing or performing any portion of the Work are properly licensed to perform their respective portions of the Work at the time of submitting this Bid Proposal and shall remain properly licensed at all times during their performance of the Work.
6. Agreement to Bidding Requirements and Attorneys' fees. The undersigned Bidder acknowledges and confirms its receipt, review and agreement with, the contractual requirements set forth in this Bid Proposal and the Contract Documents. By executing this Bid Proposal hereinbelow, the Bidder expressly acknowledges and agrees that if the Bidder institutes any legal or equitable proceedings in connection with this Bid Proposal and the District is named as a party thereto, the prevailing party(ies) shall recover from the other party(ies), as costs, all attorneys' fees and costs incurred in connection with any such proceeding, including any appeal arising therefrom. This provision is a binding attorneys' fee agreement in accordance with and pursuant to California Civil Code §1717 which shall be enforceable against the Bidder and the District. This attorneys' fee provision shall be solely limited to legal or equitable proceedings arising out of a bid protest or the bidding process and shall not extend to or have any force and effect on the Contract for the Work or to modify the terms of the Contract Documents for the Work.
7. Acknowledgment and Confirmation. The undersigned Bidder acknowledges its receipt, review and understanding of the Drawings, the Specifications and other Contract Documents pertaining to the proposed Work. By submitting this Bid Proposal, the undersigned Bidder certifies that the Contract Documents are, in its opinion, adequate, feasible, accurate and complete for the Bidder to complete the Work in a workmanlike manner within the Contract Time and for the price proposed herein. The undersigned Bidder warrants and represents to the District that it has, or has available, all necessary equipment, personnel, materials, facilities and technical and financial ability to complete the Work for the amount bid herein, within the Contract Time and in accordance with the Contract Documents.

Dated: _____

By: _____
(Signature of Bidder's Authorized Officer or Representative)

(Typed or Printed Name)

Title: _____

**ATTACHMENT A
COMPOSITE UNIT PRICE BID PROPOSAL**

PROJECT: Campus Restroom Remodel Phase 1

Bid Package No. _____; Bid Package Description: _____

If applicable, Bidders shall provide a Composite Unit Price Proposal by completing this Attachment A fully and completely, and shall insert the amount of said Composite Unit Price Proposal in the Bid Proposal Amount at Paragraph 1.1 of this Bid Proposal; a Bidder's failure to do so will result in rejection of the Bid Proposal for non-responsiveness.

During performance of the Work, the District may elect to add or delete any Unit Price Item set forth below. The Unit Price shall be the total cost for addition or deletion of the item, inclusive of all costs of labor, materials, equipment and services necessary to complete the Unit Price work, together with any and all indirect costs, overhead and profit. No additional mark-up shall be allowed on any Unit Price Item. If the District elects to add or delete any Unit Price Item set forth below, the debit or credit for such Unit Price Item shall be in accordance with the Unit Prices set forth below.

The Multiplier set forth below for each Unit Price Item is **not** an estimate of the number of units required for the Work. The Multiplier set forth below for each Unit Price Item is to be used solely for the purpose of calculating a Composite Unit Price Proposal.

Bidders shall insert a Unit Price in the table below for each Unit Price Item. To compute a Unit Price Proposal for a Unit Price Item, multiply the Unit Price by the Multiplier for that Unit Price Item. The Composite Unit Price is the cumulative value of the Unit Price Proposal for all Unit Price Items identified above.

	Unit Price Item	Unit Price	Unit	Multiplier	Unit Price Proposal
1.					
2.					
3.					
4.					
5.					
6.					

Composite Unit Price Proposal Total: \$ _____

Bidder shall include the foregoing Composite Unit Price Proposal into the Bid Proposal Price at Paragraph 1.1 of this Bid Proposal.

[END OF SECTION]

ALTERNATE BID ITEMS PROPOSAL

PROJECT: Campus Restroom Remodel Phase 1

Bid Package No. _____; **Bid Package Description:** _____

Bidder Name: _____

Bidders must provide a proposal price for each Alternate Bid Item set forth herein; failure to do so will result in rejection of the Bid Proposal for non-responsiveness. The amount proposed for each Alternate Bid Item by the above-identified Bidder is set forth hereinbelow:

Alternate Bid Item No. 1. [DESCRIPTION]

Bid Package No. _____; **Bid Package Description:** _____

Check one of the following and indicate the additive or deductive proposed price for the foregoing Alternate Bid Item.

- Add _____ Dollars (\$) to Base Bid Proposal Price.
- Deduct _____ Dollars (\$) from Base Bid Proposal Price.

Alternate Bid Item No. 2. [DESCRIPTION]

Bid Package No. _____; **Bid Package Description:** _____

Check one of the following and indicate the additive or deductive proposed price for the foregoing Alternate Bid Item.

- Add _____ Dollars (\$) to Base Bid Proposal Price.
- Deduct _____ Dollars (\$) from Base Bid Proposal Price.

Alternate Bid Item No. 3. [DESCRIPTION]

Bid Package No. _____; **Bid Package Description:** _____

Check one of the following and indicate the additive or deductive proposed price for the foregoing Alternate Bid Item.

- Add _____ Dollars (\$) to Base Bid Proposal Price.
- Deduct _____ Dollars (\$) from Base Bid Proposal Price.

Dated _____

By: _____
(Signature of Bidder's Authorized Officer or Representative)

(Typed or Printed Name)

Title: _____

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PRE-BID INQUIRY FORM

Project: **Campus Restroom Remodel Phase 1**

Bid Package No: _____

Bid Package Description: _____

Submittal Date _____

Bidder inquiries will be responded to only if: (i) submitted on this Pre-Bid Inquiry Form; (ii) this completed Pre-Bid Inquiry Form is submitted prior to the latest date/time for submittal of pre-bid inquiries as set forth in the Call for Bids; and (ii) this completed Pre-Bid Inquiry Form is submitted to the person or entity noted in the Call for Bids.

Item No.	Item Description	Drawing Sheet No. & Detail No. Reference	Specifications Section and Paragraph No. Reference

Submitted By:

(Bidder Name)

(Signature of Bidder's Authorized Employee, Officer or Representative)

Bidder Contact Information:

(Bidder Contact Name)

(Phone and Fax)

(Email Address)

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SUBCONTRACTORS LIST

Project ("the Work")	Campus Restroom Remodel Phase 1	
Bid Package No. and Description	Bid Package No. _____	Bid Package Description: _____
Bidder Name	_____	
Bidder's Representative Signature	_____ (Signature) _____ (Typed or Printed Name)	

(A) Subcontractor Licensed Name	(B) Address of Office, Mill or Shop	(C) CSLB License No.	(D) Trade or Portion of Work

DUPLICATE THIS FORM FOR ADDITIONAL SUBCONTRACTORS]

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**VERIFICATION OF CONTRACTOR AND
SUBCONTRACTORS' DIR REGISTRATION**

I am the _____ of _____ ("Bidder")
(Title/Position) (Bidder Name)

submitting the accompanying Bid Proposal for the Work described as **Campus Restroom Remodel Phase 1.**

1. The Bidder is submitting a Bid Proposal for Bid Package No. _____, Bid Package Description: _____.
2. The Bidder is currently registered as a contractor with the Department of Industrial Relations ("DIR").
3. The Bidder's DIR Registration Number is: _____. The expiration date of the Bidder's DIR Registration is _____, 20____.
4. If the expiration date of the Bidder's DIR Registration will occur prior to expiration of the Contract Time for the Work and the Bidder is awarded the Contract for the Work, prior to the Bidder's DIR Registration expiration, the Bidder will take all measures necessary to renew the Bidder's DIR Registration so that there is no lapse in the Bidder's DIR Registration.
5. The Bidder, if awarded the Contract for the Work will remain a DIR registered contractor for the entire duration of the Work.
6. The Bidder has independently verified that each Subcontractor identified in the Subcontractors List is a DIR registered contractor.
7. The Bidder's solicitation of Subcontractor bids included notice to prospective Subcontractors that: (i) all sub-tier subcontractors must be DIR registered contractors at all times during performance of the Work; and (ii) prospective subcontractors may only solicit sub-bids from and contract with lower-tier subcontractors who are DIR registered contractors.
8. If any of the statements herein are false or omit material facts rendering a statement to be false or misleading, the Bidder's Bid Proposal is subject to rejection for non-responsiveness.
9. I have personal first hand-knowledge of all of the foregoing.

I declare under penalty of perjury under California law that the foregoing is true and correct.

Executed this ____ day of _____, 20__ at _____
(City and State)

(Signature)

(Name, typed or printed)

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STATEMENT OF QUALIFICATIONS

PROJECT: CAMPUS RESTROOM REMODEL PHASE 1

Bid Package No. _____; **Bid Package Description:** _____

Bidder Name: _____

1. Bidder Information.

1.1. Contact Information

Mailing Address	Street Address _____
	City, State, Zip Code _____
Physical Location (if different from mailing address)	Street Address _____
	City, State, Zip Code _____
Telephone/Fax	(_____) _____ Telephone
	(_____) _____ Fax

1.2. Bidder Contacts.

Name	_____
Contact Information	Telephone: (_____) _____
	Fax (_____) _____
	Email _____

1.3. California Contractors' License.

License Number(s)	_____
License Classification(s)	_____
Responsible Managing Employee; Responsible Managing Officer	_____
Expiration Date(s)	_____

1.4. Bidder Form of Entity.

- Corporation
- General Partnership
- Limited Partnership
- Limited Liability Company
- Limited Liability Partnership
- Joint Venture
- Sole Proprietorship

2. Revenue. Complete the following for the Bidder's construction operations; if any portion of the

revenue disclosed is generated by non-construction operations or activities, the Bidder must identify the portion of revenue attributed to construction operations and generally describe business activities of the Bidder that generates non-construction operations related revenue.

Calendar Year/ Fiscal Year	Annual Gross Revenue	Annual Net Revenue	Average Dollar Value of all Contracts	Dollar Value of Largest Contract
2016				
2015				
2014				

3. References.

DSA Project Inspectors			
Firm Name	Address	Telephone No.	Contact Name
Owners (K-12 School Districts or Community College Districts preferred)			
Owner Name	Address	Telephone No.	Contact Name
Architects (K-12 School District or Community College District Projects only)			
Architect Firm Name & Architect Firm Contact Name	Address	Telephone No.	Contact Name

[CONTINUED NEXT PAGE]

4. Insurance.

<p>Commercial General Liability Insurance</p>	<p>Insurer: _____ Policy No. _____ Broker _____</p>
<p>Commercial General Liability Insurance Broker</p>	<p>_____ (Contact Name) _____ (Street Address) _____ (City, State & Zip Code) (_____) _____ (_____) _____ Telephone Fax _____ (Email address)</p>
<p>Bid, Performance and Labor & Materials Payment Bond Surety</p>	<p>Surety: _____ (Surety Name) Surety Broker _____ (Surety Broker Contact Name) _____ (Street Address) _____ (City, State & Zip Code) (_____) _____ (_____) _____ Telephone Fax _____ (Email address)</p>
<p>Workers Compensation Insurance</p>	<p>Insurer: _____ Policy No. _____ Broker _____</p>
<p>Workers Compensation Insurance Broker</p>	<p>_____ (Contact Name) _____ (Street Address) _____ (City, State & Zip Code) (_____) _____ (_____) _____ Telephone Fax _____ (Email address)</p>

[CONTINUED NEXT PAGE]

5. Essential Requirements. A Bidder will not be deemed qualified if the answer to any of the following questions results in a “not qualified” response and the Bid Proposal submitted by such a Bidder will be rejected for failure of the Bidder to meet minimum qualifications for the Work.

- 5.1. Bidder possesses a valid and currently in good standing California Contractors’ license for the Classification(s) of Contractors’ License required by the Call for Bids.
 Yes No (Not Qualified)
- 5.2. Bidder is currently a DIR Registered Contractor?
 Yes No (Not Qualified)
- 5.3. Bidder has a current commercial general liability insurance policy with coverage limits of at least \$1,000,000 per occurrence and \$2,000,000 in the aggregate.
 Yes No (Not Qualified)
- 5.4. Bidder has a current workers’ compensation insurance policy as required by the Labor Code or is legally self-insured pursuant to Labor Code §3700.
 Yes No (Not Qualified)
 Bidder is exempt from this requirement, because it has no employees
- 5.5. The Bidder is ineligible or debarred from submitting Bid Proposals for public works projects or public works contracts pursuant Labor Code §1777.1 or Labor Code §1777.7.
 Yes (Not Qualified) No
- 5.6. A public agency, within the past five (5) years, has conducted proceedings that resulted in a finding that the Bidder, or any predecessor to the Bidder, is not a “responsible” bidder for a public works project or a public works contract.
 Yes (Not Qualified) No
- 5.7. During the last five (5) years, the Bidder or any predecessor to the Bidder, or any of the equity owners of the Bidder has been convicted of a federal or state crime involving fraud, theft, or any other act of dishonesty?
 Yes (Not Qualified) No
- 5.8. During the past five (5) years a Surety has completed any project or the Bidder’s obligations under a construction contract?
 Yes (Not Qualified) No
- 5.9. The Bidder’s Worker’s Compensation Insurance average EMR over the past five (5) years is more than 1.25.
 Yes (Not Qualified) No

6. Performance/Experience. A Bidder must receive a minimum of 70 points out of a possible 90 points in this section to be deemed “Qualified.” The Bid Proposal of a Bidder who is not deemed “Qualified” will be rejected for non-responsiveness.

- 6.1. Within the past two (2) years has your organization performed work on public works projects where the value of your work was at least **\$500,000**?
 Yes No

If yes, number of such projects: _____

If yes, was your organization the general contractor or a subcontractor?

_____ General Contractor	_____ Subcontractor
--------------------------	---------------------

- | | |
|-------------------------|-----------|
| Yes 1-5 Projects: | 3 points |
| Yes 6-10 Projects: | 5 points |
| Yes 10 or more Projects | 10 points |
| No | 0 points |

- 6.2. Within the past ten (10) years, has a complaint been filed against your organization's

California Contractors' License with the California Contractors' State License Board?

Yes No
Yes: 0 points
No: 10 points

6.3. Within the past ten (10) years, has your organization asked to be relieved of or refused to sign a contract for construction services awarded to it?

Yes No
Yes: 0 points
No: 5 points

6.4. Within the past ten (10) years, has your organization failed to complete a construction contract?

Yes No
Yes: 0 points
No: 10 points

6.5. Within the past ten (10) years, has your organization been declared in default of a construction contract?

Yes No
Yes: 0 points
No: 10 points

6.6. Within the past ten (10) years, has your organization failed to complete a public works construction contract within the authorized time?

Yes No
Yes: 0 points
No: 10 points

6.7. Within the past ten (10) years, has your organization been assessed and paid liquidated damages under a construction contract with either a public or private owner?

Yes No
Yes: 0 points
No: 10 points

6.8. Within the past ten (10) years, has your organization been denied an award of a public works contract based upon a finding by a public agency that your organization was not a responsible bidder?

Yes No
Yes: 0 points
No: 10 points

6.9. Within the past ten (10) years, has your organization or any principal of your organization been found guilty of violating any federal, state or local law, rule or regulation regarding a construction contract?

Yes No
Yes: 0 points
No: 5 points

6.10. Within the past ten (10) years, has any insurance carrier, for any policy of insurance, refused to renew an insurance policy for your organization?

Yes No
If yes, on how many occasions? _____
No occasions 10 points
1 occasion 3 points
More than 1 occasion 0 points

6.11. During the past five (5) years, has a surety declined to issue a surety bond for your

organization in connection with a construction project?

Yes No

If yes, on how many occasions? _____

No occasions 10 points

1 occasion 3 points

More than 1 occasion 0 points

7. Safety. Bidder must receive a minimum of 23 points out of a possible 35 points in this section.

7.1. Has CAL OSHA cited and assessed penalties against your firm for any "serious," "willful" or "repeat" violations of its safety or health regulations in the past five (5) years?

Yes No

or less occasion - 5 points

2 occasions - 3 points

More than 2 occasions - 0 points

7.2. Has the Federal Occupational Safety and Health Administration ("OSHA") cited and assessed penalties against your firm in the past five (5) years?

Yes No

1 or less occasion - 5 points

2 occasions - 3 points

More than 2 occasions - 0 points

7.3. Has the EPA, any Air Quality Management District or any Regional Water Quality Control Board cited and assessed penalties against either your firm or the owner of a project on which your firm was the contractor in the past five years?

Yes No

1 or less occasion - 5 points

2 occasions - 3 points

More than 2 occasions - 0 points

7.4. How often do you require documented safety meetings to be held for construction employees and field supervisors during the course of a project? _____

Once a week or more often - 5 points

Any other answer - 0 points

7.5. List your firm's Workers' Compensation Insurance Experience Modification Rate (EMR) for each of the past three (3) premium years: (Note: An Experience Modification Rate is issued to your firm annually by your workers' compensation insurance carrier).

Current year: _____

Previous year: _____

Year prior to previous year: _____

Three-year average EMR of .95 or less - 5 points

Three-year average EMR between .95 and 1.25 - 3 points

Any other EMR - 0 points

7.6. Has there been more than one occasion during the last five (5) years on which your firm was required to pay either back wages or penalties for your own firm's failure to comply with California's prevailing wage laws? (Note: This question refers only to your own firm's violation of prevailing wage laws, not to violations of the prevailing wage laws by a subcontractor to your firm.)

Yes No

2 or less occasions - 5 points

3 occasions - 3 points

More than 3 occasions - 0 points

7.7. At any time during the last five (5) years, has your firm been found to have violated any

provision of California apprenticeship laws or regulations, or the laws pertaining to use of apprentices on public works?

Yes No

If yes, provide the date(s) of such findings, and attach copies of the Department's final decision(s): _____

2 or less occasions - 5 points

3 occasions - 3 points

More than 3 occasions - 0 points

8. Legal/Administrative Proceedings and Surety. If the response to any of the following questions is a "yes" complete and accurate details must be attached; failure to attach such details will render the Bid Proposal of the Bidder to be non-responsive and rejected. Responses to the following will be used to evaluate Bidder responsibility.

8.1. Have legal, arbitration or administrative proceedings been brought construction project owner against the Bidder or any of the principals, officers or equity owners of the Bidder within the past ten (10) years which arise out of or are related to any construction project?

Yes No

If "yes," on a separate attachment, include the following details: (i) name of party initiating proceedings against the Bidder; (ii) contact name, address, phone and email address of party initiating proceedings; (iii) circumstances resulting in the initiation of proceedings; (iv) amount or other relief demanded; and (v) outcome of proceedings.

8.2. Has the Bidder brought any legal, arbitration or administrative proceedings against the owner of a construction project within the past ten (10) years which arise out of or are related to the construction project, excluding claims for personal injury?

Yes No

If "yes," on a separate attachment, include the following details: (i) name of owner; (ii) contact name, address, phone and email address of contact person for owner; (iii) circumstances resulting in the initiation of proceedings; (iv) amount or other relief demand; and (v) outcome of proceedings.

8.3. Has the Bidder brought any legal, arbitration or administrative proceedings against the architect or design professional for a construction project within the past ten (10) years which arise out of or are related to the construction project?

Yes No

If "yes," on a separate attachment, include the following details: (i) name of architect; (ii) contact name, address, phone and email address of contact person for architect or design professional; (iii) circumstances resulting in the initiation of proceedings; (iv) amount or other relief demand; and (v) outcome of proceedings.

8.4. Has the Bidder brought any legal, arbitration or administrative proceedings against the construction/project manager for a construction project within the past ten (10) years which arise out of or are related to the construction project?

Yes No

If "yes," on a separate attachment, include the following details: (i) name of construction/project manager; (ii) contact name, address, phone and email address of contact person for construction/project manager; (iii) circumstances resulting in the initiation of proceedings; (iv) amount or other relief demand; and (v) outcome of proceedings.

- 8.5. At any time during the past five (5) years, has any surety company made any payments on behalf the Bidder to satisfy any claims made against a bid, performance or payment bond issued to the Bidder, in connection with a construction project, either public or private?
 Yes No
If "yes," on a separate attachment set forth: (i) the amount of each such claim; (ii) the name and telephone number of the claimant; (iii) the date of the claim; (iv) the grounds for the claim; (v) the present status of the claim; (vi) the date of resolution of such claim if resolved; (vii) the method by which such was resolved if resolved; (viii) the nature of the resolution; and (ix) the amount, if any, at which the claim was resolved.
- 8.6. During the past five (5) years, has a surety declined to issue a surety bond for your organization in connection with a construction project?
 Yes No
If "yes" on a separate attachment provide details of the denial of bond coverage and the name of the company or companies which denied coverage.
- 8.7. At any time during the past five (5) years, has any surety company made any payments on behalf the Bidder to satisfy any claims made against a bid, performance or payment bond issued to the Bidder, in connection with a construction project, either public or private?
 Yes No
If "yes," on a separate attachment set forth: (i) the amount of each such claim; (ii) the name and telephone number of the claimant; (iii) the date of the claim; (iv) the grounds for the claim; (v) the present status of the claim; (vi) the date of resolution of such claim if resolved; (vii) the method by which such was resolved if resolved; (viii) the nature of the resolution; and (ix) the amount, if any, at which the claim was resolved.
- 8.8. In the last five (5) years has any insurance carrier, for any policy of insurance, refused to renew the insurance policy for your firm?
 Yes No
- 8.9. Within the past five (5) years, has the Bidder been required to pay either back wages or penalties for the Bidder's failure to comply with California prevailing wage laws? This question refers only to the Bidder's violation of prevailing wage laws, not to violations of the prevailing wage laws by a subcontractor.
 Yes No
If "yes," on a separate attachment: (i) describe each instance of prevailing wage rate violation; (ii) identify the project on which a prevailing wage rate violation occurred; (iii) the public agency owner of the project; (iv) the number of employees affected by each prevailing wage rate violation; and (v) amount of back wages and penalties the Bidder was required to pay.
- 8.10. Within the past five (5) years, has there been more than one occasion in which the Bidder was penalized or required to pay back wages for failure to comply with the Federal Davis-Bacon prevailing wage requirements?
 Yes No
If "yes," on a separate attachment: (i) describe each instance of prevailing wage rate violation; (ii) identify the project on which a prevailing wage rate violation occurred; (iii) the number of employees affected by each prevailing wage rate violation; and (iv) amount of back wages and penalties the Bidder was required to

pay.

8.11. Within the past five (5) years, has the Bidder been found to have violated any provision of California apprenticeship laws or regulations, or the laws pertaining to use of apprentices on public works projects?

_____ Yes _____ No

If "yes," provide the date(s) of such findings, and attach copies of the Apprenticeship Counsel's final decision(s).

9. Experience. Bidders must duplicate the summary table forms in Paragraphs 9.1, 9.2 and 9.3 below and attach completed summary table forms describing the Bidder's prior project experience. The completed summary table forms must be attached to this Statement of Qualifications.

9.1. Similar Completed Projects. Provide the following for three (3) projects the Bidder has completed within the past five (5) years similar in size, scope, function and construction value as the Work:

Project Name	
Project Owner; Contact Information	
Function/Use of Project	
Original Contract Duration	
Actual Project Completion Duration	
Original Contract Price	
Final Adjusted Contract Price	

9.2. All Completed Projects. On a separate attachment, identify all projects the Bidder has completed within the three (3) years, including the following information:

Project Name	
Project Owner; Contact Information	
Architect Name and Contact Information	
Original Contract Duration	
Actual Project Completion Duration	
Original Contract Price	
Final Adjusted Contract Price	

9.3. Projects In Progress. On a separate attachment, identify all projects the Bidder currently has in progress, including the following information:

Project Name	
Project Owner; Contact Information	
Architect Name and Contact Information	
Original Contract Duration	
Projected Completion Duration	
Original Contract Price	
Current Adjusted Contract Price	

10. Accuracy and Authority. The undersigned is duly authorized to execute this Statement of Qualifications under penalty of perjury on behalf of the above-identified Bidder. The undersigned warrants and represents that he/she has personal knowledge of each of the responses to this Statement of Qualifications and/or that he/she has conducted all necessary and appropriate inquiries to determine the truth, completeness and accuracy of responses to this Statement of Qualifications. The undersigned declares and certifies that the responses to this Statement of Qualifications are complete and accurate; there are no omissions of material fact or information

that render any response to be false or misleading and there are no misstatements of fact in any of the responses. The above-identified Bidder acknowledges and agrees that if the District determines that any response herein is false or misleading or contains misstatements of fact so as to be false or misleading, the Bidder's Bid Proposal may be rejected by the District for non-responsiveness.

Executed this ___ day of _____ 20__ at _____
(City and State)

I declare under penalty of perjury under California law that the foregoing is true and correct.

By: _____
(Signature of Bidder's Authorized Officer or Representative)

(Typed or Printed Name)

Title: _____

NON-COLLUSION AFFIDAVIT

STATE OF CALIFORNIA)
COUNTY OF _____)

PROJECT: Campus Restroom Remodel Phase 1

Bid Package No: _____; **Bid Package Description:** _____

I, _____, being first duly sworn, deposes and says that I am the
(Typed or Printed Name)
_____ of _____, the party submitting the
(Title) (Bidder Name)

foregoing Bid Proposal ("the Bidder"). In connection with the foregoing Bid Proposal, the undersigned declares, states and certifies that:

1. The Bid Proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization or corporation.
2. The Bid Proposal is genuine and not collusive or sham.
3. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any other bidder or anyone else to put in sham bid, or to refrain from bidding.
4. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price, or that of any other bidder, or to fix any overhead, profit or cost element of the bid price or that of any other bidder, or to secure any advantage against the public body awarding the contract or of anyone interested in the proposed contract.
5. All statements contained in the Bid Proposal and related documents are true.
6. The bidder has not, directly or indirectly, submitted the bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any person, corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Executed this ____ day of _____, 20__ at _____.
(City, County and State)

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Dated _____

By: _____
(Signature of Bidder's Authorized Officer or Representative)

(Typed or Printed Name)

Title: _____

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CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

I, _____ the _____ of
(Name) (Title)

_____, declare state and certify that:
(Contractor Name)

1. I am aware that California Labor Code §3700(a) and (b) provides:

“Every employer except the state shall secure the payment of compensation in one or more of the following ways:

(a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this state.

(b) By securing from the Director of Industrial Relations a certificate of consent to self-insure either as an individual employer, or one employer in a group of employers, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his or her employees.”

2. I am aware that the provisions of California Labor Code §3700 require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of this Contract.

3. I am authorized to execute this Certificate of Workers Compensation Insurance on behalf of the above-identified Contractor.

Dated: _____

By: _____

(Name Printed or Typed)

Title: _____

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DRUG-FREE WORKPLACE CERTIFICATION

I, _____, am the _____ of _____
(Print Name) (Title) (Contractor Name)

I declare, state and certify to all of the following:

1. I am aware of the provisions and requirements of California Government Code §§8350 et seq., the Drug Free Workplace Act of 1990.
2. I am authorized to certify, and do certify, on behalf of Contractor that a drug free workplace will be provided by Contractor by doing all of the following:
 - 2.1. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited in Contractor's workplace and specifying actions which will be taken against employees for violation of the prohibition.
 - 2.2. Establishing a drug-free awareness program to inform employees about all of the following: (i) the dangers of drug abuse in the workplace; (ii) Contractor's policy of maintaining a drug-free workplace; (iii) the availability of drug counseling, rehabilitation and employee-assistance programs; and (iii) the penalties that may be imposed upon employees for drug abuse violations.
 - 2.3. Requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by Paragraph 2.1 above, and that as a condition of employment by Contractor in connection with the Work of the Contract, the employee agrees to abide by the terms of the statement.
3. Contractor agrees to fulfill and discharge all of Contractor's obligations under the terms and requirements of California Government Code §8355 by, inter alia, publishing a statement notifying employees concerning: (i) the prohibition of any controlled substance in the workplace, (ii) establishing a drug-free awareness program, and (iii) requiring that each employee engaged in the performance of the Work of the Contract be given a copy of the statement required by California Government Code §8355(a) and requiring that the employee agree to abide by the terms of that statement.
4. Contractor and I understand that if the District determines that Contractor has either: (i) made a false certification herein, or (ii) violated this certification by failing to carry out and to implement the requirements of California Government Code §§8355, the Contract awarded herein is subject to termination, suspension of payments, or both. Contractor and I further understand that, should Contractor violate the terms of the Drug-Free Workplace Act of 1990, Contractor may be subject to debarment in accordance with the provisions of California Government Code §§8350, et seq.
5. Contractor and I acknowledge that Contractor and I are aware of the provisions of California Government Code §§8350, et seq. and hereby certify that Contractor and I will adhere to, fulfill, satisfy and discharge all provisions of and obligations under the Drug-Free Workplace Act of 1990.

I declare under penalty of perjury under the laws of the State of California that all of the foregoing is true and correct. Executed this ___ day of _____ 20__ at

(City and State)

By: _____
(Signature of Bidder's Authorized Officer or Representative)

(Typed or Printed Name)

Title: _____

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COMMUNITY WORKFORCE AGREEMENT

The CWA is incorporated herein by this reference as if set forth in full. A complete and executed copy of the CWA is posted on-line at:

[https://www.boarddocs.com/ca/avc/Board.nsf/files/AK8STV7447E8/\\$file/Antelope%20Valley%20College%202.2.17%20clean%20draft.pdf](https://www.boarddocs.com/ca/avc/Board.nsf/files/AK8STV7447E8/$file/Antelope%20Valley%20College%202.2.17%20clean%20draft.pdf).

**COMMUNITY WORKFORCE AGREEMENT
LETTER OF ASSENT**

[Contractor's Letterhead]

Community Workforce Coordinator
C/O Antelope Valley College
3041 West Ave K
Lancaster, CA 93536

Attn: Community Workforce Coordinator

Re: Community Workforce Agreement - Letter of Assent

Dear Sir:

This is to confirm that _____ agrees to be party to and bound by the Antelope Valley College Community Workforce Agreement effective _____, 2017, as such Agreement may, from time to time, be amended by the negotiating parties or interpreted pursuant to its terms. Such obligation to be a party and bound by this Agreement shall extend to all work covered by the Agreement undertaken by this Company on the project and this Company shall require all of its contractors and subcontractors of whatever tier to be similarly bound for all work within the scope of the Agreement by signing and furnishing to you an identical Letter of Assent prior to their commencement of work.

Sincerely,

[Name of Construction Company]

By: _____

Name: _____

Title: _____

Contractor State License No. _____

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AGREEMENT

THIS AGREEMENT is entered into as of _____, 2017 in the City of Lancaster, County of Los Angeles, State of California, by and between ANTELOPE VALLEY COMMUNITY COLLEGE DISTRICT, a California Community College District hereinafter "District" and _____ ("Contractor").

WITNESSETH, that the District and the Contractor in consideration of the mutual covenants contained herein agree as follows:

- The Work.** Within the Contract Time and for the Contract Price, subject to adjustments thereto pursuant to the Contract Documents, the Contractor shall perform and provide all necessary labor, materials, tools, equipment, utilities, services and transportation to complete in a workmanlike manner all of the Work required in connection with the work of improvement commonly referred to as **Campus Restroom Remodel Phase 1, Bid Package No:** _____; **Bid Package Description:** _____.

The Contractor shall complete all Work covered by the Contract Documents, including without limitation, the Drawings and Specifications prepared by the Architect and other Contract Documents enumerated in Paragraph 6 of this Agreement, along with all modifications and addenda thereto issued in accordance with the Contract Documents. The Architect for the Work is Kruger Bensen Ziemer Architects, Inc.

- Contract Time.** The Work shall be commenced on the date stated in the District's Notice to Proceed. The Contractor shall achieve Substantial Completion of the Work _____ (____) days after the commencement date of the Work set forth in the Notice to Proceed. The Contract Time shall be the number of days between the date specified for the commencement of the Work in the Notice to Proceed issued by or on behalf of the District and the calendar date specified in the Special Conditions for Project Completion. By executing this Agreement, the Contractor represents to the District that the Contract Time is reasonable for completion of the Work and the Contractor will fully complete the Work within the Contract Time, including any portions of the Work necessary to maintain the Construction Schedule and achieve Interim Milestones defined in the Special Conditions.

- Contract Price.** The District shall pay the Contractor as full consideration for the Contractor's full, complete and faithful performance of the Contractor's obligations under the Contract Documents, subject to adjustments of the Contract Price in accordance with the Contract Documents, the Contract Price of _____ Dollars (\$_____). The District's payment of the Contract Price shall be in accordance with the Contract Documents. The Contract Price is based upon the Contractor's Base Bid Proposal, authorized Allowances and the following Alternate Bid Items, if any: _____.

- Allowances.** The Contractor and District acknowledge that the Contract Price set forth above includes an Allowance Amount in the aggregate amount of _____ Dollars (\$_____), which is allocated as follows:

Allowance Description	Allowance Amount
	_____ Dollars (\$_____)
	_____ Dollars (\$_____)
	_____ Dollars (\$_____)

Although included in the Contract Price, Allowances belong solely to the District and shall be expended only upon written direction by the District, to be granted or denied in its sole discretion. Contractor shall submit cost data and other descriptive data to establish basis used by Contractor for determining costs associated with designated work attributable to each Allowance. Any Allowance amount not fully consumed shall belong solely to the District and shall be credited against the Contract Price by a Deductive Change Order. Should the Contractor's actual costs exceed the specified Allowance, the Contractor's Contract Price will be adjusted by change order in accordance with Contract General Conditions, Article 9.5.

- 5. Unit Price Items.** If the Bid Proposal for the Work includes a proposal(s) for Unit Price Item(s), during Contractor's performance of the Work, the District may elect to add or delete any such Unit Price Item(s). If the District elects to add or delete any such Unit Price Item(s) pursuant to the foregoing, the debit or credit for such Unit Price Item(s) shall be in accordance with the amount(s) set forth in the Contractor's Unit Price Item(s) Proposal, attached as Attachment A to the Contractor's Bid Proposal.
- 6. Liquidated Damages.** The Contractor shall be subject to assessment of Liquidated Damages if the Contractor: (i) fails to achieve Substantial Completion of the Work within the Contract Time, including adjustments thereto authorized by the Contract Documents; (ii) fails to submit Submittals in accordance with the Submittal Schedule; or (iii) fails to complete Punchlist items noted upon Substantial Completion within the time established to complete the Punchlist items. The per diem rate of Liquidated Damages assessed for each of the foregoing events is set forth in the Special Conditions.
- 7. Limitation on Damages.** If the District breaches or defaults in its performance of its obligations under the Contract Documents, the damages, if any, recoverable by the Contractor shall be limited to general damages which are directly and proximately caused by said breach or default of the District and shall exclude any and all special or consequential damages. By executing this Agreement, the Contractor expressly acknowledges the foregoing limitation to the recovery only of general damages from the District if the District is in breach or default of its obligations under the Contract Documents. The Contractor expressly waives any right to and foregoes the recovery of any special or consequential damages from the District including, without limitation, damages for: (i) lost or impaired bonding capacity; and/or, (ii) lost profits arising out of or in connection with any past, present, or future work of improvement, except for the Project which is the subject of the Contract Documents.
- 8. The Contract Documents.** The documents forming a part of the Contract Documents consist of the following, all of which are component parts of the Contract Documents:

<ul style="list-style-type: none"> 00 01 00 Table of Contents 00 01 07 Certifications/Seals Page 00 01 12 DSA Form 103 Statement of Structural Tests & Inspections 00 11 13 Notice Calling for Bids, including Bid Addenda 00 21 13 Instructions for Bidders 00 24 13 Bid Packages Scope Descriptions 00 31 13 Bid Time Project Schedule 00 41 00 Bid Proposal 00 43 22 Composite Unit Price Bid Proposal 00 42 23 Alternate Bid Items Proposal Form 00 43 24 Pre-Bid Inquiry Form 00 43 36 Subcontractors List 00 45 13 Statement of Qualifications 00 45 19 Non-Collusion Affidavit 00 45 26 Certificate of Workers Compensation Insurance 00 45 27 Drug-Free Workplace Certification 	<ul style="list-style-type: none"> 00 45 50 Community Workforce Agreement and CWA Letter of Assent 00 52 00 Agreement 00 61 10 Bid Bond 00 61 13 Performance Bond 00 61 14 Labor and Material Payment Bond 00 62 90 Verification of Certified Payroll Records Submittal to Labor Commission 00 62 95 Asbestos and Other Hazardous Materials Certification 00 65 36 Guarantee Form 00 65 37 Contractor Certification of Subcontractor Claims 00 72 00 General Conditions 00 73 00 Special Conditions Conditional and Unconditional Waivers and Releases on Progress Payments Conditional and Unconditional Waivers and Releases on Final Payment Project Documents including Specifications and drawings
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9. **Notices.** Notices of the District and Contractor to the other shall be transmitted in accordance with the Contract Documents. The effective date of notices transmitted in accordance with the Contract Documents shall be as set forth in the Contract Documents. Notices under the Contract Documents shall be addressed as follows:

If to the District:
Executive Director of Business Services,
Chief Business Official
Antelope Valley Community College District
3041 West Ave K
Lancaster, California 93536-5426

If to the Contractor:

10. **Authority to Execute.** The individual(s) executing this Agreement on behalf of the Contractor is/are duly and fully authorized to execute this Agreement on behalf of Contractor and to bind the Contractor to each and every term, condition and covenant of the Contract Documents.

CONTRACTORS ARE REQUIRED BY LAW TO BE LICENSED AND REGULATED BY THE CONTRACTORS' STATE LICENSE BOARD. ANY QUESTIONS CONCERNING A CONTRACTOR MAY BE REFERRED TO THE REGISTRAR, CONTRACTORS' STATE LICENSE BOARD, P.O. BOX 2600, SACRAMENTO, CALIFORNIA 95826

IN WITNESS WHEREOF, this Agreement has been duly executed by the District and the Contractor as of the date set forth above

DISTRICT"
Antelope Valley Community College District

By: _____

(Name Printed or Typed)

Title: _____

"CONTRACTOR"
[Contractor Name]

By: _____

(Name Printed or Typed)

Title: _____

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BID BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____, as Surety and _____, as Principal, are jointly and severally, along with their respective heirs, executors, administrators, successors and assigns, held and firmly bound unto ANTELOPE VALLEY COMMUNITY COLLEGE DISTRICT ("the Obligee") for payment of the penal sum hereof in lawful money of the United States, as more particularly set forth herein.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Principal has submitted the accompanying Bid Proposal to the Obligee for the Work commonly described as **Campus Restroom Remodel Phase 1, Bid Package No:** _____; **Bid Package Description:** _____.

WHEREAS, subject to the terms of this Bond, the Surety and the Principal are jointly and severally firmly bound unto the Obligee in the penal sum equal to Ten Percent (10%) of the maximum amount of the Bid Proposal submitted by the Principal to the Obligee, inclusive of amounts proposed for Alternate Bid Items, if any.

NOW THEREFORE, if the Principal shall not withdraw said Bid Proposal within the period specified therein after the opening of the same, or, if no period be specified, for sixty (60) days after opening of said Bid Proposal; and if the Principal is awarded the Contract, and shall within the period specified therefore, or if no period be specified, within five (5) days after the prescribed forms are presented to him for signature, enter into a written contract with the Obligee, in accordance with the Bid Proposal as accepted and give such bond(s) with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract and for the payment for labor and materials used for the performance of the Contract, or in the event of the withdrawal of said Bid Proposal within the period specified for the holding open of the Bid Proposal or the failure of the Principal to enter into such Contract and give such bonds within the time specified, if the Principal shall pay the Obligee the difference between the amount specified in said Bid Proposal and the amount for which the Obligee may procure the required Work and/or supplies, if the latter amount be in excess of the former, together with all costs incurred by the Obligee in again calling for Bids, then the above obligation shall be void and of no effect, otherwise to remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or the Call for Bids, the Work to be performed there under, the Drawings or the Specifications accompanying the same, or any other portion of the Contract Documents shall in no way affect its obligations under this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of said Contract, the Call for Bids, the Work, the Drawings or the Specifications, or any other portion of the Contract Documents.

In the event suit or other proceeding is brought upon this Bond by the Obligee, the Surety and Principal shall be jointly and severally liable for payment to the Obligee all costs, expenses and

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fees incurred by the Obligee in connection therewith, including without limitation, attorneys' fees.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day of _____, 20__ by their duly authorized agents or representatives.

(Bidder-Principal Name)

By: _____
(Signature)

(Typed or Printed Name)

Title: _____

(Attach Notary Public Acknowledgement of Principal's Signature)

(Surety Name)

By: _____
(Signature of Attorney-In-Fact for Surety)

(Typed or Printed Name of Attorney-In-Fact)

(Attach: (i) Attorney-In-Fact Certification; (ii) Notary Public Acknowledgment of Authorizing Signature on Attorney-Fact Certification; and (iii) Notary Public Acknowledgement of Attorney-In-Fact's Signature)

Contact name, address, telephone number and email address for notices to the Surety

(Contact Name)

(Street Address)

(City, State & Zip Code)

(_____) _____ (_____) _____
Telephone Fax

(Email address)

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____, as Surety and _____, as Principal, are jointly and severally, along with their respective heirs, executors, administrators, successors and assigns, held and firmly bound unto ANTELOPE VALLEY COMMUNITY COLLEGE DISTRICT ("the Obligee") for payment of the penal sum of _____ Dollars (\$_____) in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Trustees has awarded to the Principal a Contract for the Work described as **Campus Restroom Remodel Phase 1, Bid Package No: _____; Bid Package Description: _____.**

WHEREAS, the Principal, has entered into an agreement with the Obligee for performance of the Work; the Agreement and all other Contract Documents set forth therein are incorporated herein and made a part hereof by this reference.

WHEREAS, by the terms of the Contract Documents, the Principal is required to furnish a bond ensuring the Principal's prompt, full and faithful performance of the Work of the Contract Documents.

NOW THEREFORE, if the Principal shall promptly, fully and faithfully perform each and all of the obligations and things to be done and performed by the Principal in strict accordance with the terms of the Contract Documents as they may be modified or amended from time to time; and if the Principal shall indemnify and save harmless the Obligee and all of its officers, agents and employees from any and all losses, liability and damages, claims, judgments, liens, costs, and fees of every description, which may be incurred by the Obligee by reason of the failure or default on the part of the Principal in the performance of any or all of the terms or the obligations of the Contract Documents, including all modifications, and amendments, thereto, and any warranties or guarantees required thereunder; then this obligation shall be void; otherwise, it shall be, and remain, in full force and effect.

The Surety, for value received, hereby stipulates and agrees that no change, adjustment of the Contract Time, adjustment of the Contract Price, alterations, deletions, additions, or any other modifications to the terms of the Contract Documents, the Work to be performed thereunder, or to the Specifications or the Drawings shall limit, restrict or otherwise impair Surety's obligations or Obligee's rights hereunder; Surety hereby waives notice from the Obligee of any such changes, adjustments of Contract Time, adjustments of Contract Price, alterations, deletions, additions or other modifications to the Contract Documents, the Work to be performed under the Contract Documents, or the Drawings or the Specifications.

In the event of the Obligee's termination of the Contract due to the Principal's breach or default of the Principal's obligations thereunder, within twenty (20) days after written notice from the Obligee to the Surety of the Principal's breach or default of the Contract Documents and Obligee's termination of the Contract, the Surety shall notify Obligee in writing of Surety's assumption of obligations hereunder by its election to either remedy the default or breach of the Principal or to take charge of the Work of the Contract Documents and complete the Work at its own expense ("the Notice of Election"); provided, however, that the procedure by which the Surety undertakes to discharge its obligations under this Bond shall be subject to the advance written approval of the Obligee, which

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approval shall not be unreasonably withheld, limited or restricted. The insolvency of the Principal or the Principal's denial of a failure of performance or default under the Contract Documents shall not by itself, without the Surety's prompt, diligent inquiry and investigation of such denial, be justification for Surety's failure to give the Notice of Election or for its failure to promptly remedy the failure of performance or default of the Principal or to complete the Work.

In the event the Surety fails to issue its Notice of Election to Obligee within the time provided for hereinabove, the Obligee may thereafter cause the cure or remedy of the Principal's failure of performance or default or to complete the Work. The Principal and the Surety shall be jointly and severally liable to the Obligee for all damages and costs sustained by the Obligee as a result of the Principal's failure of performance under the Contract Documents or default in its performance of obligations thereunder, including without limitation the costs of cure or completion of the Work exceeding the then remaining balance of the Contract Price; provided that the Surety's liability hereunder for the costs of performance, damages and other costs sustained by the Obligee upon the Principal's failure of performance or default under the Contract Documents shall be limited to the penal sum hereof, which shall be deemed to include the costs or value of any Changes to the Work which increases the Contract Price.

In the event suit or other proceeding is brought upon this Bond by the Obligee, the Surety and Principal shall be jointly and severally liable for payment to the Obligee of all costs, expenses and fees incurred by the Obligee therewith, including without limitation, attorneys' fees.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this ____ day of _____, 20__ by their duly authorized agent or representative.

(Contractor-Principal Name)

By: _____
 (Signature)

 (Typed or Printed Name)

Title: _____

(Attach Notary Public Acknowledgement of Principal's Signature)

(Surety Name)

By: _____
 (Signature of Attorney-In-Fact for Surety)

 (Typed or Printed Name of Attorney-In-Fact)

(Attach: (i) Attorney-In-Fact Certification; (ii) Notary Public Acknowledgment of Authorizing Signature on Attorney-Fact Certification; and (iii) Notary Public Acknowledgement of Attorney-In-Fact's Signature)

Contact name, address, telephone number and email address for notices to the Surety

 (Contact Name)

 (Street Address)

 (City, State & Zip Code)

(_____) _____ (_____) _____
 Telephone Fax

 (Email address)

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____, as Surety and _____, as Principal, are jointly and severally, along with their respective heirs, executors, administrators, successors and assigns, held and firmly bound unto ANTELOPE VALLEY COMMUNITY COLLEGE DISTRICT ("the Obligee") for payment of the penal sum the penal sum of _____ Dollars (\$_____) in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Trustees has awarded to the Principal a Contract for the Work described as **Campus Restroom Remodel Phase 1, Bid Package No: _____**; **Bid Package Description: _____**.

WHEREAS, the Principal, has entered into an Agreement with the Obligee for performance of the Work, the Agreement and all other Contract Documents set forth therein are incorporated herein by this reference and made a part hereof.

WHEREAS, by the terms of the Contract Documents, the Principal is required to furnish a bond for the prompt, full and faithful payment to any Claimant, as hereinafter defined, for all labor materials or services used, or reasonably required for use, in the performance of the Work.

NOW THEREFORE, if the Principal shall promptly, fully and faithfully make payment to any Claimant for all labor, materials or services used or reasonably required for use in the performance of the Work then this obligation shall be void; otherwise, it shall be, and remain, in full force and effect.

The term "Claimant" shall refer to any person, corporation, partnership, proprietorship or other entity including without limitation, all persons and entities described in California Civil Code §9100, providing or furnishing labor, materials or services used or reasonably required for use in the performance of the Work under the Contract Documents, without regard for whether such labor, materials or services were sold, leased or rented. This Bond shall inure to the benefit of all Claimants so as to give them, or their assigns and successors, a right of action upon this Bond.

In the event suit is brought on this Bond by any Claimant for amounts due such Claimant for labor, materials or services provided or furnished by such Claimant, the Surety shall pay for the same and reasonable attorneys' fees pursuant to California Civil Code §9554.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, deletion, addition, or any other modification to the terms of the Contract Documents, the Work to be performed thereunder, the Specifications or the Drawings, or any other portion of the Contract Documents, shall in any way limit, restrict or otherwise affect its obligations under this Bond; the Surety hereby waives notice from the Obligee of any such change, extension of time, alteration, deletion, addition or other modification to the Contract Documents, the Work to be performed under the Contract Documents, the Drawings or the Specifications of any other portion of the Contract Documents.

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IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day of _____, 20__ by their duly authorized agent or representative.

(Contractor-Principal Name)

By: _____
(Signature)

(Typed or Printed Name)

Title: _____

(Attach Notary Public Acknowledgement of Principal's Signature)

(Surety Name)

By: _____
(Signature of Attorney-In-Fact for Surety)

(Typed or Printed Name of Attorney-In-Fact)

(Attach: (i) Attorney-In-Fact Certification; (ii) Notary Public Acknowledgment of Authorizing Signature on Attorney-Fact Certification; and (iii) Notary Public Acknowledgement of Attorney-In-Fact's Signature)

Contact name, address, telephone number and email address for notices to the Surety

(Contact Name)

(Street Address)

(City, State & Zip Code)

(_____) _____ (_____) _____
Telephone Fax

(Email address)

ASBESTOS AND OTHER HAZARDOUS MATERIALS CERTIFICATION

This Asbestos and Other Hazardous Materials Certification form is part of the Contract made by and between Antelope Valley Community College District ("District") and _____ ("Contractor") for the work of improvement commonly referred to as Campus Restroom Remodel Phase 1 (hereinafter referred to as the "Project").

To the best of my knowledge, information and belief, in completing the Work of the Project, no materials, equipment or other items furnished, installed or incorporated into the Project contains, or in itself be composed of, any asbestos, polychlorinated biphenyl (PCB), any material listed by the federal or state EPA or federal or state health agencies as a hazardous material, or defined as being hazardous under federal or state laws, rules or regulations.

The undersigned is duly authorized to complete, execute and submit this Asbestos and Other Hazardous Materials Certification on behalf of the Contractor. The undersigned has personal knowledge of the substantive representations set forth hereinabove or has made appropriate diligent inquiry to ascertain that the substantive representations set forth hereinabove are complete, true and accurate and do not omit material facts rendering such representations to be false or misleading.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on this _____ day of _____, 20__ at _____.

By: _____

Signature

Print Name

Title

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GUARANTEE

Project: Campus Restroom Remodel Phase 1

Bid Package No: _____; **Bid Package Description:** _____

The Contractor hereby warrants and guarantees to the District that all work, materials, equipment and workmanship provided, furnished or installed by or on behalf of Contractor in connection with the above referenced Project (the "Work") have been provided, furnished and installed in strict conformity with the Contract Documents for the Work, including without limitation, the Drawings and the Specifications. Contractor further warrants and guarantees that all work, materials, equipment and workmanship as provided, furnished and/or installed are fit for use as specified and fulfill all applicable requirements of the Contract Documents including without limitation, the Drawings and the Specifications. Contractor shall, at its sole cost and expense, repair, correct and/or replace any or all of the work, materials, equipment and/or workmanship of the Work, together with any other items which may be affected by any such repairs, corrections or replacement, that may be unfit for use as specified or defective within a period of one (1) year from the date of the District's Final Acceptance of the Work, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of the Contractor's failure and/or refusal to comply with the provisions of this Guarantee, within the period of time set forth in the Contract Documents after the District's issuance of the Notice to the Contractor of any defect(s) in the Work, materials, equipment or workmanship, Contractor authorizes the District, without further notice to Contractor, to repair, correct and/or replace any such defective item at the expense of the Contractor. The Contractor shall reimburse the District for all costs, expenses or fees incurred by the District in providing or performing such repairs, corrections or replacements within ten (10) days of the District's presentation of a demand to the Contractor for the same.

The provisions of this Guarantee and the provisions of the Contract Documents for the Work relating to the Contractor's Guarantee(s) and warranty(ies) relating to the Work shall be binding upon the Contractor's Performance Bond Surety and all successors or assigns of Contractor and/or Contractor's Performance Bond Surety.

The provisions of this Guarantee are in addition to, and not in lieu of, any provisions of the Contract Documents for the Work relating to the Contractor's guarantee(s) and warranty(ies) or any guarantee(s) or warranty(ies) provided by any material supplier or manufacturer of any equipment, materials or other items forming a part of, or incorporated into the Work, or any other guarantee or warranty obligation of the Contractor, prescribed, implied or imposed by law.

The undersigned individual executing this Guarantee on behalf of Contractor warrants and represents that he/she is duly authorized to execute this Guarantee on behalf of Contractor and to bind Contractor to each and every provision hereof.

Contractor

(Contractor Name)

(Signature of Contractor's Authorized Employee, Officer Or Representative)

(Printed Name and Title)

(Date)

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CONTRACTOR CERTIFICATION OF SUBCONTRACTOR CLAIM

TO: ANTELOPE VALLEY COMMUNITY COLLEGE DISTRICT

RE: Campus Restroom Remodel Phase 1 (Project); Bid Package No. _____

(Contractor)

(Subcontractor)

This Contractor Certification of Subcontractor Claim is submitted by the above-identified Contractor relating to to the District on behalf of the above-identified Subcontractor. I am the _____
(Title)

of the Contractor.

The Subcontractor has submitted the accompanying Subcontractor Claim to the Contractor for presentation to the District pursuant to Public Contract Code §9204.

1. I have personally reviewed the entirety of the Subcontractor Claim and all substantiating documentation in support of the Subcontractor Claim.
2. The Subcontractor Claim is made by the Subcontractor in good faith.
3. The Subcontractor Claim is supported by reasonable documentation establishing entitlement to the relief requested and District liability therefor.
4. The Subcontractor Claim does not incorporate any request constituting a False Claim under applicable law, including the California False Claim Act (Government Code §12650 et. seq.).
5. I am authorized: (i) to execute this Certification on behalf of the Contractor; and (ii) to submit this Certification and the accompanying Subcontractor Claim to the District.
6. I have personal first-hand knowledge of all of the foregoing.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed at _____, California, on _____, 20__.

(Signature)

(Print Name)

(Title)

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**GENERAL CONDITIONS
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GENERAL CONDITIONS

1. Definitions

- 1.1. The Work. The "Work" is the construction and services required by the Contract Documents, and includes all labor, materials, equipment or services to fulfill the Contractor's obligations under the Contract Documents.
- 1.2. Surety. The Surety is the person or entity that executes, as surety, the Contractor's Labor and Material Payment Bond and/or Performance Bond.
- 1.3. Contractor and Subcontractors. Unless otherwise expressly provided in the Contract Documents, references to Contractor in the Contract Documents are references to each Contractor awarded a Contract for a Bid Package. A Subcontractor is a person or entity who has a direct contract with a Contractor for a portion of the Work; Subcontractors include lower tier subcontractors, who are in direct privity of contract with a Subcontractor.
- 1.4. Material Supplier. A Material Supplier only furnishes materials, equipment or supplies for the Work without fabricating, installing or consuming them in the Work.
- 1.5. Drawings and Specifications. The Drawings are the graphic and pictorial portions of the Contract Documents, showing generally, the design, location and dimensions of the Work and may include plans, elevations, sections, details, schedules or diagrams. The Specifications are the written requirements for materials, equipment, construction systems, standards, criteria and workmanship.
- 1.6. Intent and Correlation of Contract Documents. The Contract Documents are complementary and what is required by one portion shall be by all; performance by the Contractor is required to the extent consistent with the Contract Documents and reasonably inferable therefrom as being necessary to produce the intended results. If a portion of the Contract Documents is silent and information appears elsewhere in the Contract Documents, such other portions of the Contract Documents shall control. Words or terms with well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings. Conflicts, inconsistencies or ambiguities in the Contract Documents shall be resolved by the Architect based on the following standards: the Drawings are intended to describe matters relating to placement, type, quantity and the like; the Specifications are intended to describe matters relating to quality, materials, compositions, manufacturers and the like. If conflicts exist between parts of the Contract Documents regarding the quality of any product, equipment or materials, the Contractor shall provide the product, equipment or material of the highest or more stringent quality.
- 1.7. Shop Drawings; Samples; Product Data ("Submittals"). Shop Drawings are diagrams, schedules and other data specially prepared for the Work to illustrate the installation, assembly or similar matters for a portion of the Work. Samples are physical examples of materials, equipment or workmanship to be incorporated into the Work. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information to illustrate materials or equipment for a portion of the Work. Shop Drawings, Samples and Product Data prepared by the Contractor or any Subcontractors/Material Suppliers are collectively referred to as "Submittals."
- 1.8. Division of State Architect ("DSA"). DSA is the California Division of the State Architect; references to "DSA" include its offices, employees and agents. The authority of the DSA over the Work and the performance thereof shall be as set forth in the Contract Documents and the Laws.
- 1.9. Project Inspector. The Project Inspector is employed by the District in accordance with the requirements of Title 24 of the California Code of Regulations. The Project Inspector is authorized to act on behalf of the District as provided for in the Contract Documents and in Title 24 of the California Code of Regulations.
- 1.10. Contract Document Terms. The term "provide" means "provide complete in place" or to "furnish and install" such item. Unless otherwise provided in the Contract Documents, the terms "approved;" "directed;" "satisfactory;" "accepted;" "acceptable;" "proper;" "required;" "necessary" and "equal" means as approved, directed, satisfactory, accepted, acceptable, proper, required, necessary and equal, in the opinion of the Architect. The term "typical" as used in the Drawings shall require the installation or furnishing of such item(s) of the Work designated as "typical" in all other areas similarly marked as "typical"; Work in such other areas shall conform to that shown as "typical" or as reasonably inferable therefrom.
- 1.11. Record Drawings. The Record Drawings are the Drawings marked by the Contractor during the Work to indicate completely and accurately actual as-built conditions of the Work.
- 1.12. Construction Manager. The Construction Manager, if any, is designated in the Special Conditions and is authorized to act on behalf of the District in accordance with the Contract Documents. If a Construction Manager is not designated in the Special Conditions, the District may designate a Construction Manager during performance of the Work without adjustment of the Contract Price or the Contract Time or otherwise affect, limit or restrict Contractor's obligations hereunder.

- 1.13. Construction Equipment. "Construction Equipment" is equipment utilized for the performance of any portion of the Work, but which is not incorporated into the Work.
- 1.14. Site. The Site is the physical area designated in the Contract Documents for Contractor's performance, construction and installation of the Work.
- 1.15. Field Clarifications. A written or graphic document consisting of supplementary details, instructions or information issued on behalf of the District which clarifies or supplements the Contract Documents and which becomes a part of the Contract Documents upon issuance. Field Clarifications do not constitute Changes, unless a Change Order relating to a Field Clarification is authorized and issued.
- 1.16. Defective or Non-Conforming Work. Defective or Non-Conforming Work is any Work which is unsatisfactory, faulty or deficient by: (i) not conforming to the requirements of the Contract Documents; (ii) not conforming to the standards of workmanship of the applicable trade; (iii) not in compliance with the requirements of any inspection, reference, standard, test, or approval required by the Contract Documents; or (iv) damage occurring prior to Final Acceptance.
- 1.17. Notice to Proceed. The Notice to Proceed is the written notice issued by or on behalf of the District to the Contractor authorizing the Contractor to proceed with commencement of the Work and which establishes the date for commencement of the Contract Time.
- 1.18. Progress Reports; Verified Reports. Progress Reports are written reports prepared by the Contractor and its Subcontractors on a daily basis. Progress Reports must include: (i) the number of labor and supervising personnel at the Site; (ii) the labor/work classification of each laborer; (iii) a detailed description of the Work in progress and completed; (iv) weather/environmental conditions; and (v) problems encountered with a potential impact to the Contract Time or the Contract Price. Verified Reports are periodic written reports prepared by the Contractor and submitted to the DSA; Verified Reports shall be in such form and content as required by Title 24 of the California Code of Regulations.
- 1.19. Laws. "Laws" refer to all laws, ordinances, codes, rules and/or regulations promulgated by any governmental or quasi-governmental agency with jurisdiction over any portion of the Work and which apply to any portion of the Work, including those in effect as of the execution of the Agreement, amendments thereto and subsequently enacted Laws that take effect during the performance of the Work. No adjustment of the Contract Time or the Contract Price shall be allowed for the Contractor's compliance with the Laws.

2. District

- 2.1. Information Required of District.
- 2.1.1. Surveys; Site Information. Information, if any, concerning physical characteristics of the Site, including without limitation, surveys, soils reports, and utility locations is set forth in the Contract Documents. Information not provided by the District but required to complete the Work shall be obtained by Contractor without adjustment to the Contract Price or the Contract Time. The Contractor shall verify all information provided by the District. Variations between conditions or existing improvements depicted in the Contract Documents and those actually encountered in the performance of the Work shall not result in any District liability therefor, nor shall any such variations result in an adjustment of the Contract Time or the Contract Price.
- 2.1.2. Drawings and Specifications. The District shall furnish the Contractor, without cost to the Contractor, electronic digital files of the Drawings and Specifications. The Contractor is solely responsible for completing the following at the Contractor's cost and expense: (i) distribution of electronic digital files of the Drawings and Specifications to Subcontractors, Material Suppliers and other performing any portion of the Work, as necessary; and (ii) reproduction of any portion of the Drawings or Specifications. All of the Drawings and the Specifications provided by the District to the Contractor remain the property of the District; the Contractor shall not use the Drawings or the Specifications other than the Work of the Project.
- 2.2. District's Right to Stop the Work. The District may, by written order, direct the Contractor to stop any portion of the Work if the Contractor: (i) fails to correct Defective or Non-Conforming Work; or (ii) fails to carry out the Work in conformity to the Contract Documents. The right of the District to stop the Work hereunder shall not: (i) be deemed a duty of the District to exercise such right for the benefit of the Contractor; (ii) waive or limit the exercise of any other right or remedy of the District under the Contract Documents or the Laws; or (iii) result in adjustment of the Contract Time or the Contract Price.
- 2.3. Partial Occupancy or Use. The District may occupy or use any completed or partially completed portion of the Work. Immediately prior to such partial occupancy or use of the Work, the District, Project Inspector, Contractor, Construction Manager and Architect shall jointly inspect the portion of Work to be used or occupied by the District to record the condition of the Work. Corrective action noted in such inspection shall be promptly performed and completed by the Contractor so the Work conforms to requirements of the Contract Documents and the District's occupancy or use thereof is not impaired. The District's use or occupancy of the Work or portions thereof is not "completion" of the Work pursuant to Public Contract Code §7107 nor constitute the District's acceptance

Defective or Non-Conforming Work.

2.4. The Project Inspector.

2.4.1. Authority. All Work shall be performed under the observation of the Project Inspector, whose authority is established by the Laws and the Contract Documents. Duties of the Project Inspector shall not relieve or limit the Contractor's performance of its obligations under the Contract Documents. The Project Inspector does not have authority: (i) to interpret the Contract Documents or to modify the Work depicted in the Contract Documents; or (ii) relating to the Contractor's safety plan. Upon the Project Inspector's issuance of a report or other similar statement identifying Defective or Non-Conforming Work, the Contractor shall promptly repair, replace or correct the same so that it conforms to requirements of the Contract Documents. If the Contractor fails or refuses to promptly remedy Defective or Non-Conforming Work, the District may remedy such Defective or Non-Conforming Work at the expense of the Contractor.

2.4.2. Information for the Project Inspector. The Contractor shall provide to the Project Inspector all information, data and similar materials as necessary or appropriate for the Project Inspector's purposes of fulfilling the Project Inspector's obligations relating to observations and inspections of the Work.

2.5. Communications Software. The District reserves the right to implement electronic data and/or communications software (such as Primavera Expedition®) for data and communications relating to the Work ("Communications Software"). The Contractor's use of Communications Software will be as directed by the District without charge or expense to the Contractor and without adjustment of the Contract Price or the Contract Time.

2.6. Multiple Contractors; Construction Manager. The Work of the Contractor is identified and generally described by the Bid Package Number and Bid Package Description set forth in the Agreement ("Bid Package"). The Contractor acknowledges that construction of the Project will be completed by separate contracts between the District and multiple Contractors, each for a specific scope of Work. Each Contractor is responsible for the timely and complete performance of the Work of its Bid Package in accordance with requirements of its contract with the District for the Contractor's Bid Package. Each Contractor's Work will be scheduled, coordinated and generally directed by the Construction Manager, provided that the foregoing is not deemed assumption of the Contractor's responsibility for: (i) means and methods to complete Bid Package Work; (ii) implementing safety measures and programs required by Site conditions and as required by the Laws; and (iii) supervision, coordination and direction of the Bid Package Work.

3. Architect

3.1. Architect's Administration of the Contract. The Architect will provide administration of the Contract and will be one of the District's representatives during construction until the time that Final Payment is due the Contractor under the Contract Documents. The Architect is authorized to act on behalf of the District as provided for in the Contract Documents and shall have the responsibilities and authority over the Work as established by the Laws.

3.2. Periodic Site Inspections. The Architect will visit the Site at intervals appropriate to the stage of construction to: (i) become generally familiar with the progress and quality of the completed Work; and (ii) determine if the Work is being performed so that when completed will be in accordance with the Contract Documents. On the basis of Site observations as an architect, the Architect will keep the District informed of the progress of the Work, and endeavor to guard the District against defects and deficiencies in the Work. The Architect is authorized to reject Defective or Non-Conforming Work. The Architect may require additional inspections or tests, whether or not the Work is fabricated, installed or completed.

3.3. Contractor Responsibility for Construction Means, Methods and Sequences. The Architect will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, these being solely the Contractor's responsibility.

3.4. Submittals. The Architect will review and accept or take other appropriate action relating to Submittals for the limited purpose of checking for general conformance with information given and the design concept expressed in the Contract Documents. The Architect's review of Submittals shall not: (i) relieve the Contractor of its obligations under the Contract Documents; (ii) constitute approval of safety measures, programs or precautions; or (iii) constitute the direction of construction means, methods, techniques, sequences or procedures. The Architect's review and return of reviewed Submittals will conform to the time limits set forth in the Specifications, the Construction Schedule or other provisions of the Contract Documents. If no time limits are established in the foregoing, the Architect shall have fourteen (14) days for review and return of Submittals.

3.5. Changes; Change Orders. The Architect will prepare Change Orders, and may authorize minor Changes in the Work which do not result in adjustment of the Contract Time or the Contract Price. The Architect may issue Field Clarifications and Construction Change Directives.

3.6. Interpretation of Contract Documents. The Architect will interpret and decide matters concerning the requirements of the Contract Documents on written request of either the District or the Contractor. The Architect's response to such requests will be made promptly and within the time limits agreed upon; if agreement

establishing the time for the Architect's review and response to requests is not reached, the Architect shall have fifteen (15) days after receipt of such request to respond thereto. Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. The Architect's decisions on matters relating to aesthetic effect are final if consistent with the intent expressed in the Contract Documents.

- 3.7. Contractor Request for Information. If the Contractor encounters any condition which the Contractor believes, in good faith and with reasonable basis, is the result of an ambiguity, conflict, error or omission in the Contract Documents (collectively "the Conditions"), the Contractor must request information from the Architect necessary to address and resolve any such Conditions before proceeding with any portion of the Work affected or which may be affected by such Conditions. If the Architect reasonably determines that any of Contractor's request(s) for information: (i) does not reflect adequate or competent supervision or coordination by the Contractor or any Subcontractor; or (ii) does not reflect the Contractor's adequate or competent knowledge of the requirements of the Work or the Contract Documents; or (iii) is not justified for any other reason, Contractor shall be liable to the District for all costs incurred by the District to process, review, evaluate and respond to such request for information, including without limitation, fees of the Architect.
- 3.8. Communications; Architect's Role. All communications regarding the Work, the performance thereof or the Contract Documents shall be in writing; verbal communications shall be reduced to writing. Communications between the Contractor and the District shall be through the Construction Manager. All written communications between the Contractor and any Subcontractor, Material Supplier or others shall be available to the District or Construction Manager for review, inspection and reproduction as requested from time to time.

4. The Contractor

4.1. Contractor Review of Contract Documents.

- 4.1.1. Examination of Contract Documents. The Contractor shall carefully study Contract Documents and information furnished by the District and shall immediately notify the Architect in writing of errors, inconsistencies or omissions discovered. If the Contractor performs any Work knowing, or with reasonable diligence should have known that, it involves an error, inconsistency or omission in the Contract Documents without prior notice to the Architect, the Contractor shall bear the costs for correction of the same.
- 4.1.2. Measurements, Layouts and Field Engineering. The Contractor shall take field measurements and verify field conditions at the Site. All field engineering required for laying out the Work and establishing grades for earthwork operations shall be by an engineer registered under the Laws and without adjustment of the Contract Price. The Contractor shall complete all surveys necessary for performance of the Work and for establishment, location, maintenance and preservation of benchmarks, reference points and stakes for the Work.
- 4.1.3. Drawings; Dimensions. Unless otherwise expressly provided, dimensions indicated in the Drawings are: (i) intended for reference only; and (ii) diagrammatic and schematic in nature. The Contractor is solely responsible for dimensioning and coordinating the Work of the Contract Documents. No Contract Price adjustment will be allowed on account of differences between actual dimensions and the dimensions indicated on the Drawings.
- 4.1.4. Work in Accordance With Contract Documents. The Contractor shall perform all of the Work in strict conformity with the Contract Documents and the Laws.

4.2. Site Investigation; Subsurface Conditions.

- 4.2.1. Subsurface Data. By executing the Agreement, the Contractor acknowledges that it has examined the boring data and other available subsurface data and has satisfied itself as to the character, quality and quantity of surface and subsurface materials, including without limitation, obstacles which may be encountered in performance of the Work. Subsurface data or other soils investigation report provided by the District hereunder are not a part of the Contract Documents. Information contained in such data or report regarding subsurface conditions, elevations of existing grades, or below grade elevations are approximate only and is neither guaranteed or warranted by the District to be complete and accurate. The District assumes no responsibility for any conclusions or interpretations of the Contractor on the basis of available subsurface data or other information furnished by District under the Contract Documents.
- 4.2.2. Subsurface Conditions. If the Work involves digging trenches or other excavations that extend deeper than four (4) feet below the surface, the Contractor shall promptly and before the following conditions are disturbed, notify the Project Inspector, in writing, of any: (i) material that the Contractor believes may be material that is hazardous waste, as defined in California Health and Safety Code §25117, that is required to be removed to a Class I or Class II or Class III disposal site in accordance with provisions of existing law; (ii) subsurface or latent physical conditions at the site differing from those indicated; or (iii) unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in the Work or the character provided for in the Contract Documents. If the District determines that the conditions so materially differ or involve such hazardous materials

requiring an adjustment to the Contract Price or the Contract Time, the District shall issue a Change Order in accordance with Article 9 hereof. Pursuant to California Public Contract Code §7104, disputes between the Contractor and the District as to any of the conditions listed in (i), (ii) or (iii) above, shall not excuse the Contractor from the completion of the Work within the Contract Time and the Contractor shall proceed with all Work to be performed under the Contract Documents.

4.3. Supervision and Construction Procedures.

4.3.1. Supervision of the Work. The Contractor shall supervise and direct performance of the Work, using the Contractor's best skill and attention. The Contractor is responsible to the District for acts and omissions of the employees, agents and representatives of the Contractor and Subcontractors.

4.3.2. Noise and Dust Control. The Contractor shall implement all measures necessary for noise and dust control during Work at the Site, including specific care to avoid deposits of airborne dust or airborne elements.

4.3.3. Clean-Up. The Contractor shall at all times keep the Site and all adjoining areas free from the accumulation of any waste material or rubbish. The Contractor shall maintain the Site in a "rake-clean" standard on a daily basis. The Project Inspector or Construction Manager may direct the Contractor's clean-up obligations hereunder. If the Contractor fails to clean up as provided for in the Contract Documents, the District may do so at the Contractor's expense.

4.3.4. Cutting and Patching. The Contractor is responsible for cutting, fitting or patching required to complete the Work or to make the component parts thereof fit together properly. The Contractor shall not damage or endanger any portion of the Work, or the fully or partially completed construction of the District or separate contractors by cutting, patching, excavation or other alteration.

4.3.5. Construction Utilities. The District will furnish and pay the costs of utility services for the Work as set forth in the Special Conditions; all other utilities necessary to complete the Work shall be obtained by the Contractor without adjustment of the Contract Price. Temporary distributions of utilities at the Site as necessary for the Work, including utilities furnished by the District will be by the Contractor assigned such responsibilities in its Bid Package Scope of Work. The costs of utility services obtained by the Contractor and are included in the Contract Price.

4.3.6. Existing Utilities: Removal, Relocation and Protection. Pursuant to California Government Code §4215, the District assumes responsibility for timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Site which are not identified in the Contract Documents. The Contractor shall be compensated for the costs of locating, repairing damage not due to the Contractor's failure to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Contract Documents with reasonable accuracy and for Construction Equipment on the Site necessarily idled during such work. The Contractor shall not be assessed Liquidated Damages for delay in completion of the Work when such delay is caused by the failure of the District or the utility owner to provide for removal or relocation of such utility facilities. The District is not required to indicate existing service laterals or appurtenances if presence of such utilities on the Site can be inferred from the presence of other visible facilities, such as buildings, meters and junction boxes, on or adjacent to the Site. If the Contractor encounters utility facilities not identified in the Contract Documents, the Contractor shall immediately notify, in writing, the District, Project Inspector, Architect, Construction Manager and the utility owner. If such utility facilities are owned by a public utility, the public utility shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price.

4.4. Conferences and Meetings. A material obligation of the Contractor is the attendance by the Contractor's supervisory and/or management personnel (who shall be authorized to act on behalf of the Contractor) at meetings relating to the Work, including weekly progress meetings. The Contractor is responsible for arranging for attendance by Subcontractors, Material Suppliers at meetings and conferences relating to the Work as necessary, appropriate or as requested by the District. All costs, expenses, charges or fees incurred by the Contractor in connection with attendance and participation meetings relating to the Work shall be without adjustment of the Contract Time or the Contract Price. The Architect or Construction Manager will prepare and distribute minutes reflecting the items addressed and actions taken at a meeting or conference. The Contractor shall have five (5) days after the date of distribution of minutes to notify the Construction Manager and Architect in writing of objections to such minutes. Failure of the Contractor to interpose objections within said five (5) days will result the minutes as distributed constituting the official record of the meeting or conference. Objections of Subcontractors or Material Suppliers to minutes shall be submitted to the Architect or Construction Manager through the Contractor. If the Contractor timely interposes objections or notes corrections, the resolution of such matters shall be addressed at the next scheduled meeting.

4.5. Labor and Materials.

4.5.1. Payment for Labor, Materials and Services. The Contractor shall provide and pay for labor, materials, equipment, tools, Construction Equipment and machinery, water, heat, utilities, transportation, and other facilities and/or services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated in the Work.

- 4.5.2. Employee Discipline and Competency. The Contractor shall enforce strict discipline and good order among employees of the Contractor, Subcontractors and all other persons performing any part of the Work at the Site. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. The Contractor shall dismiss from its employ and direct any Subcontractor to dismiss from their employment any person deemed by the District to be unfit or incompetent to perform Work.
- 4.5.3. Contractor's Superintendent. The Contractor's superintendent shall be present at the Site at all times during the Work. The superintendent shall represent the Contractor and communications given to the superintendent shall be binding as if given to the Contractor. The Contractor shall submit to the District a written statement of the qualifications of the Contractor's proposed Superintendent. Acceptance of the Contractor's proposed Superintendent is subject to establishing the Superintendent's: (i) skills, experience and other capabilities of the proposed Superintendent to supervise, coordinate and manage the Work; (ii) fluent verbal and written English language capabilities; (iii) competency in reading, comprehending and understanding Drawings, Specifications and other technical construction-related materials; and (iv) recent experience in completing construction projects similar to the Work within the budget and time established for such other construction projects. Upon acceptance of the Contractor's Superintendent, the Contractor shall not be change the Superintendent without prior consent of the District, unless the Superintendent: (i) is unsatisfactory to the Contractor; or (ii) is determined by the District to be unfit, incompetent or incapable of performing functions and responsibilities assigned.
- 4.5.4. Prohibition on Harassment. Any person engaging in a prohibited form of harassment is subject to immediate removal and thereafter excluded from the Site. Upon the District's receipt of any notice or complaint that a person performing Work at the Site has engaged in a prohibited form of harassment ("Worker"), the District will promptly undertake an investigation of such notice or complaint. If the District, after such investigation, reasonably determines that a prohibited form of harassment has occurred, the District will notify the Contractor of the same and direct that the Worker be immediately removed from the Site. Unless the District's determination is grossly negligent or without reasonable cause, District shall have no liability for directing the removal of any Worker determined to have engaged in a prohibited form of harassment nor shall the Contract Price or the Contract Time be adjusted on account thereof. The Contractor and the Surety shall defend, indemnify and hold harmless the Indemnified Parties from any and all claims, liabilities, judgments, awards, actions or causes of actions, including without limitation, attorneys' fees, which arise out of, or pertain in any manner to: (i) the assertion by any Worker that the direction of the District pursuant to the foregoing was improper; or (ii) the assertion by any person that a Worker has engaged in a prohibited form of harassment directed to or affecting such person.
- 4.5.5. Taxes. The Contractor shall pay, without adjustment of the Contract Price, all sales, consumer, use and other taxes for the Work or portions thereof provided by the Contractor under the Contract Documents.
- 4.6. Permits, Fees and Notices; Compliance With Laws.
- 4.6.1. Payment of Permits, Fees. Unless otherwise provided in the Contract Documents, the District shall secure and pay for the building permits, other permits, governmental fees, licenses and inspections necessary or required for the proper execution and completion of the Work. The foregoing notwithstanding: (i) the Contractor shall pay all fees, costs or other expenses associated with or arising in connection with Deferred Approval Items without adjustment of the Contract Price; and (ii) the Contractor shall obtain the following permits/approvals if applicable to the Work without adjustment of the Contract Price: (a) Temporary Fire Department plan check and permits for temporary material handling, storage and/or dispensing facilities for fuel, oil, liquid or gases; (b) industrial waste and AQMD permits relating to temporary facilities used in connection with any portion of the Work; (c) local business license; (d) traffic control, OSHA and offsite improvement permits; and (e) sewer, water, storm drain, gas tie plan check permits.
- 4.6.2. Compliance With Laws. The Contractor shall comply with and give notices required by the Laws and other orders of public authorities bearing on performance of the Work. All Work completed by the Contractor shall be in compliance with the Laws.
- 4.6.3. Notice of Variation From Laws. If the Contractor knows, or has reason to believe, that any portion of the Contract Documents are at variance with applicable Laws, the Contractor shall promptly notify the Architect, Construction Manager and the Project Inspector, in writing, of the same. If the Contractor performs Work knowing, or with reasonable diligence should have known, it to be contrary to the Laws without such notice to the Architect, Construction Manager and the Project Inspector, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs arising or associated therefrom, including without limitation, the removal, replacement or correction of the same.
- 4.6.4. DIR Registration. At all times during the Work, the Contractor shall be a DIR registered contractor. Performance of any Work by the Contractor without the Contractor being a DIR registered contractor at the time Work is performed is the Contractor's default in performance of a material obligation of the Contractor under the Contract Documents.

4.7. Submittals. Submittals are not part of the Contract Documents. Submittals shall demonstrate, for those portions of the Work for which Submittals are required, the manner in which the Contractor proposes to furnish, install or incorporate such Work in conformity with the information given and the design concept expressed in the Contract Documents.

4.7.1. Contractor's Submittals.

4.7.1.1. Prompt Submittals. All Submittals required by the Contract Documents shall be prepared, assembled and submitted by the Contractor to the Architect in a timely manner or within the time indicated in the Submittal Schedule incorporated into the Baseline Construction Schedule.

4.7.1.2. Contractor Approval of Subcontractor Submittals. All Submittals prepared by Subcontractors or Material Suppliers shall bear the written approval of the Contractor prior to submission to the Architect for review, with the approval indicating that the Contractor has verified materials, field measurements, field construction criteria, catalog numbers and similar data related thereto and has verified that the information contained within such Submittals conform to the requirements the Contract Documents. Any Submittal submitted without the Contractor's written approval will be returned to the Contractor for re-submittal in conformity herewith, with the same being deemed to not have been submitted. Submittals shall be numbered consecutively and include the following: (i) date of submission; (ii) project name; (iii) name of submitting Subcontractor; and (iv) if applicable, the revision number. The foregoing information is in addition to, and not in lieu of, any other information required for the Architect's review of Submittals.

4.7.1.3. Contractor Responsibility for Deviations. The Contractor is not relieved of responsibility for correcting deviations from the Contract Documents by the Architect's review of Submittals unless the Contractor specifically informs the Architect in writing of such deviation at the time of submission of the Submittal and the Architect accepts the specific deviation.

4.7.1.4. No Performance of Work Without Architect Review. The Contractor shall perform no portion of the Work requiring the Architect's review of Submittals until the Architect has completed its review and accepted the Submittal. The Contractor shall not perform any portion of the Work affected by a related Submittal until the related Submittal is reviewed and accepted by the Architect.

4.7.2. Architect Review of Submittals. If the Architect returns a Submittal as rejected or requiring correction(s) with re-submission, the Contractor shall promptly resubmit a Submittal conforming to the requirements of the Contract Documents; the resubmitted Submittal shall indicate the portions thereof modified in accordance with the Architect's direction. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Architect may rely on the accuracy and completeness of such calculations and certifications accompanying Submittals. The following notations or notations of a similar nature noted on a reviewed Submittal will require the Contractor action noted below.

Submittal Notation	Required Contractor Action
No Exceptions Taken	No formal revision required
Make Corrections Noted	Make revision noted; re-submission of revised Submittal not required.
Revise and Re-Submit	Revise Submittal in accordance with notations and re-submit for review.
Rejected Re-Submit	Prepare new alternative Submittal and re-submit for review.

4.7.3. Deferred Approval Items. If any portion of the Work is designated in the Contract Documents as a "Deferred Approval" item, Contractor is responsible for preparing Submittals for Deferred Approval Items. Where required by the Laws or the nature of a Deferred Approval, the Deferred Approval Design shall be completed and stamped by a California licensed architect or California registered engineer. The Deferred Approval Design shall: (i) incorporate all requirements of the Deferred Approval as set forth in the Contract Documents; (ii) be coordinated with other portions of the Work; (iii) be completed in a timely manner so as not to delay, disrupt or interfere with completion of the Work within the Contract Time; and (iv) be completed in accordance with the applicable professional standard of care. The Contractor shall submit each completed Deferred Approval Design to the Architect for review and acceptance. Upon the Architect's acceptance of a Deferred Approval Design, the Contractor shall be responsible for: (i) submittal of the Deferred Approval Design to DSA for review and approval; (ii) modifications to the Deferred Approval Design as necessary to obtain DSA approval; and (iii) payment of fees or charges imposed by DSA for review and approval of a Deferred Approval Design without adjustment of the Contract Price. Notwithstanding review and acceptance of a Deferred Approval Design by the Architect or DSA issuance of approval to construct pursuant to the Contractor's Deferred Approval Design, the Contractor remains liable to the District for all losses, damages, costs, or other consequences of the failure of any Contractor's Deferred Approval Design to: (i) conform to the applicable design professional standard of care; (ii) conform to design intent and/or aesthetic requirements established in the Contract Documents; or (iii) perform and function in accordance with requirements established in the Contract Documents.

4.8. Materials and Equipment.

4.8.1. Approval of Substitutions or Alternatives. The Contractor may propose alternatives or substitutes for items

specified in the Contract Documents (“Alternative Products”), provided that: (i) the Alternative Products comply with the requirements of the specified item; (ii) the Contractor certifies that the quality, performance capability and functionality (including aesthetics) of the Alternative Products meet or exceed the quality, performance capability and functionality of the specified item; and (iii) use of the Alternative Product will not delay completion of the Work or increase the Contract Price. The Contractor shall submit engineering, construction, dimension, visual, aesthetic and performance data (“Substantiating Data”) to the Architect to permit evaluation of the Alternative Products. The Contractor shall not furnish or install any Alternative Products without the Architect’s acceptance of the Alternative Products. The Architect’s decision evaluating the Contractor’s proposed Alternative Products shall be final. Neither the Contract Time nor the Contract Price shall be increased on account of any Alternative Products accepted by the Architect. The Contract Price shall be reduced by the actual cost savings realized by the Contractor’s furnishing and/or installation of accepted Alternative Products. The Contractor is solely responsible for all costs and fees incurred by the District to review proposed Alternative Products, including without limitation fees of the Architect, design consultants to the Architect and/or governmental agencies to review and/or approve any proposed substitution or alternative. All requests for the Architect’s review and approval of any Alternative Products and all Substantiating Data shall be submitted by Contractor not later than fourteen (14) days following the date of the District’s award of the Contract to Contractor; any request for approval of Alternative Products submitted thereafter may be rejected summarily. The foregoing process and time limits shall apply to any proposed Alternative Products regardless of whether the Alternative Products are furnished or installed by the Contractor, a Subcontractor or Material Supplier.

- 4.8.2. Rejected Alternative Products. If the Architect does not approve a Contractor proposed Alternative Product, the Contractor shall furnish and install the specified item without adjustment of the Contract Price or Contract Time.
- 4.8.3. District Standard Products; “Sole Source” Products. If any material, equipment, product or other item (“Product”) is designated in the Contract Documents as a “District Standard” or by similar words/terms, the District is deemed to have made a finding that such Product is designated and specified to match other Products in use in a completed or to be completed work of improvement and not subject to Alternative Products.
- 4.8.4. Placement of Material and Equipment Orders. The Contractor and Subcontractors shall promptly place all orders for materials and/or equipment for completion of the Work so that delivery of the same shall be made without delay or interruption to the Work. When requested by or on behalf of the District, the Contractor shall furnish written evidence of the placement of orders for materials and/or equipment necessary for completion of the Work, including without limitation, orders for materials and/or equipment to be provided, furnished or installed by any Subcontractor.
- 4.8.5. District’s Right to Place Orders for Materials and/or Equipment. If the District determines, in its sole discretion, that orders for materials and/or equipment have not been placed in a manner so Substantial Completion is achieved within the Contract Time, the District shall have the right, but not the obligation, to place such orders on behalf of the Contractor. The Contractor shall reimburse the District for all costs and fees incurred by the District in placing such orders.
- 4.9. Safety. The Contractor is solely responsible for initiating, maintaining and supervising all safety programs required by the Laws or by the type or nature of the Work and for initiating and maintaining reasonable safety precautions to prevent damage, injury or loss to: (i) employees on the Work and other persons who may be affected thereby; (ii) the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site or in transit; and (iii) other property or items at the Site, or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction. The foregoing includes, without limitation, posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities. Duties of the Contractor’s Superintendent include prevention of accidents and the implementation of safety precautions and programs. In an emergency, the Contractor shall take necessary action to prevent or mitigate threatened damage, injury or loss.
- 4.10. Hazardous Materials; Prohibition on Use of Asbestos Construction Building Materials (“ACBMs”). If the Contractor or any Subcontractor uses, at the Site, or incorporates into the Work, any material or substance deemed to be hazardous or toxic under the Laws (collectively “Hazardous Materials”), the Contractor shall comply with the Laws relating to the use, storage or disposal thereof. It is the intent of the District that ACBMs not be used or incorporated into any portion of the Work. If any product or material forming a part of the Work or incorporated into the Work is found to contain ACBMs, the Contractor shall at its sole cost and expense: (i) remove such product or material in accordance with the Laws; (ii) replace such product or material with non-ACBM products or materials; and (iii) return the affected portion(s) of the Work to the finish condition depicted in the Contract Documents relating to such portion(s) of the Work. The foregoing obligations shall survive the termination of the Contract, the warranty period provided under the Contract Documents, completion of the Work or the District’s acceptance of the Work. If the Contractor fails or refuses, for any reason, to commence the

removal and replacement of any material or product containing ACBMs forming a part of, or incorporated into the Work, within ten (10) days of the date of the District's written notice to the Contractor, the District may thereafter proceed to cause the removal and replacement of such materials or products; all costs, expenses and fees, including without limitation fees and costs of consultants and attorneys, shall be the joint and several responsibility of the Contractor and the Surety.

- 4.11. Maintenance of Record Drawings. During the Work, the Contractor shall continuously maintain Record Drawings consisting of a set of the Drawings marked to indicate all field changes to adapt the Work depicted in the Drawings to field conditions, Change Orders and all concealed or buried installations, including without limitation, piping, conduit and utility services. Record Drawings relating to the Structural, Mechanical, Electrical and Plumbing portions of the Work shall indicate without limitation, circuiting, wiring sizes, equipment/member sizing and shall depict the entirety of the as built conditions of such portions of the Work. If the District reasonably determines that the Contractor has not been, or is not, continuously maintaining the Record Drawings pursuant to the foregoing, the District may take appropriate action to cause the continuous maintenance of complete and accurate Record Drawings, at the Contractor's expense. Prior to receipt of the Final Payment, Contractor shall deliver the Record Drawings to the Architect.
- 4.12. Use of Site. The Contractor shall confine operations at the Site to areas permitted the Laws and the Contract Documents and shall not unreasonably encumber the Site or adjoining areas with materials or equipment. The Contractor is solely responsible for providing security at the Site with all such costs included in the Contract Price. Except in an emergency, no construction activities shall be permitted at or about the Site except during the hours and days set forth in the Special Conditions; Work performed at hours or on days not noted in the Special Conditions will not result in adjustment of the Contract Time or the Contract Price.
- 4.13. Access to the Work. The Contractor shall provide DSA, District, Construction Manager, the Project Inspector and Architect with access to the Work, whether in place, preparation and progress and wherever located.
- 4.14. Patents and Royalties. The Contractor and the Surety shall defend, indemnify and hold harmless the District and its agents, employees and officers from any claim, demand or legal proceeding arising out of or pertaining, in any manner, to any actual or claimed infringement of patent rights in connection with performance of the Work under the Contract Documents.
- 4.15. Wage Rates; Employment of Labor.
- 4.15.1. Payment of Prevailing Rates. There shall be paid each worker of the Contractor and Subcontractors engaged in the Work, not less than the general prevailing wage rate, regardless of any contractual relationship which may be alleged to exist between the Contractor or any Subcontractor and such worker. During the Work and pursuant to the CWA, the CWA Coordinator will monitor and enforce the obligation of the Contractor and Subcontractors to pay laborers at least the Prevailing Wage Rate established for the classification of work/labor performed. The CWA Coordinator is responsible for and authorized to: (i) receive complaints alleging violations of prevailing wage rate obligations; (ii) process, investigate and resolve prevailing wage rate violation complaints; and (iii) if not resolved, refer the prevailing wage rate violation complaints to the Labor Commissioner for further review, hearing and/or enforcement.
- 4.15.2. Prevailing Rate Penalty. If a worker of the Contractor or a Subcontractor is paid less than the prevailing wage rate for the work or craft provided by the worker, the Contractor and/or Subcontractor shall be subject all penalties and assessments established by the Laws.
- 4.15.3. Certified Payroll Records. The Contractor and all Subcontractors shall prepare and submit Certified Payroll Records to District with the Contractor's Pay Applications. The form and content of Certified Payroll Records shall be as established by the Labor Commissioner. Pursuant to California Labor Code §1776, the Contractor and each Subcontractor shall keep accurate payroll records, 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 person employed for the Work. The payroll records shall be certified and available for inspection at all reasonable hours at the principal office of the Contractor in accordance with the Laws. If the Contractor and/or Subcontractor fail or refuse to produce payroll records as required by the Laws, the Contractor and/or Subcontractor shall be subject to all penalties and assessments under the Laws as a result of such failure or refusal.
- 4.15.4. Hours of Work. The Contractor and Subcontractors shall limit the hours of work by their respective workers to those permitted by the Laws and the CWA. Hours of work exceeding those permitted by the Laws shall be subject to additional premium wage payments as required by the Laws. Failure of the Contractor or Subcontractors to comply with the foregoing will subject the Contractor and/or Subcontractor to all penalties and assessments under the Laws.
- 4.16. Apprentices. Apprentices for the Work shall be in strict conformity with the Laws, including without limitation, Labor Code §§1777.5 through 1777.7, the provisions of which are incorporated herein by this reference. The responsibility for compliance with apprenticeship requirements is solely and exclusively that of the Contractor. If the Contractor willfully fails to comply with these provisions and California Labor Code §1777.5, pursuant to

California Labor Code §1777.7, the Contractor shall be subject to all penalties and assessments established by the Laws.

- 4.17. Employment of Independent Contractors. Pursuant to California Labor Code §1021.5, Contractor shall not willingly and knowingly enter into any agreement with any person, as an independent contractor, to provide services for the Work where the services provided or to be provided requires the person to hold a valid California Contractors' license and such person does not meet the burden of proof of his/her independent contractor status pursuant to California Labor Code §2750.5. Employment of any person in violation of the foregoing, will subject the Contractor to the civil penalties under California Labor Code §1021.5 and any other penalty provided by the Laws. All Subcontractors shall comply with the foregoing.
- 4.18. Assignment of Antitrust Claims. The Contractor and all Subcontractors assign to the District all rights, title and interest in and to all causes of action they may have under Section 4 of the Clayton Act, (15 U.S.C. §15) or under the Cartwright Act (California Business and Professions Code §§16700 et seq.) pursuant to California Government Code §4551. This assignment shall be made and become effective at the time the District tenders Final Payment to the Contractor, without further acknowledgment by the parties.
- 4.19. Progress Reports; DSA Verified Reports.
- 4.19.1. DSA Verified Reports: Contractor Actions. A material obligation of the Contractor is completion of all actions and activities which by the Contract Documents or by the Laws are the responsibility of the Contractor relating to DSA reporting requirements pursuant to Education Code §81141 (including amendments thereto) and issuance of DSA's Certificate of Compliance for the Project pursuant to Education Code §81147 (including amendments thereto) upon completion of the Work. The foregoing shall include without limitation, the timely preparation, completion and filing of Verified Reports during Project construction and the filing of the Final Verified Report with DSA within ten (10) days of the determination of Final Completion. Concurrently with submittal to DSA, the Contractor shall provide the District, Project Inspector and Architect with copies of all Verified Reports completed by the Contractor and submitted to DSA.
- 4.19.2. District Withholdings From Final Payment. The completion and filing of the DSA Final Verified Report is an express condition precedent to the District's disbursement of the Final Payment. If the Contractor fails to prepare and file the Final Verified Report within ten (10) days of the determination of Final Completion, the District may retain and withhold an amount not to exceed ten percent (10%) of the Final Payment from disbursement to the Contractor as damages for the failure of the Contractor to have timely and completely discharged its obligations hereunder. The Contractor acknowledges and agrees that the foregoing withholdings by the District is a reasonable estimate of the damages and other losses the District will sustain due to the failure of the Contractor to have timely and fully discharged its obligations hereunder.
- 4.19.3. Progress Reports. Progress Reports shall be submitted to the District or Construction Manager not later than 9:00 A.M. of the ensuing business day.
- 4.20. Community Workforce Agreement ("CWA"). The CWA is an agreement between the District and the Los Angeles-Orange Counties Building and Construction Trades Council, entitled "Antelope Valley College Community Workforce Agreement For New Construction and Modernization" which is applicable to the Work.
- 4.20.1. Application of CWA. The Contractor and all Subcontractors of any tier are bound by and subject to the terms of the CWA.
- 4.20.2. Subcontractor Summary. Within five (5) days of the date of the District's issuance of the Notice to Proceed for the Work, the Contractor shall complete and submit the form of Subcontractor Summary incorporated into these Special Conditions. The Contractor acknowledges and agrees that the Contractor is under a continuing obligation during performance of the Work to complete and submit to the District updates of the Subcontractor Summary for additional or different Subcontractors and/or Sub-Subcontractors.
- 4.20.3. Subcontractors' Letters of Assent. Prior to any Subcontractor of any tier performing any Work, each Subcontractor shall execute and deliver to the District the Letter of Assent incorporated into Section 00 45 50 of the Contract Documents. No Subcontractor will be permitted to perform Work without the Subcontractor's prior completion, execution and submittal of a Letter of Assent. The Contract Time is not subject to adjustment for delayed submittal of a Subcontractor's Letter of Assent.
- 4.20.4. Contractor/Subcontractor Employees and CWA Labor Referral Requirements. Except for "core employees" as that term is used and defined in the CWA, labor resources necessary for the Contractor and Subcontractors' completion of the Work shall be pursuant to the employment referral process and procedures set forth in the CWA. During the Work, the Contractor, Subcontractors and laborers employed by them are subject to applicable provisions of the applicable collective bargaining agreements of the union signatories to the CWA, in accordance with provisions of the CWA relating to such collective bargaining agreements.

4.20.5. Site Labor Relations. The CWA establishes certain standards and requirements relating to labor and labor relations at the Site, including without limitation, hours/days of Work at the Site, wages and benefits, use of apprentices, prohibitions on strikes/lock-outs and procedures for resolution of grievances and disputes. Provisions of the CWA relating to Site labor relations govern and control.

4.20.6. CWA Coordinator. Pursuant to the terms of the CWA, the District has retained a CWA Coordinator. The duties, responsibilities and authority of the CWA Coordinator shall be as set forth in the CWA.

5. Subcontractors.

5.1. Subcontracts. Work performed by Subcontractors shall be pursuant to a written agreement between the Contractor and each Subcontractor which specifically incorporates by reference the Contract Documents and which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents, including without limitation, the policies of insurance required under Article 6 of these General Conditions and obligates the Subcontractor to assume toward the Contractor and Architect all the obligations and responsibilities of the Contractor which the Contractor assumes toward the District and the Architect. No contractual relationship shall exist, or deemed to exist, between any Subcontractor and the District, unless the Contract is terminated and District, in writing, elects to assume the Subcontract. Each Subcontract shall provide that such Subcontract may be assigned to the District if the Contract is terminated by the District pursuant to these General Conditions, subject to the prior rights, if any, of the Surety.

5.2. Subcontractor DIR Contractor Registration.

5.2.1. No Subcontractor Performance of Work Without DIR Registration. No portion of the Work is permitted to be performed by a Subcontractor unless the Subcontractor is a DIR Registered contractor. The foregoing DIR contractor registration requirement is applicable for all Subcontractors, including without limitation, lower tier Subcontractors and Subcontractors who are not identified in the Contractor's Subcontractors List.

5.2.2. Contractor Obligation to Verify Subcontractor DIR Registration Status. An affirmative and on-going obligation of the Contractor under the Contract Documents is the Contractor's verification that all Subcontractors are at all times during performance of the Work in full and strict compliance with DIR contractor registration requirements. The Contractor shall not permit or allow any Subcontractor to perform any Work without the Contractor's verification that the Subcontractor is in full and strict compliance with DIR contractor registration requirements.

5.2.3. Contractor Obligation to Request Substitution of Listed Subcontractor Who Is Not DIR Registered Contractor. If any Subcontractor identified in the Contractor's Subcontractors List submitted with the Contractor's proposal for the Work is not a DIR registered contractor at the time of opening of proposals for the Work or if a Subcontractor's DIR contractor registration lapses prior to or during a Subcontractor's performance of Work, the Contractor shall request the District's consent to substitute the Subcontractor who is not a DIR registered contractor pursuant to Labor Code §1771.1(c)(3) and/or Labor Code §1771.1(d).

5.3. Substitution of Listed Subcontractor.

5.3.1. Substitution Process. Any request of the Contractor to substitute a listed Subcontractor must be in strict conformity with this Article 5.3 and California Public Contract Code §4107. All costs, fees or expenses incurred by the District, including, those of the Project Inspector, Architect and/or Construction Manager or attorneys in review, evaluation or hearing relating to a request to substitute a listed Subcontractor shall be borne by the Contractor.

5.3.2. Responsibilities of Contractor Upon Substitution of Subcontractor. The District's consent to Contractor's substitution of a listed Subcontractor shall not result in any increase of the Contract Price or the Contract Time.

5.4. Subcontractors' Work. Whenever the Work of a Subcontractor is dependent upon the Work of the Contractor or another Subcontractor, the Contractor shall require the Subcontractor to: (i) coordinate its Work with the dependent Work; (ii) provide necessary dependent data and requirements; (iii) supply and/or install items to built into the dependent Work of others; (iv) make appropriate provisions for dependent Work of others; (v) carefully examine and understand the portions of the Contract Documents (including Drawings, Specifications and Field Clarifications) and Submittals relating to the dependent Work; and (vi) examine the existing dependent Work and verify that the dependent Work is in proper condition for the Subcontractor's Work.

6. Insurance, Indemnity and Bonds.

6.1. Workers' Compensation Insurance; Employer's Liability Insurance. The Contractor shall purchase and maintain: (i) Workers' Compensation Insurance covering claims under workers' or workmen's compensation, disability benefit and other similar employee benefit acts; and (ii) Employer's Liability Insurance covering bodily injury (including death) by accident or disease to any employee which arises out of the employee's employment by Contractor.

6.2. Commercial General Liability and Property Insurance. The Contractor shall purchase and maintain Commercial General Liability and Property Insurance covering the types of claims set forth below which may arise out of or

result from Contractor's operations under the Contract Documents and for which the Contractor may be legally responsible: (i) claims for damages because of bodily injury, sickness or disease or death of any person other than the Contractor's employees; (ii) claims for damages insured by usual personal injury liability coverage which are sustained (a) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor, or (b) by another person; (iii) claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; (iv) claims for damages because of bodily injury, death of a person or property damages arising out of ownership, maintenance or use of a motor vehicle; (v) contractor's pollution liability, if required for the Work; (vi) contractual liability insurance applicable to the Contractor's obligations under the Contract Documents; and (vii) Completed Operations. If the Contract Documents require the Contractor to obtain Contractor's Pollution Liability Insurance covering environmental liabilities including, without limitation, those resulting from construction, abatement and remediation operations, whether performed by the Contractor or Subcontractor, the Contractor's Pollution Liability insurance may be by endorsement to the Contractor's General Liability insurance policy or a separate policy of insurance. If the Contractor's General Liability insurance policy does not cover risks of loss arising out of the ownership, maintenance or use of motor vehicles, the Contractor shall obtain a separate Automobile Liability insurance policy with minimum coverage requirements established by the Contract Documents.

- 6.3. Automobile Liability Insurance. The Contractor shall purchase and maintain Automobile Liability insurance covering risks of loss on a combined single limit for personal injury (including death) or property damage arising out of the use or operation of any owned, non-owned or hired motor vehicle.
- 6.4. Builder's Risk "All-Risk" Insurance. The District will, at the District's cost and expense, obtain Builder's Risk "All-Risk" Insurance covering vandalism and malicious mischief, fire, sprinkler leakage, civil authority, sonic boom, collapse and flood upon the entire Work, including completed Work and Work in progress to the full insurable value thereof. The foregoing notwithstanding, if the Contractor or employees, agents, representatives or Subcontractors of the Contractor cause or contribute to a loss covered by the Builders Risk insurance policy, the Contractor is solely responsible for payment of the deductible relating to such loss; the District may deduct the deductible from the Contract Price then or thereafter due the Contractor.
- 6.5. Minimum Coverage Limits. The insurance required of the Contractor hereunder shall be written for not less than any limits of liability specified in the Contract Documents, or required by the Laws, whichever is greater.
- 6.6. Evidence of Insurance; Subcontractor's Insurance.
- 6.6.1. Certificates of Insurance. Prior to commencing the Work, Contractor shall deliver Certificates of Insurance to the District evidencing the insurance coverages required by the Contract Documents. The Certificates of Insurance shall contain a provision that coverages under such policies will not be canceled or expire until at least thirty (30) days prior written notice has been given to the District. The insurance policies required of Contractor hereunder shall also name the District as an additional insured as its interests may appear.
- 6.6.2. Subcontractors' Insurance. Each Subcontractor shall obtain and maintain the policies of insurance set forth in Articles 6.1, 6.2 and 6.3 with minimum coverage limits as set forth in the Special Conditions. The policies of insurance to be obtained and maintained by Subcontractors hereunder are in addition to, and not in lieu of, the Contractor's insurance obligations. Each policy of insurance of a Subcontractor shall conform to the requirements of this Article 6. The Contractor shall promptly deliver Certificates of Insurance to the District evidencing that the Subcontractors have obtained and maintained policies of insurance in conformity with the requirements of this Article 6.
- 6.6.3. Insurer Requirements. Policies of insurance required of the Contractor and Subcontractors hereunder shall be acceptable to the District only if the insurer issuing each such policy of insurance is A.M. Best rated at least A-/VII and authorized by the Laws to issue policies of insurance in California.
- 6.7. Contractor's Insurance Primary; Contractor Liability for Deductibles. All insurance coverages maintained by Contractor hereunder, if overlapping with any policy of insurance maintained by the District, shall be deemed to be primary and non-contributing with any policy maintained by the District and any policy or coverage thereunder maintained by District shall be deemed excess insurance. If the District maintains a policy of insurance covering property damage arising out of the perils of fire or other casualty covered by the Contractor's Builder's Risk Insurance or the Comprehensive General Liability Insurance of the Contractor or any Subcontractor, the District, Contractor and all Subcontractors waive rights of subrogation against the others. The costs for obtaining and maintaining the insurance coverages required of the Contractor and Subcontractors shall be included in the Contract Price. The Contractor is solely and exclusively responsible for payment of deductibles under any policy of insurance obtained and maintained by the Contractor or any Subcontractor.
- 6.8. Indemnity. The Contractor shall indemnify, defend and hold harmless the Indemnified Parties who are: (i) the District, its Board of Trustees and each individual member thereof, and the officers, employees, agents and representatives of the District; (ii) the Architect and its consultants for the Work and their respective agents and employees; (iii) the Project Inspector; and (iv) the Construction Manager and its agents and employees. The Contractor's obligations hereunder includes indemnity, defense and hold harmless of the Indemnified Parties from

and against any and all damages, losses, claims, demands or liabilities whether for damages, losses or other relief, including, without limitation attorneys' fees and costs (collectively "Indemnity Claims") which arise out of the negligent, grossly negligent or willful acts, omissions or other conduct of the Contractor, Subcontractor or any person or entity engaged by them for the Work. The Contractor's obligations under the foregoing include without limitation: (i) injuries to or death of persons; (ii) property damage; (iii) theft, loss or destruction of property; (iv) Stop Payment Notice claims asserted in connection with the Work; and (v) other losses, liabilities, damages or costs sustained by the Indemnified Parties, including without limitation, losses, liabilities, damages or costs asserted by other contractors against the Indemnified Parties due to the Contractor's failure to complete the Bid Package Work in a timely, complete and workmanlike manner. If any action or proceeding is commenced on account of any Indemnity Claims, and any of the Indemnified Parties are a party thereto, the Contractor shall, at its sole cost and expense, defend the Indemnified Parties in such action or proceeding with counsel reasonably satisfactory to the named Indemnified Parties. If there is any judgment, award, ruling, settlement, or other relief arising out of any such action or proceeding to which any of the Indemnified Parties are bound by, the Contractor shall timely and fully pay, satisfy or otherwise discharge any such judgment, award, ruling, settlement or relief. Contractor shall indemnify and hold harmless the Indemnified Parties from any and all liability or responsibility arising out of any such judgment, award, ruling, settlement or relief. The Contractor's obligations hereunder are binding upon Contractor's Performance Bond Surety and these obligations shall survive notwithstanding Contractor's completion of the Work or the termination of the Contract, until barred by the applicable Statute of Limitations.

- 6.9. Payment Bond; Performance Bond. Prior to commencing the Work, the Contractor shall obtain and deliver to the District a Performance Bond and a Labor and Material Payment Bond each in a penal sum equal to one hundred percent (100%) of the Contract Price and in the form and content set forth in the Contract Documents. The Surety issuing bonds shall be an Admitted Surety Insurer as defined in California Code of Civil Procedure §995.120 and A.M. Best rated at least A-/VII. Obligations of the Surety under the Performance Bond include without limitation, the Contractor's post-construction obligations, including timely and complete performance of warranty/guarantee obligations.

7. Contract Time

- 7.1. Substantial Completion of the Work Within Contract Time. The Contract Time is the period of time, including authorized adjustments thereto, for achieving Substantial Completion of the Work. The date for commencement of the Work is the date established in the Notice to Proceed issued by the District pursuant to the Agreement, which shall not be postponed by the failure to act of the Contractor or of persons or entities for which the Contractor is responsible. The date of Substantial Completion is the date certified by the Architect, Construction Manager and Project Inspector.
- 7.2. Progress and Completion of the Work.
- 7.2.1. Time of Essence. Time limits stated in the Contract Documents are of the essence. The Contractor shall employ and supply a sufficient force of workers, material and equipment, and prosecute the Work with diligence so as to maintain progress, to prevent Work stoppage and to achieve Substantial Completion of the Work within the Contract Time.
- 7.2.2. Substantial Completion. Substantial Completion is when the Work is complete in accordance with the Contract Documents so the District can occupy or use the Work for its intended purpose. Substantial Completion shall be determined by the Architect, Construction Manager and Project Inspector upon request by the Contractor. The good faith and reasonable determination of Substantial Completion by the Project Inspector, Construction Manager and the Architect shall be controlling and final.
- 7.2.3. Correction or Completion of the Work After Substantial Completion.
- 7.2.3.1. Punchlist. Upon achieving Substantial Completion of the Work, the District, The Project Inspector, Construction Manager, Architect and Contractor shall jointly inspect the Work and prepare a comprehensive list of items of the Work to be corrected or completed by the Contractor ("the Punchlist"). The exclusion of an item on the Punchlist shall not limit the Contractor's obligation to complete or correct any portion of the Work in accordance with the Contract Documents.
- 7.2.3.2. Time for Completing Punchlist Items. The Construction Manager, Contractor and Architect shall, establish a reasonable time for Contractor's completion of the Punchlist. If mutual agreement is not reached, the Architect shall determine such time, which is final and binding upon the District and Contractor so long as the Architect's determination is made in good faith. The Contractor shall promptly and diligently complete all Punchlist items within the time established. If the Contractor fails to complete the Punchlist within the time established, the Contractor shall be subject to assessment of Liquidated Damages and the District may in its sole and exclusive discretion, without further notice to Contractor, elect to cause the completion of all remaining Punchlist items provided, however, that such election by the District is in addition to and not in lieu of any other right or remedy of the District under the Contract Documents or the Laws, including assessment of Liquidated Damages. If the District elects to complete Punchlist items of the Work, pursuant to the foregoing, the Contractor shall be responsible for all costs incurred by the District in connection herewith. If these costs exceed the

remaining Contract Price due to the Contractor, the Contractor and the Performance Bond Surety are jointly and severally liable to District for any such excess costs.

7.2.3.3. Final Completion. Final Completion is when all Work has been completed in accordance with the Contract Documents, including without limitation, completion of the Punchlist, the Contractor's close-out responsibilities under the Contract Documents have been fully performed. Final Completion shall be determined by the Architect, Construction Manager and Project Inspector upon request of the Contractor. The good faith and reasonable determination of Final Completion by the Project Inspector, Construction Manager and Architect shall be controlling and final.

7.2.3.4. Contractor Responsibility for Multiple Inspections. If the Contractor requests determination of Substantial Completion or Final Completion and the Project Inspector, Construction Manager or Architect determine that the Work does not then justify certification of Substantial Completion or Final Completion and re-inspection is required at a subsequent time to make such determination, the Contractor shall be responsible for all costs of such re-inspection, including without limitation, the fees of the Architect, Construction Manager and Project Inspector.

7.2.4. Final Acceptance. Final Acceptance of the Work shall occur upon acceptance of the Work by the District's Board of Trustees; such acceptance shall be submitted for consideration at a regularly scheduled meeting of the District's Board of Trustees after the determination of Final Completion. The commencement of any warranty or guarantee period under the Contract Documents the date of Final Acceptance.

7.3. Construction Schedule.

7.3.1. Construction Schedule Terms Defined.

7.3.1.1. Bid Schedule. The term "Bid Schedule" refers to the Construction Schedule issued with the Bid Documents, which shall be used by Bidders and their respective Subcontractors for preparation of Bidders' Bid Proposals.

7.3.1.2. Preliminary Baseline Construction Schedule. The "Preliminary Baseline Construction Schedule" refers the Construction Schedule issued by the Construction Manager, within ten (10) days after a NTP is issued by or on behalf of the District to a Contractor. The Preliminary Baseline Construction Schedule may incorporate modifications to the Bid Schedule, which do not affect critical path activity durations, but may adjust the date(s) for achieving Substantial Completion and Final Completion of the Work if the date of the issuance of the Notice to Proceed has varied from that indicated in the Bid Schedule.

7.3.1.3. Baseline Construction Schedule. The "Baseline Construction Schedule" refers to the Construction Schedule developed and prepared by the Construction Manager based upon the proposed modifications or other comments of each Contractor for a Bid Package to the Preliminary Baseline Construction Schedule. The Baseline Construction Schedule, upon issuance by the Construction Manager, shall be used to manage and coordinate the Work of each Contractor for a Bid Package and to monitor the progress of construction activities until an Updated Construction Schedule is issued.

7.3.1.4. Updated Construction Schedule. An "Updated Construction Schedule" is the Construction Schedule prepared and issued by the Construction Manager after issuance of the Baseline Construction Schedule. Work of each Contractor for a Bid Package shall conform to the then most recent issuance of the Updated Construction Schedule. Actions of the Contractor necessary to conform the progress of the Contractor's Work with the then current Updated Construction Schedule shall be undertaken and completed as directed by the Construction Manager without adjustment of the Contract Price or the Contract Time.

7.3.1.5. Recovery Schedule. The "Recovery Schedule" refers to a Construction Schedule for the Work of a Bid Package prepared by the Contractor for the Bid Package to identify and establish the activities and other actions necessary for such Contractor to recover lost time due to delays to the progress of the Contractor's Work, ability to meet Milestones and/or Project completion dates/requirements. A material obligation of each Contractor for a Bid Package is its preparation of a Recovery Schedule as directed by the Construction Manager, including without limitation, the incorporation of requirements therein as directed by the Construction Manager. If directed by the Construction Manager to prepare a Recovery Schedule, the Contractor's submittal of the Recovery Schedule for review and acceptance by the Construction Manager within the time established by the Construction Manager is a material obligation of the Contractor under the Contract Documents. If a Contractor is directed by the Construction Manager to prepare a Recovery Schedule, the Contractor shall modify the Recovery Schedule as necessary to obtain the Construction Manager's acceptance of the entirety thereof. If a Contractor fails or refuses to prepare a Recovery Schedule as directed by the Construction Manager, the Construction Manager may, at the cost and expense of the Contractor, develop a Recovery Schedule on behalf of such Contractor. In such event, a material obligation of the Contractor shall be its implementation of all measures necessary to conform to the rate of progress to that indicated in

the Recovery Schedule prepared by the Construction Manager; and the Contractor's reimbursement to the District of the costs and expenses incurred to prepare such Recovery Schedule, provided that in lieu of such reimbursement and at the sole election and discretion of the District such costs and expenses may be deducted from any portion of the Contract Price then or thereafter due the Contractor. Neither the preparation of Recovery Schedules nor the actions of the Contractor necessary to comply and conform to the progress indicated in a Recovery Schedule accepted by the Construction Manager (or prepared by the Construction Manager upon failure or refusal of the Contractor to prepare a Recovery Schedule) shall result in adjustment of the Contract Time or the Contract Price.

7.3.1.6. Construction Schedule(s). "Construction Schedule(s)" as used in the Contract Documents refers collectively to the Bid Schedule, Preliminary Baseline Construction Schedule, Baseline Construction Schedule, and Updated Construction Schedule.

7.3.1.7. Three (3) Week Look Ahead Schedules. The "Three Week Look Ahead Schedules" refers to the detailed schedule of construction activities prepared by each Contractor for a Bid Package for the ensuing three (3) week period; construction activities indicated in each Contractor's Three Week Look Ahead Schedules shall conform to the then current Updated Construction Schedule.

7.3.2. Bid Schedule. The Bid Schedule is for bidding purposes to establish preliminary contract durations of various activities necessary to complete the Work of each Bid Package and the Work of the Project within the Project Time. The Project will be constructed by separate contractors, each under direct contract with the District for a specific scope of Work of the Project, as further defined in the Bid Package descriptions incorporated into the Contract Documents. The scheduling and coordination of the Work of each Bid Package and the overall Work of the Project shall be by the Construction Manager. Without adjustment of the Contract Price or the Contract Time, each Contractor for a Bid Package shall comply with the Construction Manager's directives regarding the scheduling, sequencing and coordination of the Work of each Bid Package. The District expressly reserves the right to modify the Bid Schedule based upon input from each Contractor or other Project requirements. The Contractor acknowledges and agrees that modifications to the Bid Schedule after award of the Contract shall not be a basis for adjustment of the Contract Time or the Contract Price.

7.3.3. Preliminary Baseline Schedules. Within fourteen (14) days following issuance of the Notice to Proceed for a majority of the Bid Packages, the Construction Manager shall arrange a Project Schedule meeting with all Contractors to review a Preliminary Baseline Schedule. This Preliminary Baseline Schedule shall include any modifications incorporated since development of the Bid Schedule. Within seven (7) days after the Project Schedule meeting, each Contractor shall prepare and submit to the Construction Manager all revisions and recommendations to the Preliminary Baseline Schedule indicating, in graphic form, the estimated rate of progress, dates for submission of Submittals to the Architect, manpower required (estimated men per day) and sequence of all Work of the Bid Package as required under the Contract Documents. Each Contractor for a Bid Package acknowledges and agrees that its proposed modifications to the Preliminary Baseline Schedule are subject to acceptance by the District and the Construction Manager in the sole and exclusive discretion of the District and the Construction Manager. Contractors may submit proposed revisions to the Preliminary Baseline Schedule depicting completion of the Work of the Contractor's Bid Package in a duration shorter than the Contract Time established for the Bid Package; provided that if such proposed modifications to the Preliminary Baseline Schedule are accepted, such acceptance shall not be a basis for adjustment to the Contract Price in the event that completion of the Work of the Bid Package shall occur after the time depicted therein, nor shall revisions to the Preliminary Baseline Schedule be the basis for any extension of the Contract Time. If a Contractor does not propose modifications or other recommendations relating to the Preliminary Baseline Schedule within seven (7) days after the Project Schedule meeting, the Preliminary Baseline Schedule shall be deemed to be accepted by the Contractor. The Construction Manager shall review, incorporate, or reject the proposed modifications to the Preliminary Baseline Schedules and issue the Baseline Construction Schedule within fourteen (14) days of receipt of Contractor's information stated herein.

7.3.4. Baseline Construction Schedule. Based upon the approved input to the Preliminary Baseline Schedule for the entirety of the Project, the Construction Manager will develop and issue the Baseline Construction Schedule. The Baseline Construction Schedule shall control and govern over the sequencing and scheduling noted in the Bid Schedule. The Work of each Bid Package shall conform to the Baseline Construction Schedule, including updates and/or revisions thereto. The Baseline Construction Schedule shall be reviewed and updated at Project meeting(s) held periodically during the progress of the Work. If the Work of any Bid Package appears to be delayed such that the Work of the Bid Package will not comply with required milestone dates, the Bid Package Substantial Completion date and/or the Project completion date set forth in the Baseline Construction Schedule(s), the Contractor whose activity is on the critical path and/or who has caused the delay(s) shall be liable and assessed Liquidated Damages in accordance with the terms and provisions of the Agreement and these General Conditions. The District shall not be liable

nor obligated to any Contractor for the payment of any costs, charges, fees, or expenses arising out of or related in any manner to extended overhead, general conditions, impact costs, home-office costs, out-of-sequence Work money or any other type of compensation, by any name or characterization, for any delay to any activity not designated as a critical path item on the latest approved Construction Schedule(s). If any delay occurs to any critical path item, compensation to the Contractor, if any, impacted by delays to a critical path item shall only be in strict conformity with applicable provisions of the Contract Documents.

- 7.3.5. Updated Construction Schedules. If the progress of the Work of a Bid Package or the sequencing of the activities of the Work of a Bid Package shall materially differ from that indicated in the Baseline Construction Schedule, the Construction Manager may direct the Contractor for a Bid Package to propose revisions to update the approved Baseline Construction Schedule. The Contractor shall prepare and submit, within two (2) days of the Construction Manager's directive, to the Construction Manager revised input, in graphic form, to the Baseline Construction Schedule. The Contractor may request consent of the Construction Manager to revise the approved Baseline Construction Schedule. Any such request shall be considered by the Construction Manager and District only if in writing setting forth the Contractor's proposed revision(s) to the Baseline Construction Schedule and the reason(s) therefore. The Construction Manager and District may consent to, or deny, any such request of the Contractor to revise the Baseline Construction Schedule in its reasonable discretion. Also, the Construction Manager may incorporate elements of the Three (3) Week Look Ahead Schedules, as described below, into the Updated Construction Schedule. The Construction Manager will incorporate accepted revisions to the Baseline Construction Schedule and issue an Updated Construction Schedule.
- 7.3.6. Contractor Preparation of Recovery Schedules. The Contractors working on critical path items or whose progress of Work is behind the progress indicated in the current Updated Construction Schedule shall monitor and update the most recently approved Updated Construction Schedule on a monthly basis, (or more frequently as required) by the conditions or progress of the Work, or as may be requested by the Construction Manager. The Contractor for such Bid Packages shall provide the Construction Manager with updated Recovery Schedules indicating utilized and projected manpower, progress achieved and activities commenced or completed within the prior Updated Construction Schedule. The Contractor must also provide a written and/or graphic plan to the Construction Manager, within 48 hours of request, that recovers lost time to achieve the milestone dates and sequencing of activities established in the most recent Updated Construction Schedule. The Construction Manager may direct the sequence in which the various portions of Work within a Bid Package or between Bid Packages shall be performed and may adjust the Construction Schedule(s) at any time the Construction Manager considers the completion date to be in jeopardy because of "activities behind schedule". Without adjustment of the Contract Time or the Contract Price, the Contractor for a Bid Package shall comply and perform in accordance with revisions to the Construction Schedule(s) issued by the Construction Manager hereunder. If requested by the Construction Manager, the Contractor shall also submit, with its updates, a narrative statement including a description of current and anticipated problem areas of the Work, delaying factors and their impact, and an explanation of corrective action taken or proposed by the Contractor. The District may, from time to time, and in the District's sole and exclusive discretion, transmit to the Contractor's Performance Bond Surety the Construction Schedule, any updates thereof and the narrative statement described hereinabove. The District's election to transmit, or not to transmit such information, to the Contractor's Performance Bond Surety shall not limit the Contractor's obligations under the Contract Documents.
- 7.3.7. Three (3) Week Look Ahead Schedule. The Contractor shall prepare and submit at each Weekly Construction Meeting, a Three (3) Week Look Ahead Schedule for its portion of the Work. The Three (3) Week Look Ahead Schedule shall provide additional definition of manpower, activities and sequencing to that identified on the then current updated Construction Schedule. The form, content and extent of detail in the Contractor's Three (3) Week Look Ahead Schedules in accordance with the directives and instructions of the Construction Manager. The Construction Manager shall assimilate each of the various Contractors' Three (3) Week Look Ahead Schedules into an overall Project Three (3) Week Look Ahead Schedule and issue it at the following Weekly Construction Meeting to utilize as a comparison of progress against the most recent Updated Construction Schedule. Failure of the Contractor to provide a Three (3) Week Look Ahead Schedule may be deemed by the District as the Contractor's default in the performance of a material obligation of the Contractor under Contract Documents.
- 7.3.8. Cost of Scheduling. Any and all costs or expenses required or incurred to prepare, submit, maintain, and update the Construction, Recovery or Three (3) Week Look Ahead Schedules shall be solely at the expense of the Contractor without adjustment to the Contract Price. The Contract Price shall not be subject to adjustment on account of costs, fees or expenses incurred or associated with the Contractor's preparation, submittal, and maintenance or updating of the Construction Schedules. If the Contractor does not comply with the District's request for an Updated Construction Schedule, the District may have the update completed by others at the Contractor's expense. In such event, the updated Construction Schedule shall be deemed binding upon the Contractor and the District may deduct all costs, fee or expenses in preparing such updated Construction Schedule(s) from any portion of the Contract Price then

or thereafter due the Contractor.

7.3.9. Scheduling Software & Requirements. Unless otherwise provided in the Special Conditions, the Construction Schedules required under this Article 7 shall; (i) be prepared with a commercially available computer software program in a critical path format; (ii) indicate the date(s) for commencement and completion of various portions of the Work of the Bid Package including without limitation, procurement, fabrication and delivery of major items, materials or equipment; (iii) indicate manpower (estimated men or manpower per day) and other resources required for completion of each schedule activity; (iv) indicate costs for completion of each schedule activity; and (v) identify each Submittal required by the Contract Documents, the date for the Contractor's submission of each Submittal and the date for the return of the reviewed Submittal to the Contractor.

7.4. Adjustment of Contract Time. If Substantial Completion is delayed, adjustment, if any, to the Contract Time on account of such delay shall be in accordance with this Article 7.4.

7.4.1. Excusable Delays. If Substantial Completion of the Work is delayed by Excusable Delays, the Contract Time shall be subject to adjustment for such reasonable period of time as determined by the Architect; Excusable Delays shall not result in any increase in the Contract Price. Excusable Delays are unforeseeable and unavoidable casualties or causes beyond the control, and without fault or neglect, of the Contractor, or other person directly or indirectly engaged by the Contractor for any portion of the Work, including unanticipated and unavoidable labor disputes, unusual and unanticipated delays in transportation of equipment, materials or Construction Equipment reasonably necessary for completion and proper execution of the Work, unanticipated unusually severe weather conditions or DSA directive to stop the Work which is not the result of the failure of the Contractor to comply with the Contract Documents. The financial resources of the Contractor or any person or entity directly or indirectly engaged by the Contractor for the Work are not conditions beyond the control of the Contractor. If an Excusable Delay occurs, the Contract Time shall be subject to adjustment hereunder only if the Contractor establishes: (i) full compliance with all applicable provisions of the Contract Documents for Contractor's notice and request for adjustment of the Contract Time; (ii) that the event(s) justifying adjustment of the Contract Time are outside the reasonable control and without any fault or neglect of the Contractor or any person or entity directly or indirectly engaged by the Contractor or a for any portion of the Work; and (iii) that the event(s) justifying adjustment of the Contract Time directly and adversely impacted the progress of the Work on the critical path of the then current Accepted Construction Schedule relative to the date(s) of the claimed event(s) of Excusable Delay. If the Special Conditions set forth a number of "Rain Days" to be anticipated during performance of the Work, the Contract Time shall not be adjusted for rain-related unusually severe weather conditions until the actual number of Rain Days during performance of the Work exceeds those noted in the Special Conditions and such additional Rain Days shall have directly and adversely impacted the progress of the Work on the critical path of the then current Accepted Construction Schedule relative to the date(s) of such additional Rain Days.

7.4.2. Compensable Delays. If Substantial Completion of the Work is delayed by the acts or omissions of the District, the Construction Manager, the Architect, or separate contractor employed by the District (collectively "Compensable Delays"), upon Contractor's request and notice, in strict conformity with Articles 7 and 9 of these General Conditions, the Contract Time will be adjusted for such reasonable period of time as determined by the Construction Manager and District. Pursuant to California Public Contract Code §7102, if the Contractor's progress is delayed by any of the events described in the preceding sentence, Contractor shall not be precluded from the recovery of damages directly and proximately resulting therefrom, provided that the District is liable for the delay, the delay is unreasonable under the circumstances involved and the delay was not within the reasonable contemplation of the District and the Contractor at the time of execution of the Agreement. In such event, Contractor's damages, if any, shall be limited to direct, actual and unavoidable additional costs of labor, materials, equipment or Construction Equipment directly resulting from such delay, and shall exclude indirect or other consequential damages. Except as expressly provided for herein, Contractor shall not have any other claim, demand or right to adjustment of the Contract Price arising out of delay, interruption, hindrance or disruption to the progress of the Work. Adjustments to the Contract Price and the Contract Time, if any, on account of Changes to the Work or Suspension of the Work shall be governed by the applicable provisions of the Contract Documents.

7.4.3. Inexcusable Delays. Inexcusable Delays refer to any delay to the progress of the Work caused by events or factors other than those specifically identified in Articles 7.4.1 and 7.4.2 above. Neither the Contract Price nor the Contract Time shall be adjusted on account of Inexcusable Delays.

7.5. Liquidated Damages. If the Contractor fails to: (i) submit Submittals in accordance with the Baseline Construction Schedule or in a timely manner; (ii) achieve Substantial Completion of the Work within the Contract Time, (subject to adjustments authorized under the Contract Documents); or (iii) complete Punchlist items within the time established, the Contractor shall be liable to the District for per diem Liquidated Damages set forth in the Special Conditions, not as a penalty but as Liquidated Damages which are agreed upon because of the difficulty of fixing

the District's actual damages. The Contractor and the District agree that said amounts are reasonable estimates of the District's damages in such event, and that such amounts do not constitute a penalty. The Contractor and the Surety shall be jointly and severally liable to the District for any Liquidated Damages liability of the Contractor exceeding the Contract Price then held or retained by the District. The Contractor and the District acknowledge and agree that the provisions of this Article 7.5 are reasonable under the circumstances existing at the time of the Contractor's execution of the Agreement.

8. Contract Price

8.1. Cost Breakdown of Contract Price.

8.1.1. General. Within fifteen (15) days of the execution of the Agreement by Contractor, Contractor shall furnish, on forms provided by the District, a detailed estimate and complete Cost Breakdown of the Contract Price. The Cost Breakdown shall be subject to the District's review and acceptance of the content thereof. If the District objects to any portion of the Cost Breakdown, within five (5) days of the Contractor's receipt of the District's written objection(s), Contractor shall submit a revised Cost Breakdown to the District for review and acceptance. The foregoing procedure shall continue until the District has accepted of the entirety of the Cost Breakdown. The Cost Breakdown accepted by the District shall not be modified by the Contractor without the prior consent of the District, which may be granted, conditioned or denied in the sole discretion of the District.

8.1.2. Allowance Items; Allowance Amounts. If Allowance Items are incorporated into the Contract Documents, each Allowance Amount designated in the Contract Documents for application to an Allowance Item is incorporated into the Contract Documents. The Cost Breakdown of the Contract Price shall include each Allowance Item identified in the Contract Documents along with the Allowance Amount designated for each Allowance Item. Each Allowance Amount is inclusive of all costs, overhead and profit to furnish and install the Allowance Item; there is no additional mark-up to the Allowance Amount. During performance of the Work, the Contractor shall maintain an Allowance Log, indicating each Allowance Item completed and the debit from each Allowance Amount for the completed Allowance Item. If the Allowance Amount designated for an Allowance Item has not been fully expended upon completion of the Allowance Item, the District will issue a credit Change Order for the unused balance of the Allowance Amount and such unused balance of the Allowance Amount will be deducted from the Contract Price. If the Allowance Amount designated for an Allowance Item is insufficient to complete the Allowance Item, the Contract Price will be adjusted by Change Order for the additional costs, determined in accordance with applicable provisions of the Contract Documents, to complete an Allowance Item.

8.1.3. Unit Price Items; Unit Prices. If the Contract Documents identify Unit Price Items and the Bid Proposal for the Work required Unit Price proposals for Unit Price Items, the Contract Price is inclusive of the quantity of each Unit Price Item identified in the Contract Documents as being included in the scope of Work ("Unit Price Item Base Scope") at the Unit Price proposed by the Contractor. The Contractor's cost breakdown of the Contract Price shall include Unit Price Item Base Scopes and Unit Price extensions thereof. If upon completion of a Unit Price Item, the actual Unit Price Item Base Scope completed is less than the Unit Price Item Base Scope established in the Contract Documents, the Contract Price will be reduced by the Unit Price cost for the Unit Price Item Base Scope not completed. If completion of a Unit Price Item exceeds the Unit Price Item Base Scope, the Contract Price is subject to adjustment for the additional Unit Price Item Base Scope actually completed multiplied by the Unit Price established in the Contract Documents for the Unit Price Item.

8.2. Progress Payments.

8.2.1. Applications for Progress Payments ("Payment Applications"). During performance of the Work, the Contractor shall submit monthly Payment Applications, on the first (1st) working day of each month, or such other time established by the District, to the Construction Manager, Project Inspector and Architect, on forms approved by the District, setting forth an itemized estimate of Work completed in the preceding month for the purpose of the District's making of Progress Payments thereon. Values utilized in Payment Applications shall be based upon the District accepted Cost Breakdown.

8.2.2. District's Review of Payment Applications. In accordance with Public Contract Code §20104.50, upon receipt of a Payment Application, the District shall cause the same to be reviewed by the Project Inspector, Construction Manager and Architect, as soon as is practicable, for the purpose of determining that the Payment Application is a proper Payment Application. A Payment Application is "proper" only if it is submitted on the form approved by the District, with all of the information completely and accurately provided and such completed Payment Application is accompanied by: (i) Certified Payroll Records Submittal to Labor Commissioner for the Contractor and all Subcontractors for the period of time covered by the Payment Application; (ii) a breakdown identifying each Subcontractor/Material Supplier to be disbursed a portion of the requested Progress Payment and the amount of the Progress Payment to be disbursed to each Subcontractor/Material Supplier so identified; (iii) duly completed and executed forms of Conditional Waiver and Release of Rights Upon Progress Payment in accordance with California Civil Code §8132 of the Contractor, all Subcontractors and Material Suppliers covering the Progress Payment

requested; (iv) duly completed and executed forms of Unconditional Waiver and Release of Rights upon Progress Payment in accordance with California Civil Code §8134 of the Contractor, Subcontractors and Material Suppliers covering the Progress Payment received by the Contractor under the prior Payment Application; and (v) a certification by the Contractor that it has continuously maintained the Record Drawings. Submittal of all of the foregoing is an express condition precedent to the District's obligation to disburse any Progress Payment. If a Payment Application is determined by the District not to be a "proper" Payment Application, the Payment Application will be returned by the District to the Contractor (along with a written document setting forth the reason(s) why the Payment Application is not proper) as soon as is practicable after receipt of the same from the Contractor, but in no event not more than seven (7) days after the District's receipt thereof.

8.2.3. Review of Payment Applications. Upon receipt of Payment Application, the Architect, Construction Manager and Project Inspector shall inspect and verify the Work to determine whether it has been performed in accordance with the terms of the Contract Documents and to determine the portion of the Payment Application which is properly due to the Contractor under the terms of the Contract Documents.

8.2.4. Allowance Items. Payment Applications may include request for payment of the portion of an Allowance Amount due for the portion of an Allowance Item completed in the prior month. If a Payment Application incorporates any Allowance Amount, the Contractor shall submit its Allowance Log as part of the substantiating data supporting a Payment Application which establishes the portion of the Allowance Amount requested by the Payment Application.

8.2.5. Unit Price Items. Unit Price Items included in a Payment Application shall be based on the quantity of the Unit Price Item completed in the prior month multiplied by the Unit Price established in the Contract Documents for the Unit Price Item.

8.3. District's Disbursement of Progress Payments.

8.3.1. Timely Disbursement of Progress Payments. In accordance with Public Contract Code §20104.50, within thirty (30) days after the District's receipt of a proper Payment Application, the District will pay the Contractor ninety five percent (95%) of the value of the Work indicated in the Payment Application which is actually in place as of the date of the Payment Application and as verified and approved by the Project Inspector, Construction Manager and Architect, along with the pro rata portion of the Contractor's overhead, supervision and general conditions costs and profit for that month; provided, however, that the District's obligation to disburse any Progress Payment shall be subject to the Contractor's submission of a "proper" Payment Application as defined hereinabove. If a Payment Application is not "proper" due to the failure or refusal of the Contractor to comply with conditions precedent to the District's obligation to disburse a Progress Payment, or incompleteness or inaccuracies in any such documents submitted, the thirty (30) day period for the District's timely disbursement of a Progress Payment shall commence on the date that the District is actually in receipt of documents not submitted with the Payment Application, or corrections to documents with the Payment Application so as to render them complete and accurate.

8.3.2. Untimely Disbursement of Progress Payments. Pursuant to Public Contract Code §20104.50, if the District fails to make any Progress Payment within thirty (30) days after receipt of an undisputed and proper Payment Application, the District shall pay the Contractor interest on the undisputed amount of such Payment Application equal to the legal rate of interest set forth in California Code of Civil Procedure §685.010(a).

8.3.3. District's Right to Disburse Progress Payments by Joint Checks. The District may in its sole discretion issue joint checks to the Contractor and Subcontractors or Material Suppliers in satisfaction of its obligation to make Progress Payments or the Final Payment due hereunder. The Contractor shall cooperate with the District and subcontractors/Material Suppliers in the issuance or processing of joint checks.

8.3.4. No Waiver of Defective or Non-Conforming Work. The approval of any Payment Application or the disbursement of any Progress Payment to the Contractor shall not be deemed nor constitute acceptance of Defective or Non-Conforming Work.

8.3.5. Progress Payments for Changed Work. The Contractor's Payment Applications may include requests for payment for Changes which have been authorized and approved by the District, Construction Manager, Project Inspector, Architect and all other governmental agencies with jurisdiction over such Change. Except as provided for herein, no other payment shall be made by the District for Changes.

8.3.6. Materials or Equipment Not Incorporated Into the Work. No Progress Payments will be made for materials or equipment not incorporated into the Work at the time a Payment Application is submitted.

8.3.7. Title to Work. The Contractor warrants that title to all Work covered by a Payment Application will pass to the District no later than the time of payment.

8.4. Substitute Security for Retention. Eligible and equivalent securities may be substituted for Retention at the request and expense of the Contractor pursuant to California Public Contract Code §22300. The foregoing and

the provisions of California Public Contract Code §22300 notwithstanding, failure of the Contractor to request substitution of eligible and equivalent securities for Retention prior to the Contractor's submission of the first Payment Application is the Contractor's waiver of rights under Public Contract Code §22300.

8.5. Final Payment.

8.5.1. Application for Final Payment. When the Contractor has achieved Final Completion of the Work and has otherwise fully performed its obligations under the Contract Documents, the Contractor shall submit an Application for Final Payment on such form as approved by the District. Thereupon, the Architect, Construction Manager and Project Inspector will promptly make a final inspection of the Work and when the Architect, Construction Manager and Project Inspector find the Work acceptable under the Contract Documents and that the Contractor has completed all other obligations of the Contractor, the Architect, Construction Manager and Project Inspector will approve the Application for Final Payment, stating that to the best their knowledge, information and belief, the Work has been completed in accordance with the Contract Documents and that the Contractor is entitled to receipt of Final Payment. The Final Payment shall include the remaining balance of the Contract Price and Retention previously withheld by the District, less offsets and deductions thereto.

8.5.2. Conditions Precedent to Disbursement of Final Payment. Submittal of the following are express conditions precedent to the District's obligation to disburse the Final Payment: (i) duly completed and executed forms of Conditional or Unconditional Waivers and Releases of rights upon Final Payment of the Contractor, Subcontractors of any tier and Material Suppliers in accordance with California Civil Code §§8136 or 8138, with each of the same stating that there are, or will be, no claims for additional compensation after disbursement of the Final Payment; (ii) Operations and Maintenance manuals and separate warranties provided by any manufacturer or distributor of any materials or equipment incorporated into the Work; (iii) the Record Drawings; (iv) the form of Guarantee included in the Contract Documents duly executed by an authorized representative of the Contractor; (v) all other items or documents required by the Contract Documents to be delivered to the District upon completion of the Work; and (vi) written evidence of the Contractor's filing of the DSA Final Verified Report.

8.5.3. Disbursement of Final Payment. Provided that the District is then in receipt of all materials set forth in Article 8.5.2 above as conditions precedent to the District's obligation to disburse Final Payment, not later than sixty (60) days following Final Acceptance, the District shall disburse the Final Payment to the Contractor. Pursuant to California Public Contract Code §7107, if there is any dispute between the District and the Contractor at the time that disbursement of the Final Payment is due, the District may withhold from disbursement of the Final Payment an amount not to exceed one hundred fifty percent (150%) of the amount in dispute. If the Contractor complies with all of the conditions precedent to the District's disbursement of the Final Payment, except for written evidence of the Contractor's filing of the DSA Final Verified Report, the District may withhold and retain ten percent (10%) of the Final Payment in accordance with Article 4.22.2 of these General Conditions. In such event, provided that the Contractor has fully complied with and satisfied all other conditions precedent set forth in Article 8.5.2, the District will disburse the remaining balance of the Final Payment to the Contractor; such disbursement shall constitute the District's full and complete performance of payment obligations to the Contractor hereunder.

8.5.4. Waiver of Claims. The Contractor's acceptance of the Final Payment is a waiver and release by the Contractor of any and all claims against the District for compensation or otherwise in connection with the Contractor's performance of the Contract.

8.5.5. Claims Asserted After Final Payment. Any stop payment notice or other claim filed or asserted after the Contractor's acceptance of the Final Payment by any Subcontractor, Material Supplier or others in connection with or for Work is the sole and exclusive responsibility of the Contractor who shall indemnify, defend and hold harmless the Indemnified Parties from and against any claims, demands or judgments arising or associated therewith, including without limitation attorneys' fees.

8.6. Withholding of Payments. The District may withhold and retain the Contract Price, in whole or in part, on account of: (i) uncorrected Defective or Non-Conforming Work; (ii) failure of the Contractor to make payments when due laborers, Subcontractors or Material Suppliers; (iii) claims filed or reasonable evidence of the probable filing of claims by Subcontractors, laborers, Material Suppliers, or others performing any portion of the Work under the Contract Documents for which the District may be liable or responsible including, without limitation, Stop Payment Notice Claims and Claims of other contractors for a Bid Package arising out of the Contractor's actions, failures to act, or hindrance to progress of such other contractor; (iv) reasonable doubt that the Contract can be completed for the then unpaid balance of the Contract Price; (v) tax demands filed in accordance with California Government Code §12419.4; (vi) other claims, penalties and/or forfeitures for which the District is required or authorized to retain funds otherwise due the Contractor, including any amounts due from the Contractor to the District under the Contract Documents; or (vii) the Contractor's failure to perform any of its obligations under the Contract Documents, its default under the Contract Documents or its failure to maintain adequate progress of the Work. In addition to the foregoing, the District shall not be obligated to process any Application for Progress Payment or Final Payment, nor shall Contractor be entitled to any Progress Payment or Final Payment so long as any lawful

or proper direction concerning the Work or the performance thereof or any portion thereof, given by the District, the Construction Manager, Project Inspector, Architect or any public authority having jurisdiction over the Work, or any portion thereof, shall not be fully and completely complied with by the Contractor. When the District is reasonably satisfied that the Contractor has remedied any such deficiency, payment shall be made of the amount withheld. The foregoing notwithstanding, if the District withholds: (i) ten percent (10%) of the Final Payment pursuant to Articles 4.22.2 and 8.5.3 of these General Conditions; or (ii) any amount incurred to complete an obligation of the Contractor hereunder, the Contractor shall not be entitled to receipt or payment of any portion of such withholdings.

- 8.7. Payments to Subcontractors. The Contractor shall pay all Subcontractors on account of Work performed by Subcontractors in accordance with the terms of their respective subcontracts and pursuant to Business & Professions Code §7108.5 and Public Contract Code §7201.

9. Changes

- 9.1. Changes to the Work. The District, at any time, by written order, may make Changes within the general scope of the Work or issue additional instructions, require additional Work or direct deletion of Work. The Contractor shall not proceed with any Change without prior written authorization from the District. The Contractor shall promptly commence and diligently complete any District authorized Change; the Contractor shall not be relieved or excused from its prompt commencement and diligent completion of any Change authorized by the District due to the inability of the Contractor and the District to agree upon the adjustment to the Contract Time or the Contract Price on account of such Change. The issuance of a Change Order in connection with any Change authorized by the District is not a condition precedent to Contractor's obligation to promptly commence and diligently complete any Change authorized by the District hereunder. The District's right to make Changes shall not invalidate the Contract nor relieve the Contractor of its obligations under the Contract Documents. Any requirement of notice of Changes to the Surety shall be the responsibility of the Contractor. Changes shall be subject to DSA approval.
- 9.2. Oral Order of Change in the Work. Any oral order, direction, instruction, interpretation, or determination (collectively "Instruction Order") from the District, Construction Manager, Project Inspector or Architect which Contractor believes is a change to the Work, or requires an adjustment to the Contract Price or the Contract Time, shall be treated as a Change only if the Contractor gives the Architect, Construction Manager and Project Inspector written notice within ten (10) days of the Instruction Order and prior to acting in accordance therewith. Time is of the essence in Contractor's written notice pursuant to the preceding sentence and the Contractor acknowledges that its failure to give written notice within ten (10) days of the date of an Instruction Order is deemed Contractor's waiver of any right to adjustment of the Contract Time or the Contract Price on account of such Instruction Order. The written notice shall state the date, circumstances, extent of adjustment to the Contract Price or the Contract Time, if any, requested, and the source of the Instruction Order that the Contractor regards as a Change. Unless the Contractor acts in strict accordance with this procedure, no Instruction Order shall not be treated as a Change and the Contractor waives any adjustment to the Contract Price or the Contract Time on account thereof.
- 9.3. Contractor Submittal of Data. Within thirty (30) days after receipt of a written order directing a Change or furnishing the written notice regarding any Instruction Order, the Contractor shall submit to the Architect, Project Inspector, Construction Manager and District a detailed written statement setting forth the general nature of the Change, the amount of any adjustment to the Contract Price on account thereof, properly itemized and supported by sufficient substantiating data to permit evaluation of the same, and the extent of adjustment of the Contract Time, if any, required by such Change. No claim or adjustment to the Contract Price or the Contract Time shall be allowed if not asserted by the Contractor in strict conformity herewith or if asserted after Final Payment is made.
- 9.4. Adjustment to Contract Price on Account of Changes to the Work. Adjustments to the Contract Price due to Changes in the Work shall be determined by application of one of the following methods, in the following order of priority:
- 9.4.1. Mutual Agreement. By negotiation and mutual agreement, on a lump sum basis, between the District and the Contractor on the basis of the estimate of the actual and direct increase or decrease in costs on account of the Change. Upon request of the District or the Architect, the Contractor shall provide a detailed estimate of increase or decrease in costs directly associated with performance of the Change along with cost breakdowns of the components of the Change and supporting data and documentation.
- 9.4.2. Determination by the District. By the District, whether or not negotiations are initiated pursuant to Article 9.4.1 above, based upon actual and necessary costs incurred by the Contractor as determined by the District. If the procedure set forth in this Article 9.4.2 is utilized to determine the extent of adjustment to the Contract Price on account of Changes to the Work, promptly upon determining the extent of adjustment to the Contract Price, the District shall notify the Contractor in writing of the same; the Contractor shall be deemed to have accepted the District's determination of the amount of adjustment to the Contract Price on account of a Change to the Work unless Contractor shall notify the District, Architect and Construction Manager, in writing, not more than fifteen (15) days from the date of the District's written notice, of any objection to the District's determination. Failure of the Contractor to timely notify the District, Architect and

Construction Manager of Contractor's objections to the District's determination of the Contract Price adjustment is deemed Contractor's acceptance of the District's determination and a waiver of any right of the Contractor to thereafter protest or otherwise object to the District's determination. Notwithstanding any objection of the Contractor to the District's determination of the adjustment to the Contract Price pursuant to this Article 9.4.2, Contractor shall promptly commence and diligently complete any such Change.

- 9.4.3. Basis for Adjustment of Contract Price. If Changes in the Work require an adjustment of the Contract Price pursuant to Articles 9.4.1 or 9.4.2 above, the basis for adjustment of the Contract Price shall be as follows:
- 9.4.3.1. Labor. The Contractor shall be compensated for the costs of field labor actually and directly utilized in the performance of the Change. Labor costs shall be limited to field labor for labor classification(s) necessary to perform the Change. Use of a labor classification which increases labor costs associated with any Change shall not be permitted. Labor costs shall exclude costs incurred by the Contractor in preparing estimate(s) of the costs of the Change, in the maintenance of records relating to the costs of the Change, coordination and assembly of materials and information relating to the Change or performance thereof, or the supervision and other overhead and general conditions costs associated with the Change or performance thereof.
- 9.4.3.2. Materials and Equipment. Contractor shall be compensated for the costs of materials and equipment necessarily and actually used or consumed in connection with the performance of Changes. Costs shall be the then lowest wholesale price at which identical or similar materials/equipment are available in the quantities required to perform the Change. The District may furnish materials and/or equipment for Changes, in which event the Contractor shall not be compensated for any mark-up thereon.
- 9.4.3.3. Construction Equipment. The Contractor shall be compensated for the actual cost of the necessary and direct use of Construction Equipment in the performance of Changes in increments of fifteen (15) minutes. No costs or compensation shall be allowed for time while Construction Equipment is inoperative, idle or on standby, for any reason. The Contractor shall not be entitled to compensation for Construction Equipment or tools used for Changes with a replacement value of \$500.00 or less. Construction Equipment costs shall not exceed rental rates established by construction equipment rental agencies in the locality of the Site. The allowable rate for Construction Equipment includes compensation for rental costs, fuel, power, oil, lubrication, supplies, necessary attachments, repairs or maintenance of any kind, depreciation, storage, insurance, labor (exclusive of labor costs of the Construction Equipment operator), and any all other costs incidental to the use of such Construction Equipment.
- 9.4.4. Mark-up on Costs of Changes to the Work. The allowance for mark-ups on the costs of the Change for all overhead (including home office, supervision and field overhead costs, including personnel costs; labor burdens on personnel costs; insurance premiums), general conditions costs and profit associated with the Change shall not exceed the percentage set forth in the Special Conditions, regardless of the number of Subcontractors performing any portion of any Change. If a Change reduces the Contract Price, no profit, general conditions or overhead costs shall be paid by the District to the Contractor for the reduced or deleted Work; the Contract Price shall be reduced by the actual cost for the reduced or deleted Work multiplied by the percentage set forth in the Special Conditions for mark-ups on the cost of a Change adding to the scope of the Work.
- 9.4.5. Contractor Maintenance of Records. If the Contractor is directed to perform any Change pursuant to Article 9.1 or 9.2, the Contractor shall maintain detailed separate records on a daily basis for each separate Change. Such records shall include without limitation hourly records for labor and Construction Equipment and itemized records of materials and equipment used that day in connection with any Change to the Work. Subcontractors shall maintain records in accordance with this Article. Each daily record maintained hereunder shall be signed by Contractor's Superintendent/Subcontractor's Superintendent and shall incorporate a statement that all information contained therein is true, accurate, complete and relates only to the Change referenced therein. All records maintained hereunder shall be subject to inspection, review and/or reproduction by the District, Architect, Construction Manager or Project Inspector upon request. If the Contractor fails or refuses, for any reason, to maintain or make available for inspection, review and/or reproduction such records and the adjustment to the Contract Price on account of any Change to the Work is determined by the District, the District's reasonable good faith determination of the adjustment to the Contract Price on account of such Change shall be final, conclusive and binding upon the Contractor. The Contractor's obligation to maintain records hereunder is in addition to, and not in lieu of, other Contractor obligations relating to Changes to the Work.
- 9.5. Adjustment to Contract Time. If any Change(s) are authorized by the District, the Contract Time shall be extended or reduced by Change Order for a period of time commensurate with the time reasonably necessary to perform such Change
- 9.6. Addition or Deletion of Alternate Bid Item(s). If the Bid for the Work includes proposal(s) for Alternate Bid Item(s),

during performance of the Work, the District may elect, to add any such Alternate Bid Item(s) if the same did not form a basis for award of the Contract or delete any such Alternate Bid Item(s) if they formed a basis for award of the Contract. If the District elects to add or delete any such Alternate Bid Item(s) pursuant to the foregoing, the cost or credit for such Alternate Bid Item(s) shall be as set forth in the Contractor's Bid. If any Alternate Bid Item is added or deleted pursuant to the foregoing, the Contract Time shall be adjusted by the number of days allocated for the added or deleted Alternate Bid Item in the Contract Documents; if days are not allocated for any Alternate Bid Item added or deleted pursuant to the foregoing, the Contract Time shall be equitably adjusted.

- 9.7. Change Orders. If the District approves of a Change, a written Change Order prepared by the Architect on behalf of the District shall be forwarded to the Contractor describing the Change and setting forth the adjustment to the Contract Time and the Contract Price, if any, on account of such Change. All Change Orders shall: (i) be deemed full payment and final settlement of all claims for direct, indirect and consequential costs, including without limitation, costs of delays or impacts related to, or arising out of, items covered and affected by the Change Order; (ii) incorporate adjustments to the Contract Time; and (iii) constitute the Contractor's waiver of rights of rights under Civil Code §1542. Any claim or item relating to any Change incorporated into a Change Order not presented by the Contractor for inclusion in the Change Order shall be deemed waived. The Contractor shall execute the Change Order prepared pursuant to the foregoing; once the Change Order has been prepared and forwarded to the Contractor for execution. The Contractor shall not modify or amend the form or content of such Change Order, or any portion thereof; attempted or purported modifications or amendments are not binding upon the District and are null, void and unenforceable. Change Orders shall be binding upon the District only upon action of the District's Board of Trustees approving and ratifying such Change Order.
- 9.8. Unilateral Change Order. A Unilateral Change Order is a written Change Order issued by or on behalf of the District before the Contractor and District have agreed on the extent of adjustment of the Contract Time or the Contract Price relating to the Change reflected in a Unilateral Change Order. A Unilateral Change Order shall describe the scope and nature of the Change and set forth the adjustment to the Contract Time and Contract Price, if any. The District shall forward to the Contractor a copy of the Unilateral Change Order (for information only) at least five (5) days prior to the Board of Trustees' review and consideration of the Unilateral Change Order. Any Unilateral Change Order issued hereunder shall be binding upon the District and Contractor upon action of the District's Board of Trustees to ratify or approve such Unilateral Change Order. The objections, if any, of the Contractor to the extent of adjustment of the Contract Time or the Contract Price on account of the Change(s) incorporated into a Unilateral Change Order shall be submitted in writing by the Contractor to the District, Construction Manager and Architect not more than fifteen (15) days after the date of the District's Board of Trustees action to approve or ratify a Unilateral Change Order. The absence of the Contractor's written objections to a Unilateral Change Order within the time set forth above shall be deemed the Contractor's acceptance of the Contract Time and/or Contract Price adjustment set forth in a Unilateral Change Order for the Changes described therein and the Contractor shall be deemed to have knowingly waived any right to seek additional adjustments of the Contract Time or the Contract Price on account of Change(s) incorporated into such a Unilateral Change Order.
- 9.9. Construction Change Directive. A Construction Change Directive is a written instrument issued by or on behalf of the District directing a Change to the Work prior to the Contractor and District reaching full agreement on an adjustment of the Contract Time and/or Contract Price on account of such Change. The Contractor shall promptly commence and diligently complete any Change to the Work subject to a Construction Change Directive issued hereunder. The issuance of a Change Order in connection with any Construction Change Directive is not a condition precedent to Contractor's obligation to promptly commence and diligently complete a Construction Change Directive. Upon completion of a Construction Change Directive, if the Contractor and District have not agreed on the adjustment of Contract Time and/or Contract Price, the District shall issue a Unilateral Change Order for such Construction Change Directive.
- 9.10. Contractor Notice of Changes. If the Contractor claims that any instruction, request, the Drawings, the Specifications, action, condition, omission, default, or other situation obligates the District to increase the Contract Price or to extend the Contract Time ("Potential Changes"), the Contractor shall notify the Project Inspector, Construction Manager and Architect, in writing, of such claim within ten (10) days from the date of its actual or constructive notice of the factual basis supporting the Potential Changes. The District shall consider any such claim of the Contractor only if sufficient supporting documentation is submitted with the Contractor's notice to the Construction Manager, Project Inspector and Architect. Time is of the essence in Contractor's written notice pursuant to the preceding so that the District can promptly investigate and consider alternative measures to the address such Potential Changes. Accordingly, Contractor acknowledges that its failure, for any reason, to give written notice (with sufficient supporting documentation to permit the District's review and evaluation) within ten (10) days of its actual or constructive knowledge of any Potential Changes shall be deemed Contractor's waiver, release, discharge and relinquishment of any right to assert or claim any entitlement to an adjustment of the Contract Time or the Contract Price on account of any such Potential Changes.
- 9.11. Disputed Changes. If any dispute or disagreement between the Contractor and the District or the Architect regarding the characterization of any item as a Change or as to the appropriate adjustment of the Contract Price

or the Contract Time on account thereof, the Contractor shall promptly proceed with the performance, subject to a subsequent resolution of such dispute or disagreement in accordance with the terms of the Contract Documents.

- 9.12. Minor Changes in the Work. The Architect may order minor Changes in the Work not involving an adjustment in the Contract Price or the Contract Time and not inconsistent with the intent of the Contract Documents. Such Changes shall be effected by written order and shall be binding on the District and the Contractor.
- 9.13. Unauthorized Changes. Any Work beyond the lines and grades shown on the Contract Documents, or any extra Work performed or provided by the Contractor without notice in strict conformity with the Contract Documents shall be considered unauthorized and at the sole expense of the Contractor. Work so done will not be measured or paid for, no extension to the Contract Time will be granted on account thereof and any such Work may be ordered removed at the Contractor's sole cost and expense.

10. Separate Contractors

- 10.1. District's Right to Award Separate Contracts. The District reserves the right to perform construction or operations related to the Work with the District's own forces or to award separate contracts in connection with other portions of the Project or other construction or operations at or about the Site. If the Contractor claims that delay or additional cost is involved because of such action by the District, the Contractor shall seek an adjustment to the Contract Price or the Contract Time as provided for in the Contract Documents. Failure of the Contractor to request such an adjustment in strict conformity with the Contract Documents shall be deemed a waiver of the same.
- 10.2. District's Coordination of Separate Contractors. The District shall coordinate the activities of the District's own forces and separate contractor(s) with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the District in reviewing their respective Construction Schedules when directed to do so. The Contractor shall make any revisions to the Accepted Construction Schedule deemed necessary after a joint review and mutual agreement. The Construction Schedules shall then constitute the Construction Schedules to be used by the Contractor, separate contractors and the District until subsequently revised.
- 10.3. Mutual Responsibility. The Contractor shall afford the District and separate contractors of the District with a reasonable opportunity for storage of their materials and equipment and performance of their activities at the Site.
- 10.4. Discrepancies or Defects. If any part of the Work depends for proper execution or results upon construction or operations by the District or a separate contractor to the District, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect, Construction Manager and Project Inspector any discrepancies or defects in such other construction that renders it unsuitable for such proper execution and results.

11. Tests; Inspections; Observations

- 11.1. Contractor's Notice. If the Contract Documents, Laws or any public authority with jurisdiction over the Work require the Work, or any portion thereof, to be specially tested, inspected or approved, the Contractor shall give the Architect, Construction Manager and Project Inspector written notice of the readiness of such Work for observation, testing or inspection at least two (2) working days prior to the time for the conducting of such test, inspection or observation. If any portion of the Work subject to tests, inspection or approval is covered up by Contractor prior to completion and satisfaction of the requirements of such tests, inspection or approval, Contractor shall be responsible for the uncovering of such portion of the Work as is necessary for performing such tests, inspection or approval without adjustment of the Contract Price or the Contract Time.
- 11.2. Cost of Tests and Inspections. The District will pay for fees, costs and expenses for the initial tests/inspections of materials/equipment which are conducted at the Site or locations within a one hundred (100) mile radius of the Site. All fees, costs or expenses for subsequent tests/inspections or for tests/inspections conducted at a location more than a one hundred (100) mile radius from the Site (including without limitation, travel and travel-related expenses) shall be borne solely and exclusively by the Contractor.
- 11.3. Testing/Inspection Laboratory. The District shall select duly qualified person(s) or testing laboratory(ies) to conduct the tests and inspections to be paid for by the District and required by the Contract Documents or the Laws. Tests and inspections required of the Work shall be as set forth in the Contract Documents and as required by the Laws, including without limitation, Title 24 of the California Code of Regulations. Test/inspection standards shall be as set forth in the Contract Documents or established by the Laws. Where inspection or testing is to be conducted by an independent laboratory or testing agency, materials or samples thereof shall be selected by the laboratory, testing agency, the Project Inspector, Construction Manager or Architect and not by the Contractor.
- 11.4. Additional Tests, Inspections and Approvals. If the Architect, Construction Manager, Project Inspector or public authorities having jurisdiction over any portion of the Work require additional testing, inspection or approval, the Architect, Project Inspector or Construction Manager will instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the District, and the Contractor shall give

timely notice to the Architect, Construction Manager and Project Inspector of when and where tests and inspections are to be made so the Construction Manager, Project Inspector and Architect may observe such procedures. The District shall bear the costs of such additional tests, inspections or approvals, except to the extent that such additional tests, inspections or approvals reveal any failure of the Work to comply with the requirements of the Contract Documents, in which case the Contractor shall bear all costs made necessary by such failures, including without limitation, the costs of corrections, repeat tests, inspections or approvals and the costs of the services, the Architect or its consultants, the Construction Manager and Project Inspector in connection therewith.

- 11.5. Delivery of Certificates. Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect, Project Inspector and Construction Manager.
- 11.6. Timeliness of Tests, Inspections and Approvals. Tests or inspections required and conducted pursuant to the Contract Documents shall be made or arranged by Contractor to avoid delay in the progress of the Work. The Contractor shall be liable for delays to completion of the Work if the Contractor fails coordinate and timely schedule required tests, inspections or observations of the Work.

12. Uncovering and Correction of Work

- 12.1. Uncovering of Work. If any portion of the Work is covered contrary to the request of the Architect, Construction Manager, Project Inspector or the requirements of the Contract Documents, it must, if required by the Architect, Construction Manager or Project Inspector, be uncovered for observation by the Architect, Project Inspector and/or the Construction Manager and be replaced at the Contractor's expense without adjustment of the Contract Time or the Contract Price.
- 12.2. Rejection of Work. Defective or Non-Conforming Work may be rejected by the District, Construction Manager, Architect or Project Inspector. The Contractor shall correct such rejected Work without adjustment to the Contract Price or the Contract Time, even if the Work, materials or equipment have been previously inspected by the Architect or the Project Inspector or even if they failed to observe the Defective or Non-conforming Work.
- 12.3. Correction of Work. The Contractor shall promptly correct any portion of the Work rejected by the District, Construction Manager, Architect or Project Inspector as Defective or Non-Conforming Work, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby. The Contractor shall bear all costs of correcting destroyed or damaged Work, whether completed or partially completed.
- 12.4. Removal of Non-Conforming or Defective Work. The Contractor shall, at its sole cost and expense, remove from the Site all portions of the Work which are defective or are not in accordance with the requirements of the Contract Documents which are neither corrected by the Contractor nor accepted by the District.
- 12.5. Failure of Contractor to Correct Work. If the Contractor fails to commence to correct Defective or Non-Conforming Work within three (3) days of notice of such condition and promptly thereafter complete the same within a reasonable time, the District may correct it in accordance with the Contract Documents and at the expense of the Contractor.
- 12.6. Acceptance of Defective or Non-Conforming Work. The District may, in its sole and exclusive discretion, elect to accept Defective or Non-Conforming Work instead of requiring its removal and correction, in which case the Contract Price shall be equitably reduced.

13. Warranties

- 13.1. Workmanship and Materials. The Contractor warrants to the District that: (i) all materials and equipment furnished under the Contract Documents are new, of good quality and of the most suitable grade and quality for the purpose intended, unless otherwise specified in the Contract Documents; and (ii) all Work and workmanship is of good quality, free from faults and defects and in conformity with the requirements of the Contract Documents. If required by the Architect or the District, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment incorporated into the Work. Any Work, or portion thereof not conforming to these requirements, including substitutions or alternatives not properly approved in accordance with the Contract Documents may be deemed Defective or Non-Conforming Work and subject to repair, replacement or other remedial action by the Contractor to render such work in accordance the Contract Documents. The Contractor expressly warrants the merchantability, the fitness for use, and quality of all Work; such warranty of the Contractor in addition, and not in lieu of, any warranty given by the manufacturer or supplier of such item.
- 13.2. Warranty Work. If, within one (1) year after the date of Final Acceptance, or such other time frame set forth elsewhere in the Contract Documents, any Work is Defective, Non-Conforming, not in accordance with the requirements of the Contract Documents, or otherwise contrary to the warranties contained in the Contract Documents, the Contractor shall commence all necessary corrective action within seven (7) days after receipt of a written notice from the District to do so, and to thereafter diligently complete the same. If the Contractor fails or

refuses to commence correction of any such item within said seven (7) day period or to diligently prosecute such corrective actions to completion, the District may, without further notice to Contractor, the District may, in the sole discretion of the District: (i) cause such corrective Work to be performed and completed; or (ii) upon notice and demand to the Performance Bond Surety, require the Surety to complete corrective work. If the District elects to complete corrective work under (i) above, the Contractor and the Performance Bond Surety shall be responsible for all costs in connection with such corrective Work, including without limitation, general administrative overhead costs of the District in securing and overseeing such corrective Work. The obligations of the Contractor hereunder are in addition to, and not in lieu of, any other obligations imposed by any special guarantee or warranty required by the Contract Documents, guarantees or warranties provided by any manufacturer of any item incorporated into the Work, or otherwise recognized, prescribed or imposed by the Laws. Neither the District's Final Acceptance, the making of Final Payment, nor the use or occupancy of the Work, in whole or in part, by District shall nor relieve the Contractor or the Contractor's Performance Bond Surety from liability with respect to any warranties or responsibility for faulty or defective Work or materials, equipment and workmanship incorporated therein.

- 13.3. Guarantee. Upon completion of the Work, Contractor shall execute and deliver to the District the form of Guarantee included within the Contract Documents. The Contractor's execution and delivery of the form of Guarantee is an express condition precedent to any obligation of the District to disburse the Final Payment to the Contractor.
- 13.4. Survival of Warranties. The Contractor' warranty and guaranty obligations hereunder shall survive the Contractor's completion of Work under the Contract Documents, the District's Final Acceptance or the termination of the Contract.

14. Suspension of Work

- 14.1. District's Right to Suspend Work. The District may, without cause, and without invalidating or terminating the Contract, order the Contractor, in writing, to suspend, delay or interrupt the Work in whole or in part for such period of time as the District may determine. The Contractor shall resume and complete the Work suspended by the District in accordance with the District's directive, whether issued at the time of the directive suspending the Work or subsequent thereto.
- 14.2. Adjustments to Contract Price and Contract Time. If the District directs suspension of the Work, an adjustment shall be made to the Contract Price for increases in the direct cost of performance of the Work of the Contract Documents, actually caused by suspension, delay or interruption ordered by the District; provided however that no adjustment of the Contract Price shall be made to the extent: (i) that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or (ii) that an equitable adjustment is made or denied under another provision of the Contract Documents. The foregoing notwithstanding, any such adjustment of the Contract Price shall not include any adjustment to increase the Contractor's overhead, general administrative costs or profit, all of which will remain as reflected in the Cost Breakdown submitted by the Contractor pursuant to the Contract Documents. If the District directs suspension of the Work, the Contract Time shall be equitably adjusted to reflect the duration of the District's suspension of the Work.

15. Termination

- 15.1. Termination for Cause.
- 15.1.1. District's Right to Terminate. The District may terminate the Contract upon the occurrence of any one or more of the following events of the Contractor's default: (i) the Contractor refuses or fails to prosecute the Work with diligence to achieve Substantial Completion of the Work within the Contract Time; (ii) the Contractor fails to achieve Substantial Completion of the Work within the Contract Time; (iii) the Contractor becomes bankrupt or insolvent, or makes a general assignment for the benefit of creditors, or if the Contractor or a third party files a petition to reorganize or for protection under any bankruptcy or similar laws; (iv) the Contractor repeatedly fails to supply sufficient skilled workmen or sufficient quantities of suitable materials or equipment; (v) the Contractor repeatedly fails to make payments to any Subcontractor, Material Suppliers or others for labor, materials or equipment furnished in connection with the Work; (vi) the Contractor disregards the Laws or other requirements of any public entity having jurisdiction over the Work; (vii) the Contractor disregards proper directives of the Architect, Construction Manager, Project Inspector or District; (viii) the Contractor performs Work which deviates from requirements of the Contract Documents and fails or refuses to correct such Work; or (ix) the Contractor otherwise violates in any material way any provisions or requirements of the Contract Documents. Once the District determines that sufficient cause exists to justify the action, the District may terminate the Contract without prejudice to any other right or remedy the District may have, after giving the Contractor and the Surety at least seven (7) days advance written notice of the effective date of termination. The District shall have the sole discretion to permit the Contractor to remedy the cause for the termination without waiving the District's right to terminate the Contract, or otherwise waiving, restricting or limiting any other right or remedy of the District under the Contract Documents or the Laws.
- 15.1.2. District's Rights Upon Termination. If the Contract is terminated pursuant to this Article 15.1, the District

may take over the Work and prosecute it to completion, by contract or otherwise, and may exclude the Contractor from the Site. The District may take possession of the Work and of all of the Contractor's tools, appliances, Construction Equipment, machinery, materials, and other items at or about the Site, and use the same to the full extent they could be used by the Contractor without liability to the Contractor. The District shall have the sole discretion as to the manner, methods, and reasonableness of the costs of completing the Work; the District shall not be required to obtain the lowest price for completion of the Work. If the District takes bids for completion of the Work, the Contractor is not eligible for award of such contract(s).

- 15.1.3. Completion by the Surety. If the Contract is terminated pursuant to this Article 15.1, the District may demand that the Surety take over and complete the Work, in which case the rights and obligations of the District and the Surety shall be as set forth in the Performance Bond. Upon the failure or refusal of the Surety to take over and begin completion of the Work within twenty (20) days after demand therefor, the District may take over the Work and prosecute it to completion as provided for above, provided that such action of the District shall not operate to modify, diminish or otherwise affect the liability of the Surety or Contractor to the District under the Contract Documents, Performance Bond or the Laws.
- 15.1.4. Assignment and Assumption of Subcontracts. Upon termination pursuant to the foregoing, the District shall, in its sole and exclusive discretion, have the option of requiring any Subcontractor or Material Supplier to perform in accordance with its Subcontract or Purchase Order with the Contractor and/or assign the Subcontract or Purchase Order to the District or such other person or entity designated by the District.
- 15.1.5. Costs of Completion. In the event of termination under this Article 15.1, the Contractor shall not receive any further payment of the Contract Price until the Work is completed. If the unpaid balance of the Contract Price as of the date of termination exceeds the District's direct and indirect costs and expenses for completing the Work, including without limitation, attorneys' fees and compensation for additional professional and consultant services, such excess shall be used to pay the Contractor for the cost of the Work performed prior to the effective date of termination with a reasonable allowance for overhead and profit. If the District's costs and expenses to complete the Work exceed the unpaid Contract Price, the Contractor and the Surety shall be jointly and severally liable for payment of the difference to the District.
- 15.1.6. Conversion to Termination for Convenience. If the Contract is terminated under this Article 15.1, and it is determined, for any reason, that the Contractor was not in default under the provisions hereof, the termination shall be deemed a Termination for Convenience of the District and thereupon, the rights and obligations of the District and the Contractor shall be determined in accordance with Article 15.2 hereof.
- 15.1.7. District's Rights Cumulative. If the Contract is terminated pursuant to this Article 15.1, the termination shall not affect or limit any rights or remedies of the District against the Contractor or the Surety. The rights and remedies of the District under this Article 15.1 are in addition to, and not in lieu of, any other rights and remedies provided by the Laws or under the Contract Documents.
- 15.2. Termination for Convenience of the District. The District may at any time, in its sole and exclusive discretion, by written notice to the Contractor, terminate the Contract in whole or in part when it is in the interest of, or for the convenience of, the District. In such case, the Contractor shall be entitled to payment for: (i) Work actually performed and in place as of the effective date of such termination for convenience of the District, with a reasonable allowance for profit and overhead on such Work, and (ii) reasonable termination expenses for reasonable protection of Work in place and suitable storage and protection of materials and equipment delivered to the Site but not yet incorporated into the Work, provided that such payments exclusive of termination expenses shall not exceed the total Contract Price as reduced by payments previously made to the Contractor and as further reduced by the value of the Work as not yet completed. The Contractor shall not be entitled to profit and overhead on Work which was not performed as of the effective date of the termination for convenience of the District. The District may, in its sole discretion, elect to have subcontracts assigned pursuant to Article 15.1.4 above after exercising the right hereunder to terminate for the District's convenience.

16. Miscellaneous

- 16.1. Governing Law; Interpretation. This Contract shall be governed by and interpreted pursuant to the laws of the State of California. The titles used in the Contract Documents are for convenience of reference only shall have no effect upon the interpretation of the Contract Documents. The Contract Documents shall be construed as a whole in accordance with their fair meaning and not strictly for or against the District or the Contractor. The neuter gender shall include the feminine and masculine, the masculine gender shall include the feminine and neuter, the singular number shall include the plural and the plural number shall include the singular. Except as otherwise expressly provided, capitalized terms used in the Contract Documents shall have the meaning and definition for such term as set forth in the Contract Documents.
- 16.2. Successors and Assigns. Unless otherwise expressly provided in the Contract Documents, all terms, conditions and covenants of the Contract Documents shall be binding upon, and shall inure to the benefit of the District and the Contractor and their respective heirs, representatives, successors-in-interest and assigns.

- 16.3. Cumulative Rights and Remedies; No Waiver. Duties and obligations imposed by the Contract Documents and rights or remedies available thereunder shall be in addition to and not in lieu of or otherwise a limitation or restriction of duties, obligations, rights and remedies otherwise imposed or available by the Laws. No action or failure to act by the District shall constitute a waiver of a right or remedy afforded it under the Contract Documents or the Laws nor shall such an action or failure to act constitute approval of or acquiescence in a breach hereunder.
- 16.4. Severability. If any provision of the Contract Documents is deemed illegal, invalid, unenforceable and/or void, by a court or any other governmental agency of competent jurisdiction, such provision shall be deemed to be severed and deleted from the Contract Documents, but all remaining provisions hereof, shall in all other respects, continue in full force and effect.
- 16.5. No Assignment by Contractor. The Contractor shall not assign the Contract or any obligation of the Contractor thereunder, in whole or in part, without the express prior written consent and approval of the District, which may be granted, conditioned or withheld in the sole and exclusive discretion of the District.
- 16.6. Time of Essence. Time is of the essence in the Contractor's performance of its obligations under the Contract Documents.
- 16.7. Independent Contractor Status. The Contractor is an independent contractor to the District and not an agent or employee of the District.
- 16.8. Notices. Except as otherwise expressly provided for in the Contract Documents, all notices which the District or the Contractor may be required, or may desire, to serve on the other, shall be effective only if delivered by: (i) personal delivery; or by (ii) postage prepaid, First Class Certified Return Receipt Requested United States Mail, addressed to the District or the Contractor at their respective address set forth in the Contract Documents, or such other address(es) as either the District or the Contractor may designate from time to time by written notice to the other in conformity with the provisions hereof. For personal delivery, such notices shall be deemed effective upon delivery, provided that such personal delivery requires a signed receipt by the recipient acknowledging delivery of the same. For mailed notices, such notice shall be deemed effective on the third (3rd) working day after deposit in the mail.
- 16.9. Disputes; Continuation of Work. Notwithstanding any claim, dispute or other disagreement between the District and the Contractor regarding performance under the Contract Documents, the scope of Work thereunder, or any other matter arising out of or related to, in any manner, the Contract Documents or the Work, the Contractor shall proceed diligently with performance of the Work in accordance with the District's written direction, pending any final determination or decision regarding any such claim, dispute or disagreement.
- 16.10. Claims Resolution.
- 16.10.1. Public Contract Code §9204 Claims Resolution Procedures. Claims of the Contractor are subject to the non-binding dispute resolution procedures set forth in Public Contract Code §9204 ("Section 9204") provided, however, that the Section 9204 procedures are expressly subject to the Contractor's prior full and timely compliance with requirements and procedures of the Contract Documents relating to procedures for resolution of claims, change orders, disputes and other matters in controversy under the Contract Documents.
- 16.10.1.1. Claim Submittal and Documentation. Claims shall be submitted in strict compliance with Section 9204 submittal requirements and supported by documentation of: (i) contractual and legal basis establishing Claim entitlement or merit; (ii) factual basis for District liability for the Claim; (iii) detailed breakdown of labor, materials, equipment and other costs included in the Claim; and (iv) detailed basis, including Construction Schedule analysis and fragnets supporting any Contract Time adjustment or Liquidated Damages relief included in the scope of a Claim.
- 16.10.1.2. District Claim Review Statement. Within the time permitted by Section 9204 or such other time mutually agreed to by the District and the Contractor the District will review the Claim and provide the Contractor with a written statement ("Claim Review Statement") identifying the disputed and undisputed portions of the Claim ("Undisputed Claims" or "Disputed Claims"). If the District fails to provide the Claim Review Statement within the time permitted under Section 9204 or other time mutually agreed to by the District and the Contractor, the Claim is deemed rejected in its entirety and thereupon, the Contractor may initiate the Meet and Confer process described below.
- 16.10.1.3. Meet and Confer.
- 16.10.1.3.1. Meet and Confer Demand. Within the time permitted under Section 9204, the Contractor may demand an informal conference to meet and confer with the District for settlement of Disputed Claims identified in the Claim Review Statement ("Meet and Confer"). The Contractor's Meet and Confer request must be submitted to the District: (i) in writing; (ii) by registered mail or certified mail, return receipt requested; and (iii) within ten (10) days after the Claim Review Statement is submitted to the Contractor or within ten (10) days after the date the Claim is deemed rejected, as applicable. Failure of the Contractor to strictly comply with

the foregoing is a waiver of the Contractor's right to request the Meet and Confer and the Non-Binding Mediation procedures under Section 9204. If the Contractor strictly complies with the foregoing, the District will schedule the Meet and Confer conference within thirty (30) days of the Contractor's Meet and Confer request.

- 16.10.1.3.2. Meet and Confer Statement. Within ten (10) business days after conclusion of the Meet and Confer conference, if any Disputed Claim remains, the District shall provide the Contractor a written statement identifying the Undisputed Claims and the Disputed Claims ("Meet and Confer Statement").

16.10.2. Non-Binding Mediation.

- 16.10.2.1. Contractor Initiation. The Contractor may request non-binding mediation ("Mediation") of Disputed Claims identified in the Meet and Confer Statement. The Contractor's Mediation demand must be submitted to the District: (i) in writing; (ii) by registered mail or certified mail, return receipt requested; (iii) within ten (10) days after the Meet and Confer Statement is submitted to the Contractor; and (iv) with specific identification of the Disputed Claims subject to Mediation. Failure of the Contractor to strictly comply with the foregoing is deemed a waiver of the Contractor's right to demand Mediation procedures under Section 9204.
- 16.10.2.2. Mediator Selection. The District and Contractor shall mutually agree to a mediator within ten (10) business days after the date of the Contractor's demand for Mediation. If the District and Contractor do not mutually agree to a mediator, the District and Contractor shall each select a mediator and the District/Contractor selected mediators shall select a qualified neutral third party to mediate the disputed portion of the Claim.
- 16.10.2.3. Mediation Procedures. Mediation includes any non-binding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the District and Contractor in dispute resolution through negotiation or by issuance of an evaluation.
- 16.10.2.4. Mediation Costs. All costs, fees and expenses of the mediator(s) and mediation administration shall be shared equally by the District and Contractor. The foregoing notwithstanding, the Contractor and District shall each bear the costs, fees and expenses of their own attorneys, experts and consultants.
- 16.10.2.5. Post-Mediation Disputed Claims. Any Disputed Claims remaining after Mediation shall be resolved in accordance with the applicable provisions of the Contract Documents.
- 16.10.2.6. Waiver. The District and Contractor may mutually agree to waive, in writing, Mediation under Section 9204 and subject to the Contractor's compliance with Government Code Claim requirements, proceed directly to commencement of a civil action or binding arbitration.
- 16.10.3. Payments of Undisputed Claims. If a payment due from the District for Undisputed Claims is not made within the time established under Section 9204, the overdue portion of such payment shall bear interest at the rate of seven percent (7%) per annum from the date due. The District's credit application of any amount due for an Undisputed Claim against amounts due to the District from the Contractor under the Contract Documents is deemed payment of the Undisputed Claim.
- 16.10.4. Subcontractor Claims.
- 16.10.4.1. Subcontractor Claim Submittal. If a Subcontractor lacks legal standing to assert a Claim against the District because privity of contract does not exist, the Contractor may present the District a Claim on behalf of the Subcontractor ("Subcontractor Claim"). Each Subcontractor requesting submittal of a Subcontractor Claim to the District shall furnish reasonable documentation to support the Subcontractor Claim. Procedures, requirements and time limits for submittal of Subcontractor Claims and processing of Subcontractor Claims shall be as set forth above for Contractor Claims, as augmented herein. Within forty-five (45) days of receipt of a Subcontractor's written request to submit a Subcontractor Claim, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the Subcontractor Claim to the District. If the Contractor did not present the Subcontractor Claim, the Contractor shall provide the Subcontractor with a statement of the reasons for not having done so.
- 16.10.4.2. Contractor Certification of Subcontractor Claim. The District's review of Subcontractor Claims is expressly subject to the Contractor's submittal of a duly completed and executed form of Contractor Certification of Subcontractor Claim establishing that the Contractor has thoroughly reviewed the Subcontractor Claim and based on the Contractor's review, certify that: (i) the Subcontractor Claim is made by the Subcontractor in good faith; (ii) the Subcontractor Claim is supported by reasonable documentation establishing entitlement to the relief requested and District liability therefor; and (iii) the Subcontractor Claim does not incorporate any request constituting a False Claim under applicable law, including the California False Claim Act (Government Code §12650 et seq). The form

of Contractor Certification of Subcontractor Claim is included in the Contract Documents. The District may summarily reject any Subcontractor Claim submitted without an accompanying duly completed and executed form of Contractor Certification of Subcontractor Claim.

- 16.10.4.3. District Review of Subcontractor Claim. Requests for District conduct of the Meet and Confer and/or non-binding mediation procedures must be submitted jointly by the Contractor and the Subcontractor submitting the Subcontractor Claim. If Mediation proceedings are initiated in connection with a Subcontractor Claim, mediator and mediation administration fees and costs shall be borne equally by the District, Contractor and Subcontractor.
- 16.10.4.4. Disputed Subcontractor Claims. Subcontractor Claims which are not fully resolved by the Section 9204 non-binding dispute resolution procedures shall be resolved by Section 20104.4 Dispute Resolution Procedures or binding arbitration, as applicable. Commencement of Section 20104.4 Dispute Resolution Procedures or binding arbitration proceedings in connection with any Subcontractor Claim is subject to compliance with Government Code Claims requirements.
- 16.10.5. Government Code Claim Requirements. Pursuant to Government Code §930.6, any claim, demand, dispute, disagreement or other matter in controversy asserted by the Contractor, whether on behalf of itself or a Subcontractor, against the District for money or damages, including without limitation Disputed Claims remaining after completion of the Section 9204 non-binding dispute resolution procedures described above are deemed a "suit for money or damages" and shall be subject to the provisions of Government Code §§945.4, 945.6 and 946 ("Government Code Claims Process"). An express condition precedent to the Contractor's initiation of Section 20104.4 Dispute Resolution Procedures or binding arbitration proceedings is the Contractor's compliance with and exhaustion of the Government Code Claims Process, including without limitation, presentation of the claim, demand, dispute, disagreement or other matter in controversy between the Contractor and the District seeking money or damages to the District and acted upon or deemed rejected by the District in accordance with Government Code §900, et seq.
- 16.10.6. Section 20104.4 Dispute Resolution Procedures: Claims Less Than \$375,000. Disputed Claims remaining after completion of the Section 9204 non-binding dispute resolution procedures and the Government Code Claims Process which are equal to or less \$375,000 shall be resolved in accordance with the civil action procedures established in Public Contract Code §20104.4. Unless otherwise agreed to by the District and the Contractor in writing, the Mediation conducted pursuant to Section 9204 procedures shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.
- 16.10.7. Binding Arbitration of Claims Exceeding \$375,000.
- 16.10.7.1. JAMS Arbitration. Any Disputed Claims after completion of the Section 9204 procedures and the Government Code Claims Process which exceed \$375,000 and any other claims, disputes, disagreements or other matters in controversy between the District and the Contractor arising out of, or related, in any manner, to the Contract Documents, or the interpretation, clarification or enforcement thereof shall be resolved by binding arbitration conducted before a retired judge in accordance with the Construction Arbitration Rules and Procedures of Judicial Arbitration Mediation Services ("JAMS") in effect as of the date that a Demand for Arbitration is filed, except as expressly modified herein. The locale for any arbitration commenced hereunder shall be the regional office of the JAMS closest to the Site.
- 16.10.7.2. Demand for Arbitration. A Demand for Arbitration shall be filed and served within a reasonable time after the occurrence of the claim, dispute or other disagreement giving rise to the Demand for Arbitration, but in no event shall a Demand for Arbitration be filed or served after the date when the institution of legal or equitable proceedings based upon such claim, dispute or other disagreement would be barred by the applicable statute of limitations. If more than one Demand for Arbitration is filed by either the District or the Contractor relating to the Work or the Contract Documents, all Demands for Arbitration shall be consolidated into a single arbitration proceeding, unless otherwise agreed to by the District and the Contractor. The Contractor's Surety, a Subcontractor or Material Supplier to the Contractor and other third parties may be permitted to join in and be bound by an arbitration commenced hereunder if required by the terms of their respective agreements with the Contractor, except to the extent that such joinder would unduly delay or complicate the expeditious resolution of the claim, dispute or other disagreement between the District and the Contractor, in which case an appropriate severance order shall be issued by the Arbitrator(s).
- 16.10.7.3. Discovery. In connection with any arbitration proceeding commenced hereunder, the discovery rights and procedures provided for in California Code of Civil Procedure §1283.05 shall be applicable, and the same shall be deemed incorporated herein by this reference.
- 16.10.7.4. Arbitration Award. The award rendered by the Arbitrator(s) ("Arbitration Award") shall be final and binding upon the District and the Contractor only if the Arbitration Award is: (i) supported by substantial evidence; (ii) based on applicable legal standards in effect that the time the Arbitration Award is issued; and (iii) supported by written findings of fact and conclusions of law in conformity

with California Code of Civil Procedure §1296. Any Arbitration Award that does not conform to the foregoing is invalid and unenforceable. The District and Contractor hereby expressly agree that the Court shall, subject to California Code of Civil Procedure §§1286.4 and 1296, vacate the Arbitration Award if, after review, the Court determines either that the Arbitration Award does not fully conform to the foregoing. The confirmation, enforcement, vacation or correction of an arbitration award rendered hereunder shall be made by the Superior Court of the State of California for the county in which the Site is situated. The substantive and procedural rules for such post-award proceedings shall be as set forth in California Code of Civil Procedure §1285 et seq.

16.10.7.5. Arbitration Fees and Expenses. The expenses and fees of the Arbitrator(s) shall be divided equally among all of the parties to the arbitration. Each party to any arbitration commenced hereunder shall be responsible for and shall bear its own attorneys' fees, witness fees and other costs or expenses incurred in connection with such arbitration. The foregoing notwithstanding, the Arbitrator(s) may award arbitration costs, including Arbitrators' fees but excluding attorneys' fees, to the prevailing party.

16.10.7.6. Limitation on Arbitrator. The Superior Court for the State of California for the County in which the Project Site is situated has the sole and exclusive jurisdiction, and an arbitrator has no authority, to hear and/or determine a challenge to the commencement or maintenance of an arbitration proceeding on the grounds that: (i) the subject matter of the arbitration proceeding is barred by the applicable statute of limitations; (ii) the subject matter of the arbitration proceeding is barred by a provision of the California Government Claims Act; (iii) the subject matter of the arbitration proceeding is outside the scope of the arbitration clause; (iv) the Contractor has failed to satisfy all conditions precedent to commencement or maintenance of an arbitration proceeding; (v) waiver of the right to compel arbitration; (vi) grounds exist for the revocation of the arbitration agreement; and/or, (vii) there is the prospect that a ruling in arbitration would conflict or potentially with a ruling in a pending proceeding regarding the Project on a common issue of law or fact.

16.10.8. Inapplicability to Bid Bond. The arbitration proceedings described above are not be applicable to disputes, disagreements or enforcement of rights or obligations under the Bid Bond. All claims, disputes and actions to enforce rights or obligations under the Bid Bond shall be adjudicated only by judicial proceedings commenced in a court of competent jurisdiction.

16.11. Attorneys' Fees. Except as expressly provided for in the Contract Documents, or authorized by the Laws, neither the District nor the Contractor shall recover from the other any attorneys' fees or other costs associated with or arising out of any legal, administrative or other proceedings filed or instituted in connection with or arising out of the Contract Documents or the performance of either the District or the Contractor thereunder.

16.12. Provisions Required by the Laws Deemed Inserted. Each and every provision of the Laws and clause required by the Laws to be inserted in the Contract Documents is deemed to be inserted herein and the Contract Documents shall be read and enforced as though such provision or clause are included herein, and if through mistake, or otherwise, any such provision or clause is not inserted or if not correctly inserted, then upon application of either party, the Contract Documents shall forthwith be physically amended to make such insertion or correction.

16.13. Days. Unless otherwise expressly stated, references to "days" in the Contract Documents are calendar days.

16.14. Entire Agreement. The Contract Documents contain the entire agreement and understanding between the District and the Contractor concerning the subject matter hereof, and supersedes and replaces all prior negotiations, proposed agreements or amendments, whether written or oral. No amendment or modification to any provision of the Contract Documents shall be effective or enforceable except by an agreement in writing executed by the District and the Contractor.

[END OF SECTION]

SPECIAL CONDITIONS

1. Application of Special Conditions. These Special Conditions form a part of the Contract Documents for the Work generally described as: **Campus Restroom Remodel Phase 1**. Unless otherwise expressly provided otherwise, all of the Special Conditions apply to all Bid Packages.
2. Contract Time for Completion of Interim Milestones and Substantial Completion of Bid Packages. The District intends to construct the Project using a "Multiple Prime Contractor" approach; with each Contractor awarded a Contract for a Bid Package being obligated to complete the Work of the Bid Package in accordance with the requirements of the Bid Package, as scheduled and coordinated by the Construction Manager. The Work of each Bid Package is described elsewhere in the Contract Documents. The Contractor awarded a Bid Package must complete work of the Bid Package necessary to achieve completion of the Interim Milestones indicated below and to achieve Project Substantial Completion within the Contract Time.

Notice to Proceed Issue Date	Monday, September 18, 2017
Project Contract Time Commencement	Monday, September 18, 2017
Project Completion	January 21, 2018 (125) calendar days contractual start

3. Project Interim Milestones. The Project Interim Milestones are described below. Completion of each Project Interim Milestone is shown in the Bid Schedule, and may be revised upon issuance of the Baseline Construction Schedule issued by the Construction Manager. During construction of the Project, the District may revise the Project Interim Milestones and/or completion date of any of Project Interim Milestone without adjustment of the Contract Price or Contract Time.

Milestone No.	Milestone Description
1	
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4. Liquidated Damages. Each Contractor for a Bid Package is subject to assessment of Liquidated Damages as follows:
 - 4.1. Liquidated Damages for Delayed Project Interim Milestones. If any Project Milestone identified above is within the scope of the Contractor's Bid Package and the Contractor fails or refuses, for any reason, to complete the Project Interim Milestone within the time established in the Baseline Construction Schedule or adjustments thereto in accordance with the Contract Documents, the Contractor will be assessed Liquidated Damages in the amount of **N/A Dollars (\$ N/A)** per day until the Project Milestone is completed.
 - 4.2. Liquidated Damages for Delayed Project Substantial Completion. If a Contractor fails or refuses, for any reason, to prosecute the Work of its Bid Package in accordance with the Baseline Construction Schedule, as adjusted in accordance with the Contract Documents, and such failure or refusal causes or contributes to delayed Project Substantial Completion, the Contractor will be assessed Liquidated Damages in the amount of **Five Hundred Dollars (\$500.00)** per day for each day of delayed Project Substantial Completion caused by or contributed to by the Contractor.
 - 4.3. Liquidated Damages for Delayed Completion of Punchlist Items. If the Contractor does not complete Punchlist Items noted upon Substantial Completion within the time established pursuant to the Contract Documents, the Contractor shall be assessed Liquidated Damages in the amount of **Five Hundred Dollars (\$500.00)** per day from the date established for completion of all Punchlist Items until all Punchlist Items are actually completed.
 - 4.4. District Withhold of Liquidated Damages; Performance Bond Surety. If a Contractor is subject to assessment of Liquidated Damages pursuant to the foregoing, the District may withhold such assessments from the Contractor

Price then or thereafter due the Contractor. If the assessment of Liquidated Damages exceeds the then remaining balance of the Contract Price due the Contractor, the Contractor and the Surety issuing the Performance Bond shall be jointly and severally liable to the District for Liquidated Damages liability of the Contractor which exceeds the remaining Contract Price balance.

5. Construction Manager. The Construction Manager is **Ledesma & Meyer Construction Co. Inc.**
6. Hours and Days of Work at the Site.
 - 6.1. Work Hours/Days. Subject to limitations set forth elsewhere in the Contract Documents and the CWA, the hours/days of Work at the Site are: 7am – 5pm Mondays through Fridays, except for holiday days.
 - 6.2. Limitations on Work Hours/Days. Work activities at the Site will be limited or prohibited on days: (i) devoted to student testing or when testing of students may be adversely affected by Work activities at the Site; or (ii) when other special events or functions are scheduled. The Contractor shall familiarize itself with District activities at the Site to avoid Work activity interferences or disturbances to such District activities. The Contractor's Construction Schedule shall take into account the District activities which limit or preclude Work activities at the Site.
7. Contractor Personnel Parking. Personnel of the Contractor, Subcontractors and others performing Work at the Site will be allowed to park, with a valid District parking permit, in the parking spaces at a location designated by the District. Parking permit charges, if any, shall be borne and paid by the Contractor without adjustment of the Contract Price. The foregoing notwithstanding, the extent or location of parking for such personnel may be limited, restricted, eliminated or modified by the District as reasonably necessary to facilitate and accommodate necessary parking for the District's students, staff and visitors engaged in activities and functions in and about the Site. Neither the Contract Price nor the Contract Time shall be adjusted as a result of any such District modifications to the extent or location of parking.
8. District Provided Temporary Utilities. Pursuant to Article 4.3.4 of the General Conditions, during the Contractor's performance of the Work, the District will provide utility services and a point of connection for electrical power and domestic potable water. If the District provides any utility services: (i) the District may discontinue, limit or condition use of such services by a Contractor if the District reasonably determines that the Contractor has wasted such utilities, and (ii) the District shall not be liable to the Contractor, nor shall the Contract Time or the Contract Price be increased if any District provided temporary utility service is discontinued or disrupted for any reason other than the District's non-payment of undisputed utility charges. Notwithstanding any provision of the Contract Documents to the contrary, the Contractor shall not use District provided water supply in connection with any earthwork or grading operations; water supply for earthwork or grading operations shall be obtained by the Contractor, without adjustment of the Contract Time or the Contract Price, from an offsite source or mobile water delivery service. Further, notwithstanding the District providing a point of connection for the Contractor's telephone/data service at the Site, the Contractor is solely responsible for the payment of utility service charges therefor. Temporary distributions of District provided utility services at the Site will be by the Contractor designated with such responsibilities in the scope of its Bid Package. Except for the District provided utility services and extent of temporary distributions thereof, each Contractor is responsible, without adjustment of the Contract Price or Contract Time for securing all utilities and utility services necessary for completion of its Bid Package Work.
9. Mark-Ups on Changes to the Work. In the event of Changes to the Work, pursuant to Article 9 of the General Conditions, the mark-up for all overhead (including home and field office overhead), general conditions costs and profit, shall not exceed the percentage of allowable direct actual costs for performance of the Change as set forth below.
 - 9.1. Subcontractor Performed Changes. For the portion of any Change performed by Subcontractors of any tier, the percentage mark-up on allowable actual direct labor and materials costs incurred by all Subcontractors of any tier shall be Ten Percent (10%). In addition, for the portion of any Change performed by a Subcontractor of any tier, the Contractor may add an amount equal to Five Percent (5%) of the allowable actual direct labor and materials costs of Subcontractors performing the Change; the foregoing mark-up shall not be applied to the Subcontractor mark-up.
 - 9.2. Contractor Performed Changes. For the portion of any Change performed by the Contractor's own forces, the mark-up on the allowable actual direct labor and materials costs of such portion of a Change shall be Ten Percent (10%).
 - 9.3. Bond Premium Costs. In addition to the foregoing mark-ups on the direct costs of labor and materials, a bond premium expense in an amount equal to the lesser of the Contractor's actual bond premium rate of One and One Half Percent (1.5%) of the total actual direct costs of labor and materials (before Subcontractor and Contractor mark-ups) will be allowed.
 - 9.4. Exclusions From Mark-Up of Actual Costs. Mark-ups on the actual cost of materials/equipment incorporated into a Change or for purchase/rental of Construction Equipment shall not be applied to any portion of such costs which are for sales, use or other taxes arising out of the purchase of materials/equipment and/or for purchase/rental of Construction Equipment.

10. Deferred Approval Items. The following Deferred Approval Items are incorporated into and made a part of the Work: **N/A**. Each Contractor with a Deferred Approval Item in its Bid Package Work is responsible for timely preparing all materials necessary for DSA review and approval of Deferred Approval Items without adjustment of the Contract Time or the Contract Price.

11. Minimum Insurance Coverage Limits

11.1. Contractor Insurance. Pursuant to Article 6 of the General Conditions, the Contractor shall obtain and maintain the following insurance coverages with minimum coverage limits as set forth below:

Policy of Insurance	Minimum Coverage Limits
Commercial General Liability Insurance	Per Occurrence: One Million Dollars (\$1,000,000)
	Aggregate: Two Million Dollars (\$2,000,000)
Workers Compensation	In accordance with the Laws
Employers Liability	One Million Dollars (\$1,000,000)
Automobile Liability	One Million Dollars (\$1,000,000) combined single limit
Contractor's Pollution Liability – Applicable to Abatement Contractors	Per Occurrence: One Million Dollars (\$1,000,000)
	Aggregate: Two Million Dollars (\$2,000,000)

11.2. Subcontractor Insurance. Pursuant to Article 6 of the General Conditions, each Subcontractor shall obtain and maintain the following insurance coverages with minimum coverage limits as set forth below:

Policy of Insurance	Minimum Coverage Limits
Commercial General Liability Insurance	Per Occurrence: One Million Dollars (\$1,000,000)
	Aggregate: Two Million Dollars (\$2,000,000)
Workers Compensation	In accordance with the Laws
Employers Liability	One Million Dollars (\$1,000,000)
Automobile Liability	One Million Dollars (\$1,000,000) combined single limit
Contractor's Pollution Liability – Applicable to Abatement Contractors	Per Occurrence: One Million Dollars (\$1,000,000)
	Aggregate: Two Million Dollars (\$2,000,000)

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CONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT

NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT’S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Identifying Information

Name of Claimant: _____
Name of Customer: _____
Job Location: _____
Owner: _____
Through Date: _____

Conditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant’s receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: _____
Amount of Check: \$ _____
Check Payable to: _____

Exceptions

This document does not affect any of the following:
(1) Retentions.
(2) Extras for which the claimant has not received payment.
(3) The following progress payments for which the claimant has previously given a conditional waiver and release but has not received payment: _____
Date(s) of waiver and release: _____
Amount(s) of unpaid progress payment(s): \$ _____
(4) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Signature

Claimant’s Signature: _____
Claimant’s Title: _____
Date of Signature: _____

UNCONDITIONAL WAIVER AND RELEASE ON PROGRESS PAYMENT

NOTICE TO CLAIMANT: THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Identifying Information

Name of Claimant: _____
Name of Customer: _____
Job Location: _____
Owner: _____
Through Date: _____

Unconditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has received the following progress payment:
\$ _____

Exceptions

This document does not affect any of the following:
(1) Retentions.
(2) Extras for which the claimant has not received payment.
(3) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Signature

Claimant's Signature: _____
Claimant's Title: _____
Date of Signature: _____

CONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT

NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT’S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Identifying Information

Name of Claimant: _____
Name of Customer: _____
Job Location: _____
Owner: _____

Conditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant’s receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: _____
Amount of Check: \$ _____
Check Payable to: _____

Exceptions

This document does not affect any of the following:
Disputed claims for extras in the amount of: \$ _____

Signature

Claimant’s Signature: _____
Claimant’s Title: _____
Date of Signature: _____

UNCONDITIONAL WAIVER AND RELEASE ON FINAL PAYMENT

NOTICE TO CLAIMANT: THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Identifying Information

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Unconditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for all labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has been paid in full.

Exceptions

This document does not affect the following:

Disputed claims for extras in the amount of: \$ _____

Signature

Claimant's Signature: _____

Claimant's

Title: _____

Date of Signature: _____

COMMUNITY WORKFORCE AGREEMENT
BY AND BETWEEN
ANTELOPE VALLEY COLLEGE
AND
LOS ANGELES AND ORANGE COUNTIES
BUILDING AND CONSTRUCTION TRADES COUNCIL
AND
THE SIGNATORY CRAFT COUNCILS AND UNIONS
FOR
CONSTRUCTION PROJECTS AND MAJOR REHABILITATION

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**ANTELOPE VALLEY COLLEGE
COMMUNITY WORKFORCE AGREEMENT
FOR NEW CONSTRUCTION AND MODERNIZATION**

This Community Workforce Agreement (hereinafter, “Agreement”) is entered into by and among the Board of Trustees of the Antelope Valley College (the “College”), the Los Angeles/Orange Counties Building and Construction Trades Council (the “Council”), and the signatory Craft Councils and Unions signing this Agreement (hereinafter together with the Council, collectively, the “Union” or “Unions”). This Agreement establishes the labor relations guidelines and procedures for the College and for the Contractors and craft employees represented by the Unions and engaged in Project Work. The College, Council and Unions are hereinafter referred to herein, as the context may require, as “Party” or “Parties.”

The Parties to this Agreement understand that if this Agreement is acceptable to the College, the policy of the College will be for the Project Work to be contracted exclusively to Contractors who agree to execute and be bound by the terms of this Agreement, directly or through the Letter of Assent (a form of which is attached as “**Attachment A**”), and to require each of its subcontractors, of whatever tier, to become bound. The College shall include, directly or by incorporation by reference, the requirements of this Agreement in the advertisement of and/or specifications for each and every contract for Project Work to be awarded by the College.

The College shall actively administer and enforce the obligations of this Agreement to ensure that the benefits envisioned from it flow to all signatory Parties, the Contractors and crafts persons working under it, and the residents and students of the College. The College shall therefore designate a “Community Workforce Coordinator,” either from its own staff or an independent contractor acting on behalf of the College, to monitor compliance with this Agreement; assist, as the authorized representative of the College, in developing and implementing the programs referenced herein, all of which are critical to fulfilling the intent and purposes of the Parties and this Agreement; and to otherwise implement and administer this Agreement. For such purposes, each Contractor recognizes the Community Workforce Coordinator, its successors or assigns, as its agent; and together with College and the Unions, the Community Workforce Coordinator shall be considered a “negotiating party” of this Agreement.

The term “Apprentice” as used in this Agreement shall mean those employees registered and participating in Joint Labor/Management Apprenticeship Programs approved by the Division of Apprenticeship Standards, Department of Industrial Relations of the State of California.

The term “Contractor” as used in this Agreement includes any individual, firm, partnership, or corporation, or combination thereof, including joint ventures, which as an Independent Contractor has entered into a contract with the College with respect to the Project Work, or with another Contractor as a subcontractor of whatever tier utilized by such Contractors for Project Work.

The term “Joint Labor/Management Apprenticeship Program” as used in this Agreement means a joint Union and Contractor administered apprenticeship program certified by the Division of Apprenticeship Standards, Department of Industrial Relations of the State of California.

The term “Letter of Assent” as used in this Agreement means the document that each Contractor (of any tier) must sign and submit to the Community Workforce Coordinator and the Council, before beginning any Project Work, which formally binds them to adhere to all the forms, requirements and conditions of this Agreement, in the letter attached hereto as Attachment A.

The term “Project” or “Project Work” as used in this Agreement means the College’s repair, renovation, rehabilitation, upgrade and improvement work and new construction projects which exceed the thresholds set forth in Section 2.2 of this Agreement and are contracted out by the College.

The term “Schedule A Agreements,” as used in this Agreement, means the local collective bargaining agreements of the signatory Unions having jurisdiction over the Project Work and which have signed this Agreement.

The term “Subscription Agreement” means the contract between a Contractor and a Union’s Labor/Management Trust Fund(s) that allows the Contractor to make the appropriate fringe benefit contributions in accordance with the terms of Schedule A.

The Union and all Contractors agree to abide by the terms and conditions of this Agreement and agree that this Agreement represents the complete understanding of the Parties. No Contractor is or will be required to sign or otherwise become a party to any other collective bargaining agreement with a signatory Union as a condition of performing work within the scope of this Agreement.

The Parties agree that this Agreement will be made available to, and will fully apply to, any successful bidder for Project Work, without regard to whether that successful bidder performs work at other sites on either a union or non-union basis. This Agreement shall not apply to any work of any Contractor other than that on Project Work specifically covered by this Agreement.

The use of masculine or feminine gender or titles in this Agreement should be construed as including both genders and not as gender limitations unless the Agreement clearly requires a different construction. Further, the use of Article titles and/or Section headings are for information only, and carry no legal significance.

ARTICLE 1 INTENT AND PURPOSE

Section 1.1 Background: The College's new construction and major rehabilitation projects will affect the school buildings and offices that are owned, leased or controlled by the College. The goal of this Project is to provide new construction and major rehabilitation of the College's facilities so as to provide sufficient facilities and technologies to educate properly the children within the College's boundaries. The College, therefore, wishing to utilize the most modern, efficient and effective procedures for construction, including assurances of a sufficient supply of skilled craftsperson's, and the elimination of disruptions or interference with Project Work,

adopts this Agreement in the best interests of the students, parents, College staff, and the taxpayers of the College to meet the College's goal that Project Work be completed on time and within budget.

Section 1.2 Identification and Retention of Skilled Labor and Employment of College

Residents: The vast amount of new school construction, substantial rehabilitation, and capital improvement work scheduled to be performed by the College will require large numbers of craft personnel and other supporting workers. The parties understand and intend to use the opportunities provided by the extensive amount of work to be covered by this Agreement to identify and promote, through cooperative efforts, programs and procedures (which may include, for example, programs to prepare persons for entrance into formal apprenticeship programs, or outreach programs to the community describing opportunities available as a result of the Project), the interest and involvement of College residents in the construction industry; assist them in entering the construction trades, and through utilization of the joint labor/management sponsored apprenticeship programs, provide training opportunities for those College residents and other individuals wishing to pursue a career in construction. Further, with assistance of the Community Workforce Coordinator, the College, the contractors, the Unions and their affiliated regional and national organizations, will work jointly to develop and implement procedures promptly for the identification of craft needs, the scheduling of work to facilitate the utilization of available craft workers, and to secure the services of craft workers in sufficient numbers to meet the high demands of the Project Work to be undertaken.

Section 1.3 Encouragement of Local and Small Business: The Project will provide many opportunities for local and small business enterprises to participate as contractors or suppliers, and the parties therefore agree that they will cooperate with all efforts of the College, the Community Workforce Coordinator, and other organizations retained by the College for the purpose of encouraging and assisting the participation of local and small businesses in Project Work. Specifically, all parties understand that the College has established and quantified goals which place a strong emphasis on the utilization of local and small businesses on the Project. Each party agrees that it shall employ demonstrable efforts to encourage utilization in an effort to achieve such goals. This may include, for example, participation in outreach programs, education and assistance to businesses not familiar with working on a project of this scope, and the encouragement of local residents to participate in Project Work through programs and procedures jointly developed to prepare and encourage such local residents for apprenticeship programs and formal employment on the Project through the referral programs sponsored and/or supported by the parties to this Agreement. Further, the parties shall ensure that the provisions of this Agreement do not inadvertently establish impediments to the participation of local and small businesses, and residents of the College.

Section 1.4 Project Cooperation: The parties recognize that the construction to take place under this Agreement involves unique and special circumstances which dictate the need for the parties to develop specific procedures to promote high quality, rapid and uninterrupted construction methods and practices. The smooth operation and successful and timely completion of the work is vitally important to the parents and the students of the College. The parties therefore agree that maximum cooperation among all parties involved is required; and that with construction work of this magnitude, with multiple contractors and crafts performing work on

multiple sites of over an extended period of time, all parties agree to work in a spirit of harmony and cooperation, and with an overriding commitment to maintain the continuity of Project Work. Further, the parties recognize that an Act of God or on Act of War could require the College to partially or fully suspend Project Work. The parties shall fully cooperate with any request by the College to redirect their equipment, skills and expertise to support the College's efforts necessitated by such events.

Section 1.5 Workers' Compensation Carve-out: Further, the parties recognize the potential which the Project may provide for the implementation of a cost effective workers' compensation system as permitted by California Labor Code, Section 3201.5, as revised. Should the College request, the Union parties agree to meet and negotiate in good faith with representatives of the College for the development, and subsequent implementation, of an effective program involving improved and revised dispute resolution and medical care procedures for the delivery of workers' compensation benefits and medical coverage as permitted by the Code.

Section 1.6 Peaceful Resolution of All Disputes: In recognition of the special needs of the Project and to maintain a spirit of harmony, labor-management peace and stability during the term of this Community Workforce Agreement, the parties agree to establish effective and binding methods for the settlement of all misunderstandings, disputes and grievances; and in recognition of such methods and procedures, the unions agree not to engage in any strike, slowdowns or interruptions or disruption of Project Work, and the contractors agree not to engage in any lockout, or any other action impairing or impeding the Project Work.

Section 1.7 Binding Agreement on Parties and Inclusion of College Residents and Businesses: By executing this Agreement, the College, Council, Unions and Contractors agree to be bound by each and all of the provisions of this Agreement, and pledge that they will work together to adopt, develop and implement processes and procedures which are inclusive of the residents and businesses of the College.

ARTICLE 2 SCOPE OF AGREEMENT

Section 2.1 General: This Agreement shall only apply to work which is contracted out by the College. This Agreement shall apply and is limited to all of the College's Project Work, as specified in Section 2.2 of this Article, performed by those Contractor(s) of whatever tier that have contracts awarded for such work, for the development of the College's facilities which, jointly, constitute the Project, and have been designated by the College for construction or rehabilitation.

Section 2.2 Specific: The Project is defined and limited to:

(a) All construction and major rehabilitation work pursuant to prime multi-trade construction contracts that exceed one hundred seventy-five thousand dollars (\$175,000.00) and all subcontracts flowing from these prime multi-trade contracts; and

(b) All prime specialty contracts that exceed twenty-five thousand (\$25,000), and all subcontracts flowing from these specialty contracts; and

(c) The Parties understand that the College may at any time, and at its sole discretion, determine to build segments of the Project under this Agreement which were not currently proposed, or to modify or not to build any one or more particular segments proposed to be covered. It is understood by the Parties that the College may at any time, and at its sole discretion, add additional projects under this Agreement not otherwise covered by this Agreement.

Section 2.3 Bundling of Contracts: The Parties understand that, to the maximum extent feasible, and consistent with goals of the College to (i) utilize this Agreement as the Labor Relations Policy for its construction and rehabilitation program, and (ii) fully utilize the services of small and local business enterprises for such construction and rehabilitation work:

(a) The College, in its sole discretion, with the advice of the Community Workforce Coordinator, will seek to group (or “bundle”) for bidding, contracts not meeting the thresholds of Section 2.2 (a) or (b) above. (Small contracts for like types of work, scheduled to be undertaken at the same school, in the same College or on the same project site, and within the same timeframe, will be considered for such bundling, consistent with economies of scale, and the purposes of this Agreement); and

(b) Project Work will not be split, divided or otherwise separated for contract award purposes to avoid application of this Agreement.

Section 2.4 Exclusions: Items specifically excluded from the Scope of this Agreement include the following:

(a) Work of non-manual employees, including but not limited to: superintendents; administrators; teachers; supervisors; time keepers, mail carriers, clerks, office workers, messengers; guards, safety personnel, emergency medical and first aid technicians; and other professional, engineering, administrative, supervisory and management employees;

(b) Equipment and machinery owned or controlled and operated by the College;

(c) All off-site manufacture and handling of materials, equipment or machinery; provided, however, that lay down or storage areas for equipment or material and manufacturing (prefabrication) sites, dedicated solely to the Project or Project Work, and the movement of materials or goods between locations on a Project site are within the scope of this Agreement;

(d) All employees of the College, Community Workforce Coordinator, design teams (including, but not limited to architects engineers and master planners), or any other consultants for the College (including, but not limited to, project managers and construction managers and their employees not engaged in Project Work) and their sub-consultants, and other employees of professional service organizations, not performing manual labor within the scope of this Agreement; provided, however, that it is understood and agreed that Building/Construction

Inspector and Field Soils and Materials Testers (Inspectors) are a covered craft under the CWA. This inclusion applies to the scope of work defined in the State of California Wage Determination for said Craft. This shall also specifically include such work where it is referred to by utilization of such terms as "quality control" or "quality assurance." Every Inspector performing under the Wage classification of Building/Construction Inspector and Field Soils and Material Testers under a professional services agreement of a construction contract shall be bound to all applicable requirements of the CWA. Project Work as defined by this Agreement shall be performed pursuant to the terms and conditions of this Agreement regardless of the manner in which the work was awarded;

(e) Any work performed on or near or leading to or into a site of work covered by this Agreement and undertaken by state, county, city or other governmental bodies, or their Contractors; or by public utilities, or their Contractors; and/or by the College or its Contractors (for work for which is not within the scope of this Agreement);

(f) Off-site maintenance of leased equipment and on-site supervision of such work;

(g) It is recognized that certain materials, equipment and systems of a highly technical and specialized nature will have to be installed at the Project. The nature of the materials, equipment and systems, together with requirements of manufacturer's or vendor's warranty, may dictate that it be prefabricated, pre-piped, and/or pre-wired and that it be installed under the supervision and direction of Owner's and/or manufacturer's personnel. The Unions agree to install such material, equipment and systems without incident;

(h) Non-construction support services contracted by the College, Community Workforce Coordinator, or Contractor in connection with this Project;

(i) Laboratory work for testing.

Section 2.5 Awarding of Contracts:

(a) The College and/or the Contractors, as appropriate, have the absolute right to award contracts or subcontracts on this Project to any Contractor notwithstanding the existence or non-existence of any agreements between such Contractor and any Union parties, provided only that such Contractor is ready, willing and able to execute and comply with this Community Workforce Agreement should such Contractor be awarded work covered by this Agreement.

(b) It is agreed that all Contractors and subcontractors of whatever tier, who have been awarded contracts for work covered by this Agreement, shall be required to accept and be bound to the terms and conditions of this Community Workforce Agreement, and shall evidence their acceptance by the execution of the Letter of Assent set forth in **Attachment "A"** hereto, prior to the commencement of work. At the time that any Contractor enters into a subcontract with any subcontractor of any tier providing for the performance on the construction contract, the Contractor shall provide a copy of this Agreement to said subcontractor and shall require the subcontractor, as a part of accepting the award of a construction subcontract, to agree in writing in the form of a Letter of Assent to be bound by each and every provision of this Agreement

prior to the commencement of work on the Project. No Contractor or subcontractor shall commence Project Work without having first provided a copy of the Letter of Assent as executed by it to the Community Workforce Coordinator and to the Council forty-eight (48) hours before the commencement of Project Work, or within forty-eight (48) hours after the award of Project Work to that Contractor (or subcontractor), whichever occurs later.

Section 2.6 Coverage Exception: This Agreement shall not apply if the College receives funding or assistance from any Federal, State, local or other public entity for the Construction Contract if a requirement, condition or other term of receiving that funding or assistance, at the time of the awarding of the contract, is that the College not require, bidders, contractors, subcontractors or other persons or entities to enter into an agreement with one or more labor organizations or enter into an agreement that contains any of the terms set forth herein. The College agrees that it will make every effort to establish the enforcement of this Agreement with any governmental agency or granting authority.

Section 2.7 Schedule A's:

(a) The provisions of this Agreement, including the Schedule A's (which are the local collective bargaining agreements of the signatory Unions having jurisdiction over the work on the Project, as such may be changed from time-to-time and which are incorporated herein by reference) shall apply to the work covered by this Agreement, notwithstanding the provisions of any other local, area and/or national agreement which may conflict with or differ from the terms of this Agreement. However, such does not apply to work performed under the National Cooling Tower Agreement, the National Stack Agreement, the National Transit Division Agreement (NTD), or within the jurisdiction of the International Union of Elevator Constructors and all instrument calibration and loop checking work performed under the terms of the UA/IBEW Joint National Agreement for Instrument and Control Systems Technicians except that Articles dealing with Work Stoppages and Lock-Outs, Work Assignments and Jurisdictional Disputes, and Settlement of Grievances and Disputes shall apply to such work. It is specifically agreed that no later agreement shall be deemed to have precedence over this Agreement unless signed by all Parties signatory hereto who are then currently employed or represented at the Project. Where a subject covered by the provisions of this Agreement is also covered by a Schedule A, the provisions of this Agreement shall apply. Where a subject is covered by a provision of a Schedule A and not covered by this Agreement, the provisions of the Schedule A shall prevail. Any dispute as to the applicable source between this Agreement and any Schedule A for determining the wages, hours of working conditions of employees on this Project shall be resolved under the procedures established in Article 10.

(b) It is understood that this Agreement, together with the referenced Schedule A's, constitutes a self-contained, stand-alone agreement and by virtue of having become bound to this Community Workforce Agreement, the Contractor will not be obligated to sign any other local, area or national collective bargaining agreement as a condition of performing work within the scope of this Agreement (provided, however, that the Contractor may be required to sign an uniformly applied, non-discriminatory "Subscription Agreement" or "Participation Agreement" at the request of the trustees or administrator of a trust fund established pursuant to Section 302 of the Labor Management Relations Act, and to which such Contractor is bound to make

contributions under this Agreement, provided that such Participation Agreement does not purport to bind the Contractor beyond the terms and conditions of this Agreement and/or expand its obligation to make contributions pursuant thereto). It shall be the responsibility of the prime Contractor to have each of its subcontractors sign such Agreement with the appropriate Craft Union prior to the subcontractor beginning Project Work.

Section 2.8 Binding Signatories Only: This Agreement shall only be binding on the signatory Parties hereto, and shall not apply to the parents, affiliates, subsidiaries, or other ventures of any such Party.

Section 2.9 Other College Work: This Agreement shall be limited to the construction work within the Scope of this Agreement including, specifically, site preparation and related demolition work, and new construction and major rehabilitation work for new or existing facilities referenced in Section 2.2 above. Nothing contained herein shall be interpreted to prohibit, restrict, or interfere with the performance of any other operation, work or function not covered by this Agreement, which may be performed by College employees or contracted for by the College for its own account, on its property or in and around a Project site.

Section 2.10 Separate Liability: It is understood that the liability of the Contractor(s) and the liability of the separate Unions under this Agreement shall be several and not joint. The Unions agree that this Agreement does not have the effect of creating any joint employment status between or among the College or Community Workforce Coordinator and/or any Contractor.

Section 2.11 Completed Project Work: As areas of Project Work are accepted by the College, this Agreement shall have no further force or effect on such items or areas except where the Contractor is directed by the College or its representatives to engage in repairs, modification, check-out and/or warranties functions required by its contract(s) with the College.

ARTICLE 3 UNION RECOGNITION AND EMPLOYMENT

Section 3.1 Recognition: The Contractor recognizes the Council and the Unions as the exclusive bargaining representative for the employees engaged in Project Work.

Section 3.2 Contractor Selection of Employees: The Contractor shall have the right to determine the competency of all employees, the number of employees required, the duties of such employees within their craft jurisdiction, and shall have the sole responsibility for selecting employees to be laid off, consistent with Section 3.3 and Section 4.3, below. The Contractor shall also have the right to reject any applicant referred by a Union for any reason, subject to any reporting pay required by Section 6.6; provided, however, that such right is exercised in good faith and not for the purpose of avoiding the Contractor's commitment to employ qualified workers through the procedures endorsed in this Agreement.

Section 3.3 Referral Procedures:

(a) For signatory Unions now having a job referral system contained in a Schedule A, the Contractor agrees to comply with such system and it shall be used exclusively by such Contractor, except as modified by this Agreement. Such job referral system will be operated in a nondiscriminatory manner and in full compliance with federal, state, and local laws and regulations which require equal employment opportunities and non-discrimination. All of the foregoing hiring procedures, including related practices affecting apprenticeship, shall be operated so as to consider the goals of the College to encourage employment of College residents and utilization of small local businesses on the Project, and to facilitate the ability of all Contractors to meet their employment needs.

The Unions will exert their best efforts to recruit and refer sufficient numbers of skilled craft workers to fulfill the labor requirements of the Contractor, including specific employment obligations to which the Contractor may be legally and/or contractually obligated; and to refer apprentices as requested to develop a larger, skilled workforce. The Unions will work with their affiliated regional and national unions, and jointly with the Community Workforce Coordinator and others designated by the College, to identify and refer competent craft persons as needed for Project Work, and to identify and hire individuals, particularly residents of the College, for entrance into joint labor/management apprenticeship programs, or to participation in other identified programs and procedures to assist individuals in qualifying and becoming eligible for such apprenticeship programs, all maintained to increase the available supply of skilled craft personnel for Project Work and future construction of maintenance work to be undertaken by the College.

(b) The Union shall not knowingly refer an employee currently employed by a Contractor on Project Work to any other Contractor.

(c) The Parties are aware of the College's policy that Contractors and other employers shall not employ, on Project Work when minors may be present on or around the site of such Project Work during working hours, a person who would not be eligible for employment by the College under California Educational Code, Section 45123. The Parties shall endeavor to employ persons under this Article in compliance with this policy, and the Contractors agree to remove such an individual in their employ from the particular Project site at the request of the College or the Community Workforce Coordinator.

Section 3.4 Non-Discrimination in Referral, Employment, and Contracting: The Unions and Contractors agree that they will not discriminate against any employee or applicant for employment in hiring and dispatching on the basis of race, color, religion, sex, gender, national origin, age, membership in a labor organization, sexual orientation, political affiliation, marital status or disability. Further, it is recognized that the College has certain policies, programs, and goals for the utilization of local small business enterprises. The Parties shall jointly endeavor to assure that these commitments are fully met, and that any provisions of this Agreement which may appear to interfere within a local and small business enterprises successfully bidding for work within the scope of this Agreement shall be carefully reviewed, and adjustments made as may be appropriate and agreed upon among the Parties, to ensure full compliance with the spirit

and letter of the College's policies and commitment to its goals for the significant utilization of local and small businesses as direct Contractors or suppliers for Project Work.

Section 3.5 Employment of College Area Residents:

(a) The Unions and Employers agree that, to the maximum extent allowed by law, and as long as they possess the requisite skills and qualifications, the Unions will exert their best efforts to refer and/or recruit sufficient numbers of skilled craft "Local Residents" as defined herein, to fulfill the requirements of the Employers. In recognition of the fact that the College and the communities surrounding Project Work will be impacted by the construction of the Project, the parties agree to support the hiring of workers from the residents of these surrounding areas ("Area Residents"), as well as Veterans and students of the College which have received an AA/AS degree or who have completed and received a completion certificate from an apprenticeship preparation program utilizing the multi-craft core curriculum from the College or the Antelope Valley YouthBuild ("Student Graduates"). Towards that end, the Unions agree that they will exert their best efforts to encourage and provide referrals and utilization of qualified workers:

(i) First, Area Residents residing in those first tier zip codes which cover the College service area, as reflected on the attached list of zip codes, as well as Veterans and Student Graduates, regardless of where they reside;

(ii) If the Unions cannot provide the Employers in the attainment of a sufficient number of qualified workers from paragraph (i), above, the Unions will exert their best efforts to then recruit and identify for referral qualified workers residing within the greater Antelope Valley area, as reflected on the attached list of zip codes.

(iii) If the Unions still have not provided the Employers in the attainment of a sufficient number of qualified workers from paragraphs (i) and (ii), above, the Unions will then exert their best efforts to recruit and identify for referral qualified workers residing within the County of Los Angeles.

Qualified workers residing within any of these three (3) areas described above, as well as Veterans and Student Graduates, regardless of where they reside, shall be referred to as Local Residents.

(b) A goal of 40% of all of the labor and craft positions shall be from Local Residents described in (a) above. To facilitate the dispatch of Local Residents, all Contractors will be required to utilize the Craft Employee Request Form whenever they are requesting the referral of any employee from a Union referral list for any Project Work, a sample of which is attached as **Attachment "C."**

(c) The Community Workforce Coordinator shall work with the Unions and Contractors in the administration of this Local Resident preference; and the Contractors and Unions shall cooperate by maintaining adequate records to demonstrate to the Community Workforce Coordinator that such preferences have been pursued. As part of this process, and in

order to facilitate the contract administration procedures, as well as appropriate benefit fund coverage, all Contractors shall require their “core work force” and any other persons employed other than through the referral process, to register with the appropriate hiring hall, if any.

Section 3.6 Helmets to Hardhats: The Employers and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The employers and Unions agree to utilize the services of the Center for Military Recruitment, Assessment and Veterans Employment (hereinafter “Center”) and the Center’s “Helmets to Hardhats” program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the Parties. For purposes of this Agreement, the term “Eligible Veteran” shall have the same meaning as the term “veteran” as defined under Title 5, Section 2108(1) of the United States Code as the same may be amended or re-codified from time to time. It shall be the responsibility of each qualified College resident to provide the Unions with proof of his/her status as an Eligible Veteran.

The Unions and Employers agree to coordinate with the Center to create and maintain an integrated database of veterans interested in working on this Project and of apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

Section 3.7 Core Employees:

(a) Except as otherwise provided in separate collective bargaining agreement(s) to which the Contractor is signatory, Contractors may employ, as needed, first, a member of his core workforce, then an employee through a referral from the appropriate Union hiring hall, then a second core employee, then a second employee through the referral system, and so on until a maximum of five (5) core employees are employed, thereafter, all additional employees in the affected trade or craft shall be requisitioned from the craft hiring hall in accordance with Section 3.3. In the laying off of employees, the number of core employees shall not exceed one-half plus one of the workforce for an employer with ten (10) or fewer employees, assuming the remaining employees are qualified to undertake the work available. This provision applies only to Contractors who are not directly signatory to a current Schedule A Agreement for the craft worker in its employ and is not intended to limit the transfer provisions of the Schedule A Agreement of any trade. As part of this process, and in order to facilitate the contract administration procedures, as well as appropriate fringe benefit fund coverage, all Contractors shall require their core employees and any other persons employed other than through the referral process, to register with the appropriate Union hiring hall, if any, prior to their first day of employment at a project site.

(b) The core work force is comprised of those employees whose names appeared on the Contractor’s active payroll for sixty (60) of the one hundred (100) working days immediately before award of Project Work to the Contractor; who possess any license required by state or federal law for the Project Work to be performed; who have the ability to safely perform the basic functions of the applicable trade; and who have been residing within the zip codes within

the geographic area serviced by the College for the one hundred (100) working days immediately prior to the award of Project Work to the Contractor.

(c) Prior to each Contractor performing any work on the Project, each Contractor shall provide a list of his core employees to the Community Workforce Coordinator and the Council. Failure to do so will prohibit the Contractor from using any core employees. Upon request by any Party to this Agreement, the Contractor hiring any core employee shall provide satisfactory proof (i.e., payroll records, quarterly tax records, driver's license, voter registration, postal address and such other documentation) evidencing the core employee's qualification as a core employee to the Community Workforce Coordinator and the Council.

Section 3.8 Time for Referral: If any Union's registration and referral system does not fulfill the requirements for specific classifications requested by any Contractor within forty-eight (48) hours (excluding Saturdays, Sundays and holidays), that Contractor may use employment sources other than the Union registration and referral services, and may employ applicants meeting such standards from any other available source. The Contractors shall inform the Union of any applicants hired from other sources within forty-eight (48) hours of such applicant being hired, and such applicants shall register with the appropriate hiring hall, if any.

Section 3.9 Lack of Referral Procedure: If a signatory Union does not have a job referral system as set forth in Section 3.3 above, the Contractors shall give the Union equal opportunity to refer applicants. The Contractors shall notify the Union of employees so hired, as set forth in Section 3.5.

Section 3.10 Union Membership: No employee covered by this Agreement shall be required to join any Union as a condition of being employed, or remaining employed, for the completion of Project Work; provided, however, that any employee who is a member of the referring Union at the time of referral shall maintain that membership in good standing while employed under this Agreement. All employees shall, however, be required to comply with the union security provisions of the applicable Schedule A for the period during which they are performing on-site Project Work to the extent, as permitted by law, of rendering payment of an amount equal to the applicable monthly window and working dues uniformly required for membership in the Union.

Section 3.11 Individual Seniority: Except as provided in Section 4.3, individual seniority shall not be recognized or applied to employees working on the Project; provided, however, that group and/or classification seniority in a Union's Schedule A as of the effective date of this Agreement shall be recognized for purposes of layoffs.

Section 3.12 Foremen: The selection and number of craft foreman and/or general foreman shall be the responsibility of the Contractor. All foremen shall take orders exclusively from the designated Contractor representatives. Craft foreman shall be designated as working foreman at the request of the Contractors.

Section 3.13 College Security Requirements: The Parties are aware of the College's policy that Contractors and other employers shall not employ a person who would not be eligible for employment by the College under California Education Code, Section 45123. All persons

working on Project Work, including all employees hired by a Contractor (or referred by a Signatory Union) to work on Project Work, shall be required to comply with all criminal background check certification requirements and policies of College for those persons who may come in contact with, or work in close proximity to, minors in the course of performing work on a Project. Contractors may refuse to employ any person who declines to comply with College's background check requirements or who is otherwise determined to be disqualified from participating in Project Work because of a disqualifying conviction. Similarly, College may ban or order the immediate removal of any person disqualified from working in the presence of, or in close proximity to, minors.

ARTICLE 4 UNION ACCESS AND STEWARDS

Section 4.1 Access to Project Sites: Authorized representatives of the Union shall have access to Project Work, provided that they do not interfere with the work of employees and further provided that such representatives fully comply with posted visitor, security and safety rules.

Section 4.2 Stewards:

(a) Each signatory Union shall have the right to dispatch a working journeyperson as a steward for each shift, and shall notify the Contractor in writing of the identity of the designated steward or stewards prior to the assumption of such person's duties as steward. Such designated steward or stewards shall not exercise any supervisory functions. There will be no non-working stewards. Stewards will receive the regular rate of pay for their respective crafts.

(b) In addition to his/her work as an employee, the steward should have the right to receive, but not to solicit, complaints or grievances and to discuss and assist in the adjustment of the same with the employee's appropriate supervisor. Each steward should be concerned only with the employees of the steward's Contractor and, if applicable, subcontractor(s), and not with the employees of any other Contractor. A Contractor will not discriminate against the steward in the proper performance of his/her Union duties.

(c) When a Contractor has multiple, non-contiguous work locations at one site, the Contractor may request and the Union shall appoint such additional working stewards as the Contractor requests to provide independent coverage of one or more such locations. In such cases, a steward may not service more than one work location without the approval of the Contractor.

(d) The stewards shall not have the right to determine when overtime shall be worked or who shall work overtime.

Section 4.3 Steward Layoff/Discharge: The relevant Contractor agrees to notify the appropriate Union twenty-four (24) hours before the layoff of a steward, except in the case of disciplinary discharge for just cause. If the steward is protected against such layoff by the provisions of the applicable Schedule A, such provisions shall be recognized when the steward

possesses the necessary qualifications to perform the remaining work. In any case in which the steward is discharged or disciplined for just cause, the appropriate Union will be notified immediately by the Contractor, and such discharge or discipline shall not become final (subject to any later filed grievance) until twenty-four (24) hours after such notice has been given.

Section 4.4 Employees on Non-Project Work: On work where the personnel of the College may be working in close proximity to the construction activities covered by this Agreement, the Union agrees that the Union representatives, stewards, and individual workers will not interfere with the College personnel, or with personnel employed by the any other employer not a Party to this Agreement.

ARTICLE 5 WAGES AND BENEFITS

Section 5.1 Wages: All employees covered by this Agreement shall be classified in accordance with work performed and paid by the Contractors the hourly wage rates for those classifications in compliance with the applicable prevailing wage rate determination established pursuant to applicable law. If a prevailing rate increases under law, the Contractor shall pay that rate as of its effective date under the law. Notwithstanding any other provision of this Agreement, this Agreement does not relieve Contractors directly signatory to one or more of the Schedule A Agreements from paying all wages set forth in such Agreements.

Section 5.2 Benefits:

(a) Contractors shall pay contributions to the established employee benefit funds in the amounts designated in the appropriate Schedule A and make all employee authorized deductions in the amounts designated in the appropriate Schedule A; provided, however, that such contributions shall not exceed the contribution amounts set forth in the applicable prevailing wage determination. Notwithstanding any other provision of this Agreement, Contractors directly signatory to one or more of the Schedule A Agreements are required to make all contributions set forth in those Schedule A Agreements without reference to the forgoing. Bona fide benefit plans with joint trustees or authorized employee deduction programs established or negotiated under the applicable Schedule A or by the Parties to this Agreement during the life of this Agreement may be added.

(b) The Contractor adopts and agrees to be bound by the written terms of the applicable, legally established, trust agreement(s) specifying the detailed basis on which payments are to be made into, and benefits paid out of, such trust funds for its employees. The Contractor authorizes the Parties to such trust funds to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor.

(c) Each Contractor and subcontractor is required to certify to the Community Workforce Coordinator that it has paid all benefit contributions due and owing to the appropriate Trust(s) prior to the receipt of its final payment and/or retention. Further, upon timely notification by a Union to the Community Workforce Coordinator, the Community Workforce

Coordinator shall work with any prime Contractor or subcontractor who is delinquent in payments to assure that proper benefit contributions are made, to the extent of requesting the College or the prime Contractor to withhold payments otherwise due such Contractor, until such contributions have been made or otherwise guaranteed.

Section 5.3 Wage Premiums: Wage premiums, including but not limited to pay based on height of work, hazard pay, scaffold pay and special skills shall not be applicable to work under this Agreement, except to the extent provided for in any applicable prevailing wage determination.

Section 5.4 Compliance with Prevailing Wage Laws: The Parties agree that the Community Workforce Coordinator shall monitor the compliance by all Contractors and subcontractors with all applicable federal and state prevailing wage laws and regulations, and that such monitoring shall include Contractors engaged in what would otherwise be Project Work but for the exceptions to Agreement coverage in Section 2.2. All complaints regarding possible prevailing wage violations shall be referred to the Community Workforce Coordinator for processing, investigation and resolution, and if not resolved within thirty (30) calendar days, may be referred by any party to the state labor commissioner.

ARTICLE 6 HOURS OF WORK, OVERTIME, SHIFTS AND HOLIDAYS

Section 6.1 Hours of Work: Eight (8) hours per day between the hours of 6:00 a.m. and 5:30 p.m., plus one-half (½) hour unpaid lunch approximately mid-way through the shift, shall constitute the standard work day. Forty (40) hours per week shall constitute a regular week's work. The work week will start on Sunday and conclude on Saturday. The foregoing provisions of this Article are applicable unless otherwise provided in the applicable prevailing wage determination, or unless changes are permitted by law and such are agreed upon by the Parties. Nothing herein shall be construed as guaranteeing any employee eight (8) hours per day or forty (40) hours per week, or a Monday through Friday work standard work schedule.

Section 6.2 Place of Work: Employees shall be at their place of work (as designated by the Contractor) at the starting time and shall remain at their place of work, performing their assigned functions, until quitting time. The place of work is defined as the gang or tool box or equipment at the employee's assigned work location or the place where the foreman gives instructions. The Parties reaffirm their policy of a fair day's work for a fair day's wage. There shall be no pay for time not worked unless the employee is otherwise engaged at the direction of the Contractor.

Section 6.3 Overtime: Overtime shall be paid in accordance with the requirements of the applicable prevailing wage determination. There shall be no restriction on the Contractor's scheduling of overtime or the nondiscriminatory designation of employees who will work overtime. There shall be no pyramiding of overtime (payment of more than one form of overtime compensation for the same hour) under any circumstances.

Section 6.4 Shifts and Alternate Work Schedules:

(a) Alternate starting and quitting time and/or shift work may be performed at the option of the Contractor upon three (3) days' prior notice to the affected Union(s), unless a shorter notice period is provided for in the applicable Schedule A, and shall continue for a period of not less than five (5) working days. Saturdays and Sundays, if worked, may be used for establishing the five (5) day minimum work shift. If two shifts are worked, each shall consist of eight (8) hours of continuous work exclusive of a one-half (½) hour non-paid lunch period, for eight (8) hours pay. The last shift shall start on or before 6:00 p.m. The first shift starting at or after 6:00 a.m. is designated as the first shift, with the second shift following.

(b) Contractors, the Council and the Union recognize the economic impact upon the College and College residents of the massive Project being undertaken by the College and agree that all Parties to this Agreement desire and intend Project Work to be undertaken in a cost efficient and effective manner to the highest standard of quality and craftsmanship. Recognizing the economic conditions, the Parties agree that, except to the extent permitted by law, employees performing Project Work shall not be entitled to any differentials or additional pay based upon the shift or work schedule of the employees. Instead, all employees working on Project Work shall be paid at the same base rate regardless of shift or work schedule worked.

(c) Because of operational necessities, the second shift may, at the College's direction, be scheduled without the preceding shift having been worked. It is recognized that the College's operations and/or mitigation obligations may require restructuring of normal work schedules. Except in an emergency or when specified in the College's bid specification, the Contractor shall give affected Union(s) at least three (3) days' notice of such schedule changes.

Section 6.5 Holidays: Recognized holidays on this Project shall be those set forth and governed by the prevailing wage determination(s) applicable to this Project, unless or until such may be, and are, revised by mutual agreement of the Parties to this Agreement.

Section 6.6 Show-up Pay:

(a) Except as otherwise required by State law, Employees reporting for work and for whom no work is provided, except when given prior notification not to report to work, shall receive two (2) hours pay at the regular straight time hourly rate. Employees who are directed to start work shall receive four (4) hours of pay at the regular straight time hourly rate. Employees who work beyond four (4) hours shall be paid for actual hours worked. Whenever reporting pay is provided for employees, they will be required to remain at the Project Site and available for work for such time as they receive pay, unless released earlier by the principal supervisor of the Contractor(s) or his/her designated representative. Each employee shall furnish his/her Contractor with his/her current address and telephone number, and shall promptly report any changes to the Contractor.

(b) An employee called out to work outside of his/her shift shall receive a minimum of two (2) hours pay at the appropriate rate. This does not apply to time worked as an extension of (before or after) the employee's normal shift.

(c) When an employee leaves the job or work location of his/her own volition, or is discharged for cause or is not working as a result of the Contractor's invocation of Article XII, Section 12.3, the employee shall only be paid for actual time worked.

Section 6.7 Meal Periods: The Contractor will schedule a meal period of no more than one-half hour duration at the work location at approximately mid-point of the schedule shift; provided, however, that the Contractor may, for efficiency of the operation, establish a schedule which coordinates the meal periods of two or more crafts. An employee may be required to work through his meal period because of an emergency or a threat to life or property, or for such other reasons as are in the applicable Schedule A, and if he is so required, he shall be compensated in the manner established in the applicable Schedule A.

Section 6.8 Make-up Days: To the extent permitted by the applicable general wage determination, when an employee has been prevented from working for reasons beyond the control of the employer, including, but not limited to inclement weather or other natural causes, during the regularly scheduled work week, a make-up day may be worked on a non-regularly scheduled work day for which an employee shall receive eight (8) hours pay at the straight time rate of pay or any premium rate required for such hours under the prevailing wage law.

ARTICLE 7 WORK STOPPAGES AND LOCK-OUTS

Section 7.1 No Work Stoppages or Disruptive Activity: The Council and the Unions agree that neither they, and each of them, nor their respective officers or agents or representatives, shall incite or encourage, condone or participate in any strike, walk-out, slow-down, picketing, observing picket lines or other activity of any nature or kind whatsoever, for any cause or dispute whatsoever with respect to or in any way related to Project Work, or which interferes with or otherwise disrupts Project Work, or with respect to or related to the College or Contractors or subcontractors, including, but not limited to economic strikes, unfair labor practice strikes, safety strikes, sympathy strikes and jurisdictional strikes whether or not the underlying dispute is subject to arbitration. Any such actions by the Council, or Unions, or their members, agents, representatives or the employees they represent shall constitute a violation of this Agreement. The Council and the Union shall take all steps necessary to obtain compliance with this Article and neither should be held liable for conduct for which it is not responsible.

Section 7.2 Employee Violations: The Contractor may discharge any employee violating Section 7.1 above and any such employee will not be eligible for rehire under this Agreement.

Section 7.3 Standing to Enforce: The College, the Community Workforce Coordinator, or any Contractor affected by an alleged violation of Section 7.1 shall have standing and the right to enforce the obligations established therein.

Section 7.4 Expiration of Schedule A's: If the Schedule A Agreement, or any local, regional, and other applicable collective bargaining agreements expire during the term of the Project, the Union(s) agree that there shall be no work disruption of any kind as described in Section 7.1 above as a result of the expiration of any such agreement(s) having application on this Project

and/or failure of the involved Parties to that agreement to reach a new contract. Terms and conditions of employment established and set at the time of bid shall remain established and set. Otherwise to the extent that such agreement does expire and the Parties to that agreement have failed to reach concurrence on a new contract, work will continue on the Project on one of the following two (2) options, both of which will be offered by the Unions involved to the Contractors affected:

(a) Each of the Unions with a contract expiring must offer to continue working on the Project under interim agreements that retain all the terms of the expiring contract, except that the Unions involved in such expiring contract may each propose wage rates and employer contribution rates to employee benefit funds under the prior contract different from what those wage rates and employer contributions rates were under the expiring contracts. The terms of the Union's interim agreement offered to Contractors will be no less favorable than the terms offered by the Union to any other employer or group of employers covering the same type of construction work in Los Angeles County.

(b) Each of the Unions with a contract expiring must offer to continue working on the Project under all the terms of the expiring contract, including the wage rates and employer contribution rates to the employee benefit funds, if the Contractor affected by that expiring contract agrees to the following retroactive provisions: if a new Schedule A Agreement, local, regional or other applicable labor agreement for the industry having application at the Project is ratified and signed during the term of this Agreement and if such new labor agreement provides for retroactive wage increases, then each affected Contractor shall pay to its employees who performed work covered by this Agreement at the Project during the hiatus between the effective dates of such expired and new labor agreements, an amount equal to any such retroactive wage increase established by such new labor agreement, retroactive to whatever date is provided by the new labor agreement for such increase to go into effect, for each employee's hours worked on the Project during the retroactive period. All Parties agree that such affected Contractors shall be solely responsible for any retroactive payment to its employees.

(c) Some Contractors may elect to continue to work on the Project under the terms of the interim agreement option offered under paragraph (a) above and other Contractors may elect to continue to work on the Project under the retroactivity option offered under paragraph (b) above. To decide between the two options, Contractors will be given one week after the particular labor agreement has expired or one week after the Union has personally delivered to the Contractors in writing its specific offer of terms of the interim agreement pursuant to paragraph (a) above, whichever is the later date. If the Contractor fails to timely select one of the two options, the Contractor shall be deemed to have selected option (b).

Section 7.5 No Lockouts: Contractors shall not cause, incite, encourage, condone or participate in any lock-out of employees with respect to Project Work during the term of this Agreement. The term "lock-out" refers only to a Contractor's exclusion of employees in order to secure collective bargaining advantage, and does not refer to the discharge, termination or layoff of employees by the Contractor for any reason in the exercise of rights pursuant to any provision of this Agreement, or any other agreement, nor does "lock-out" include the College's decision to stop, suspend or discontinue any Project Work or any portion thereof for any reason.

Section 7.6 Best Efforts to End Violations:

(a) If a Contractor contends that there is any violation of this Article or Section 8.3, it shall notify, in writing, the Executive Secretary of the Council, the Senior Executive of the involved Union(s) and the Community Workforce Coordinator. The Executive Secretary and the leadership of the involved Union(s) will immediately instruct, order and use their best efforts to cause the cessation of any violation of the relevant Article.

(b) If the Union contends that any Contractor has violated this Article, it will notify the Contractor and the Community Workforce Coordinator, setting forth the facts which the Union contends violate the Agreement, at least twenty-four (24) hours prior to invoking the procedures of Section 7.8. The Community Workforce Coordinator shall promptly order the involved Contractor(s) to cease any violation of the Article.

Section 7.7 Withholding of services for failure to pay wages and fringe benefits:

Notwithstanding any provision of this Agreement to the contrary, it shall not be a violation of this Agreement for any Union to withhold the services of its members (but not the right to picket) from a particular Contractor who:

(a) fails to timely pay its weekly payroll; or

(b) fails to make timely payments to the Union's Joint Labor/Management Trust Funds in accordance with the provisions of the applicable Schedule A Agreements. Prior to withholding its members' services for the Contractor's failure to make timely payments to the Union's Joint Labor/Management Trust Funds, the Union shall give at least ten (10) days (unless a lesser period of time is provided in the Union's Schedule A Agreement, but in no event less than forty-eight (48) hours) written notice of such failure to pay by registered or certified mail, return receipt requested, and by facsimile transmission to the involved Contractor and the College. Union will meet within the ten (10) day period to attempt to resolve the dispute.

(c) Upon the payment of the delinquent Contractor of all monies due and then owing for wages and/or fringe benefit contributions, the Union shall direct its members to return to work and the Contractor shall return all such members back to work.

Section 7.8 Expedited Enforcement Procedure: Any party, including the College, which is an intended beneficiary of this Article, or the Community Workforce Coordinator, may institute the following procedures, in lieu of or in addition to any other action at law or equity, when a breach of Section 7.1, 7.5 or Section 8.3 is alleged.

(a) The party invoking this procedure shall notify Lou Zigman, who has been selected by the negotiating Parties, and whom the Parties agree shall be the permanent arbitrator under this procedure. If the permanent arbitrator is unavailable at any time, the party invoking this procedure shall notify one of the alternates selected by the Parties, in that order on an alternating basis. Notice to the arbitrator shall be by the most expeditious means available, with notices to the Parties alleged to be in violation, and to the Council if it is a Union alleged to be in

violation. For purposes of this Article, written notice may be given by telegram, facsimile, hand-delivery or overnight mail and will be deemed effective upon receipt.

(b) Upon receipt of said notice, the arbitrator named above or his/her alternate shall sit and hold a hearing within twenty-four (24) hours if it is contended that the violation still exists, but not sooner than twenty-four (24) hours after notice has been dispatched to the Council of the involved Union(s) and/or Contractor as required by Section 8.6, above.

(c) The arbitrator shall notify the Parties of the place and time chosen for this hearing. Said hearing shall be completed in one session, which, with appropriate recesses at the arbitrator's discretion, shall not exceed twenty-four (24) hours unless otherwise agreed upon by all Parties. A failure of any Party or Parties to attend said hearings shall not delay the hearing of evidence or the issuance of any award by the arbitrator.

(d) The sole issue at the hearing shall be whether or not a violation of Sections 7.1, 7.5 or Section 8.3 has in fact occurred. The arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages. The Award shall be issued in writing within three (3) hours after the close of the hearing, and may be issued without an opinion. If any party desires a written opinion, one shall be issued within fifteen (15) days, but its issuance shall not delay compliance with, or enforcement of, the Award. The arbitrator may order cessation of the violation of the Article and other appropriate relief, and such Award, upon issuance, shall be served on all Parties by hand or registered mail.

(e) Such Award shall be final and binding on all Parties and may be enforced by any court of competent jurisdiction upon the filing of this Agreement and all other relevant documents referred to herein above in the following manner. Written notice of the filing of such enforcement proceedings shall be given to the other party. In any judicial proceeding to obtain a temporary order enforcing the arbitrator's Award as issued under Section 7.8(d) of this Article, all Parties waive the right to a hearing and agree that such proceedings may be ex parte. Such agreement does not waive any Party's right to participate in a hearing for a final order of enforcement. The court's order or orders enforcing the arbitrator's award shall be served on all Parties by hand or by delivery to their address as shown on this Agreement (for a Union), as shown in their business contract for work under this Agreement (for a Contractor) and to the representing Union (for an employee), by certified mail by the Party or Parties first alleging the violation.

(f) Any rights created by statute or law governing arbitration proceedings inconsistent with the above procedure or which interfere with compliance hereto are hereby waived by the Parties to whom they accrue.

(g) The fees and expenses of the arbitrator shall be equally divided between the party or Parties initiating this procedure and the respondent Party or Parties.

ARTICLE 8
WORK ASSIGNMENTS AND JURISDICTIONAL DISPUTES

Section 8.1 Assignment of Work: The assignment of Project Work will be solely the responsibility of the Employer performing the work involved; and such work assignments will be in accordance with the Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (the “Plan”) or any successor Plan.

Section 8.2 The Plan: All jurisdictional disputes on this Project between or among the building and construction trades Unions and the Employers parties to this Agreement, shall be settled and adjusted according to the present Plan established by the Building and Construction Trades Department or any other plan or method of procedure that may be adopted in the future by the Building and Construction Trades Department. Decisions rendered shall be final, binding and conclusive on the Employers and Unions parties to this Agreement.

(a) If a dispute arising under this Article involves the Southwest Regional Council of Carpenters or any of its subordinate bodies, an Arbitrator shall be chosen by the procedures specified in Article V, Section 5, of the Plan from a list composed of John Kagel, Thomas Angelo, Robert Hirsch, and Thomas Pagan, and the Arbitrator’s hearing on the dispute shall be held at the offices of the applicable Building and Construction Trades Council within fourteen (14) days of the selection of the Arbitrator. All other procedures shall be as specified in the Plan.

Section 8.3 No Work Disruption Over Jurisdiction: All jurisdictional disputes shall be resolved without the occurrence of any strike, work stoppage, or slow-down of any nature, and the Employer’s assignment shall be adhered to until the dispute is resolved. Individuals violating this section shall be subject to immediate discharge.

Section 8.4 Pre-Job Conferences: As provided in Article 16, each Employer will conduct a pre-job conference with the Council prior to commencing work. The Primary Employer and the Owner will be advised in advance of all such conferences and may participate if they wish. Pre-job conferences for different Employers may be held together.

Section 8.5 Resolution of Jurisdictional Disputes: If any actual or threatened strike, sympathy strike, work stoppage, slow down, picketing, hand-billing or otherwise advising the public that a labor dispute exists, or interference with the progress of Project Work by reason of a jurisdictional dispute or disputes occurs, the Parties shall exhaust the expedited procedures set forth in the Plan, if such procedures are in the plan then currently in effect, or otherwise as in Article 7 above.

ARTICLE 9
MANAGEMENT RIGHTS

Section 9.1 Contractor and College Rights: The Contractors and the College have the sole and exclusive right and authority to oversee and manage construction operations on Project Work without any limitations unless expressly limited by a specific provision of this Agreement. In addition to the following and other rights of the Contractors enumerated in this Agreement,

the Contractors expressly reserve their management rights and all the rights conferred upon them by law. The Contractor's rights include, but are not limited to, the right to:

- (a) Plan, direct and control operations of all work;
- (b) Hire, promote, transfer and layoff their own employees, respectively, as deemed appropriate to satisfy work and/or skill requirements;
- (c) Promulgate and require all employees to observe reasonable job rules and security and safety regulations;
- (d) Discharge, suspend or discipline their own employees for just cause;
- (e) Utilize, in accordance with College approval, any work methods, procedures or techniques, and select, use and install any types or kinds of materials, apparatus or equipment, regardless of source of manufacture or construction; assign and schedule work at their discretion; and
- (f) Assign overtime, determine when it will be worked and the number and identity of employees engaged in such work, subject to such provisions in the applicable Schedule A(s) requiring such assignments be equalized or otherwise made in a nondiscriminatory manner.

Section 9.2 Specific College Rights: In addition to the following and other rights of the College enumerated in this Agreement, the College expressly reserves its management rights and all the rights conferred on it by law. The College's rights (and those of the Contractor Administrator on its behalf) include but are not limited to the right to:

- (a) Inspect any construction site or facility to ensure that the Contractor follows the applicable safety and other work requirements;
- (b) Require Contractors to establish a different work week or shift schedule for particular employees as required to meet the operational needs of the Project Work at particular locations;
- (c) At its sole option, terminate, delay and/or suspend any and all portions of the Project Work at any time; prohibit some or all work on certain days or during certain hours of the day to accommodate the ongoing operations of the College's educational facilities and/or to mitigate the effect of ongoing Project Work on businesses and residents in the neighborhood of the Project site; and/or require such other operational or schedule changes it deems necessary, in its sole judgment, to effectively maintain its primary mission and remain a good neighbor to those in the area of its facilities. (In order to permit the Contractors and Unions to make appropriate scheduling plans, the College will provide the Community Workforce Coordinator, and the affected Contractor(s) and Union(s) with reasonable notice of any changes it requires pursuant to this section; provided, however, that if notice is not provided in time to advise employees not to report for work, show-up pay shall be due pursuant to the provision of Article 6, Section 6.6);

(d) Approve any work methods, procedures and techniques used by Contractors whether or not these methods, procedures or techniques are part of industry practices or customs; and

(e) Investigate and process complaints, through its Community Workforce Coordinator, in the matter set forth in Articles 7 and 10.

Section 9.3 Use of Materials: There should be no limitations or restriction by Union upon a Contractor's choice of materials or design, nor, regardless of source or location, upon the full use and utilization, of equipment, machinery, packaging, precast, prefabricated, prefinished, or preassembled materials, tools or other labor saving devices, subject to the application of the State Public Contracts and Labor Codes as required by law in reference to offsite construction. Generally, the onsite installation or application of such items shall be performed by the craft having jurisdiction over such work. The College and its Community Workforce Coordinator shall advise all Contractors of, and enforce as appropriate, the off-site application of the prevailing wage law as it affects Project Work.

Section 9.4 Special Equipment, Warranties and Guaranties:

(a) It is recognized that certain equipment of a highly technical and specialized nature may be installed at Project Work sites. The nature of the equipment, together with the requirements for manufacturer's warranties, may dictate that it be prefabricated, pre-piped and/or pre-wired and that it be installed under the supervision and direction of the College's and/or manufacturer's personnel. The Unions agree to install such equipment without incident.

(b) The Parties recognize that the Contractor will initiate from time to time the use of new technology, equipment, machinery, tools, and other labor-savings devices and methods of performing Project Work. The Union agrees that they will not restrict the implementation of such devices or work methods. The Unions will accept and will not refuse to handle, install or work with any standardized and/or catalogue: parts, assemblies, accessories, prefabricated items, preassembled items, partially assembled items, or materials whatever their source of manufacture or construction.

(c) If any disagreement between the Contractor and the Unions concerning the methods of implementation or installation of any equipment, or device or item, or method of work, arises, or whether a particular part or pre-assembled item is a standardized or catalog part or item, the work will precede as directed by the Contractor and the Parties shall immediately consult over the matter. If the disagreement is not resolved, the affected Union(s) shall have the right to proceed through the procedures set forth in Article 10.

ARTICLE 10 SETTLEMENT OF GRIEVANCES AND DISPUTES

Section 10.1 Cooperation and Harmony on Site:

(a) This Agreement is intended to establish and foster continued close cooperation between management and labor. The Council shall assign a representative to this Project for the purpose of assisting the Unions, and working with the Community Workforce Coordinator, together with the Contractors, to complete the construction of the Project economically, efficiency, continuously and without any interruption, delays or work stoppages.

(b) The Community Workforce Coordinator, the Contractors, Unions, and employees collectively and individually, realize the importance to all Parties of maintaining continuous and uninterrupted performance Project Work, and agree to resolve disputes in accordance with the grievance provisions set forth in this Article or, as appropriate, those of Article 7 or 8.

(c) The Community Workforce Coordinator shall oversee the processing of grievances under this Article and Articles 7 and 8, including the scheduling and arrangements of facilities for meetings, selection of the arbitrator from the agreed-upon panel to hear the case, and any other administrative matters necessary to facilitate the timely resolution of any dispute; provided, however, it is the responsibility of the principal parties to any pending grievance to insure the time limits and deadlines are met.

Section 10.2 Processing Grievances: Any questions arising out of and during the term of this Agreement involving its interpretation and application, which includes applicable provisions of the Schedule A's, but not jurisdictional disputes or alleged violations of Section 7.1 and 7.5 and similar provisions, shall be considered a grievance and subject to resolution under the following procedures.

Step 1. Employee Grievances: When any employee subject to the provisions of this Agreement feels aggrieved by an alleged violation of this Agreement, the employee shall, through his Union business representative or, job steward, within ten (10) working days after the occurrence of the violation, give notice to the work site representative of the involved Contractor stating the provision(s) alleged to have been violated. A business representative of the Union or the job steward and the work site representative of the involved Contractor shall meet and endeavor to adjust the matter within ten (10) working days after timely notice has been given. If they fail to resolve the matter within the prescribed period, the grieving party may, within ten (10) working days thereafter, pursue Step 2 of this grievance procedure provided the grievance is reduced to writing, setting forth the relevant information, including a short description thereof, the date on which the alleged violation occurred, and the provision(s) of the Agreement alleged to have been violated. Grievances and disputes settled at Step 1 shall be non-precedential except as to the parties directly involved.

Union or Contractor Grievances: Should the Union(s) or any Contractor have a dispute with the other Party(ies) and, if after conferring within ten (10) working days after the disputing Party knew or should have known of the facts or occurrence giving rise to the dispute, a settlement is not reached within five (5) working days, the dispute shall be reduced to writing and processed to Step 2 in the same manner as outlined in 1(a) above for the adjustment of an employee complaint.

Step 2. The business manager of the involved Union or his designee, together with the site representative of the involved Contractor, and the labor relations representative of the Community Workforce Coordinator, shall meet within seven (7) working days of the referral of the dispute to this second step to arrive at a satisfactory settlement thereof. If the Parties fail to reach an agreement, the dispute may be appealed in writing in accordance with the provisions of Step 3 within seven (7) calendar days after the initial meeting at Step 2.

Step 3. (a) If the grievance shall have been submitted but not resolved under Step 2, either the Union or Contractor Party may request in writing to the Community Workforce Coordinator (with copy (ies) to the other Party (ies)) within seven (7) calendar days after the initial Step 2 meeting, that the grievance be submitted to an arbitrator selected from the agreed upon list below, on a rotational basis in the order listed. Those arbitrators are: (1) Louis Zigman; (2) Sara Adler; (3) Fredric Horowitz; (4) Edna Francis; (5) William Rule; (6) Walt Daugherty; and (7) Michael Rappaport. The decision of the arbitrator shall be final and binding on all Parties and the fee and expenses of such arbitrations shall be borne equally by the involved Contractor(s) and the involved Union(s).

(b) Failure of the grieving Party to adhere to the time limits established herein shall render the grievance null and void. The time limits established herein may be extended only by written consent of the Parties involved at the particular step where the extension is agreed upon. The arbitrator shall have the authority to make decisions only on issues presented and shall not have the authority to change, amend, add to or detract from any of the provisions of this Agreement.

(c) The fees and expenses incurred by the arbitrator, as well as those jointly utilized by the Parties (i.e., conference room, court reporter, etc.) in arbitration, shall be divided equally by the Parties to the arbitration, including Union(s) and Contractor(s) involved.

Section 10.3 Limit on Use of Procedures: Procedures contained in this Article shall not be applicable to any alleged violation of Articles 7 or 8, with a single exception that any employee discharged for violation of Section 7.2, or Section 8.3, may resort to the procedures of this Article to determine only if he/she was, in fact, engaged in that violation.

Section 10.4 Notice: The Community Workforce Coordinator (and the College, in the case of any grievance regarding the Scope of this Agreement) shall be notified by the involved Contractor of all actions at Steps 2 and 3, and further, the Community Workforce Coordinator shall, upon its own request, be permitted to participate fully as a party in all proceedings at such steps.

ARTICLE 11 REGULATORY COMPLIANCE

Section 11.1 Compliance with All Laws: The Council and all Unions, Contractors, subcontractors and their employed shall comply with all applicable federal and state laws, ordinances and regulations including, but not limited to, those relating to safety and health, employment and applications for employment. All employees shall comply with the safety

regulations established by the College, the Community Workforce Coordinator or the Contractor. Employees must promptly report any injuries or accidents to a supervisor.

Section 11.2 Monitoring Compliance: The Parties agree that the College shall require, and that the Community Workforce Coordinator and Council shall monitor, compliance by all Contractors and subcontractors with all federal and state laws regulation that, from time to time may apply to Project Work. It shall be the responsibility of both the Council and the Community Workforce Coordinator (on behalf of the College) to investigate or monitor compliance with these various laws and regulations. The Council may recommend to the Community Workforce Coordinator and/or the College procedures to encourage and enforce compliance with these laws and regulations.

Section 11.3 Prevailing Wage Compliance: The Council or Union shall refer all complaints regarding any potential prevailing wage violation to the Community Workforce Coordinator, who on its own, or with the assistance of the College's labor compliance program, shall process, investigate and resolve such complaints, consistent with Article 5, Section 5.4. The Council or Union, as appropriate, shall be advised in a timely manner with regard to the facts and resolution, if any, of any complaint. It is understood that this Section does not restrict any individual rights as established under the State Labor Code, including the rights of an individual to file a complaint with the State Labor Commissioner or to file a grievance for such violation under the grievance procedure set forth in this Agreement.

Section 11.4 Violations of Law: Based upon a finding of violation by the College of a federal and state law, and upon notice to the Contractor that it or its subcontractors are in such violation, the College, in the absence of the Contractor or subcontractor remedying such violation, shall take such action as it is permitted by law or contract to encourage that Contractor to come into compliance, including, but not limited to, assessing fines and penalties, and/or removing the offending Contractor from Project Work. Additionally, in accordance with the Agreement between the College and the Contractor, the College may cause the Contractor to remove from Project Work any subcontractor who is in violation of state or federal law.

ARTICLE 12 SAFETY AND PROTECTION OF PERSON AND PROPERTY

Section 12.1 Safety:

(a) It shall be the responsibility of each Contractor to ensure safe working conditions and employee compliance with any safety rules contained herein or established by the College, the Community Workforce Coordinator or the Contractor. It is understood that employees have an individual obligation to use diligent care to perform their work in a safe manner and to protect themselves and the property of the Contractor and the College.

(b) Employees shall be bound by the safety, security and visitor rules established by the Contractor, the Community Workforce Coordinator and/or the College. These rules will be published and posted. An employee's failure to satisfy his/her obligations under this section will subject him/her to discipline, up to and including discharge.

(c) The Parties to this Agreement adopt the Los Angeles/Orange Counties Building and Construction Trades Council Approved Drug and Alcohol Testing Policy, a copy of which is attached hereto as **Attachment “D,”** and which shall be the policy and procedure utilized under this Agreement.

Section 12.2 Suspension of Work for Safety: A Contractor may suspend all or a portion of the job to protect the life and safety of employees. In such cases, employees will be compensated only for the actual time worked; provided, however, that where the Contractor requests employees to remain at the site and be available for work, the employees will be compensated for stand-by time at their basic hourly rate of pay.

Section 12.3 Water and Sanitary Facilities: The Contractor shall provide adequate supplies of drinking water and sanitary facilities for all employees as required by state law or regulation.

ARTICLE 13 TRAVEL AND SUBSISTENCE

Travel expenses, travel time, subsistence allowances, zone rates and parking reimbursements shall be paid in accordance with the applicable Schedule A Agreement unless superseded by the applicable prevailing wage determination.

ARTICLE 14 APPRENTICES

Section 14.1 Importance of Training: The Parties recognize the need to maintain continuing support of the programs designed to develop adequate numbers of competent workers in the construction industry, the obligation to capitalize on the availability of the local work force in the area served by the College, and the opportunities to provide continuing work under the construction program. To these ends, the Parties will facilitate, encourage, and assist local residents to commence and progress in Labor/Management Apprenticeship and/or training Programs in the construction industry leading to participation in such apprenticeship programs. The College, the Community Workforce Coordinator, other College consultants, and the Council, will work cooperatively to identify, or establish and maintain, effective programs and procedures for persons interested in entering the construction industry and which will help prepare them for the formal joint labor/management apprenticeship programs maintained by the signatory Unions.

Section 14.2 Use of Apprentices:

(a) Apprentices used on Projects under this Agreement shall be registered in Joint Labor Management Apprenticeship Programs approved by the State of California. Apprentices may comprise up to thirty percent (30%) of each craft’s work force at any time, unless the standards of the applicable joint apprenticeship committee confirmed by the Division of Apprenticeship Standards (“DAS”), establish a lower or higher maximum percentage, and where such is the case, the applicable Union should use its best efforts with the Joint Labor

Management apprenticeship committee and, if necessary, the DAS to permit up to thirty percent (30%) apprentices on the Project.

(b) The Unions agree to cooperate with the Contractor in furnishing apprentices as requested up to the maximum percentage. The apprentice ratio for each craft shall be in compliance, at a minimum, with the applicable provisions of the Labor Code relating to utilization of apprentices. The College shall encourage such utilization, and, both as to apprentices and the overall supply of experienced workers, the Community Workforce Coordinator will work with the Council to assure appropriate and maximum utilization of apprentices and the continuing availability of both apprentices and journey persons.

(c) The Parties agree that apprentices will not be dispatched to Contractors working under this Agreement unless there is a journeyman working on the project where the apprentice is to be employed who is qualified to assist and oversee the apprentice's progress through the program in which he is participating.

(d) All apprentices shall work under the direct supervision of a journeyman from the trade in which the apprentice is indentured. A journeyman shall be defined as set forth in the California Code of Regulations, Title 8 [apprenticeship], Section 205, which defines a journeyman as a person who has either completed an accredited apprenticeship in his or her craft, or has completed the equivalent of an apprenticeship in length and content of work experience and all other requirements in the craft which has workers classified as journeyman in the apprenticeship occupation. Should a question arise as to a journeyman's qualification under this subsection, the Contractor shall provide adequate proof evidencing the worker's qualification as a journeyman to the Construction Manager and the Council.

ARTICLE 15

WORK OPPORTUNITIES PROGRAM

Section 15.1 The Parties to this Agreement support the development of increased numbers of skilled construction workers from among Area Residents to meet the labor needs of the Project, specifically, and the requirements of the local construction industry generally. Towards that end the Parties agree to cooperate respecting the establishment of a work opportunities program for Area Residents, the primary goals of which shall be to maximize construction work opportunities for traditionally underrepresented members of the community. In furtherance of the foregoing, the Unions specifically agree to:

a) Encourage the referral and utilization, to the extent permitted by law and hiring hall practices, of qualified Area Residents as journeymen, and apprentices on the Project and entrance into such qualified apprenticeship and training programs as may be operated by signatory Unions; and

b) Work cooperatively with the College and other College consultants to identify, or establish and maintain, effective programs, events and procedures for persons interested in entering the construction industry; and

- c) Participate in College based job fairs, career days and outreach events; and
- d) Provide speakers to speak at College programs and Academies as requested; and
- e) Assist Area Residents in contacting pre-apprenticeship programs that utilize the Building Trades multi-craft core curriculum (MC3) and the Apprenticeship Training Committees for the crafts and trades they are interested in. The Unions shall assist Area Residents who are seeking Union jobs on the Project and Union membership in assessing their work experience and giving them credit for provable past experience in their relevant craft or trade, including experience gained working for non-union Contractors. The Unions shall put on their rolls qualified bona fide Area Residents for work on this Project; and
- f) Allow tours of their JACs as requested; and
- g) Provide a contact information list for all Union representatives and Joint Apprenticeship Committee representatives; and
- h) Support local events and programs designed to recruit and develop adequate numbers of competent workers in the construction industry.

ARTICLE 16 WORKING CONDITIONS

Section 16.1 Meal and Rest Periods: There will be no non-working times established during working hours except as may be required by applicable state law or regulations. Meal periods and Rest periods shall be as provided for in Wage Order 16. Individual coffee containers will be permitted at the employees' work location; however, there will be no organized coffee breaks.

Section 16.2 Work Rules: The College, the Community Workforce Coordinator, and/or relevant Contractor shall establish such reasonable work rules as they deem appropriate and not inconsistent with this Agreement. These rules will be posted at the work sites by the Contractor and may be amended thereafter as necessary. Failure to observe these rules and regulations by employees may be grounds for discipline up to and including discharge.

Section 16.3 Emergency Use of Tools and Equipment: There should be no restrictions on the emergency use of any tools by any qualified employee or supervisor, or on the use of any tools or equipment for the performance of work within the jurisdiction, provided the employee can safely use the tools and/or equipment involved and is in compliance with applicable governmental rules and regulations.

Section 16.4 Access Restrictions for Cars: Recognizing the nature of the work being conducted on the site, employee access by a private automobile may be limited to certain roads and/or parking areas.

ARTICLE 17
PRE-JOB CONFERENCES

Each Contractor will conduct a pre-job conference with the appropriate affected Union(s) prior to commencing work. The Council and the Construction Manager shall be advised in advance of all such conferences and may participate if they wish. All work assignments shall be disclosed by the Contractor at a pre-job conference held in accordance with industry practice. Should there be any formal jurisdictional dispute raised under Article VIII, the Construction Manager shall be promptly notified.

ARTICLE 18
LABOR/MANAGEMENT COOPERATION

Section 18.1 Joint Committee: The Parties to this Agreement shall establish a six (6) person Joint Administrative Committee (JAC). This JAC shall be comprised of three (3) representatives selected by the College and three (3) representatives selected by the Council to monitor compliance with the terms and conditions of this Agreement. Each representative shall designate an alternate who shall serve in his or her absence for any purpose contemplated by this Agreement.

Section 18.2 Functions of Joint Committee: The Committee shall meet on a schedule to be determined by the Committee or at the call of the joint chairs, to discuss the administration of the Agreement, the progress of the Project, general labor management problems that may arise, and any other matters consistent with this Agreement. Substantive grievances or disputes arising under Articles 7, 8 or 10 shall not be reviewed or discussed by this Committee, but shall be processed pursuant to the provisions of the appropriate Article. The Community Workforce Coordinator shall be responsible for the scheduling of the meetings, the preparation of the agenda topics for the meetings, with input from the Unions the Contractors and the College. Notice of the date, time and place of meetings, shall be given to the Committee members at least three (3) days prior to the meeting. The College should be notified of the meetings and invited to send a representative(s) to participate. The Community Workforce Coordinator shall prepare quarterly reports on apprentice utilization and the training and employment of College residents, and a schedule of Project Work and estimated number of craft workers needed. The Committee or an appropriate subcommittee, may review such reports and make any recommendations for improvement, if necessary, including increasing the availability of skilled trades, and the employment of local residents or other individuals who should be assisted with appropriate training to qualify for apprenticeship programs.

Section 18.3 Subcommittees: The Committee may form subcommittees to consider and advise the full Committee with regard to safety and health issues affecting the Project and other similar issues affecting the overall Project, including any workers' compensation program initiated under this Agreement.

ARTICLE 19
SAVINGS AND SEPARABILITY

Section 19.1 Savings Clause: It is not the intention of the College, the Community Workforce Coordinator, Contractor or the Union parties to violate any laws governing the subject matter of this Agreement. The Parties hereto agree that in the event any provision of this Agreement is finally held or determined to be illegal or void as being in contravention of any applicable law or regulation, the remainder of the Agreement shall remain in full force and effect unless the part or parts so found to be void are wholly inseparable from the remaining portions of this Agreement. Further, the Parties agree that if and when any provision(s) of this Agreement is finally held or determined to be illegal or void by a court of competent jurisdiction, the Parties will promptly enter into negotiations concerning the substantive effect of such decision for the purposes of achieving conformity with the requirements of any applicable laws and the intent of the Parties hereto. If the legality of this Agreement is challenged and any form of injunctive relief is granted by any court, suspending temporarily or permanently the implementation of this Agreement, then the Parties agree that all Project Work that would otherwise be covered by this Agreement should be continued to be bid and constructed without application of this Agreement so that there is no delay or interference with the ongoing planning, bidding and construction of any Project Work.

Section 19.2 Effect of Injunctions or Other Court Orders: The Parties recognize the right of the College to withdraw, at its absolute discretion, the utilization of the Agreement as part of any bid specification should a Court of competent jurisdiction issue any order, or any applicable statute which could result, temporarily or permanently in delay of the bidding, awarding and/or construction on the Project. Notwithstanding such an action by the College, or such court order or statutory provision, the Parties agree that the Agreement shall remain in full force and the fact on covered Project Work to the maximum extent legally possible.

ARTICLE 20
WAIVER

A waiver of or a failure to assert any provisions of this Agreement by any or all of the Parties hereto shall not constitute a waiver of such provision for the future. Any such waiver shall not constitute a modification of the Agreement or change in the terms and conditions of the Agreement and shall not relieve, excuse or release any of the Parties from any of their rights, duties or obligations hereunder.

ARTICLE 21
AMENDMENTS

The provisions of this Agreement can be renegotiated, supplemented, rescinded or otherwise altered only by mutual agreement in writing, hereafter signed by the negotiating Parties hereto.

ARTICLE 22
DURATION OF THE AGREEMENT

Section 22.1 Duration:

(a) This Agreement shall be effective from the date signed by all Parties and shall remain in effect for a period of five (5) years and shall continue in effect from year to year thereafter unless either Party provides written notice of its intent to terminate, sent no earlier than ninety (90) days or later than sixty (60) days prior to the termination date or successor termination date. Any covered Project awarded during the term of this Agreement shall continue to be covered hereunder, until completion of the Project, notwithstanding the expiration date of this Agreement.

(b) This Agreement may be extended by mutual consent of the College and the Unions for such further periods as the Parties shall agree to.

Section 22.2 Turnover and Final Acceptance of Completed Work:

(a) Construction of any phase, portion, section, or segment of Project Work shall be deemed complete when such phase, portion, section or segment has been turned over to the College by the Contractor and the College has accepted such phase, portion, section, or segment. As areas and systems of the Project are inspected and construction-tested and/or approved and accepted by the College or third parties with the approval of the College, the Agreement shall have no further force or effect on such items or areas, except when the Contractor is directed by the College to engage and repairs or modifications required by its contract(s) with the College.

(b) Notice of each final acceptance received by the Contractor will be provided to the Council with the description of what portion, segment, etc. has been accepted. Final acceptance may be subject to a "punch" list, and in such case, the Agreement will continue to apply to each such item on the list until it is completed to the satisfaction of the College and Notice of Acceptance is given by the College or its representative to the Contractor. At the request of the Union, complete information describing any "punch" list work, as well as any additional work required of a Contractor at the direction of the College pursuant to (a) above, involving otherwise turned-over and completed facilities which have been accepted by the College, will be available from the Community Workforce Coordinator.

IN WITNESS whereof the Parties have caused this Continuity of Work Agreement to be executed as of the date and year above stated.

ANTELOPE VALLEY COLLEGE

LOS ANGELES/ORANGE COUNTIES
BUILDING & CONSTRUCTION
TRADES COUNCIL

By: _____

By: _____
Ron Miller, Executive Secretary

Dated: _____

Dated: _____

LOS ANGELES/ORANGE COUNTIES BUILDING AND CONSTRUCTION
TRADES COUNCIL CRAFT UNIONS AND DISTRICT COUNCILS

- Asbestos Heat & Frost Insulators (Local 5) _____
- Boilermakers (Local 92) _____
- Bricklayers & Allied Craftworkers (Local 4) _____
- Cement Masons (Local 600) _____
- Electricians (Local 11) _____
- Elevator Constructors (Local 18) _____
- Gunite Workers (Local 345) _____
- Iron Workers (Reinforced – Local 416) _____
- Iron Workers (Structural – Local 433) _____
- District Council of Laborers _____
- Laborers (Local 300) _____
- Operating Engineers (Local 12) _____
- Operating Engineers (Local 12) _____
- Operating Engineers (Local 12) _____
- Painters & Allied Trades DC 36 _____
- Pipe Trades (Local 250) _____
- Pipe Trades (Local 345) _____
- Pipe Trades (Plumbers Local 761) _____
- Pipe Trades (Sprinkler Fitters Local 709) _____
- Plasterers (Local 200) _____
- Plaster Tenders (Local 1414) _____
- Roofers & Waterproofers (Local 36) _____
- Sheet Metal Workers (Local 105) _____
- Teamsters (Local 986) _____
- Southwest Regional Council of Carpenters _____

ATTACHMENT A
LETTER OF ASSENT

To be signed by all contractors awarded work covered by the
Community Workforce Agreement prior to commencing work.

[Contractor's Letterhead]
Community Workforce Coordinator
C/O Antelope Valley College
3041 West Ave K
Lancaster, CA 93536

Attn: _____

Re: Community Workforce Agreement - Letter of Assent

Dear Sir:

This is to confirm that [name of company] agrees to be party to and bound by the Antelope Valley College Community Workforce Agreement effective _____, 2017, as such Agreement may, from time to time, be amended by the negotiating parties or interpreted pursuant to its terms. Such obligation to be a party and bound by this Agreement shall extend to all work covered by the Agreement undertaken by this Company on the project and this Company shall require all of its contractors and subcontractors of whatever tier to be similarly bound for all work within the scope of the Agreement by signing and furnishing to you an identical Letter of Assent prior to their commencement of work.

Sincerely,

[Name of Construction Company]

By: _____

Name: _____

Title: _____

Contractor State License No. _____

[Copies of this letter must be submitted to the Community Workforce Coordinator and to the Council per Section 2.5(b).]

ATTACHMENT B
Local Resident Zip Codes

COLLEGE SERVICE AREA ZIP CODES

(Tier 1)
[to be inserted]

GREATER ANTELOPE VALLEY AREA ZIP CODES

(Tier 2)

91390	93534	93554
93501	93535	93560
93510	93536	93591
93523	93543	
93532	93553	

THE REMAINING AREA ZIP CODES IN LOS ANGELES COUNTY

(Tier 3)

ATTACHMENT C

**ANTELOPE VALLEY COLLEGE
CRAFT REQUEST FORM**

TO THE CONTRACTOR: Please complete and fax this form to the applicable union to request craft workers that fulfill the hiring requirements for this project. After faxing your request, please call the Union to verify receipt and substantiate their capacity to furnish workers as specified below. Please print your Fax Transmission Verification Reports and keep copies for your records.

The Antelope Valley College Community Workforce Agreement establishes a goal that 40% of all of the labor and craft positions shall be from qualified workers residing, as well as “Veterans” and “Student Graduates,” regardless of where they reside: first, “Area Residents” which reside in those first tier zip codes which cover the College service area, as attached hereto, second, within the Greater Antelope Valley area, as reflected on the attached list of zip codes, third, in the remainder of the County of Los Angeles. For Dispatch purposes, employees residing within any of these three (3) areas, as well as Veterans and Student Graduates, regardless of where they reside, shall be referred to as Local Residents.

TO THE UNION: Please complete the “Union Use Only” section on the next page and fax this form back to the requesting Contractor. Be sure to retain a copy of this form for your records.

CONTRACTOR USE ONLY

To: Union Local # _____ **Fax#** () _____ **Date:** _____
Cc: Community Workforce Coordinator
From: Company: _____ Issued By: _____
 Contact Phone: () _____ Contact Fax: () _____

PLEASE PROVIDE ME WITH THE FOLLOWING UNION CRAFT WORKERS.

Craft Classification (i.e., plumber, painter, etc.)	Journeyman or Apprentice	Local Resident or General Dispatch	Number of workers needed	Report Date	Report Time
TOTAL WORKERS REQUESTED = _____					

Please have worker(s) report to the following work address indicated below:

Project Name: _____ Site: _____ Address: _____
 Report to: _____ On-site Tel: _____ On-site Fax: _____
 Comment or Special Instructions: _____

UNION USE ONLY

Date dispatch request received:
Dispatch received by:
Classification of worker requested:
Classification of worker dispatched:

WORKER REFERRED

Name:		
Date worker was dispatched:		
Is the worker referred a: (check all that apply)		
JOURNEYMAN	Yes _____	No _____
APPRENTICE	Yes _____	No _____
AREA RESIDENT	Yes _____	No _____
VETERAN	Yes _____	No _____
STUDENT GRADUATE	Yes _____	No _____
GENERAL DISPATCH FROM OUT OF WORK LIST	Yes _____	No _____

[This form is not intended to replace a Union's Dispatch or Referral Form normally given to the employee when being dispatched to the jobsite.]

ATTACHMENT D

LOS ANGELES/ORANGE COUNTIES BUILDING AND CONSTRUCTION TRADES COUNCIL APPROVED DRUG AND ALCOHOL TESTING POLICY

The Parties recognize the problems which drug and alcohol abuse have created in the construction industry and the need to develop drug and alcohol abuse prevention programs. Accordingly, the Parties agree that in order to enhance the safety of the work place and to maintain a drug and alcohol free work environment, individual Employers may require applicants or employees to undergo drug and alcohol testing.

1. It is understood that the use, possession, transfer or sale of illegal drugs, narcotics, or other unlawful substances, as well as being under the influence of alcohol and the possession or consuming alcohol is absolutely prohibited while employees are on the Employer's job premises or while working on any jobsite in connection with work performed under the Community Workforce Agreement ("CWA").

2. No Employer may implement a drug testing program which does not conform in all respects to the provisions of this Policy.

3. No Employer may implement drug testing at any jobsite unless written notice is given to the Union setting forth the location of the jobsite, a description of the project under construction, and the name and telephone number of the Project Supervisor. Said notice shall be addressed to the office of each Union signing the CWA. Said notice shall be delivered in person or by registered mail before the implementation of drug testing. Failure to give such notice shall make any drug testing engaged in by the Employer a violation of the CWA, and the Employer may not implement any form of drug testing at such jobsite for the following six months.

4. An employer who elects to implement drug testing pursuant to this Agreement shall require all employees on the Project to be tested. With respect to individuals who become employed on the Project subsequent to the proper implementation of this drug testing program, such test shall be administered upon the commencement of employment on the project, whether by referral from a Union Dispatch Office, transfer from another project, or another method. Individuals who were employed on the project prior to the proper implementation of this drug testing program may only be subjected to testing for the reasons set forth in Paragraph 5(f) (1) through 5(f) (3) of this Policy. Refusal to undergo such testing shall be considered sufficient grounds to deny employment on the project.

5. The following procedure shall apply to all drug testing:

a. The Employer may request urine samples only. The applicant or employee shall not be observed when the urine specimen is given. An applicant or employee, at his or her sole option, shall, upon request, receive a blood test in lieu of a urine test. No employee of the Employer shall draw blood from a bargaining unit employee, touch or handle urine specimens, or

in any way become involved in the chain of custody of urine or blood specimens. A Union Representative, subject to the approval of the individual applicant or employee, shall be permitted to accompany the applicant or employee to the collection facility to observe the collection, bottling, and sealing of the specimen.

b. The testing shall be done by a laboratory approved by the National Institute on Drug Abuse (NIDA), which is chosen by the Employer and the Union.

c. An initial test shall be performed using the Enzyme Multiplied Immunoassay Technique (EMZT). In the event a question or positive result arises from the initial test, a confirmation test must be utilized before action can be taken against the applicant or employee. The confirmation test will be by Gas Chromatography Mass Spectrometry (GC/MS). Cutoff levels for both the initial test and confirmation test will be those established by the National Institute on Drug Abuse. Confirmed positive samples will be retained by the testing laboratory in secured long-term frozen storage for a minimum of one year. Handling and transportation of each sample must be documented through strict chain of custody procedures.

d. In the event of a confirmed positive test result the applicant or employee may request, within forty-eight (48) hours, a sample of his/her specimen from the testing laboratory for purposes of a second test to be performed at a second laboratory, designated by the Union and approved by NDA. The retest must be performed within ten (10) days of the request. Chain of custody for this sample shall be maintained by the Employer between the original testing laboratory and the Union's designated laboratory. Retesting shall be performed at the applicant's or employee's expense. In the event of conflicting test results the Employer may require a third test.

e. If, as a result of the above testing procedure, it is determined that an applicant or employee has tested positive, this shall be considered sufficient grounds to deny the applicant or employee his/her employment on the Project.

f. No individual who tests negative for drugs or alcohol pursuant to the above procedure and becomes employed on the Project shall again be subjected to drug testing with the following exceptions:

1. Employees who are involved in industrial accidents resulting in damage to plant, property or equipment or injury to him/herself or others may be tested pursuant to the procedures stated hereinabove.

2. The Employer may test employees following thirty (30) days advance written notice to the employee(s) to be tested and to the applicable Union. Notice to the applicable Union shall be as set forth in Paragraph 3 above and such testing shall be pursuant to the procedures stated hereinabove.

3. The Employer may test an employee where the Employer has reasonable cause to believe that the employee is impaired from performing his/her job. Reasonable cause shall be defined as exhibiting aberrant or unusual behavior, the type of which

is a recognized and accepted symptom of impairment (i.e., slurred speech, unusual lack of muscular coordination, etc.). Such behavior must be actually observed by at least two persons, one of whom shall be a Supervisor who has been trained to recognize the symptoms of drug abuse or impairment and the other of whom shall be the job steward. If the job steward is unavailable or there is no job steward on the project the other person shall be a member of the applicable Union's bargaining unit. Testing shall be pursuant to the procedures stated hereinabove. Employees who are tested pursuant to the exceptions set forth in this paragraph and who test positive will be removed from the Employer's payroll.

g. Applicants or employees who do not test positive shall be paid for all time lost while undergoing drug testing. Payment shall be at the applicable wage and benefit rates set forth in the applicable Union's Master Labor Agreement. Applicants who have been dispatched from the Union and who are not put to work pending the results of a test will be paid waiting time until such time as they are put to work. It is understood that an applicant must pass the test as a condition of employment. Applicants who are put to work pending the results of a test will be considered probationary employees.

6. The employers will be allowed to conduct periodic job site drug testing on the Project under the following conditions:

a. The entire jobsite must be tested, including any employee or subcontractor's employee who worked on that project three (3) working days before or after the date of the test;

b. Jobsite testing cannot commence sooner than thirty (30) days after start of the work on the Project;

c. Prior to start of periodic testing, a business representative will be allowed to conduct an educational period on company time to explain periodic jobsite testing program to affected employees;

d. Testing shall be conducted by a N.I.D.A. certified laboratory, pursuant to the provisions set forth in Paragraph 5 hereinabove.

e. Only two periodic tests may be performed in a twelve month period.

7. It is understood that the unsafe use of prescribed medication, or where the use of prescribed medication impairs the employee's ability to perform work, is a basis for the Employer to remove the employee from the jobsite.

8. Any grievance or dispute which may arise out of the application of this Agreement shall be subject to the grievance and arbitration procedures set forth in the CWA.

9. The establishment or operation of this Policy shall not curtail any right of any employee found in any law, rule or regulation. Should any part of this Agreement be found unlawful by a court of competent jurisdiction or a public agency having jurisdiction over the

parties, the remaining portions of the Agreement shall be unaffected and the parties shall enter negotiations to replace the affected provision.

10. Present employees, if tested positive, shall have the prerogative for rehabilitation program at the employee's expense. When such program has been successfully completed the Employer shall not discriminate in any way against the employee. If work for which the employee is qualified exists he/she shall be reinstated.

11. The Employer agrees that results of urine and blood tests performed hereunder will be considered medical records held confidential to the extent permitted or required by law. Such records shall not be released to any persons or entities other than designated Employer representatives and the applicable Union. Such release to the applicable Union shall only be allowed upon the signing of a written release and the information contained therein shall not be used to discourage the employment of the individual applicant or employee on any subsequent occasion.

12. The Employer shall indemnify and hold the Union harmless against any and all claims, demands, suits, or liabilities that may arise out of the application of this Agreement and/or any program permitted hereunder.

13. Employees who seek voluntary assistance for substance abuse may not be disciplined for seeking such assistance. Requests from employees for such assistance shall remain confidential and shall not be revealed to other employees or management personnel without the employee's consent. Employees enrolled in substance abuse programs shall be subject to all Employer rules, regulations and job performance standards with the understanding that an employee enrolled in such a program is receiving treatment for an illness.

14. This Memorandum, of Understanding shall constitute the only Agreement in effect between the parties concerning drug and alcohol abuse, prevention and testing. Any modifications thereto must be accomplished pursuant to collective bargaining negotiations between the parties.

SIDE LETTER OF AGREEMENT
TESTING POLICY FOR DRUG ABUSE

It is hereby agreed between the parties hereto that an Employer who has otherwise properly implemented drug testing, as set forth in the Testing Policy for Drug Abuse, shall have the right to offer an applicant or employee a "quick" drug screening test. This "quick" screen test shall consist either of the "ICUP" urine screen or similar test or an oral screen test. The applicant or employee shall have the absolute right to select either of the two "quick" screen tests, or to reject both and request a full drug test.

An applicant or employee who selects one of the quick screen tests, and who passes the test, shall be put to work immediately. An applicant or employee who fails the "quick" screen test, or who rejects the quick screen tests, shall be tested pursuant to the procedures set forth in the Testing Policy for Drug Abuse. The sample used for the "quick" screen test shall be discarded immediately upon conclusion of the test. An applicant or employee shall not be deprived of any rights granted to them by the Testing Policy for Drug Abuse as a result of any occurrence related to the "quick" screen test.

SUMMARY OF WORK

1. PART 1 GENERAL
 - A. SECTION INCLUDES
 - 1 Work included.
 - 2 Contractor use of site.
 - 3 Work Sequence
 - B. WORK INCLUDED
 1. Remodel of the existing Student Services restrooms, one (1) each mens and womens.
 2. Construct the work of each contract under a single lump sum contract. Multiple contracts will be awarded by the District as outlined in the Notice Calling for Bids (Section 00 11 13) and in accordance with the Construction Manager's "Work Scope Special Conditions" (Section 01011) for each work scope category. Each Category Contract will include ALL work in all of the specification sections noted under said Category in the Notice Inviting Bids. Division "0" and "1" of the Project Manual will be a part of ALL bids and contracts in ALL Categories.
 - a. "Work Scope Special Conditions" (Section 01011) is a matrix which contains the special conditions of each Category Contract. Columns containing a "yes" indicate that the work under the "Description" is to be a part of the Category Contract noted at the top of the list. Columns containing a "no" indicate that the work under the "Description" is to be excluded by the Category Contractor noted at the top of the list.
 - b. The work included in each specification section includes, but is not limited to, the furnishing of all labor, materials, appliances, tools, equipment, facilities, transportation, applicable taxes and services necessary for, and incidental to, performing all operations in connection with the specification section complete as shown on the drawings and / or specified therein.
 - c. ALL of the work in each specification section MUST be included in the work scope "Category" for which it has been assigned unless it has been SPECIFICALLY noted within the "Work Scope Special Conditions" (Section 01011) to be excluded. CONTRACTOR MUST EXAMINE ALL SPECIFICATION SECTIONS AND DRAWINGS for related work that may be specified or shown on the drawings and required to be included under their specific Category or referenced specification section.
 - d. In the unlikely event that the same work called out in this Contractor's category is also called out in the category of another contractor or contractors, BOTH this Contractor and the other contractor/s will be expected to have included the work in their bids. It is not the District's intention for this double coverage to happen, however if it does, the District will seek a credit quotation from all affected contractors and the contractor offering the smallest credit or least favorable terms to the District shall be the contractor directed to perform the work. The other affected contractor/s shall have their contract work scope/s and price/s reduced by their proposed credit amounts.

C. WORK BY OWNER

1. Items noted "NIC" (Not In Contract) will be furnished and installed by the Owner.

D. OWNER FURNISHED PRODUCTS

1. Items noted "OFCl" (Owner Furnished -Contractor Installed) will be furnished by the Owner and installed by the Contractor
2. Items noted "OFOI" (Owner Furnished -Owner Installed) will be furnished by the Owner and installed by the Owner
3. Owner's responsibilities
 - a. Arrange for and deliver Owner reviewed shop drawings, product data, and samples to the Contractor
 - b. Arrange and pay for product delivery to site
 - c. On delivery, inspect products jointly with Contractor
 - d. Submit claims for transportation damage and replace damaged, defective, or deficient items
 - e. Arrange for manufacturer's warranties, inspections, and service
4. Contractor's responsibilities
 - a. Review Owner reviewed shop drawings, product data, and samples
 - b. Receive and unload products at site; inspect for completeness or damage jointly with Owner
 - c. Handle, store, install, assemble, and finish products
 - d. Repair or replace items damaged after receipt
5. Products
 - a. See equipment schedules
6. Items furnished by Owner for installation by Contractor (OFCl):
 - a. See equipment schedules

E. CONTRACTOR USE OF THE SITE

1. Contractor shall have use of the site throughout the construction period as regulated by the Construction Manager
2. Construction operations: Limited to area indicated on drawings

F. WORK SEQUENCE

1. Construct work in accordance with the Project Construction Schedule, Section 01310.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

Not Used

END OF SECTION

ANTELOPE VALLEY COMMUNITY COLLEGE - CAMPUS RESTROOM REMODEL - PHASE 1
WORK SCOPE SPECIAL CONDITIONS

ITEM:	DESCRIPTION:	Bid Package #4
1	Contractor shall not interfere with the normal, regular, or existing business operations or activities of the College at the project site. If required, schedule work for after hours or weekends, all costs for working after hours or weekends shall be included within your base bid.	yes
2	Properly protect existing improvements scheduled to remain when performing work within this category.	yes
3	Properly & completely coordinate all work through the Construction Manager to ensure that all work is properly and efficiently installed per the project manual.	yes
4	All daily reports shall be turned into the Construction Manager on a daily basis.	yes
5	All deliveries and material or equipment moving between construction areas shall be coordinated and approved by the Construction Manager prior to commencement.	yes
6	Utilize suitable equipment for traversing the site, hauling or relocating of materials, and/or erection of items within this trade regardless of soils conditions or grades at no additional cost or delay to the schedule.	yes
7	Contractors within this category shall pay and maintain cell phone numbers for their project foreman throughout the duration of this project.	yes
8	Provide all job verification and field measuring as may be needed and/or required to ensure that the work is coordinated and fits properly.	yes
10	Repair any and all finishes damaged as a result of the execution of the work in this category.	yes
11	Provide cleanup on a daily basis to insure a clean and safe & accessible work environment.	yes
12	Contractor to provide trash containers and/or properly dispose of waste, trash, lunch trash and debris. This includes procurement of all hauling permits and/or dump fees which may be required. This applies equally to any/all subcontractors employed by the Prime Contractor.	yes
13	Be advised - the project site is located in an area of potential high winds. The protection against and prevention of wind damage to incomplete work or on-site stored materials is the responsibility of the contractor.	yes
14	Be advised - the project site is located in an area of potential high heat. The protection against and prevention of heat damage to incomplete work or on-site stored materials is the responsibility of the contractor.	yes
15	The Construction Manager will set the construction working hours on site.	yes
16	Completely furnish all cutting and patching as required in all existing construction including finishes due to the installation of work of this category contractor.	yes
17	Coordinate through Facilities to sign out a parking pass and badge for each employee.	yes
18	Parking areas shall be designated by the Construction Manager.	yes

ANTELOPE VALLEY COMMUNITY COLLEGE - CAMPUS RESTROOM REMODEL - PHASE 1
WORK SCOPE SPECIAL CONDITIONS

ITEM:	DESCRIPTION:	Bid Package #4
1	Contractor shall not interfere with the normal, regular, or existing business operations or activities of the College at the project site. If required, schedule work for after hours or weekends, all costs for working after hours or weekends shall be included within your base bid.	yes
19	This Category Contractor shall utilize the pre existing tempo pry fenced staging area within parking lot 16 of all temporary storage containers, trailers, stored materials and temporary sanitation facilities. Please note that this Category Contractor will be dually sharing this staging area with contractors of another Antelope Valley College construction contract.	yes
20	Provide for all dust and noise mitigation during the entire contract duration.	yes
21	Provide all barricades, warning lights and signs & safety measures etc. required for the execution of the work within this category.	yes
22	Contractor shall verify and keep all existing systems fully operational as they execute the scope of work within this contract.	yes
23	Provide all demolition activities as indicated per the project documents unless otherwise noted within this work scope special conditions. Refer to Sheets A-201,M-201,P-201 and E-201.	yes
24	Provide all necessary protection for Fire Alarm devices that are noted to remain, preserve and protect during construction. The Fire Alarm system shall remain active during construction activities.	yes
25	Provide all necessary patching and floating of floors, walls and curbs to accept the new tile finishes.	yes
26	Provide moisture & PH testing prior to commencement of prep/patch for the flooring installation for verification that the existing substrate does not exceed the manufactures recommendations for moisture vapor emission and PH levels.	yes
27	Provide and maintain all temporary chemical toilets and temporary had wash stations for the duration of the project. At a minimum provide two (2) temporary chemical toilets and one (1) hand wash station that shall be cleaned twice weekly.	yes
28	Provide and install all backing and blocking as indicated per the contract documents.	yes
29	Provide and install all tube steel brackets as indicated per Detail 3 on sheet A-701.	yes
30	Properly demo roofing in order to install new roof curb for exhaust fan. Provide temporary measures for security and weather intrusion until roof work is completed.	yes
31	Properly patch roofing and install 60 mil neoprene sheet material around newly installed roof curb for exhaust fan. Refer to Detail 11 & 12 on sheet A-701.	yes
32	Provide and install all structural framing items required for the new exhaust fan roof curb opening as indicated per sheet S-101.	yes
33	Properly adjust all existing floor drains and cleanouts as needed for the installation of new wall and floor finishes.	yes

ANTELOPE VALLEY COMMUNITY COLLEGE - CAMPUS RESTROOM REMODEL - PHASE 1
WORK SCOPE SPECIAL CONDITIONS

ITEM:	DESCRIPTION:	Bid Package #4
1	Contractor shall not interfere with the normal, regular, or existing business operations or activities of the College at the project site. If required, schedule work for after hours or weekends, all costs for working after hours or weekends shall be included within your base bid.	yes
34	Prior to the start of demo, verify the existing water systems and install any and all valves required in order to isolate the restrooms from the remainder of the building.	yes
35	Provide all painting as required of the contract documents.	yes
36	Provide and install all door and room signage and per sheet A-801.	yes
37	Properly prep and paint existing doors and door frames. Remove all dents, scratches, gouges and holes by proper prep methods prior to final painting.	yes
38	Provide all necessary parts and transitions that will be required to re-connect existing duct work to the new exhaust fan and new air grilles.	yes
39	Provide all necessary relocation of existing plumbing rough in that may be required in order to connect new plumbing fixtures to existing waste, water and vent for proper heights and locations as noted within the contract documents.	yes
40	Include all proper shut down activities, drainings of existing systems during non school operation hours so as not to disrupt regular schedule activities at the site. Advise the Construction Manager 48 hours ahead of scheduled shut downs.	yes
41	Provide all caulking/ joint sealers shown on the contract documents and indicated within the specifications.	yes
42	Provide all demo and patching of finishes that may be required for the Mechanical, Electrical and Plumbing systems that is not particularly indicated but is required in order to provide complete and operable systems.	yes
43	Prior to final painting within the restrooms, skim coat the existing surfaces smooth (Level 5 Finish) to accept a painted finish.	yes
44	This Category Contractor shall include all allowances detailed in specification section 01210 for their respective category.	yes
45	This Category Contractor to be responsible for all cutting and patching of finishes necessary to perform their respective work underground or in existing walls which is not specifically noted to be removed and replaced on the demolition drawings.	yes
47	This Category Contractor shall include a final cleaning of both restrooms and surrounding areas that have been impacted as a result of this construction. Provide proper cleaning measures for all wall and floor tile, plumbing fixtures, countertops, lighting, toilet partitions & accessories, doors and hardware, etc.	yes
48	This Category Contractor shall provide and install all wall insulation as indicated per the contract documents.	yes

ANTELOPE VALLEY COMMUNITY COLLEGE - CAMPUS RESTROOM REMODEL - PHASE 1
WORK SCOPE SPECIAL CONDITIONS

ITEM:	DESCRIPTION:	Bid Package #4
1	Contractor shall not interfere with the normal, regular, or existing business operations or activities of the College at the project site. If required, schedule work for after hours or weekends, all costs for working after hours or weekends shall be included within your base bid.	yes
49	Be advised that all Prime and Sub Contractors are bound to the "Community Work Force Agreement" that has been adopted by the Antelope Valley College Board of Trustees. Said Agreement establishes the labor relations guidelines and procedures for the Antelope Valley College and for the Contractors.	yes

CHANGE ORDER PROCEDURE

PART 1 -GENERAL

1.01 SECTION INCLUDES

- A. Submittals.
- B. Delivery, Storage, and Handling.
- C. Documentation of change in Contract Sum and Contract Time.
- D. Change procedures.
- E. Construction Change Authorization.
- F. Stipulated Sum change order.
- G. Unit Price Change Order.
- H. Time and Material Change Order.
- I. Execution of Change Orders.
- J. Correlation of Contractor submittals.

1.02 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 0 and Division 1 Specification Sections, apply to work of this Section.

1.03 SUBMITTALS

- A. Submit name of the individual authorized to receive change documents, and be responsible for informing others in Contractor's¹ employ or Subcontractors of changes to the Work.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Maintain a Register of proposal requests, supplemental instructions, and Change Orders at the job site, accurately reflecting current status of all pertinent data.
- B. Make the Register available to the Architect for review at his request.

1.05 DOCUMENTATION OF CHANGE IN CONTRACT SUM AND CONTRACT TIME

- A. Maintain detailed records of work done on a time, and material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work.
- B. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.

- C. On request, provide additional data to support computations:
 - 1. Equipment.
 - 2. Taxes, insurance and bonds.
 - 3. Overhead and profit.
 - 4. Justification for any change in Contract Time.
 - 5. Credit for deletions from Contract, similarly documented.
- D. Support each claim for additional costs, and for work done on a time and material basis, with additional information:
 - 1. Origin and date of claim.
 - 2. Dates and times work was performed, and by whom.
 - 3. Time records and wage rates paid.
 - 4. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

1.06 CHANGE PROCEDURES

- A. If any bidder is in doubt as to the true meaning of any part of the Contract Documents, or finds discrepancies in or omissions from the drawings and specifications, a written request for information (RFI) or correction shall be submitted to the Architect. The Prime Contractor submitting the written request shall be responsible for its prompt delivery. Any interpretation or correction of the Contract Documents will be made only by addendum issued by the Architect, and a copy of any addendum will be hand-delivered, mailed, or faxed to each bidder known to have received a set of the Contract Documents. No person is authorized to make any oral interpretation of any provision in the Contract Documents, nor shall any oral interpretation be binding on the Owner.

If there are discrepancies on drawings, plans, or specifications, or conflicts between drawings, plans, specifications, terms, or conditions, the interpretation of the Architect shall prevail. Prime Contractor shall become familiar with the plans, specifications, and drawings.

- B. The Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by the General Conditions Article 9: Changes and Ancillary Supplemental General Conditions by issuing an Instruction Bulletin (IB). A period of 3 working days will be provided to the Contractor to register his complaint in writing for the IB item. Failure to register a complaint within the 3 day period will result in acknowledgment by the Contractor that the minor change in the Work has no cost or time adjustment and that no claim will be submitted to the Owner.
- C. The Architect may issue a Proposed Change Order (PCO), as authorized by General Conditions Article 9: Changes and Ancillary Supplemental General Conditions which includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid and an estimated amount of the change in construction cost. Contractor will prepare and submit an estimate within 7 days. Failure by the Prime Contractor to submit an estimate within the stipulated 7 day time will result in the Architect's estimated amount of the change to the Contract sum or time allowed to complete construction becoming the approved amounts, and acknowledgment by the Contractor that no claim will be submitted to the Owner.
- D. The Prime Contractor may propose a change for items other than previously addressed

supplemental instructions by submitting a Request for Information to the Construction Manager which will be returned to the Contractor within 15 days. If the Construction Manager's reply necessitates a change in the contract sum or time, the Contractor shall submit within 15 days a PCO to the Construction Manager. Failure by the Prime Contractor to submit a PCO within the stipulated 14 day period will void the item from being considered at any time during construction and acknowledgment by the Prime Contractor that no claim will be submitted to the Owner. The change request shall describe the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. No additional compensation or time will be considered for the submitted claims at any future date. Document any requested substitutions in accordance with Section 01631, "Products and Substitutions".

1.07 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Manager may issue a document in the field, signed by the Owner, instructing the Contractor to proceed with a change in the Work, to expedite work and avoid or minimize delays in the work.
- B. The document will describe changes in the Work, and will designate method of determining any change in Contract Sum or Contract Time.
- C. Promptly execute the change in Work. Submit final costs for Work involved and/or change in Contract Time for inclusion in a subsequent Change Order.

1.08 STIPULATED SUM CHANGE ORDER

Based on PCO and Prime Contractor's fixed price quotation for a Change Order, and in accordance with Article 9.4.1.1, as approved by Architect, Construction Manager and Owner.

1.09 UNIT PRICE CHANGE ORDER

- A. For predetermined unit prices and quantities, the Change Order will be executed on a fixed unit price basis.
- B. For unit costs or quantities of units of work which are not predetermined, execute Work under a Construction Change Authorization.
- C. Changes in Contract Sum or Contract Time will be computed as specified for Time and Material Change Order.

1.10 TIME AND MATERIAL CHANGE ORDER

- A. Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract, with appropriate Contractor costs as determined according to Changes and Extra Work of the General Conditions.
- B. Architect will determine the change allowable in Contract Sum and Contract Time as provided in the Contract Documents.
- C. Maintain detailed records of work done on Time and Material basis.
- D. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

Allowable Costs: The term "Allowable Costs" means, and is limited to, the costs listed in this Paragraph 1.11 and that are not prohibited under Paragraph 1.12, below:

Labor: Straight-time wages and salaries, and overtime wages and salaries specifically authorized by District or College Project Manager in writing, for employees employed at the Site, or at fabrication sites off the Site, in the direct performance of the Extra Work or that would have been incurred in the direct performance of the Deleted Work, based on the actual cost for wages prevailing locally for each craft or type of the workers at the time the Extra Work is done or the Deleted Work is ordered eliminated. Labor costs for equipment operators and helpers involved in the performance of Extra Work shall be allowed only when such costs are not included in the invoice for equipment rental. The use of labor classification which would increase the Allowable Costs for Extra Work will not be permitted unless Contractor establishes the necessity for such additional costs. Overtime wages and salaries shall only constitute an Allowable Cost to the extent permitted by the Contract Documents and only as specifically authorized by College Project Manager in writing setting forth the amount of overtime anticipated, which amount shall be deemed the maximum amount of overtime reimbursable as an Allowable Cost.

Benefits: Net actual employer costs of payroll taxes (FICA, Medicare, SUTA, FUTA), insurance (as adjusted for experience modifiers, premium discounts, dividends, rebates, expense constants, assigned risk pool costs, net cost reductions due to policies with deductibles for self-insured losses, assigned risk rebates, or the like), health and welfare, pension, vacation, apprenticeship funds and benefits required by the Project Labor Agreement (if applicable), Labor Compliance Program (if applicable) or lawful collective bargaining agreements for employees on straight-time wages or salaries, and on overtime wages and salaries specifically authorized by College Project Manager in writing, for employees employed at the Site, or at fabrication sites off the Site. Contractor shall reduce its standard payroll tax percentages to properly reflect the effective cost reduction due to the estimated impact of the annual maximum wages subject to payroll taxes. An estimated percentage for labor burden may be used for the pricing of Compensable Changes; however, the percentage will be subject to verification by audit at Final Completion and the amount of any Change Order or Unilateral Change Order shall be subject to adjustment if it is determined that the actual labor burden percentage is less than the estimated percentage used. Contractor shall provide if requested by District as a condition of its right to payment, a breakdown of the calculation by Contractor and the Subcontractors of amounts charged for labor benefits and burden, which information may be used to establish billing rates for Compensable Changes.

Materials, Consumables: Costs of materials and consumable items furnished or incorporated into the Work. Except for costs that have been previously agreed to between District and a District Materials Vendor in a District Materials Contract that has been assigned to Contractor such costs for Extra Work shall be at the lowest price available to Contractor but in no event shall such costs exceed competitive costs obtainable from other subcontractors, suppliers, manufacturers and distributors in the general vicinity of the Site.

Taxes: Sales taxes on the costs of the materials and consumable items described in Subparagraph 1.11-C, above.

Tool, Equipment Rental: Rental charges for necessary machinery and equipment, whether owned or hired, as authorized in writing by District or College Project Manager, exclusive of hand tools. Regardless of ownership, such rental charges for Extra Work shall not exceed the lower of: (1) listed rates prevailing locally at equipment rental agencies or distributors at the time the Extra Work is performed; or (2) current U.S. Army Corp of Engineers scheduled charges for the area of the Project. Contractor shall attach a copy of the rate schedule to the daily reports and other documentation required by Paragraph 1.10, above. No charge shall be allowed or credit required for use of tools which have a replacement value of One Hundred Dollars (\$100) or less. The allowable rental rates shall include the cost of fuel, oil, lubrication, supplies, small

tools, necessary attachments, loading, transportation, repairs and maintenance of any kind, depreciation, storage, insurance and all incidentals. If equipment used for Extra Work is used intermittently and, when not in use, could be returned to its rental source at less expense to District than holding it at the Site, it shall be returned, unless Contractor elects to keep it at the Site at no expense to District. All equipment shall be acceptable to College Project Manager, in good working condition, and suitable for the purpose for which it is to be used. Manufacturers ratings and manufacturers approved modifications shall be used to classify equipment and it shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

Royalties, Permits: Additional or saved costs of royalties and permits.

Costs Not Allowed: Allowable Costs shall not include any of the following:

- A. Superintendent(s);
- B. Assistant superintendent(s);
- C. Project engineer(s);
- D. Project manager(s);
- E. Scheduler(s);
- F. Estimator(s);
- G. Drafting or detailing;
- H. Vehicles not dedicated solely to the performance of the Work;
- I. Small tools with a replacement value not exceeding One Hundred Dollars (\$100);
- J. Office expenses, including staff, materials and supplies;
- K. On-site and off-site trailer and storage rental and expenses;
- L. Site fencing not added solely due to the performance of Extra Work;
- M. Utilities, including gas, electric, sewer, water, telephone, fax and copier equipment;
- N. Computer and data-processing personnel, equipment and software;
- O. Federal, state or local business income and franchise taxes;
- P. Costs (other than the liquidated damages for Compensable Delay permitted by the Construction Contract) arising from or related to Delay or acceleration to overcome delay, whether incurred by Contractor or the Subcontractors, of any Tier;

Allowable Markups: Allowable Markups consist of the percentages set forth in this paragraph that, except as otherwise stated in the Contract Documents, are to be applied to the Allowable Costs for purposes of computing permitted adjustments to the Contract Sum Payable. Allowable Markups are deemed to cover, without limitation, the following:

(1) direct and indirect overhead, consumables, small tools, cleanup and profit of Contractor, Change Order preparation, vehicle costs, general clean-up costs, negotiations/research costs, additional guarantees/warranty costs; (2) direct and indirect overhead, consumables, small tools, cleanup and profit of the Subcontractors, of every Tier; and (3) all costs that are not reimbursable to Contractor under Paragraph 1.12, above. Allowable Markups shall be computed and applied as follows:

Review of Markups: It is Contractor's responsibility to review information submitted by Subcontractors to ensure that all markups by Subcontractors, of every Tier, comply with the requirements of the Contract Documents. Payment by District of markups that exceed Allowable Markups shall not be considered as a waiver by District of the right to repayment by Contractor of any markup charged that is in excess of Allowable Markups.

No Markup Allowed: Notwithstanding and without limitation to anything else stated in the Contract Documents, Contractor shall not be entitled to an Allowable Markup or any other amount or allowance as markup for overhead or profit on the following: (1) sums due to Contractor for Compensable Change that are based on agreed unit prices; (2) liquidated damages payable; to Contractor pursuant to Section 3.4 of the Construction Contract for Compensable Delay; or (3) other amounts with respect to which the Contract Documents

provide that no additional Allowable Markup shall be paid. Markup for overhead or profit on Compensable Changes that are performed by a District Materials Vendor pursuant to a District Materials Contract that has been assigned to Contractor pursuant to Section 2.5, above, shall be only permitted to be charged by the District Materials Vendor if, and if so only to the extent that, such markup is permitted under the terms of the District Materials Contract.

Net Allowable Costs: If any one Change or collection of Changes in the same or related portions of the Work or for Work covered by a single bulletin or instruction by District, College Project Manager or Design Consultant involves both additive adjustments and deductive adjustments, then the computation of amounts added or credited for Allowable Markups shall be based on the net difference between the additive items for which additional Allowable Markups is permitted and deductive items for which credits for Allowable Markups is required.

Unit Prices: Unless otherwise stated in the Contract Documents, unit prices stated in the contract Documents or subsequently agreed upon by District and Contractor shall be deemed to include and encompass all costs of performance, overhead and profit, including, without limitation, all Allowable Costs and Allowable Markups. If the unit price stated in the Contract Documents is based on an estimated quantity established by District in the Construction Contract and the actual quantity of such unit-priced item varies by more than 25% above or below the estimated quantity, an equitable adjustment in the Contract Sum Payable shall be made upon demand of either District or Contractor. Such equitable adjustment shall be based solely upon any increase or decrease in Allowable Costs (without any Allowable Markups), due solely to the variation above 125% or below 75% of the estimated quantity.

Discounts: For purposes of determining Allowable Costs of a Compensable Change, all trade discounts, rebates, refunds, and all returns from the sale of surplus materials and equipment shall accrue and be credited to District, and Contractor shall make provisions so that such discounts, rebates, refunds, and returns are secured.

Prompt Pricing: It is fundamental to the District's objective of controlling costs that performance of Compensable Changes on a time and materials basis of compensation and without a not-to-exceed price be limited to circumstances where it is impractical, without causing Delay to the Work, for Contractor to obtain competitive fixed or not-to-exceed prices pursuant to the regular pricing processes provided for by the Contract Documents. Contractor recognizes that prompt pricing by Contractor is critical to this objective. Accordingly, without limitation to any of District's other rights or remedies, it is agreed that if Contractor fails to timely submit a complete Change Order Request in accordance with Paragraph 1.06, above, with respect to any circumstance, event or occurrence constituting a Compensable Change that: (1) any resulting Delay to the performance of the Work (including, without limitation, the Compensable Change) shall be conclusively deemed to be an Unexcused Delay; (2) District shall have the option, exercised in its sole discretion, in lieu of exercising its rights under Paragraph 1.06, above, to unilaterally fix the amount of the adjustment to the Contract Sum Payable for such Compensable Change based on the "estimating guide" method set forth in Subparagraph 9.4.1.2 of the General Conditions, and (3) such unilateral adjustment by District shall be final and binding upon Contractor for purpose of determining the amount of the adjustment to the Contract Sum Payable on account of such Compensable Change, without any further right or recourse on the part of Contractor for any additional compensation or adjustment to the Contract Sum Payable.

Final Payment: No Claim by Contractor for adjustment to the Contract Sum Payable shall be allowed if asserted after Final Payment.

Full Resolution: Except as otherwise stated in Paragraph 1.20, below, the signing of a Change Order by Contractor and District shall be conclusively deemed to be a full resolution, settlement

and accord and satisfaction with respect to any and all Loss and Delay related to the subject matter of the Change Order including, without limitation, all rights to recovery of costs, expenses or damages for delay, disruption, hindrance, interference, extended or extraordinary (direct and indirect) overhead, unabsorbed home office overhead, multiplicity of changes, loss of productivity, labor, wage or material cost escalations, inefficiency, legal expenses, consultant costs, interest, lost profits or revenue, bond and insurance costs, changes in taxes and other similar and related Losses.

Reserved Rights: Change Orders shall be executed by Contractor without any express or implied reservation of rights by Contractor to reserve for the future the assertion of any right of recovery from District for Loss or Delay arising out of or relating to the subject matter of the Change Order. Unless specifically stated otherwise in the Change Order, execution by District of a Change Order shall not be interpreted as a waiver, release or settlement of any rights or claims that District may have for either: (1) Defective Work; (2) liquidated damages for Delay; or (3) recoupment by District (by way of withholding of funds, set off or recovery from Contractor) of amounts paid by District for costs or markups on costs that District determines, following payment of such amounts to Contractor, do not constitute reimbursable Allowable Costs or Allowable Markups under the terms of the Contract Documents.

No "Total Cost" Calculations. Contractor represents and warrants that it has the ability to generate and maintain complete and accurate cost accounting records that, if required, will reflect the actual Allowable Costs incurred or saved for multiple items of Compensable Change and, on an event-by-event basis, the effect of multiple Compensable Delays on the progress of the Work. Accordingly, Contractor agrees that all Change Order Requests and Claims shall be itemized in a manner that, with reasonable mathematical certainty and without reliance upon probabilities or inferences, segregates on a discrete, event-by-event basis the direct, actual Allowable Costs for which reimbursement is permitted and that are associated with each individual Compensable Change or Compensable Delay. Change Order Requests and Claims shall not be based, in whole or in part, upon any methodology (such as "total cost" or "modified total cost" methodologies) that purports to establish Contractor's entitlement to additional compensation inferentially based, solely or principally, on the difference between Contractor's total costs for the Work or a portion of the Work and its original Bid.

Multiple Changes: District reserves the absolute right to make whatever Changes, including, without limitation, Compensable Changes or Deleted Work, that it determines, in its sole discretion, are necessary and in its best interests. Under no circumstances shall the individual or cumulative number, value or scope of such Changes, or their individual and cumulative impact on the Work, become a basis for Contractor to assert any claim for breach of contract, rescission, termination, cardinal change or reformation of the Construction Contract, nor shall such circumstances be the basis for Contractor or any Subcontractors, of any Tier, to assert a right of recovery of any Loss if such right is not permitted by, or is in excess of that allowed under, the Contract Documents.

Continuous Performance: No dispute or disagreement with respect to any Changes or Delay, including, without limitation, disputes over Contractor's right to or the amount of any adjustment to the Contract Sum Payable or Contract Time, shall relieve or excuse Contractor from the obligation to proceed with and maintain continuous, expeditious and uninterrupted performance of the Work, including performance of any disputed Changes.

1.11 EXECUTION OF CHANGE ORDERS

A. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in this section. -

B. Change orders require approval by the Office of the State Architect per California Code of Regulations, Title 21, Section 38 prior to execution of change orders. District may provide a procedure for execution of change orders prior to OSA approval, to facilitate construction scheduling allowing Contractor to proceed.

ADDENDA AND CHANGE ORDERS

General: Work shall be executed in accordance with the approved plans addenda and change orders. Changes in the plans and specifications shall be made by addenda or change orders approved by the Office. [See Section 4-318(b)]

Addenda: Changes or alterations of the approved plans or specifications prior to letting a construction contract for the work involved shall be made by means of addenda which shall be submitted to and approved by the Office prior to distribution to contractors. Original copies of addenda shall be manually signed by the Architect or engineer in general responsible charge of preparation of the plans and specifications and by the Architect or registered engineer delegated responsibility for the portion affected by the addenda. [See Section 4-317(h)] One copy is required for the files of the Office.

Change Orders: Changes or alterations of the approved plans or specifications after a contract for the work has been let shall be made only by means of change orders submitted to and approved by the Office prior to commencement of the work shown thereon. Change orders shall state the reason for the change and the scope of work to be accomplished, and, where necessary, shall be accompanied by supplementary drawings referenced in the text of the change order. All change orders and supplementary drawings shall be manually signed by the Architect shall bear the approval of the school board and shall indicate the associated change in the project cost, if any. One copy of each change order is required for the files of the DSA Office.

Preliminary Change Orders: In order to expedite construction, preliminary change orders may be submitted to the Office. Preliminary change orders shall meet all the requirements necessary for a change order, with the exception of the approval of the school board and the associated change, if any, in costs. The preliminary change order does not require the stamp or seal, but does require the signature of the Architect or engineers. Work may proceed in accordance with the approved preliminary change order. An official change order shall be submitted to follow up on the preliminary change order as soon as possible.

1.12 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise schedule of values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- B. Promptly revise progress schedules to reflect any change in Contract Time, revise sub schedules to adjust time for other items of work affected by the change, and resubmit.
- C. Promptly enter changes in Project Record Documents.

PROJECT COORDINATION

PART 1-GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions and other Division 1 Specification sections, apply to work of this section.

SUMMARY:

Multiple Prime Contracts: Provisions of this Section apply to the construction activities of each Prime Contractor.

Minimum administrative and supervisory requirements necessary for coordination of work on the project to be fulfilled collectively by the Prime Contractors include but are not necessarily limited to the following:

- Coordination and meetings
- Administrative and supervisory personnel
- Changes in the work
- Limitations for use of site
- Tradesmen and workmanship standards
- Special reports
- Inspection, Tests and Reports
- General installation provisions
- Cutting and patching
- Cleaning and protection

These coordination requirements must be participated in by each Prime Contractor, where applicable, even though certain items for overall coordination purposes may be assigned to the Project Manager.

Refer to another Division 1 section for surveys and records reports.

Construction organization and start up:

Each Prime Contractor shall conform to the following:

Project Communications:

- a) Submittals
- b) Reports and Records
- c) Recommendations
- d) Coordination Drawing
- e) Schedules
- f) Resolutions of conflict

COORDINATION AND MEETINGS:

General: The Project Manager will prepare a written memorandum on required coordination activities, including such items as required notices, reports and attendance at meetings and distribute this memorandum to each entity performing work at the project site.

Each entity involved in the performance of work for entire project shall cooperate in the overall coordination of the work. Each entity, when requested, shall promptly furnish information for its portion of the work and shall respond promptly to the decisions and requests of personnel designated for coordination, supervisory, administrative, or similar functions.

Each trade installing concealed work, to which access must be available to the Owner after completion, shall furnish appropriate access doors and frames for installation by the Prime Contractor.

Similarly, the Prime Contractor shall furnish and install doors and frames giving access to elements of his work requiring the same. Locations must be suitable for access required, and acceptable to Architect. Access panels shall be compatible with construction in which they are installed, and installation shall be complete with required hardware, grounds, screeds, attachment devices and trim.

The Prime Contractor is responsible for coordination of structural, mechanical, and electrical elements prior to installation. Structural elements take precedence. All penetrations of structural elements must have approval of the Architect or Structural Engineer. Rerouting of ductwork, piping, or conduit around structural, mechanical or electrical elements is the responsibility of the mechanical or electrical subcontractors respectively and are not changes in the work and no claims for additional cost therefore will be valid.

Coordination Drawings: Prepare coordination drawings where work by separate entities requires fabrication off-site of products and materials, which must accurately interface. Coordination drawings shall indicate how work shown by separate shop drawings will interface and shall indicate installation sequence. Comply with all requirements of the "Submittals" section.

Where coordination drawings cover primarily the work of one prime contract, with only minor amounts of work by other Prime Contractors included, the Prime Contractor with the major amount of work shall prepare coordination drawings, as designated by the Project Manager.

Weekly Coordination Meetings: In addition to specific coordination meetings for each major element of work, and regular project meetings for other purposes (as indicated elsewhere in the contract documents), Project Manager will schedule and hold weekly general project coordination meetings at regularly scheduled times which are convenient for attendance by Prime Contractors and other entities then involved. Required attendance includes each Prime Contractor and every other entity identified by any Prime Contractor as being currently involved in coordination or planning for the work (of the entire project). Project Manager shall preside at each meeting, and shall record results of meetings and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting. At the option of the Project Manager, progress Applications for Payment may be withheld due to the non-attendance and participation in Weekly Progress Meetings until such time as the Prime Contractor is in compliance with the paragraph labeled "**Weekly Coordination Meetings**".

At the option of the Project Manager, monthly coordination meetings may be held integrally with monthly progress meetings as specified in section "Schedules/Payments, Separate Prime Contracts".

ADMINISTRATIVE/SUPERVISORY PERSONNEL:

General: Each Prime Contractor shall provide specific coordinating personnel as reasonably required for interfacing work with other work of total project.

Submittal of Staff Names, Duties: Within 15 days of contract date, each Prime Contractor shall submit a listing of Prime Contractor's principal staff assignments and consultants, naming persons and listing their addresses and telephone numbers.

LIMITATIONS ON USE OF THE SITE:

General: Limitations on site usage as well as specific requirements that impact utilization are indicated on the drawings and by other contract documents. In addition to these limitations and requirements, the Project Manager shall administer allocation of available space equitably among the separate Prime Contractors and other entities needing access and space, so as to produce the best overall efficiency in performance of the total work of the project. Each Prime Contractor shall schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site.

TRADESMEN AND WORKMANSHIP STANDARDS:

General: Each Prime Contractor shall instigate and maintain procedures to ensure that tradesmen performing work at site are skilled and knowledgeable in methods and craftsmanship needed to produce required quality levels for workmanship in completed work. Remove and replace work which does not comply with workmanship standards as specified and as recognized in the construction industry for applications indicated. Remove and replace other work damaged or deteriorated by faulty workmanship or its replacement.

Availability of Tradesmen: At each progress or coordination meeting, each Prime Contractor shall review the availability of tradesmen and projected needs to accomplish work as scheduled. Require each entity employing tradesmen to report on current and pending trade union actions and jurisdictional matters, which might affect progress of work. Where possible, dispute or delay as identified, consider alternatives and take actions to avoid disputes and delays.

SPECIAL REPORTS:

Reporting Accidents: Each Prime Contractor shall prepare and submit reports of significant accidents at site and anywhere else work is in progress. Record and document data and actions. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.

INSPECTIONS, TESTS AND REPORTS:

General: Required inspection and testing services are intended to assist in determination of probable compliance's of the work with requirements, but do not relieve any Prime Contractor of responsibility

for those compliance's, or for general fulfillment of requirements of contract documents. Specified inspections and tests are not intended to limit any Prime Contractor's quality control program. Afford reasonable access to agencies performing tests and inspections. Comply with all requirements of the "Quality Control" section.

Owner's Tests: Where tests or inspections are indicated as Owners responsibility, Owner will engage independent testing agency to perform required services. Notice of Readiness: In accordance with the General Conditions, each Prime Contractor will give timely notice to the Owner, the Architect, the Engineers, and the Project Manager of the readiness of any part of the work for required tests and inspections.

PART 2 -PRODUCTS (Not Applicable).

PART 3 -EXECUTION

GENERAL INSTALLATION PROVISIONS:

Pre-Installation Conferences: Well in advance of installation of every major unit of work which requires coordination and interfacing with other work, each Prime Contractor involved shall meet at project site with installers and representatives of manufacturers and fabricators who are involved in or affected by unit of work, and in its coordination or integration with other work which has preceded or will follow. The Project Manager will set the dates and times for such conferences in consultation with the involved parties. At each meeting, review progress of other work and preparations for particular work under consideration, including requirements of contract documents, options, related change orders, purchases, deliveries, shop drawings, product data, quality control samples, possible conflicts, compatibility problems, time schedules, weather limitations, temporary facilities, space and access limitations, structural limitations, governing regulations, safety, inspection and testing requirements, required performance results, recording requirements, and protection. Project Manager shall record significant discussions of each conference, and agreements and disagreements, along with final plan of action; and shall distribute record of meeting promptly to everyone concerned.

Installer's Inspection of Conditions: The Prime Contractor involved shall require the Installer of each major unit of work to inspect the substrate to receive the work and the conditions under which the work is to be performed. The Installer shall report all unsatisfactory conditions in writing to the Prime Contractor. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

Manufacturer's Instructions: Where installations include manufactured products, comply with the manufacturer's applicable instructions and recommendations for installation, to the extent that these instructions and recommendations are more explicit or more stringent than requirements indicated in the contract documents.

Inspect each item of materials or equipment immediately prior to installation. Reject damaged and defective items.

Provide attachment and connection devices and methods for securing work properly. Secure work true to line and level, and within recognized tolerances. Allow expansion and building movement. Provide uniform joint width in exposed work. Arrange joints in exposed work to obtain the best visual effect. Refer questionable visual-effect choices to the Architect for final decision.

Recheck measurements and dimensions of the work, as an integral step of starting each installation.

Install each unit of work during weather conditions and project status which will ensure the best possible results in coordination with the entire work. Isolate each unit of work from incompatible work as necessary to prevent deterioration.

Coordinate enclosure of the work with required inspections and tests, so as to minimize the necessity of uncovering work for that purpose.

Mounting Heights: Where mounting heights are not indicated, mount individual units of work as directed by the Architect. Refer questionable mounting height choices to the Architect for final decision.

Access Provisions: Each trade installing concealed work, to which access must be available to the Owner after completion, shall furnish and install appropriate access doors and frames for installation by the Prime Contractor for Finish Carpentry. Locations must be suitable for the access required, and accepted by Project Manager and Architect. Access panels shall be compatible with the construction in which they are installed, and installation shall be complete with required hardware, grounds, screeds, attachment devices and trim.

Coordination Guidelines: Structural elements take precedence. All penetrations of structural members must have approval of the Structural Engineer. Routing of ductwork, piping, or conduit around structural, mechanical or electrical elements is the responsibility of the respective Prime Contractors or their subcontractors. This responsibility is a part of the work and no claims arising from failure to coordinate the work will be accepted.

CUTTING AND PATCHING:

General: Do not cut-and-patch structural work in a manner resulting in reduction of load carrying capacity or load/deflection ratio; submit proposed cutting and patching to Architect or Structural Engineer for structural approval before proceeding. Do not cut-and-patch operational elements and safety-related components in a manner resulting in reduction of capacities to perform in a manner intended or resulting in decreased operational life, increased maintenance, or decreased safety. Do not cut-and-patch work which is exposed on exterior or exposed in occupied spaces of building, in a manner resulting in reduction of visual qualities or resulting in substantial evidence of cut-and-patch work, both as judged solely by Architect. Remove and replace work judged by Architect to be cut-and-patched in a visually unsatisfactory manner.

Engage original Fabricator/Installer to perform cutting-and-patching of structural work, operational/safety-related components, and visually-exposed work; or, if not available, engage only recognized experts; employ only proven methods.

Materials: Except as otherwise indicated or accepted by Architect or Engineer, provide materials for cutting-and-patching which will result in equal-or-better work than work being cut-and-patched, in terms of performance characteristics and including visual effect where applicable. Use materials identical with original materials where feasible and where recognized that satisfactory results can be produced thereby.

Temporary Support and Protection: Provide adequate temporary support for work to be cut, to prevent failure. Do not endanger other work. Provide adequate protection of other work during

cutting-and-patching, to prevent damage; and provide protection of the work from adverse weather exposure.

Cut work by methods least likely to damage work to be retained and work adjoining.

Where physical cutting action is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Core drill openings completely through concrete work. Comply with the requirements of applicable sections of Division 2 where cutting-and patching requires excavating and backfilling.

Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.

Where feasible, inspect and test patched areas to demonstrate integrity of work.

Restore exposed finishes of patched areas; and, where necessary extend finish restoration onto retained work adjoining, in a manner which will eliminate evidence of patching.

Where patch occurs in a smooth unpainted surface, extend final paint coat over entire unbroken surface containing patch, after patched area has received prime and base coats.

CLEANING AND PROTECTION:

General: During handling and installation of work at the project site, each Prime Contractor shall clean and protect work in progress and adjoining work in the basis of continuous maintenance. Apply protective covering on installed work where it is required to ensure freedom from damage or deterioration at the time of substantial completion.

Clean and perform maintenance on installed work as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

Limiting Exposure of Work: To the extent possible through reasonable control and protection methods, each Prime Contractor shall supervise performance of the work in such a manner and by such means which will ensure that none of the work, whether completed or in progress, will be subjected to harmful, dangerous, damaging or otherwise deleterious exposure during the construction period. Such exposure includes, where applicable, but not by way of limitation the following:

Excessive static or dynamic loading; Excessive internal or external pressures; Excessively high or low temperatures; Thermal shock; Excessively high or low humidity; Air contamination or pollution; Water or ice; Solvents; Chemicals; Light; Radiation; Puncture; Abrasion; Heavy traffic; Soiling; Bacteria; Insect infestation; Combustion; Electrical current; High speed operation; improper lubrication; unusual wear or other misuse; Incompatible interface; Destructive testing; Misalignment; Excessive weathering; Unprotected storage; improper shipping or handling; Theft; and Vandalism.

END of SECTION

CUTTING AND PATCHING

PART 1 -GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions and other Division 1 Specification sections, apply to work of this section.

SUMMARY:

This Section specifies administrative and procedural requirements for cutting and patching.

Multiple Prime Contracts: Provisions of this Section apply to the construction activities of each prime Contractor.

Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

Requirements of this Section apply to mechanical and electrical installations. Refer to Division-15 and Division-16 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

SUBMITTALS:

Cutting and Patching Proposal: Where approval of procedures for cutting and patching is required before proceeding, submit a proposal describing procedures well in advance of the time cutting and patching will be performed and request approval to proceed. Include the following information, as applicable, in the proposal:

Describe the extent of cutting and patching required and how it is to be performed; indicate why it cannot be avoided.

Describe anticipated results in terms of changes to existing construction; include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.

List products to be used and firms or entities that will perform Work.

Indicate dates when cutting and patching is to be performed.

List utilities that will be disturbed or affected, including those that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.

Where cutting and patching involves addition of reinforcement to structural elements, submit details and engineering calculations to show how reinforcement is integrated with the original structure.

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 a part of the Work found to be unsatisfactory.

QUALITY ASSURANCE:

Requirements for Structural Work: Do not cut and patch structural work in a manner that would result in a reduction of load-carrying capacity or of load-deflection ratio.

Obtain approval of the cutting and patching proposal before cutting and patching the following structural elements:

- Foundation construction.
- Structural concrete.
- Miscellaneous structural metals.
- Exterior curtain wall construction.
- Equipment supports.
- Piping, ductwork, vessels and equipment.
- Structural systems of special construction in Division-13.

Operational and Safety Limitations: Do not cut and patch operational elements or safety related components in a manner that would result in a reduction of their capacity to perform in the manner intended, or increased maintenance, or decreased operational life or safety.

Visual Requirements: Do not cut and patch construction exposed on the exterior or in its occupied spaces, in a manner that would, in the Architects' opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner. If possible retain the original installer or fabricator to cut and patch the exposed Work, or if it is not possible to engage the original installer or fabricator, engage another recognized experienced and specialized firm.

PART 2 -PRODUCTS

MATERIALS:

Use materials that are identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 -EXECUTION

INSPECTION:

Before cutting existing surfaces, examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered. .

Before proceeding, meet at the site with parties involved in cutting and patching, including mechanical and electrical contractors. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding. .

PREPARATION:

Temporary Support: Provide temporary support of Work to be cut.

Protection: Protect existing construction during cutting and patching to prevent damage. Pro-vide

protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.

Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

Take precautions necessary to avoid cutting existing pipe, conduit or ductwork serving the building, but schedule to be removed or relocated until provisions have been made to bypass **them**.

PERFORMANCE:

General: Employ skilled workmen to perform cutting and patching work. Proceed with cutting and patching at the earliest feasible time and complete without delay.

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.

Cutting: Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review proposed procedures with the original installer; comply with original installer's recommendations.

In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

Cut through concrete using a cutting machine such as a carborundum saw or diamond core drill.

Comply with requirements of applicable Sections of Division-2 where cutting and patching requires excavating and backfilling.

By-pass utility services such as pipe and conduit, before cutting, where services are shown or required to be removed, relocated or abandoned. Cap, valve or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.

Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.

Where feasible, inspect and test patched areas to demonstrate integrity of the installation.

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.

Where removal of walls or partitions extends one finished area into another patch and repair floor and wall surfaces in the new space to 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. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch, after the patched area has received primer and second coat.

CLEANING:

Thoroughly clean areas where cutting and patching is performed or used as access. Remove completely point, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

END OF SECTION

SECTION 01050
FIELD ENGINEERING

1. PART 1- GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and General Provisions of Contract, including General Conditions and other Division-1 Specification Sections, apply to this Section.

1.02 GENERAL

- A. Contractor shall provide and pay for field engineering services required for the project.

- 1. Survey work required in execution of the project
- 2. Civil, structural or other professional engineering services specified, or required to execute contractor's construction methods.

- B. Identify existing control points and property line corner stakes indicated on the drawings, as required

1.03 QUALIFICATIONS OF SURVEYOR ENGINEER

- A. Qualified professional engineer or registered land surveyor.. '

1.04 SURVEY REFERENCE POINT

- A. The Project Manager will establish two (2) base lines and two (2) reference benchmarks, which shall be protected and maintained by each Prime Contractor. Prime Contractor shall furnish line and grade from these established control points.

- 1. It shall be the responsibility of each Prime Contractor using this control to verify that the base lines and benchmarks are undisturbed and true prior to establishing its control.
- 2. Should the Prime Contractor, during the course of work, disturb, damage and/ or destroy the controls provided above, the Prime Contractor shall be responsible for replacing the controls at no additional cost to the Owner.
- 3. Should damage to the base control points occur, it shall be the responsibility of the Prime Contractor to notify the Project Manager immediately that damage has occurred.

- B. Survey Procedures: Before proceeding with the layout of actual work, each Prime Contractor shall verify the layout information shown on the drawings, -in relation to the property survey and existing bench marks. Each Prime Contractor shall record deviations, which are accepted, not corrected, on record drawings.

- 1. Locate and protect existing control points designated on drawings, prior to starting work; preserve all permanent reference points during construction.

- a. Do not change or relocate without prior written notice to the Architect or Construction Manager.
- b. Report to Construction Manager when any reference point is lost or destroyed, or requires relocation.
- c. Require surveyor to replace project control points which may be lost or

destroyed.

1.05 PROJECT SURVEY REQUIREMENTS

A. Establish lines and levels locate and layout, by instrumentation and similar appropriate means:

1. Stakes by grading and topsoil placement.
2. Utility slopes and invert elevations.
3. Batter boards lot structures
4. Building foundation, column locations and floor levels.
5. Controlling lines and levels required for the mechanical and electrical trades.

1.06 RECORDS

- A. Submit name and address of surveyor and professional engineer to the Architect and Construction Manager.
- B. On request of the Architect, submit documentation to verify accuracy of field engineering work.
- C. Submit certificate signed by registered engineer or surveyor certifying that elevations and locations of improvements are in conformance, or nonconformance with the contract documents.

END OF SECTION

DOCUMENT 01210

ALLOWANCES

PART 1 - GENERAL

.1 SUMMARY:

.1 Section Includes: Allowances which the Contractor shall provide for designated construction activities in the Work and in his bid.

.2 Related Documents: The Conditions of the Contract and other sections of Division apply to this section as fully as if repeated herein.

.2 DESCRIPTION OF REQUIREMENTS:

.1 Definitions and Explanations: Certain requirements of the construction related to each allowance are indicated and specified. The allowance has been established instead of additional requirements for that construction, and further requirements thereof will be issued by Change Order.

.2 Type of allowance scheduled herein for the Work include the following:

.1 Lump sum allowances

.3 Selection and Purchase: At earliest feasible date after award of Contract, advise the Architect of scheduled date when final selection and purchase of each product or system described by each allowance must be accomplished in order to avoid delays in performance of the Work.

.1 As requested by the Architect, obtain and submit proposals for construction activities involved in each allowance for use in making final selections; include recommendations for selections which are relevant to the proper performance of the work.

.2 Purchase products and systems as specifically selected by the Architect

.3 Submit proposals and recommendations, for purchase of products or systems of allowances, in form specified for Change Orders.

.4 Change Order Data: Where applicable, include in each change order proposal both the quantities of products being purchased and unit cost, along with total amount of purchases to be made. When requested, furnish data to substantiate quantities. Indicate applicable taxes and delivery charges.

.5 Unit Cost Allowances: Each change order amount for unit cost type allowance shall be based solely on the difference between the actual unit purchase amount and the unit allowance, multiplied by the final measure or count of construction in place with reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections and similar margins.

.1 Include installation costs in the purchase amount as part of the allowance.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 CASH ALLOWANCES

3.1.1 The following Category Contractors shall include the following noted cash allowances in their base bid to be used solely by the Construction Manager;

3.1.1.1 Category #

3.1.2 Cash allowances shall be "net" amounts. Category contractors shall include all costs associated with the processing of items that may be charged against the designated allowance amount including estimating, project management, supervision, withholding of retention, overhead, profit, and bond costs in their base bid. The only allowable markup shall be a 10% overhead and profit fee by any subcontractor that may perform work (labor) submitted under the prime contractor. The Category Contractor shall receive no additional markups whatsoever. If any allowance amount (in whole or in part) is deleted by change order at any given point during the project, the Category Contractor shall credit back the full or unused portion of the allowance amount stipulated. The Category Contractor shall not be entitled to withhold any monies for overhead or profit or be obligated to return any overhead or profit included within their base bid. The use of any allowances is at the sole discretion of the Construction Manager.

END OF SECTION

SECTION 01300
SUBMITTALS

PART 1- GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions and other Division-1 Specification sections, apply to this section.

SUMMARY:

This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:

- Shop Drawings
- Product Data
- Samples

Multiple Prime Contracts: Provisions of this Section apply to the construction activities of each Prime Contractor.

SUBMITTAL PROCEDURES:

Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

Coordinate each submittal with purchasing, testing, delivery, other submittals and related activities that require sequential activity.

Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.

The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

Listing: Refer to the General Conditions, Article 4 for specified time listing requirements for all shop drawings, product data and samples and to materials and equipment elsewhere in Division for product list schedule.

Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.

Allow two weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Project Manager will promptly advise the Prime Contractor when a submittal being processed must be delayed for coordination.

If an intermediate submittal is necessary, process the same as the initial submittal.

Allow two weeks for reprocessing each submittal.

No extension of Contract Time will be authorized because of failure to transmit submittals to the Project Manager sufficiently in advance of the Work to permit processing.

Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

Include the following information on the label for processing and recording action taken.

- Project Name
- Date
- Name and address of Architect
- Name and address of Prime Contractor
- Name and address of subcontractor
- Name and address of supplier
- Name of manufacturer
- Number and title of appropriate Specification Section
- Drawing number and detail references, as appropriate

Provide 4" square spaces - for Architect's/Engineer's review stamp. Package each submittal appropriately for transmittal and handling. Submittals which are received from sources other than through Prime Contractor's office will be returned without being reviewed.

Prime Contractor's Review and Approval of Submittal: Each submittal upon which proper execution of the Work is dependent shall bear the Prime Contractor's review and approval stamp, dated and signed by the Prime Contractor in every case, certifying the Prime Contractor has (a) reviewed, checked, and approved the submittal and coordinated submittal contents with all requirements of the Work and the Contract Documents including related Work, (b) determined and verified measurements, quantities, field construction criteria, materials and equipment including catalog numbers and identifications, and similar data, or will do so, and (c) states that Work illustrated or described in the submittal is recommended by Prime Contractor and that the Prime Contractor's guarantee and warranty will fully apply thereto.

Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Prime Contractor to the Project Manager and to other destinations as indicated, by use of a transmittal form. Submittals received from sources other than the Prime Contractor will be returned to the sender "without action".

Transmittal Form: Prepare a draft of a transmittal form and submit it to the Architect/Engineer for acceptance. Provide on the form places for the following information:

- Project name
- Date
- To
- From
- Names of subcontractor, manufacturer and supplier
- References
- Category and type of submittal
- Submittal purpose and description
- Submittal and transmittal distribution record
- Signature of transmitter

Prime Contractor's certification stating that the information submitted complies with the requirements of the Contract Documents, with a place for the Prime Contractor's signature.

Record relevant information and requests for data on the transmittal form. On the transmittal form, or on a separate sheet attached to the form, record deviations from the requirements of the Contract Documents, if any, including minor variations and limitations.

SHOP DRAWINGS:

Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.

Shop Drawings include fabrication and installation drawings, setting diagrams, shop work manufacturing instructions, coordination drawings, contractors' engineering calculations, schedules, patterns, templates and similar drawings. Include the following information:

- Dimensions
- Identification of products and materials included
- Compliance with specified standards
- Notation of coordination requirements
- Notation of dimensions established by field measurement

Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2" x 11" but not larger than 36" x 48".

Submittals: Submit 1 Electronic copy via email for the Project Manager's and Architect's (or Engineer's) review

Resubmittals: If required by the Architect's review, resubmit revised drawings in the same form and quantity as indicated at Paragraph above.

PRODUCT DATA:

Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."

Mark the electronic copy to show applicable choices and options. . Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:

- Manufacturer's printed recommendations
- Compliance with recognized trade association standards
- Compliance with recognized testing agency standards
- Application of testing agency labels and seals
- Notation of dimensions verified by field measurement
- Notation of coordination requirements

Do not submit Product Data until compliance with requirements of the Contract

Documents has been confirmed.

Submittals: Submit one (1) electronic copy of each required submittal. The Project Manager, Architect and Engineer will review and return marked with action taken and corrections, and modifications required. Resubmit when so indicated by Architect's review.

SAMPLES:

Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.

Mount, display, or package Samples in the manner specified to facilitate review of qualities indicated. Prepare Samples to match the Architect's Sample. Include the following:

- Generic description of the Sample
- Sample source
- Product name or name of manufacturer
- Compliance with recognized standards
- Availability and delivery time

Submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed:

Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits of the variations.

Preliminary Submittals: Where Samples are for selection of color, pattern, texture or similar characteristics from a range of standard choices, submit a full set of choices for the material or product.

Preliminary submittals will be reviewed and returned with the Architect's mark indicating selection and other action.

Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation and similar characteristics, submit 3 sets; one will be returned marked with the action taken.

Maintain sets of Samples, as returned, at the Project site, for quality comparisons throughout the course of construction.

Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.

Sample sets may be used to obtain final acceptance of the construction associated with each set.

Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work. Show distribution on transmittal forms.

Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish

materials and to establish the standard by which the Work will be judged.

Comply with submittal requirements to the fullest extent possible.
Process transmittal forms to provide a record of activity.

ARCHITECT'S ACTION:

Except for submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each submittal, mark to indicate action taken, and return promptly.

Compliance with specified characteristics is the Prime Contractor's responsibility.

Conditions of Review:

Architect's review is for general conformance with the design concept and contract documents. Markings or comments shall not be construed as relieving the Prime Contractor from compliance with the project plans and specifications, nor departures there from. The Prime Contractor remains responsible for details and accuracy, for conforming and correlating all quantities and dimensions, for selecting fabrication processes for techniques of assembly, and for performing his work in a safe manner.

The Prime Contractor is responsible for coordinating his work with and between that of all Prime Contractors/Subcontractors and trades.

Absolutely no deviation from the Contract Documents will be permitted without written acknowledgment from the Prime Contractor to the Architect accompanying this submittal of all deviations contained in this submittal.

The Architect's review is not the final stage of acceptance for any part of the project, nor does it relieve the Prime Contractor of his Contract responsibilities.

Action Stamp: The Architect and Engineer will stamp each submittal to be returned with a review stamp with indications of the following conditions:

No Exceptions Taken: If this box is marked, the work covered by the submittal may proceed provided it complies with the requirements of the contract documents; acceptance of the work will depend upon that compliance.

Mark Corrections Noted: If this box is marked, the work covered by the submittal may proceed provided it complies with both the Architect's or Engineer's notations or corrections to the submittal and with the requirements of the contract documents; acceptance of the work will depend on that compliance.

Revise and Resubmit: If this box is marked, do not proceed with the work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise the submittal in accordance with the Architect's/Engineer's notations and resubmit without delay. Repeat if necessary.

Rejected and Resubmit: If this box is marked, do not proceed with the work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise the submittal or prepare a new submittal in accordance with the Architect's/Engineer's notations and resubmit without delay.

Remarks Attached: If this box is marked, the review has occasioned comments that have been attached to the submittal. Process these comments as if they had been written on the submittal itself.

Closeout Submittals: Refer to "Project Closeout" sections for specific general requirements on submittal of closeout information, materials, tools, and similar items.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

SECTION 01310

PROJECT CONSTRUCTION SCHEDULE

1. PART 1 GENERAL

A. SUMMARY

1. The work includes the preparation and submission of the sub-schedules and reports specified herein, including the up-to-date maintenance thereof as required by the CONSTRUCTION MANAGER. The Conditions of the Contract and the other sections of Division 1 apply to this section as fully as if repeated herein.

B. CONSTRUCTION SCHEDULE

1. The enclosed "PROJECT CONSTRUCTION SCHEDULE" is composed of tentative starting dates and fixed durations for each major activity of work on the project.

- a. Within 1 week of Contractor's receipt of District's Notice Of Award Letter, each Prime Contractor will be required to provide the following details to the CONSTRUCTION MANAGER:
- b. Proposed manpower loading of each scheduled field activity in order to properly complete same within the PROJECT CONSTRUCTION SCHEDULE'S fixed durations.
- c. Establish submittal lead times which will allow for the proper review time by the Architect without delaying the timely scheduled procurement of products, materials, and/or assemblies.
- d. Establish fabrication and/or procurement lead times which will maintain that no operation will be delayed from its scheduled starting date.

2. The Superintendent for each contractor shall submit, to the CONSTRUCTION MANAGER'S Project Superintendent, a brief written report by 12:00 noon on EACH AND EVERY WORKING DAY in which contractor is performing work on the project site which identifies each of the following:

- a. Schedule activity or activities currently under construction that day and the number of mechanics assigned to work the full or majority of the day on same.
- b. Total number of mechanics on the project that day which will work the full day.
- c. Estimated 100% completion date of each activity or activities currently under construction that day.
- d. Specific problems, if any, with the actions and/or inactions of other contractors, the DISTRICT, CONSTRUCTION MANAGER, ARCHITECT, consulting engineers, or the contract documents which are preventing CONTRACTOR'S work from being properly completed per the schedule.

3. CONTRACTOR must coordinate all work with all other contractors on the project through the CONSTRUCTION MANAGER'S Project Superintendent in order to complete each activity of their work within the fixed durations assigned to same as shown on the "PROJECT CONSTRUCTION SCHEDULE".

4. Schedule start dates as shown on the PROJECT CONSTRUCTION SCHEDULE are referred to as "tentative" only to the affect that said dates will be continually adjusted either forward or backward by the CONSTRUCTION MANAGER as the project progresses. Upon receipt of 48 hours advanced

notice by the CONSTRUCTION MANAGER to begin work on an activity, CONTRACTOR must properly man and perform the work of said activity and complete same within the noted number of consecutive working days or less assigned to said activity in the PROJECT CONSTRUCTION SCHEDULE.

5. CONTRACTOR is expected to continually monitor all phases of the project field construction progress in order to insure that CONTRACTOR'S work is properly implemented into the overall project improvements.

6. CONTRACTOR is expected to provide properly trained and skilled mechanics in adequate numbers and equipment needed and/or required in order to properly and efficiently complete all work activities per the schedule. Should CONSTRUCTION MANAGER have reason to believe at any time that CONTRACTOR is not providing an adequate workforce armed with the proper materials and/or equipment, CONSTRUCTION MANAGER shall give CONTRACTOR written notice of same. Activity Manpower loading submitted in item 1.B.1.b above shall in no way limit the responsibility of the CONTRACTOR to perform to the fixed duration requirements of the PROJECT CONSTRUCTION SCHEDULE.

END OF SECTION

SCHEDULES/PAYMENTS

PART 1-GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of each prime Contract, including General Conditions and other Division-1 Specification sections, apply to work of this section.

SUMMARY:

Multiple Prime Contracts: Provisions of this Section apply to the construction activities of each Prime Contractor.

This section specifies schedules and payments integral for the Project, including but not necessarily limited to the following:

- Progress Schedules
- Color Schedules
- Submittal Schedules
- Progress Meetings Reporting
- Schedule of Values
- Payment Requests

COORDINATION, GENERAL:

Each Prime Contractor shall provide close administrative and procedural coordination of scheduling with other Prime Contractors. Each Prime Contractor shall also be responsive to the overall coordination responsibilities assigned to the Project Manager. Each Prime Contractor shall coordinate both the provisions of this and other sections, so as to provide consistency and logical coordination between the reports. Maintain coordination and correlation between separate reports by updating at monthly or shorter time intervals. Each Prime Contractor shall make appropriate distribution of each report and updated report to all other Prime Contractors involved in the work, Project Manager and Owner. In particular, provide close coordination of progress schedule, schedule of submittals & progress reports.

PRELIMINARY CONSTRUCTION SCHEDULES:

Incorporated into the Construction Documents, the Project Manager has provided a baseline construction schedule. Within five (5) days following execution of the Agreement, the Prime Contractors shall prepare and submit to Project Manager, individual preliminary construction schedules (General Conditions 7.3.1). Matching the Baseline Construction Schedule in bar-chart form showing its work, properly sequenced and coordinated with work of the Prime Contractors. Each schedule shall show completion of its work sufficiently in advance of date established for substantial completion of the entire work of the prime contracts. If schedule adjustments are necessary for proper sequencing and coordinating of the work, the Project Manager shall schedule a meeting with all Prime Contractors at the earliest possible date; at this meeting, each Prime Contractor shall negotiate reasonable adjustments to the schedule.

Based on preliminary construction schedules, any updating and feedback occurring during the project start-up, the Project Manager shall create the approved Construction Schedule for the entire work of the prime contracts. Within ten (10) days of receipt of multiple prime preliminary construction schedules, submit a multi-sheet, comprehensive, integrated, bar-chart type progress schedule indicating, by phase, a

time bar for each major category or unit of work to be performed at site; include minor elements of the work which are, nevertheless, involved in overall sequencing of the work. Show the work of each prime contract on a separate sheet, and prepare a simplified summary sheet of the combined work of the prime contracts. Arrange the schedules to show graphically the major sequences of work necessary for the completion of related elements of work. Arrange the schedules to show how substantial completion is scheduled to allow for the Architects procedures for certification of substantial completion. Prepare and maintain the schedule on either a sheet of sufficient width (or else a series of sheets) to show the required data clearly for the entire Construction Time. Prepare schedule on sheets of stable transparency (or other reproducible material) to permit reproduction for the required distribution.

Arrange schedule with notations to show how the sequence of work is affected by requirements for phased completion, work by separate non-Prime Contractors, work by the Owner, repurchased materials, coordination with existing work, limitations of continued occupancies, non-interruptible services, partial occupancy prior to substantial completion, site restrictions, provisions for future work, seasonal variations, environmental control, and similar provisions of total project. refer to other sections of Division 1 and other contract documents for requirements.

Following the initial submittal to and response by the Architect, the Project Manager shall print and distribute progress schedules to the Owner, separate Prime Contractors, the principal subcontractors and suppliers and others with a need-to-know schedule compliance requirement. Post copies in the temporary field office. When revisions are made, distribute updated issues to the same entities and post updated issues in the same locations. Delete entities from distribution when they have completed assigned work and are no longer involved in performance of scheduled work.

SUBMITTAL SCHEDULE:

Within five (5) days of the Agreement, the Prime Contractors shall prepare & submit to Project Manager complete schedule of work-related submittals. Correlate submittal schedule as required by the General Conditions, and with the listing of products or the procurement schedule as specified in the Products and Substitutions sections and elsewhere in the contract documents.

PROGRESS MEETINGS, REPORTING:

General: In addition to specific coordination and pre-installation meetings for each element of work, and other regular project meetings held for other purposes, Project Manager shall schedule and hold a general progress meeting each month, with time coordinated with preparation of payment requests. Require each Prime Contractor and each entities involved in planning, coordination or performance of work to be properly represented at each meeting. Review each entities present and future needs including interface requirements, time, sequences, deliveries, access, site utilization, temporary facilities and services, hours of work, hazards and risks, housekeeping, change orders, and documentation of information for payment requests.

Discuss whether each element of current work is ahead of schedule, on time, or behind schedule in relation with integrated and updated approved construction schedule. Determine how behind-schedule work will be expedited, and secure commitments from each Prime Contractor and other major entities involved in doing so. Discuss whether schedule revisions are required to ensure that current work and subsequent work will be completed within Contract Time of each prime contract. Review everything of significance that could affect progress of the work.

Initial Progress Meeting: Schedule the initial progress meeting, recognized as the "Preconstruction Meeting", for a date not more than 15 days after commencement of the work. Conduct this meeting as an organizational meeting, and review responsibilities and personnel assignments.

Reporting: Within 3 days after each progress meeting date, Project Manager shall distribute copies of minutes-of-the-meeting to each entity present and to others who should have been present. Include a brief summary (in narrative form) of progress of the work since previous meeting and report.

Daily Reports: The Project Manager and Inspector (as owner's representative) shall each prepare a daily report, recording the following information concerning events at the site. Duplicate copies of the Inspectors Daily Reports shall be available for the Architect's (or engineer) review when requested.

- List of Prime Contractors at the site.
- List of subcontractors at the site.
- Approximate total count of personnel at the site.
- High/low temperatures, general weather conditions.
- Accidents (refer to accident reports).
- Meetings and significant decisions.
- Unusual events (refer to special reports).
- Stoppages, delays, shortages, losses.
- Emergency procedures, field orders.
- Orders/requests by governing authorities.
- Change orders received, implemented.
- Services connected, disconnected.
- Equipment or system tests and start-ups.
- Partial completions.
- Substantial completions authorized.

Notice of Labor Disputes: Whenever an actual or potential labor-dispute is delaying or threatens to delay the performance of the work, the Prime Contractor shall immediately notify the Architect, orally, and confirm in writing. Such notice shall include all relevant information concerning the dispute and its background.

SCHEDULE OF VALUES:

General: Each Prime Contractor shall prepare a schedule of values/cost breakdown, as required by the General Conditions. Provide breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of payment requests and progress reports. Breakdown principal subcontract amounts into several line items. Round off to the nearest whole dollar, but with the total equal to the Contract Sum.

Sub-Schedules: Where work is separated into phases which require separately phased payments to Prime Contractor, provide sub-schedules showing values correlated with each phase of payment.

Material/Fabrication Values: For each unit of work where payment requests will be made on account of materials or equipment purchased, fabricated OR delivered but not yet installed, show "initial value" for payment request and "value added" for subsequent stage or stages of completion on that unit of work.

Time Coordination: In coordination of initial submittals and other administrative "startup" activities, submit the schedule of values to the Project Manager at the earliest feasible date, but in no case later than 7 days before the initial payment period for the project.

Listing: Arrange the schedule with columns to indicate the generic name of item, related specification sections, the subcontractor, the supplier/manufacturer/fabricator, change orders (numbers) which have affected the value, the dollar value of the item, and the percentage of the Contract Sum to nearest one-hundredth percent and adjusted to total 100 percent.

Margins of Cost: Show line items of indirect costs, and margins on actual costs, only to the extent such items will be individually listed in payment requests. In general, each item in the schedule of values and in payment requests shall be established to be complete with its total expenses and proportionate share of general overhead and profit margin. Except as otherwise indicated, those major cost items that are not directly the cost of actual work-in-place, such as distinct temporary facilities, may be either shown as line items in schedule of values or may be distributed as general overhead expense, at each Prime Contractor's option.

Schedule Updating: Update and resubmit the schedule of values when change orders affect listing and when the actual performance of the work involves necessary changes of substance to values previously listed.

PAYMENT REQUESTS:

General: Except as otherwise indicated, the progress payment cycle for each Prime Contractor is to be regular. Each application must be consistent with previous applications and payments. Certain applications for payment, such as the initial application, the application at substantial completion, and the final payment application involve additional requirements.

Waivers of Lien: For each payment application, each Prime Contractor shall submit waivers of lien for every entity (including Prime Contractor) who could lawfully and possibly file a lien in excess of \$100 arising out of the Contract and related to work covered by the payment. Submit partial waivers for the amount requested, prior to deduction of retainage, on each item. When application shows completion of an item, submit final or full waivers. The Owner reserves the right to designate which entities involved in the work must submit waivers.

Waiver Delays: Each progress payment must be submitted with Prime Contractor's waiver from the period of construction covered by the application. At the Prime Contractor's option, each progress payment may be submitted from waivers from the subcontractors or subcontractors and suppliers for the previous period of construction covered by the previous application. The final payment application must be submitted together with or preceded by final or complete waivers from every entity involved with performance of the work covered by the payment request.

Waiver Forms: Submit waivers on forms, and executed in a manner, acceptable to Project Manager.

Payment Application Times: The "date for each progress payment" for each Prime Contractor is as indicated in Owner-Prime Contractor Agreement and in the Supplementary Conditions to the General Conditions, Article 9.

Payment Application Forms: Certificate for Payment form available from Architect's office.

Application Preparation: Except as otherwise indicated, complete every entry provided for on the form, including notarization and execution by authorized persons. Incomplete applications will be returned by Project Manager without action. Entries must match current data of schedule of values, progress schedule and reports. Listing must include amounts of change orders issued prior to last day of the "period of construction" covered by application.

Initial Payment Application: The principal administrative actions and submittals which must precede or coincide with submittal of each Prime Contractor's first payment application can be summarized as follows, but not necessarily by way of limitation:

Listing of subcontractors and principal suppliers and fabricators.

Schedule of values.

Progress schedule (preliminary if not final).

Schedule of principal products.

Schedule of submittals (preliminary if not final).

Listing of Prime Contractor's staff assignments and principal consultants.

Performance and/or payment bonds.

Evidence satisfactory to Owner that Prime Contractor's insurance coverage's have been secured.

Data needed by Owner to secure related insurance coverage's.

Application at Time of Substantial Completion: Following issuance of Architect's final "certificate of substantial completion" on each Prime Contractor's work, and also in part as applicable to prior certificates on portions of completed work as designated, a "special" payment application may be prepared and submitted by Prime Contractor. The principal administrative actions and submittals which must proceed or coincide with such special applications can be summarized, as follows, but not necessarily by way of limitation:

Approvals or Certifications by governing authorities assuring Owner's full access and use of completed work.

Warranties (guarantees), maintenance agreements and similar provisions of contract documents.

Final cleaning of the work.

Listing of Prime Contractor's incomplete work, recognized as exceptions to Architect's (or Engineers) certificate of substantial completion.

Test/adjust/balance records, maintenance instructions, meter readings, start-up performance reports, and similar changeover information germane to Owner's occupancy, use, operation, and maintenance of completed work.

Application for reduction (if any) of retainage, and consent of surety

Advice to Owner on coordination of shifting insurance coverage's, including proof of extended coverage as required.

Architects Certificate of Substantial Completion.

Final Payment Application: The administrative actions and submittals which must precede or coincide with submittal of each Prime Contractor's final payment application can be summarized as follows, but not necessarily by way of limitation:

Completion of project close-out requirements.

Completion of items specified for completion beyond time of substantial completion (regardless of whether special payment application was previously made).

Assurance, satisfactory to Owner, that unsettled claims will be settled and that work not actually completed and accepted will be completed without undue delay.

Transmittal of required project construction records to Owner.

Proof, satisfactory to Owner, that taxes, fees and similar obligations of Prime Contractor have been paid.

Removal of temporary facilities, services, surplus materials, rubbish and similar elements.

Changeover of door locks and other provisions for Prime Contractor's access to Owner's

property.

Consent of surety for final payment.

After the completion of the work contemplated by this Contract, the Prime Contractor shall file with the Owner *his* affidavit, sworn to before a Notary Public, stating that all workmen and persons employed, all firms supplying the materials and all subcontractors upon the project have been paid in full and that there are not bills outstanding against the project for either labor or materials, except certain items in connection with the Notices to Withhold have been filed under the provisions of the Statutes of the State of California. The filing of such affidavit by the Prime Contractor shall be a prerequisite to making, by the Owner, of the final payment on the contract.

Application Transmittal: Each Prime Contractor shall submit 4 executed copies of each payment application, one copy of which shall be complete with waivers of lien and similar attachments. Transmit each copy with a transmittal form listing those attachments, and recording appropriate information related to application in a manner acceptable to Project Manager. Transmit to Project Manager by means ensuring receipt within 24 hours.

PART 2-PRODUCTS (Not Applicable)

PART 3-EXECUTION (Not Applicable)

END OF SECTION

SECTION 01323
CONSTRUCTION PHOTOGRAPHS

PART 1-GENERAL

1.1 SUMMARY

- A. Section includes requirements for photographs to be taken before and during the construction of the Project.

1.2 SUBMITTALS

- A. E-mail photos to the District and Construction Manager within 3 days after capturing photographs.

PART 2 -PRODUCTS (NOT USED)

PART 3 -EXAMINATION

3.1 GENERAL

- A. Provide time-dated construction photographs taken on first day of each month and at following stages of construction, when they do not coincide with the first day of the month.
 - 1. Prior to beginning any work at the site.
 - 2. Promptly after damage that may result in loss or liability occurs.
 - 3. At completion of all construction work and when at project completion.
- B. At each specified time during construction, take photographs from different views. Take 12 exterior views and 24 interior views. Views will be determined, or must be approved in advance by the Architect.
- C. Take color photographs with a digital camera at a resolution of not less than 4 mega pixels.
- D. E-mail photographs as specified above.

END OF SECTION

SECTION 01400
QUALITY CONTROL SERVICES

PART 1- GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions and other Division-1 Specification sections, apply to this section.

SUMMARY:

Multiple Prime Contracts: Provisions of this Section apply to the construction activities of each Prime Contractor.

This Section specifies administrative and procedural requirements for quality control services.

Quality control services include inspections and tests and related actions including reports performed by independent agencies, governing authorities, and the Prime Contractors. They do not include Contract enforcement activities performed by the Project Manager.

Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve the Prime Contractors of responsibility for compliance with Contract Document requirements.

Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.

Specific quality control requirements for individual construction activities are specified in the Sections that specify those activities. Those requirements, including inspections and tests, cover production of standard products as well as customized fabrication and installation procedures.

Inspections, test and related actions specified are not intended to limit the Prime Contractor's quality control procedures that facilitate compliance with Contract Document requirements.

Requirements for each Prime Contractor to provide quality control services required by the Project Manager, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

RESPONSIBILITIES:

Prime Contractor Responsibilities: Each Prime Contractor shall provide inspections, tests and similar quality control services, specified in individual Specification Sections and required by governing authorities, except where they are specifically indicated to be the Owner's responsibility, or are provided by another identified entity; these services include those specified to be performed by an independent agency and not by the Prime Contractors. Costs for these services shall be included in the Contract Sum.

The Prime Contractor shall employ and pay an independent agency, to perform specified quality control services.

The Owner will engage and pay for the services of an independent agency to perform inspections and tests unless otherwise noted.

Where the Owner has engaged a testing agency or other entity for testing and inspection of a part of the Work, and the Prime Contractor is also required to engage an entity for the same or related element, the Prime Contractor shall not employ the entity engaged by the Owner, unless otherwise agreed in writing with the Owner.

Retesting: Each Prime Contractor is responsible for retesting where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Document, requirements, regardless of whether the original test was the Prime Contractor's responsibility.

Cost of retesting construction revised or replaced by the Prime Contractor is the Prime Contractor's responsibility, where required tests were performed on original construction.

Associated Services: All Prime Contractors shall cooperate with agencies performing required inspections, tests and similar services and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:

Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests.

Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.

Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.

Providing the agency with a preliminary design mix proposed for use for materials. mixes that require control by the testing agency.

Security and protection of samples and test equipment at the Project Site.

Owner Responsibilities: The Owner will provide inspections, tests and similar quality control services specified to be performed by independent agencies and not by the Prime Contractors, except where they are specifically indicated as the Prime Contractor's responsibility or are provided by another identified entity. Costs for these services are not included in the Contract Sum.

The Owner will employ and pay for the services of an independent agency, testing laboratory or other qualified firm to perform services, which are the Owner's responsibility.

Independent Testing Laboratory: The testing laboratory shall be selected by, and be employed by the Owner. The testing laboratory shall be subject to the approval of the Project Manager. The testing laboratory shall perform all tests requested by the owner, Project Manager. Samples for testing shall be taken by the Inspector or a representative of the approved testing laboratory and not by the Prime Contractor.

Duties of the Testing Agency: The independent testing agency engaged to perform inspections, sampling and testing of materials and construction specified in individual Specification Sections shall cooperate with the Project Manager and Prime Contractor in performance of its duties, and shall provide qualified personnel to perform required inspections and tests.

The agency shall notify the Project Manager and Prime Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

The agency is not authorized to release, revoke, alter or enlarge requirements of the Contract Documents, or approve or accept any portion of the Work.

The agency shall not perform any duties of the Prime Contractor.

Coordination: Each Prime Contractor and each agency engaged to perform inspections, tests and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition the Prime Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.

The Prime Contractor is responsible for scheduling times for inspections, tests, taking samples and similar activities.

TESTS:

The Owner will select an independent testing laboratory to conduct the tests. Selection of material required to test shall be by the laboratory or the Owner's representative and **not by the Prime Contractor**.

The Prime Contractor shall notify the Owner's representative a sufficient time in advance of the manufacture of material to be supplied by him under the Contract Documents, which must by terms of the Contract be tested in order that the Owner may arrange for the testing of the same at the source of supply.

Any material shipped by the Prime Contractor from the source of supply prior to having satisfactorily passed such testing and inspection or prior to the receipt of notice from said representative that such testing and inspection **shall not be incorporated in the job**.

The Owner will select and pay the testing laboratory costs for all tests and inspections, but may be reimbursed by the Prime Contractor for such costs under the Contract Documents.

SUBMITTALS:

The independent testing agency shall submit a certified written report of each inspection, test or similar service, to the Project Manager , in duplicate, unless the Prime Contractor is responsible for the service. If the Prime Contractor is responsible for the service, submit a certified written report of each inspection, test or similar service through the Prime Contractor, in duplicate.

Submit additional copies of each written report directly to the governing authority; when the authority so directs.

Report Data: Written reports of each inspection, test or similar service shall include, but not be limited to:

- Date of issue
- Project title and number
- Name, address and telephone number of testing agency
- Dates and locations of samples and tests or inspections
- Names of individuals making the inspection or test
- Designation of the Work and test method
- Identification of product and Specification Section
- Complete inspection or test data
- Test results and an interpretation of test results
- Ambient conditions at the time of sample-taking and testing
- Commence or professional opinion as to whether inspected or tested Work complies with Contract Document requirements
- Name and signature of laboratory inspector
- Recommendations on retesting

QUALITY ASSURANCE:

Qualification for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, which are pre-qualified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of

Independent Laboratories, and which specialize in the types of inspections and tests to be performed.

PART 2- PRODUCTS (Not Applicable)

PART 3 - EXECUTION

REPAIR AND PROTECTION:

General: Upon completion of inspection, testing, sample-taking and similar services repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes. Comply with the Contract Document requirements for "Cutting and Patching". Protect work exposed by or for quality control service activities, and protect repaired work. Repair and protection is the Prime Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

Each Prime Contractor shall protect construction exposed by or for quality control service activities, and protect repaired construction.

Repair and protection is the Prime Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

INSPECTION SERVICES:

INSPECTION BY THE OWNER:

The Owner and his representative shall at all times have access for the purpose of inspection to all parts of the work and to the shops wherein the work is in preparation, and the Prime Contractor shall at all times maintain proper facilities and provide safe access for such inspection.

The Owner and his representatives shall have the right to reject materials and workmanship, which are defective, or to require their correction. Rejected workmanship shall be removed from the premises without charge to the Owner. If the Prime Contractor does not correct such rejected work within a reasonable time, fixed by written notice, the Owner may correct it and charge the expense to the Prime Contractor.

Should it be considered necessary or advisable by the Owner at any time before final acceptance of the entire work to make an examination of work already completed by removing or tearing out the same, the Prime Contractor shall on request promptly furnish all necessary facilities, labor and materials. If such work is found to be defective in any respect due to fault of the Prime Contractor or his subcontractor, he shall defray all expenses of such examinations and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the additional cost of labor and material necessarily involved in the examination and the Prime Contractor shall allow replacement.

BY THE OWNER'S INSPECTOR

A D.S.A. Certified Project Inspector employed by the Owner in accordance with the requirements of the California Code of Regulations, Title 24, will be assigned to the work. The Inspector's duties are specifically defined in Title 24, Part I, Section 4-342.

He will perform his duties under the direction of the Project Manager and report to the Owner and Project Manager. The primary duty of the Inspector is to check the Prime Contractor's work for compliance with the Contract Documents. The Prime Contractor will provide the Inspector access and facilities for access to all the work at all times and will provide a field office for the Inspector in accordance with Division 1 standards.

The work of construction in all stages of progress shall be subject to the personal continuous observation of the Inspector. He shall have free access to any or all parts of the work at any time. The Prime Contractor shall furnish the Inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials. Inspection of the work shall not relieve the Prime Contractor from any obligation to fulfill the contract.

The presence of an Inspector shall in no way change, mitigate or alleviate the responsibility of the Prime Contractor.

Relations with Project Manager or Engineer

The Inspector shall work under the direction of the Project Manager or registered engineer. All inconsistencies or seeming errors in the plans and specifications shall be reported promptly to the Project Manager or registered engineer for his interpretation and instructions. In no case, however, shall the instruction of the Project Manager or registered engineer be construed to cause work to be done, which is not in conformity with the approved plans, specifications and change orders.

Job File

The inspector shall keep a file of approved plans and specifications (including all approved addenda or change orders) on the job at all times and shall immediately return unapproved documents to the Project Manager for proper action. The inspector as a condition of this employment shall have and maintain on the job at all times, all codes and documents referred to in the plans and specifications.

Deviations

The inspector shall notify the Prime Contractor, in writing, of any deviations from the approved plans and specifications which are not immediately corrected by the Prime Contractor when brought to his attention. Copies of such notices shall be forwarded immediately to the Project Manager or registered engineer. The inspector shall have the authority to stop the work as outlined in the General Conditions and as allowed by C.C.R. Title 24.

Failure on the part of the inspector to notify the Prime Contractor of deviations from the approved plans and specifications shall in no way relieve the Prime Contractor of any responsibility to complete the work covered by his contract in exact accordance with the approved plans and specifications and all laws and regulations.

In case any dispute arises between the Prime Contractor and the Inspector, as to materials furnished or the manner of performing the work, the Inspector shall have the authority to reject materials or suspend the work until dispute at issue can be referred or settled. The Inspector is not authorized to change, revoke, alter, enlarge, decrease in any way any requirements of Contract Documents, nor to issue directions contrary to the Contract Documents, drawings, project manual, specifications or change orders.

TESTS AND INSPECTIONS:

General: Tests and inspections for the following will be required, but may not be limited, to the following:

Code section references are from Title 24, Part 2 of California Code of Regulations.

Concrete - Chapter 19 A

Materials:

Portland Cement Tests -1903A.2

Concrete Aggregates -1903A.3
 Reinforcing Bars - 1903A.5
 Batch Plant Inspection -1929A.4
 Waiver of Batch Plant Inspection and Tests -1929A.5

Concrete Quality:

Proportions of Concrete - 1905A.2
 Strength Tests of Concrete -1903A.8, 1905A.6
 Splitting Tensile Tests - 1905A.4 & 1905A.1.5
 Composite Construction Cores - 1929 A.8

Concrete Inspection:

Job Site Inspection-1701A.5.1 & 1929A.1
 Reinforcing Bar Welding Inspection-1929A.12
 (on-site only with certified mill reports and sample testing)

Aluminum - State Chapter 20 A

Materials:

Alloys - 2006A
 Identification - 2006A & TABLE 20A-II-A

Inspection:

Welding - 2012A

Foundations Chapter - State Chapter 18A

Earth Fill Compaction - 1802A

Inspection:

Excavation & Fills for Foundation - 1802A

**COMPREHENSIVE LIST OF TESTS AND INSPECTIONS
 BY SPECIFICATION SECTION**

Clarification of Owner and Prime Contractor responsibilities for testing as follows:

<u>Specification Section</u>	<u>Responsibility</u>	<u>Test</u>
02200 Earthwork	Owner	Compacted Fill Compaction Control
02513 Asphalt Concrete	Owner	Compaction of A/C & Base (N/A) Course
02514 Portland Cement Paving	Contractor	Laboratory Mix Design
	Owner	Aggregate & Compression Test
	Contractor	Review of Mix Design
02668 Water Systems	Contractor	Pressure Tests (N/ A)
02720 Storm Sewage System	Contractor	Pressure Test (N/ A)
<u>Specification Section</u>	<u>Responsibility</u>	<u>Test</u>
02730 Sanitary Sewage System	Contractor	Pressure Tests (N/ A)
02810 Irrigation System	Contractor	Pressure Tests (N/ A)
	Contractor	Operational and Coverage (N /A)
03310 Concrete	Contractor	Laboratory Mix Design
	Owner	Review of Mix Design
	Contractor	Certificate of Compliance for

16100 Electrical

Contractor
Contractor

Aggregate
Testing Per Section #16100
Hi-Pot Test (High Voltage Cable only)

END OF SECTION

SECTION 01450
CONTRACTOR QUALITY CONTROL

PART 1- GENERAL

1.1 SUMMARY

- A. Section includes general requirements for quality control of the Work, including test and inspection procedures.
- B. Related work:
 - 1. Divisions 2 through 16 for specific test procedures to be performed in compliance with this Section.

1.2 ADMINISTRATIVE STAFF

- A. Provide a competent and adequate staff for the administration, coordination, supervision, and superintendence of the Work.
- B. Do not change key members of this staff without the consent of the District, unless such staff members prove to be unsatisfactory to the Contractor and cease to be in his employ. If the Contractor intends to change a key staff member, he shall give the District written notice at least 15 days prior to the intended change.
- C. Key staff members shall be full time employees, stationed at the site.
- D. Project staff shall include, but shall not be limited to, the following:
 - 1. Project Manager: The person who has responsibility for the prosecution of the work and who has the authority to act in matters for the coordination, direction, and technical administration of the work. Prior to commencement of the work, provide the District with the name of the project manager.
 - 2. Superintendent: The person who shall be in attendance at the Project site during the performance of the work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.
 - 3. Additional staff: In addition to the general project superintendent required above, provide the services of coordinating engineer for HVAC, Plumbing, Fire Protection, and Electrical Work: The full time person who has the responsibility for the coordination of the mechanical and electrical work with the work of other trades, for the review of mechanical and electrical shop drawings, for the resolution of conflicts and interferences between trades, for directing adjustments in the work that shall be required to comply with the Contract Documents, and for commissioning the mechanical and electrical systems. This individual shall have previous experience in coordinating these areas of work on projects of similar scale and complexity.

1.3 CONTRACTOR QUALITY CONTROL SYSTEM

- A. Establish a quality control system to perform sufficient inspections and tests of all items of Work, including that of all subcontractors, to ensure conformance with the Contract Documents for materials, workmanship, construction, finish, functional performance and identification.
- B. Quality control system shall ensure that the Work complies with the requirements of the Contract Documents. Controls shall be adequate to cover all construction operations.

- C. Apply, install, connect, erect, use, clean, adjust, and condition articles, materials and equipment in compliance with their manufacturer latest published instructions, unless more restrictive or stringent requirements are specified in the Specifications.
 - 1. When specified or requested, furnish the Architect 2 copies of such printed instructions prior to introduction of such items.
 - 2. If product manufacturer instructions are in conflict with the Contract Documents, notify the Architect for clarification before proceeding.
 - 3. Keep a clean, legible copy of the various product manufacturers instructions applicable to the Work at the Project site.
- D. Certificates:
 - 1. When specified, deliver to the Architect 2 signed certificates from suppliers of materials, equipment and manufactured items stating that such materials and manufactured items meet or exceed the standards specified.
 - 2. In lieu of such certification, the Contractor may submit reports of current tests made and attested by a reputable and recognized testing laboratory.

1.4 CONTRACTOR ASSISTANCE

- A. Cooperate with individual or firm performing required inspections, tests and similar services and provide reasonable auxiliary services as requested. Notify the individual or firm sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:
 - 1. Providing access to the work to be tested or inspected and furnishing incidental labor and facilities necessary to facilitate inspections and tests.
 - 2. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
 - 3. Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.
 - 4. Providing the individual or firm with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
 - 5. Providing security and protection of samples and test equipment at the Project site.

1.5 VERIFICATION OF CONDITIONS

- A. Prior to installation of any product, inspect existing supports and assemblies to receive materials to be installed and arrange for correction of defects in the existing workmanship, material or conditions that may adversely affect work to be installed.
- B. Installation of materials will constitute acceptance of existing conditions as being in proper condition to receive the materials to be applied and waiver of claim that existing conditions are defective as pertains to warranty requirements.
- C. Where the Specifications require a product to be installed under the supervision or inspection of the material manufacturer or its representative, manufacturer or its representative shall also inspect the work in place and issue a letter to Architect verifying that this procedure was followed without exception.

1.6 INSTALLER QUALIFICATIONS

- A. Where the Specifications dictate a certain level of experience or expertise from the subcontractor/installer by requiring a minimum number of years of experience in the successful installation of a product or a minimum number of successful installations

for the product specified, it shall be the Contractor responsibility to verify the installer's competence and track record before signing a subcontract to perform the affected work.

1.7 MANUFACTURER FIELD SERVICES

- A. An experienced, competent, and authorized representative of the manufacturer of each item of equipment for which field services are required in the Specifications shall visit the site of the Work and inspect, check, adjust if necessary, and approve the equipment installation.
- B. In each case, the representative shall revisit the job-site as often as necessary until all problems are corrected and the equipment installation and operation are satisfactory, in the opinion of the Architect.
- C. Each manufacturer representative shall furnish to the Architect a written report certifying that the equipment has been properly installed, and lubricated; is in accurate alignment; is free from any undue stress imposed by connecting piping or anchor bolts; and has been operated under full load conditions and that it operated satisfactorily.
- D. All costs for these services shall be included in the Contract.

END OF SECTION

SECTION 01500
TEMPORARY CONSTRUCTION FACILITIES

PART 1- GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions and other Division-1 Specification sections, apply to work of this section.

SUMMARY:

Definitions: Specific administrative and procedural minimum actions are specified in this section, as extensions of provisions in General Conditions and other Contract Documents. These requirements have been included for special purposes as indicated. Nothing in this section is intended to limit types and amounts of temporary work required, and no omission from this section will be recognized by Architect, Engineer, Engineer or Project Manager that such temporary activity is not required for successful completion of the work and compliance with requirements of Contract Documents. Provisions of this section are applicable to, but not by way of limitation as follows:

- Utility services
- Construction facilities
- Support facilities
- Security / protection provisions

Multiple Prime Contracts: Provisions of this Section apply to construction activities of each Prime Contractor.

QUALITY ASSURANCE:

General: In addition to compliance with governing regulations and rules/recommendations of franchised utility companies, comply with specific requirements indicated and with applicable local industry standards for construction work (published recommendations by local "building councils").

ANSI Standards: Comply with applicable provisions of ANSI A10-Series standards on construction safety, including A10.3, A10.4, A10.S, A10.6, A10.7, A10.8, A10.9, A10.10, A10.11, A10.12, A10.13, A10.14, A10.1S, A10.17, A10.18, A10.20, and A10.22.

Conservation: In compliance with Owner's policy on energy/materials conservation, install and operate temporary facilities and perform construction activities in manner which reasonably will be conservative and avoid waste of energy and materials including water.

JOB CONDITIONS:

General: Establish and initiate use of each temporary facility at time first reasonably required for proper performance of the work. Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have, with authorized use, replaced the need.

Conditions of Use: Install, operate, maintain and protect temporary facilities in a manner and at locations which will be safe, non-hazardous, sanitary, and protective of persons and property, and free of deleterious effects.

PARTS 2 AND 3 - PRODUCTS AND EXECUTION

TEMPORARY UTILITY SERVICES:

Water Service:

General: Owner will provide construction water service. Prime Contractors will be responsible for providing appurtenances for directing water to desired locations.

Electrical Power Service:

General: Prime Contractor shall be responsible to provide any and all temporary power required to complete the work of this contact.

Telephone Service:

General: Prime Contractor is required to provide telephone service is needed.

TEMPORARY CONSTRUCTION FACILITIES:

The types of temporary construction facilities required include, but not by way of limitation as follows:

- Water distribution
- Drainage and watering equipment
- Enclosure of work
- Heat
- Ventilation
- Electrical power distribution
- Lighting
- Hoisting facilities
- Stairs
- Ladders
- Roads

Provide facilities reasonably required to perform construction operations properly and adequately. Each Prime Contractor shall be responsible for providing all temporary facilities for the work of their contract (excluding those facilities specifically indicated above as being furnished by others.)

Heating: Heat with self-contained heaters, bearing UL, FM or other approval labels appropriate for application. Vent fuel-burning heaters, and equip units with individual thermostatic controls. Use electric-resistance space heaters only where no other, more energy-efficient, type of heater is available and allowable.

Supply power for electric welding by engine-driven power-generator sets.

Lighting: Prime Contractor to provide temporary lighting if needed.

TEMPORARY SUPPORT FACILITIES:

Each Prime Contractor will provide the first aid facilities, materials, and equipment required by governing authorities, laws, ordinances, regulations, standards, orders and underwriters for the work of his contract.

SECURITY/PROTECTION PROVISIONS:

Prime Contractor shall be responsible to provide any and all security and/or protective measures as deemed necessary to complete the work of this contract.

Temporary Fire Protection:

Construction Sheds, Etc: Shall be placed outside of the building structure, limited to no more than 300 square feet area and located at least ten feet away from the buildings or from combustible materials storage piles. Stoves shall be set on properly protected floor with ample lateral clearance and particular attention shall be given to stack clearance and arrangement.

Gasoline, Oils, Paint and Other Volatile Liquids: Shall be kept outside, to be brought into the building in quantities only as needed. Such storage shall be in a well ventilated location, well removed from all open heating or lighting devices. Particular care shall be given to the housekeeping in the storage room to eliminate spillage and accumulation of oil wastes: provide approved waste and safety cans.

Fire Extinguishers: Each Prime Contractor shall provide types, sizes, numbers and locations as would be reasonably effective in extinguishing fires during early stages, by personnel at Project Site. Prime Contractor will instruct all his personnel at Project Site, at time of their first arrival, on proper use of extinguishers.

Barricades, Guardrails, Warning Signs and Lights:

Each Prime Contractor shall comply with recognized standards and code requirements for erection of substantial and structurally adequate barricades where needed to prevent accidents and losses. Paint with appropriate colors, graphics and warning signs to inform personnel at site, and the general public where exposure exists, of hazard being protected. Provide lighting where appropriate and needed for recognition of facility, including flashing red lights where appropriate.

Each Prime Contractor shall construct and maintain fences, guardrails, barricades, lights, flashers, shoring and warning signs as required by local authorities and State safety ordinances and as required to protect the Owner's property from injury or loss and as necessary for the protection of the public place for carrying on the work covered in this contract. Leave all protection in place and maintain until removal is authorized.

All temporary work shall conform to all the requirements of State and local authorities and underwriters which pertain to operation, safety, and fire hazard. The Prime Contractor shall furnish and install all items necessary for conformity with such requirements, whether or not called for under the separate divisions of these specifications. All fencing and barricades shall be removed upon completion of the project.

Each Prime Contractor shall protect all streets and sidewalks and shall repair all damage caused by his work at his own expense.

Noise Control: Noise from job equipment and construction operations shall be kept to a minimum by adequate mufflers and other means as approved by the Project Manager.

Dust Control: Throughout the entire contract period, the Prime Contractor shall palliate dust conditions in the working area, involved portions of the site and all roads used in the operations. 1ms shall consist of intermittent watering and sprinkling of such frequency as will satisfactorily allay the dust during the hours that work is to be performed, as required.

Drainage Control: (Water) Prime Contractor shall at all times protect related or adjacent to his work, excavations, banks, trenches and/ or the building from rain water, spring water, ground water, backing up on drains or sewers, and all other water admitted to any work by his operation. He shall provide all pumps and other equipment and enclosures to provide this protection.

Prime Contractor shall construct and maintain all necessary temporary drainage and do all pumping necessary to keep aforementioned excavations, etc., free of water.

Each Prime Contractor shall furnish and maintain pumping apparatus as needed to prevent any

water damage to the work in progress.

Pollution Control: All fires are strictly forbidden. Refer to Fire Regulations.

Weather Protection: Prime Contractor shall at all times provide protection to the work against weather, rain, wind storms, frost or heat so as to maintain all work, materials, apparatus and fixtures free from injury or damage.

LOCATION AND USE OF TEMPORARY FACILITIES:

Project Manager will direct location of construction trailers, sheds, and other facilities which individual Prime Contractors bring to the Project Site.

Prime Contractors will be responsible for damage to existing improvements caused by the installation, presence, use, and removal of temporary facilities. Temporary Facilities shall be removed as soon as their use is not needed and immediately repair all damage to previously existing or new work.

END OF SECTION

SECTION 01600
MATERIALS AND EQUIPMENT

PART 1- GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions and other Division-1 Specification sections, apply to work of this section.

SUMMARY:

This Section specifies administrative and procedural requirements governing the Prime Contractor's selection of products for use in the Project.

Multiple Prime Contracts: Provisions of this Section apply to the construction activities of each Prime Contractor.

The Prime Contractor's Construction Schedule and the Schedule of Submittals are included under Sections "Submittals" and "Schedule/Payments".

Standards: Refer to Section "Definitions and Standards" for applicability of industry standards to products specified.

Administrative procedures for handling requests for substitutions made after award of the Contract are included under Section "Product Substitutions".

DEFINITIONS:

Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms are self-explanatory and have well recognized meanings in the construction industry.

"Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

"Named Products" are items identified by manufacturer's product name, including make or model designation, indicated in the manufacturers published product literature that is current as of the date of the Contract Documents.

"Materials" are products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.

"Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping.

SUBMITTALS:

Product List Schedule: Prepare a schedule showing products specified in a tabular form acceptable to the Project Manager. Include generic names of products required. Include the manufacturer's name and proprietary product names for each item listed. Indicate whether the product listed is one of those specified, a product conforming with performance specifications, or a product which must be reviewed under the provisions of Section 01631, Product Substitutions.

Coordinate the product list schedule with the Prime Contractor's Construction Schedule and the Schedule of Submittals.

Form: Prepare the product listing schedule with information on each item tabulated

under the following column headings:

- Related Specification Section number
- Generic name used in Contract Documents
- Proprietary name, model number and similar designations
- Manufacturer's name and address
- Supplier's name and address
- Installer's name and address
- Projected delivery date, or time span of delivery period

Initial Submittal: Within 30 days after date of commencement of the Work, submit 3 copies of an initial product list schedule. Provide a written explanation for omissions of data, and for known variations from Contract requirements.

Completed Schedule: Within 60 days after date of commencement of the Work, submit 3 copies of the completed product list schedule. Provide a written explanation for omissions of data, and for known variations from Contract requirements.

Architect's Action: The Architect will respond in writing to the Prime Contractor within 2 weeks of receipt of the completed product list schedule. No response within this time period constitutes no objection to listed manufacturers or products, but does not constitute a waiver of the requirement that products comply with Contract Documents. The Architect's response will include the following:

- A list of unacceptable product selections, containing a brief explanation of reasons **for this action**.

QUALITY ASSURANCE:

Source Limitations: To the fullest extent possible, provide products of the same kind, from a single source.

Compatibility of Options: When the Prime Contractor is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.

- Each Prime Contractor is responsible for providing products and construction methods that are compatible with products and construction methods of other prime or separate Prime Contractors.

- If a dispute arises between Prime Contractors over concurrently selectable, but incompatible products, the Architect will determine which products shall be retained and which are incompatible and must be replaced.

PRODUCT DELIVERY, STORAGE, AND HANDLING:

Deliver, store and handle products in accordance with the manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft.

Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.

Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.

Deliver products to the site in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.

Inspect products upon delivery to ensure compliance with the Contract Documents, and to ensure that products are undamaged and properly protected.

Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.

Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.

Store products subject to damage by the elements above ground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation.

Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 - PRODUCTS

PRODUCT SELECTION:

General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation. Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.

Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other products.

Product Selection Procedures: Product selection is governed by the Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include the following:

Proprietary Specification Requirements: Where only a single product or manufacturer is named, provide the product indicated. No substitutions will be permitted.

Semi-proprietary Specification Requirements: Where two or more products or manufacturers are named, provide one of the products indicated. No substitutions will be permitted.

Where products or manufacturers are specified by name, accompanied by the term "or equal, or "or approved equal" comply with the Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

Non-Proprietary Specifications: When the Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Prime Contractor to use of these products only, the Prime Contractor may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.

Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.

Manufacturer's recommendations may be contained in published product literature, or by the manufacturer's certification of performance.

Compliance with Standards, Codes and Regulations: Where the specifications only require compliance with an imposed code, standard or regulation, select a product that complies with the standards, codes or regulations specified.

Visual Matching: Where Specifications require matching an established Sample, the Architect's

decision will be final on whether a proposed product matches satisfactorily.

Where no product available within the specified category matches satisfactorily and also complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category, or for noncompliance with specified requirements.

Visual Selection: Where specified product requirements include the phrase " ... as selected from manufacturer's standard colors, patterns, textures ... " or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect will select the color, pattern and texture from the product line selected.

PART 3 - EXECUTION

INSTALLATION OF PRODUCTS:

Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.

Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION

SECTION 01631
PRODUCTS AND SUBSTITUTIONS

PART 1- GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions and other Division-1 Specification sections, apply to work of this section.

SUMMARY:

This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of the Contract.

Multiple Prime Contracts: Provisions of this Section apply to the construction activities of each Prime Contractor.

The Prime Contractor's Construction Schedule and the Schedule of Submittals are included under Sections "Submittals" and "Schedule/Payments".

Standards: Refer to Section "Definitions and Standards" for applicability of industry standards to products specified.

Procedural requirements governing the Prime Contractor's selection of products and product options are included under Section "Materials and Equipment".

DEFINITIONS:

Definitions: Definitions used in this Article are not intended to change or modify the meaning of other terms used in the Contract Documents.

Substitutions: Requests for changes in products, materials, equipment and methods of construction required by Contract Documents proposed by Prime Contractors after award of the Contract are considered requests for "substitutions". The following are not considered substitutions:

Substitutions requested by Bidders during the bidding period, and accepted prior to award of Contract, are considered as included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.

Revisions to Contract Documents requested by the Owner or Architect.

Specified options on products and construction methods included in the Contract Documents.

The Prime Contractor's determination of, and compliance with, governing regulations and orders.

Substitution Request Submittal: Requests for substitution will be considered if received within 35 days after commencement of the Work. Requests received more than 35 days after commencement of the Work may be considered or rejected at the discretion of the Architect.

Submit 3 copies of each request for substitution for consideration. Submit requests in the form and in accordance with procedures required for Change Order proposals.

Identify the product or installation method to be replaced in each request. Include related Specification Section and Drawing numbers. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:

Product Data, including Drawings and descriptions of products, and Installation procedures.

A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as

size, weight, durability and performance.

Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors that will become necessary to accommodate the proposed substitution.

A statement indicating the substitution's effect on the Prime Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.

Cost information, including a proposal of the net change, if any in the Contract Sum.

Certification by the Prime Contractor that the substitution proposed is equal-to or better in every significant respect to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Prime Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.

Substitution Warranty: All submittals of Request for Substitutions under the General and Supplementary Conditions of this Section shall be accompanied by a completely executed (filled out) and signed Substitution Warranty in the form entitled "Substitution Warranty", bound herein. Substitutions will not be accepted without the Substitution Warranty.

In addition to other requirements, Prime Contractor shall warrant in writing on his own letterhead that substituted materials shall perform as specified, and assume complete responsibility for same, including responsibility and costs required for modifications to building or other materials or equipment, and any additional coordination with work of other trades.

Testing, if required shall be paid by Prime Contractor.

Architect's Action: Within one week of receipt of the request for substitution, the Architect will request additional information or documentation necessary for evaluation of the request. Within 2 weeks of receipt of the request, or one week of receipt of the additional information or documentation, whichever is later, the Project Manager will notify the Prime Contractor of acceptance or rejection of the proposed substitution. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, use the product specified by name. Acceptance will be in the form of a written instrument.

PART 2 - PRODUCTS

SUBSTITUTIONS:

Conditions: The Prime Contractor's substitution request will be received and considered by the Project Manager/Architect when one or more of the following conditions are satisfied, as

determined by the Architect; otherwise requests will be returned without action except to record noncompliance with these requirements.

Extensive revisions to Contract Documents are not required.

Proposed changes are in keeping with the general intent of Contract Documents.

The request is timely, fully documented and properly submitted.

THE REQUEST IS DIRECTLY RELATED TO AN "OR EQUAL" CLAUSE OR SIMILAR LANGUAGE IN THE CONTRACT DOCUMENTS.

The specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as

a result of failure to pursue the Work promptly or coordinate activities properly.

The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.

A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.

The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the Prime Contractor certifies that the substitution will overcome the incompatibility.

The specified product or method of construction cannot be coordinated with other materials, and where the Prime Contractor certifies that the proposed substitution can be coordinated.

The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Prime Contractor certifies that the proposed substitution provide the required warranty.

Where a proposed substitution involves more than one Prime Contractor, each Prime Contractor shall cooperate with the other Prime Contractors involved to coordinate the Work, provide uniformity and consistency, and to assure compatibility of products.

Refer elsewhere in Division 1 for definition of proprietary, semi-proprietary and nonproprietary specifications.

The Prime Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION - 01631

SECTION 01655
PRODUCT HANDLING

PART 1- GENERAL

1.1 SUMMARY

- A. Section establishes general requirements for product handling and storage, whether on or off the site, and supplements similar provisions found elsewhere in the Contract Documents.
- B. Related work
 - 1. Division one for handling provisions for OFCI items.

1.2 QUALITY ASSURANCE

- A. In the Contractor's quality control program include procedures required to insure protection of work and materials.

1.3 HANDLING

- A. General:
 - 1. Transport, deliver, handle, and store all materials and equipment used on the Project to prevent the intrusions of foreign matter, moisture, and to prevent damage. In all cases comply with the following.
 - 2. Material and equipment manufacturer's instructions regarding temperature limitations.
 - 3. Other environmental conditions required to maintain the original quality of the materials and equipment.
- B. Packaging:
 - 1. Provide packaged materials in their manufacturer's original containers with seals unbroken and labels intact until incorporating into the Work.
 - a. Where this information is not provided by the manufacturer on the container, it shall be provided by the supplier, fabricator or subcontractor of these materials.
 - 2. Wrapped or bundled materials shall clearly bear the manufacturer's name and trade mark.
- C. Damaged materials: Remove damaged or otherwise unsuitable material and equipment promptly from the site. Do not install damaged materials.

1.4 STORAGE

- A. Inspect products upon delivery to ensure compliance with the Contract Documents, and to ensure that products are undamaged and properly protected.
- B. Store products at the site to facilitate inspection and measurement of quantity or counting of units.
- C. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.

1. Do not subject slabs-on-grade to excessive loading by shoring, storage of materials, or operation of construction equipment unless adequately protected by heavy planking. Maintenance of slabs in good condition is the responsibility of the Contractor who shall remove damaged areas of such slabs and replace them with new work, to the Architect's satisfaction, at no cost to the District.
 2. Do not subject suspended slabs to construction loads exceeding their design loads, unless adequately shored with shoring designed for the Contractor by a California-licensed civil or structural engineer, who shall certify prior to imposing construction loads on slabs, that the shoring to be installed conforms with the shoring as designed.
- D. Store products subject to damage by the elements above ground, under cover in weather tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.
 - E. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
 - F. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.
 - G. Locate storage piles, stacks or bins to avoid being disturbed, and protect from damage of any sort.
 - H. Store materials and equipment in accord with their manufacturer's instructions, above grade, and properly protected from weather and construction activities.
 - I. Payment may be withheld for improperly packaged and stored materials.

1.5 PROTECTION

- A. Protect finished surfaces, including floors, jambs and soffits of all openings used as passageways or through which materials and equipment must travel.
- B. Carts, hand trucks, wheelbarrows and similar wheeled conveyances used on or in any portion of the structure shall be equipped with pneumatic tires, unless otherwise authorized by the Architect.
- C. Keep finished surfaces clean and unmarred until the date of acceptance.
- D. Refer to individual Specification Sections for additional specific product handling and protection requirements.

1.6 MAINTENANCE

- A. Maintain periodic system of inspection of stored products on a scheduled basis to assure that:
 - 1. State of storage facilities is adequate to provide conditions recommended by the product manufacturer.
 - 2. Required environmental conditions are maintained on a continuing basis.
 - 3. Surfaces of products exposed to the elements are not adversely affected.
- B. Mechanical and electrical equipment which require servicing and/ or connection of temporary power for heating and other climatic protection devices, during long term storage, shall have complete manufacturer's instructions accompanying each item, with notice of enclosed instructions shown on the exterior of the packaging.

END OF SECTION

SECTION 01700
PROJECT CLOSEOUT

PART 1- GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General Conditions and other Division-1 Specification sections, apply to work of this section. .

SUMMARY:

This Section specifies administrative and procedural requirements for project closeout, including but not limited to:

- Inspection procedures
 - Project record document submittal
 - Operating and maintenance manual submittal
 - Submittal of warranties
 - Final cleaning
- Closeout requirements for specific construction activities are included in the appropriate Sections in Division-2 through -16.

Multiple Prime Contracts: Provisions of this Section apply to the construction activities of each Prime Contractor.

SUBSTANTIAL COMPLETION:

Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.

In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.

If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.

Each Prime Contractor shall submit specific warranties, workmanship bonds, final certifications and similar documents.

The appropriate Prime Contractors shall obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, and similar releases.

Submit record drawings, and similar final record information.
Deliver tools, spare parts, extra stock, and similar items.

Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with constructions tools, mock-ups, and similar elements.

Complete final clean-up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.

Inspection Procedures: On receipt of a request for review of completed work, the Project Manager will either proceed with observations or advise the Prime Contractor of unfilled requirements. The Project Manager will prepare the Certificate of Substantial Completion following review(s), or advise the Prime Contractor of construction that must be completed or

corrected before the certificate will be issued.

The Project Manager with the Architect will review completed work when reasonably requested and assured that the Work has been substantially completed. Completion of all work found to be acceptable under the conditions of the contract and according to the Contract Documents will form the basis of requirements for final acceptance.

FINAL ACCEPTANCE:

Preliminary Procedures: Before requesting final review of completed work for certification of final acceptance and final payment complete the following. List exceptions in the request. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.

Submit an updated final statement accounting for final additional changes to the Contract Sum.

Submit a certified copy of the Architect's final observation checklist of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Architect.

Submit consent of surety to final payment.

Submit a final liquidated damages settlement statement.

Subsequent Review of Completed Work: The Project Manager will observe the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Project Manager and Architect.

Upon completion of all work found to be acceptable under the Contract and according to the Contract Documents, the Architect will prepare a certificate of final acceptance, or advise the Prime Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.

If necessary, subsequent observation(s) will be repeated.

RECORD DOCUMENT SUBMITTALS:

General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect's/Project Manager's reference during normal working hours.

Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies from the Work as originally shown. Mark whichever drawing is most capable

of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. **Give particular attention to concealed elements that would be difficult to measure and record at a later date.**

Indicate the location of all underground piping, conduits or infrastructure.

Indicate all revisions to construction documents that relate to location or routing.

Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.

Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.

Note related Instruction Bulletin or Change Order numbers where applicable.

Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.

Indicate invert elevations of pipe below grade or floor line, plugged wyes, tees, caps, manholes; exact locations and sizes of piping, valves, conduit, junction or pull boxes; and all other pertinent data, and similar *items* required for maintenance and repair service.

All such work shall be indicated by measured dimension to building comers or other permanent monuments, indicating its exact location in the concrete slabs or underground. Such drawings shall be made to scale.

Record Specifications: Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data.

Upon completion of the Work, submit record Specifications to the Project Manager for the Owner's records.

Record Product Data: Maintain one copy of each Product Data submittal. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations. Give particular attention to concealed products and portions of the Work, which cannot otherwise be readily discerned later by direct observation. Noted related Instruction Bulletins or Change Orders and mark-up of record drawings and Specifications.

Upon completion of mark-up, submit complete set of record Product Data to the Project Manager for the Owner's records.

Record Sample Submitted: Immediately prior to the date or dates of Substantial Completion, the Prime Contractors will meet at the site with the Project Manager and the Owner's personnel to determine which of the submitted Samples that have been maintained during progress of the Work are to be transmitted to the Owner for record purposes.

Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete

miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Project Manager for the Owner's records.

Maintenance Manuals: Organize operating and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual heavy-duty 2-inch, 3-ring vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Include the following types of information:

- Table of Contents
- Description of System
- Detailed Operating & Maintenance instructions
- Index to manufacturers literature
- Copies of posted instructions
- Emergency instructions
- Spare parts list
- Copies of warranties
- Wiring diagrams
- Recommended "turn around" cycles
- Inspection procedures

Shop Drawings and Product Data
Fixture lamping schedule

The description of systems and general operating instructions for plumbing and electrical manuals may cover only complicated or unusual parts of these systems, such as sewage ejectors, transformers, high tension switchgear and signal and alarm systems. Manufacturer's literature and data shall be that of the actual equipment installed under contract for the particular facility. Further guidance is available in the ASHRAE guide and Data Book, 1970, Systems Volume, Chapter 39, Operation and Maintenance.

The preparation of operating and maintenance manuals posted instructions and instructions for training personnel in operating and maintaining equipment installed in the building shall be the responsibility of the Prime Contractor.

Final Submittal: Not less than 30 days prior to completion of the project or actual start of operation (and instruction period, whichever is earlier), the Architect will be furnished four (4) complete sets of manuals for distribution after acceptance as follows:

One set including the original and reproducible copy of posted operation instruction to the Architect.

One (1) set to the Prime Contractor to be used for instruction purposes and turned over to the operating engineer in charge after completion of instruction.

Two (2) sets to the Owner.

Scope: A separate manual or separate chapter will be prepared and submitted for each of the following classes of equipment or systems included in a project or as otherwise specified.

- Heating Plants
- Cooling Plants
- Air Conditioning Systems
- Heating Systems if separate from air conditioning
- Ventilating Systems
- Exhaust Systems
- Control Systems
- Plumbing Systems
- Fire Protection
- Electrical Systems

PART 2 - PRODUCTS (Not. Applicable)

PART 3 - EXECUTION

CLOSEOUT PROCEDURES

Posted Instructions: Operating instructions and diagrams shall be prepared for posting near the equipment. Instructions shall be framed and mounted by the Prime Contractor.

Operating and Maintenance Instructions: Arrange for each installer of equipment that requires regular maintenance to meet with the Owner's personnel at the job to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:

- Maintenance manuals
- Record documents
- Spare parts and materials
- Tools
- Lubricants
- Identification systems
- Control sequences
- Hazards
- Cleaning

Warranties and bonds
Maintenance agreements and similar continuing comments

As part of this instruction for operating equipment demonstrate the following procedures:

Start-up
Shut-down
Emergency operations
Noise and vibration adjustments
Safety procedures
Economy and efficiency adjustments.

FINAL CLEANING:

General: General cleaning during construction is required by the General Conditions and included in Section "Temporary Facilities".

Cleaning: The Prime Contractor for final cleaning shall employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.

Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.

Remove labels that are not permanent labels.

Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision - obscuring materials. Replace chipped or broken glass and other damaged transparent materials.

Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances.

Restore reflective surfaces to their original reflective condition.

Leave concrete floors broom clean. Remove all oil or other miscellaneous stains from concrete floors.

Vacuum carpeted surfaces.

Wipe surfaces of mechanical and electrical equipment.

Remove excess lubrication and other substances.

Clean plumbing fixtures to a sanitary condition.

Clean light fixtures and lamps.

Thoroughly sweep, rake and clean all roof surfaces all roofing and sheet metal and other debris, all visible paper labels.

Entire site, to within 50 feet of any construction accomplished under this contract shall be handraked clean of all debris (i.e., chunks of plaster, paper, rock, etc.)

Remove all stains, marks, asphalt and paint from all curbs, walks, and redwood headers. If stains and marks cannot be removed by normal cleaning procedure, the Contract shall, at his expense, use water blast (2,000 psi) technique.

Removal of Protection: Each Prime Contractor shall remove temporary protection and facilities installed for the protection of the Work during construction.

Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage

systems. Remove waste materials from the site and dispose of in a lawful manner.

Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition of these materials as directed.

CONTINUING INSPECTIONS:

General: Except as otherwise required by specific warranties, agreements to maintain, workmanship / maintenance bonds, and similar continuing commitments, comply with Owner's request to participate in inspections at end of each time period of such continuing commitments. Participate in general inspection of the work approximately one year beyond date(s) of completion.

END OF SECTION

CLEANING

1. PART 1 GENERAL
 - A. SECTION INCLUDES
 1. Cleanup during construction of the building before acceptance by the District. Each contractor will be responsible for cleanup of their work and legal disposal and haul away of their debris offsite.
 - B. RELATED DOCUMENTS
 1. The Conditions of the Contract and other sections of Division 1 apply to this section as fully as if repeated herein.
2. PRODUCTS
 - A. MATERIALS
 1. Use cleaning materials which will not create hazards to health or property and which will not damage materials. Use cleaning materials and methods recommended by the manufacturer of the surface material to be cleaned. Use cleaning material only on surfaces recommended by the cleaning material manufacturer.
3. EXECUTION
 - A. CLEANUP DURING CONSTRUCTION
 1. It is required that the entire project be kept in a neat and orderly condition, and the Construction Manager may, at any time during construction, order a general cleanup of the site as a part of the work.
 2. Dispose of waste, trash, and debris in a safe, acceptable manner, in accordance with applicable laws and ordinances and as prescribed by authorities having jurisdiction. Bury no such waste material and debris on the site. Burning of trash and debris on the site will not be permitted.
 3. Location of dump for trash and debris and length of haul is the Contractor's responsibility.
 4. If any contractor has not substantially commenced their clean-up operations as required by the Construction Manager within 24 hours after receiving a fax notice from the Construction Manager, the District may without further notice to Contractor, commence said clean-up at the Prime Contractor's cost. All costs incurred as a result of the District's clean-up on behalf of the Contract shall be deducted from the Contractor's contract price by unilateral change order. In the event the District's clean-up involves debris of more than one prime contractor of the District, the Construction Manager shall make a determination as to the percentage owed by each contractor and this determination shall be final & binding to all contractors involved. Although it is understood by all parties that the District has the right to clean-up the debris of any contractor after giving said contractor 24 hour fax notice, it is NOT the District's obligation to do so. The sole responsibility & liability of debris on the site remains that of the contractor generating same.

5. Five percent (5%) of each Contractor's bid will automatically be held in abeyance within their "contract schedule of values" for clean-up. If, in the Construction Manager Superintendent's opinion, the Contractor is maintaining a clean project, a pro-rata share of this clean-up budget will be paid monthly to the Contractor in accordance with their approximate aggregate percentage of completion of the project. If the Contractor fails to heed written directives to clean-up during the course of the project, the work will be done at the Contractor's expense and a unilateral deductive change order will be written against their contract with the District for all costs incurred by the District for the clean-up. THE ESTABLISHMENT OF THIS FIVE PERCENT (5%) BUDGET FOR CLEAN-UP IN NO WAY LIMITS THE COST TO THE CONTRACTOR FOR MAINTAINING A CLEAN PROJECT. In the event that the Contractor's failure to maintain a clean project causes or contributes to an accident or property damage, neither the District, Construction Manager, or any of their respective employees shall be held responsible or liable for damages because of their failure to clean-up the Contractor's debris, materials, tools, or equipment.

END OF SECTION

SECTION 014524 – CONCRETE SLAB MOISTURE & pH TESTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings, Division 0 Specification Sections, Division 1 Specification Sections apply to this section.
- B. Related Sections:
 - 1. Division 1 Section “Testing and Inspection”.
 - 2. Division 3 Section “Concrete Moisture Barrier”.
 - 3. Division 9 Section “Ceramic Tile”.

1.2 SUMMARY:

- A. Contractor to provide concrete slab moisture vapor emission, *in-situ* relative humidity and pH (alkalinity) testing for all concrete substrates scheduled to receive flooring. Existing concrete and new concrete slabs shall be tested.

1.3 QUALITY ASSURANCE:

- A. Testing: The Contractor shall provide access for and cooperate with the Testing/Inspection Agency. Concrete slab Moisture and pH testing shall be performed by a qualified independent testing agency with verifiable experience utilizing ASTM F 1869-04, ASTM F 2170-02, ASTM F 710-05 and ASTM E 1907-04 Testing Methods and Practices Referenced herein. All test results shall be forwarded to Owner’s Representative immediately following testing.
- B. Testing shall be performed by a qualified independent testing agency. Refer to Section 014523.

1.4 REFERENCES:

- A. ASTM E 1907-04 – Standard Guide to Methods of Evaluating Moisture Conditions of Concrete Floors to Receive Resilient Floor Coverings.
- B. ASTM F 710-05 – Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
- C. ASTM F 1869-04 – Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- D. ASTM F 2170-02 – Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using *in situ* Probes.

1.5 SUBMITTALS:

A. The Moisture Test Report will contain the following:

1. Report the Test Deployment Parameters: The start and finish date and time of testing; the start and finish ambient temperature, ambient relative humidity and dew point temperature. The minimum and maximum ambient temperature and relative humidity reached during testing.
2. Report the "Factor" used to calculate the actual test area of the Calcium Chloride test site.
3. Report the Concrete Slab thickness (in inches).
4. Report the Demolition Parameters for MVER testing: The start and finish date and time of removing any existing non-asbestos flooring, adhesive, etc. prior to MVER testing.
5. Report all test results in chart from listing:
 - a. Test locations (also mark test locations on floor plan)
 - b. Type(s) of Existing Floor Coverings
 - c. Visual Distress Level of existing Floor Coverings
 - d. Surface Temperature of Concrete
 - e. pH Paper/Pencil Reading (ASTM F 710)
 - f. Visual Appearance of Concrete
 - g. Concrete Slab Age
 - h. Relative Humidity in Concrete, % (ASTM F 2170):
 - 1) Depth of hole from top of Slab, in.
 - 2) RH in concrete, %
 - 3) Temp in concrete, °F
 - i. Surface Moisture Meter Test (ASTM E 1907):
 - 1) Electrical Impedance Test Values or
 - 2) Electrical Resistance Test Values
 - j. Moisture Vapor Emission – CaCl₂ Test (ASTM F 1869):
 - 1) Weight Grain in grams
 - 2) Exposure Time/hrs
 - 3) MVER Lbs/1000 Sq. Ft

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SURFACE PREPARATION:

- A. The Moisture Vapor Emission test area shall be free of sealers, coatings, finishes, dirt, film-forming curing compounds, or other substances which may affect the rate of moisture dissipation from the concrete. Non-chemical methods for removal, such as abrasive grinding or bead-blasting, including methods described in Practice D 4259 may be used on existing slabs with deleterious residues to achieve an appropriate state for testing. For example:

Concrete slabs covered by existing floor coverings must have such coverings and all three-dimensional adhesive removed for a minimum of 24 hours prior to testing. Expose a minimum area of 20" x 20".

Concrete slabs free of substances which may affect the rate of moisture dissipation must also be prepared as noted above. Such preparation may take place immediately prior to testing.

- B. To test for pH at the surface of the concrete slab, make sure the concrete surface is adequately cleaned of adhesives, curing compounds, etc. Any remaining residue can result in understated pH readings. Also use care not to over abrade the surface of the concrete (removing the thin layer of carbonation that is typically less than 1/16") this can result in overstated pH readings.
- C. To prepare the Relative Humidity *In Situ* probe test site, you will drill holes in the concrete and then insert test hole-liners, also called sleeves, in which you will take the relative humidity readings. To drill holes, you will need a rotary hammer drill with a carbide-tipped drill bit. Note that the drill bit diameter should not be more than 0.04 inches, or 1 millimeter, larger than the external diameter of the hole liner. Once you have the correct size drill bit in place, establish the proper hole depth by either marking on the drill bit with duct tape or by adjusting the attached limit rod. Start the measurement from the shoulder of the drill bit, not the tip. Hole shall be drilled dry. Do not use water for cooling or lubrication; do not wet-core test hole.
- D. Warning – Hydraulic cement used in concrete construction may contain trace amounts of free crystalline silica. Prolonged exposure to airborne free crystalline silica may be a health hazard. Avoid actions that cause dust to become airborne. Use local or general ventilation to control exposures below applicable exposure limits.

3.2 TESTING METHODS:

A. Moisture Vapor Emission Test:

1. Anhydrous calcium chloride shall be in the form of prilled beads.
2. Dish shall be made of a material that does not absorb moisture. Dish shall be supplied with a tight-fitting cover. The cover shall be secured to the dish with pressure-sensitive-adhesive backed vinyl tape.
3. Pressure Sensitive Label to be used to identify the container of calcium chloride and to record the date, time and container weight when the test is started and completed.
4. A transparent, hole-free plastic canopy square or circular in shape about 70-100 in² (450-650 cm²) in area and depth greater than the depth of the cylindrical container of anhydrous calcium chloride, and with 0.5 in (12 mm) flanges around the perimeter of the cover.
5. Strip of sealant to secure the plastic cover to the floor in an airtight fashion.
6. Brightly colored warning label to be placed on the plastic cover as a protective warning while the test is being conducted.
7. Gram scale capable of measuring 0.1 gram, this scale will be used to weigh the calcium chloride container at the start and end of the test.
8. Thermometer to measure ambient temperature of the test site and should be capable of recording highs and lows achieved during testing period.

9. Hygrometer to measure ambient relative humidity of the test site and should be capable of recording highs and lows achieved during testing period.

B. Relative Humidity *In Situ* Probe Test:

1. Humidity Probe and Digital Meter with relative humidity and temperature sensors in cylindrical probe, with external diameter less than approximately 0.75 in. (20mm), and accuracy $\pm 2-3\%$ from 0 to 100% relative humidity.
2. Hole Liners plastic or non-corroding metal tubes, inside diameter not more than 0.04 in (1mm) greater than the probe's external diameter, of sufficient length to seal the hole to the desired depth.
3. Rotary Hammerdrill, carbide drill bits, vacuum cleaner, and brush for drilling holes in concrete and removing drilled dust from the holes.

C. pH Testing:

1. Wide range pH paper, its associated pH chart, and distilled or deionized water.
2. Other pH testing methods such as pH pencils or pH meters are available and may be used to measure pH levels.

3.3 MEASURING MOISTURE VAPOR EMISSION RATE USING ANHYDROUS CALCIUM CHLORIDE:

- A. Testing should be performed in accordance with ASTM F 1869-04 – Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride and manufacturer's instructions.
- B. The number of tests required is determined by the square-footage of the project:
 1. Three (3) kits are required for the first 1,000 square feet, and
 2. One (1) additional test kit for each 1,000 square feet thereafter
- C. The test site should be at the same temperature and humidity expected during normal use. If this is not possible, then the test conditions should be $75^{\circ}\text{F} \pm 10^{\circ}\text{F}$ and $50\% \pm 10\%$ relative humidity. Maintain these conditions 48 hours prior to and during testing.
- D. Prior to test placement, the actual test area shall be clean and free of all foreign substances. All residual adhesives, curing compounds, sealers, paints, floor coverings, etc. shall be removed.
- E. Tests shall not be placed within five (5) feet of the nearest external wall.
- F. Weigh test dish on site prior to start of test. Scale must report weight to 0.1 grams. Record weight and start time.
- G. Expose Calcium Chloride and set dish on concrete surface.
- H. Install test containment dome, (lightly press on the top of the containment dome to assure seal) and allow test to proceed for 60 – 72 hours.

- I. Retrieve test dish, (lightly press on the top of the containment dome to confirm seal) carefully cutting through containment dome. Close and reseal test dish.
 - J. Weigh test dish on site recording weight and stop time.
 - K. Calculate and report results as “pounds of emission per 1,000 per square feet per 24 hours”.
- 3.4 DETERMINING RELATIVE HUMIDITY IN CONCRETE FLOOR SLABS USING *IN SITU* PROBES
- A. Testing should be performed in accordance with ASTM F 2170-02 – Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using *In Situ* Probes.
 - B. The number of tests required is determined by the square-footage of the project:
 - 1. Three (3) tests are required for the first 1,000 square feet, and
 - 2. One (1) additional test for each 1,000 square feet thereafter
 - C. The test site should be at the same temperature and humidity expected during normal use. If this is not possible, then the test conditions should be $75^{\circ}\text{F} \pm 10^{\circ}\text{F}$ and $50\% \pm 10\%$ relative humidity. Maintain these conditions 48 hours prior to and during testing.
 - D. Determine the thickness of the concrete slab, typically from construction documents.
 - E. Utilizing a rotary hammerdrill with a carbide-tipped drill bit to drill holes to required depth (for slabs on-grade, depth equal to 40% of the concrete thickness” i.e. 2.0” deep for a 5” thick slab, or 1.6” deep for a 4” thick slab).
 - F. Remove dust from the hole using a vacuum cleaner.
 - G. Insert hole liner to bottom of hole. Place rubber stopper into upper end of liner and seal around liner to concrete at concrete surface with gasketed cover.
 - H. Allow 72 hours to achieve moisture equilibrium within the hole before making relative humidity requirements.
 - I. Remove the sleeve plug and place probe into the test sleeve assuring that it reaches the bottom of the test hole.
 - J. Allow ample time for the probe to sit in the test sleeve to achieve moisture equilibrium before taking relative humidity readings.
 - K. Record the relative humidity and temperature. Also record the location of the hole within the structure and depth of the probe tip below the concrete surface.
 - L. Use the relative humidity probe to measure the ambient air temperature and relative humidity above the slab in the vicinity of the test location.

- M. Remove the hole liner and fill the hole with a cementitious patching compound.
- N. Report any observations that might affect the interpretation of individual measurements such as standing water on the slab, wet coring operations, weather, or ventilating system operations.

3.5 DETERMING pH LEVELS

- A. Testing should be performed in accordance with ASTM F 710-05 – Standard Practice for Preparing Concrete Floors to Receive Flooring.
- B. Conduct at same time as vapor emission and relative humidity testing:
 - 1. Place several drops of water onto the concrete surface to form a puddle approximately 1” in diameter.
 - 2. Allow the water to set for 60 +/- 5 seconds.
 - 3. Dip the pH paper into the water and remove immediately, compare color to chart provided by paper supplier to determine pH reading.
 - 4. Record and report results.
 - 5. pH Pencil and pH Meters – Follow instrument manufacturer’s instructions.

END OF SECTION 014524

SECTION 015719 – INDOOR AIR QUALITY (IAQ) MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

- 1. Special requirements for Indoor Air Quality (IAQ) management during construction operations.
 - a. Control of emissions during construction.
 - b. Moisture control during construction.
- 2. Procedures for testing baseline IAQ. Baseline IAQ requirements specify maximum indoor pollutant concentrations for acceptance of the facility.

B. Related Sections:

- 1. Division 01 Section "Quality Assurance" for meetings and project coordination.
- 2. Division 01 Section "Closeout Procedures" for final cleaning and submittals.
- 3. Division 01 Section "General Commissioning Requirements".

1.3 DEFINITIONS

- A. Definitions pertaining to sustainable development: As defined in ASTM E2114.
- B. Adequate ventilation: Ventilation, including air circulation and air changes, required to cure materials, dissipate humidity, and prevent accumulation of particulates, dust, fumes, vapors, or gases.
- C. Hazardous Materials: Any material that is regulated as a hazardous material in accordance with 49 CFR 173, requires a Material Safety Data Sheet (MSDS) in accordance with 29 CFR 1910.1200, or which during end use, treatment, handling, storage, transportation or disposal meets or has components which meet or have the potential to meet the definition of a Hazardous Waste in accordance with 40 CFR 261. Throughout this specification, hazardous material includes hazardous chemicals.
 - 1. Hazardous materials include: pesticides, biocides, and carcinogens as listed by recognized authorities, such as the Environmental Protection Agency (EPA) and the International Agency for Research on Cancer (IARC).
- D. Indoor Air Quality (IAQ): The composition and characteristics of the air in an enclosed space that affect the occupants of that space. The indoor air quality of a space refers to the relative quality

of air in a building with respect to contaminants and hazards and is determined by the level of indoor air pollution and other characteristics of the air, including those that impact thermal comfort such as air temperature, relative humidity and air speed.

- E. Interior final finishes: Materials and products that will be exposed at interior, occupied spaces; including flooring, wallcovering, finish carpentry, and ceilings.
- F. Packaged dry products: Materials and products that are installed in dry form and are delivered to the site in manufacturer's packaging; including carpets, resilient flooring, ceiling tiles, and insulation.
- G. Wet products: Materials and products installed in wet form, including paints, sealants, adhesives, special coatings, and other materials which require curing.

1.4 PRECONSTRUCTION MEETING

- A. After award of Contract and prior to the commencement of the Work, schedule and conduct a meeting with Owner and Architect to discuss the proposed IAQ Management Plan and to develop mutual understanding relative to details of environmental protection.

1.5 SUBMITTALS

A. Product Data:

1. Submit product data for filtration media used during construction and during operation. Include Minimum Efficiency Reporting Value (MERV).
2. Material Safety Data Sheets: Submit MSDSs for inclusion in Operation and Maintenance Manual for the following products. Coordinate with Section 017823.
 - a. Adhesives
 - b. Floor and wall patching/leveling materials
 - c. Caulking and sealants
 - d. Insulating materials
 - e. Fireproofing and firestopping.
 - f. Carpet
 - g. Paint
 - h. Clear finish for wood surfaces
 - i. Lubricants
 - j. Cleaning and finishing products
3. Submit product certifications for all composite wood and agrifiber products confirming they contain no added urea-formaldehyde resins.

PART 2 - PRODUCTS

2.1 ADHESIVES AND SEALANTS

- A. All adhesives and sealants used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) must comply with the following limits for VOC content when calculated according to 40 CFR 50, Subpart D (EPA method 24):
1. Wood Glues: 30 g/L
 2. Millwork and Casework Adhesives: 20 g/L
 3. Casework Sealant: 50 g/L
 4. Metal to Metal Adhesives: 30 g/L
 5. Adhesives for Porous Materials (Except Wood): 50 g/L
 6. Subfloor Adhesives: 50 g/L
 7. Plastic Foam Adhesives: 50 g/L
 8. Carpet Adhesives: 50g/L
 9. Carpet Pad Adhesives: 50 g/L
 10. Carpet Seam Sealer: 50 g/L
 11. VCT and Sheet Vinyl Adhesives: 50 g/L
 12. Cove Base Adhesives: 50 g/L
 13. Rubber Floor Adhesives: 60 g/L
 14. Wood Floor Adhesives: 100 g/L
 15. Ceramic Tile Adhesives: 65 g/L
 16. Gypsum Board and Panel Adhesives: 50 g/L
 17. Multipurpose Construction Adhesives: 70 g/L
 18. General Contact Adhesive: 80 g/L
 19. Special Purpose Contact Adhesive: 250 g/L
 20. Structural Glazing Adhesives and Compounds: 100 g/L
 21. Structural Wood Member Adhesive: 140 g/L
 22. Top & Trim Adhesive: 250 g/L
 23. Silicone Sealant: 50 g/L
 24. Pipe Thread Sealant: 50 g/L
 25. Plastic Cement Welding Compounds: 250 g/L
 26. ABS Welding Compounds: 325 g/L
 27. CPVC Welding Compounds: 490 g/L
 28. PVC Welding Compounds: 510 g/L
 29. Adhesive Primer for Plastic: 250 g/L
 30. Architectural Non-Porous Sealants and Sealant Primers: 250 g/L
 31. Architectural Porous Sealants and Sealant Primers: 775 g/L
 32. Single-Ply Roofing Membrane Adhesives: 250 g/L
 33. General Purpose Mist Spray Aerosol Adhesives: 65% VOCs by weight.
 34. General Purpose Web Spray Aerosol Adhesives: 55% VOCs by weight.
 35. Special Purpose Aerosol Adhesives (all types): 70% VOCs by weight
- B. Interior sealants shall not contain: mercury, butyl rubber, neoprene, SBT (styrene butadi-ene rubber), or nitrile.

- C. Sealants and glazing compounds formulated with aromatic solvents (organic solvent with a benzene ring in its molecular structure) fibrous talc or asbestos, formaldehyde, halo-genated solvents, mercury, lead, cadmium, hexavalent chromium, or their components shall not be used.
- D. Adhesives used to apply laminates, whether shop-applied or field-applied, shall contain no urea-formaldehyde.

2.2 PAINTS AND COATINGS

- A. Interior Paints and Coatings: For interior field-applied applications, use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24) and the chemical restrictions (Restricted Components listed below) of Green Seal Standard GS-11, Paints, First Edition, May 20, 1993; Green Seal Standard GC-03, Anti-Corrosive Paints, Second Edition, January 7, 1997; and South Coast Air Quality Management District Rule 1113, Architectural Coatings, rules in effect on January 1, 2004, as follows:
 - 1. Primers, Sealers, Undercoaters: Not more than 100 g/L of VOC per liter of coating less water and exempt compounds, including pigments.
 - 2. Flat Paints and Coatings: Not more than 50 grams of VOC per liter of coating less water and exempt compounds, including pigments.
 - 3. Non-Flat Paints and Coatings: Not more than 100 grams of VOC per liter of coating less water and exempt compounds, including pigments.
 - 4. High Gloss Paints and Coatings: Not more than 150 grams of VOC per liter of coating less water and exempt compounds, including pigments. High Gloss Coatings are coatings that register a gloss of 70 or above on a 60-degree meter according to ASTM Test Method D 523 as specified in paragraph (e)(6).
 - 5. Water-Based Polychromatic Finish Coatings: Not more than 150 g/L (150 g/L for primer and flat polychromatic paint).
 - 6. Anti-Corrosive Coatings: Not more than 250 grams of VOC per liter of coating less water and exempt compounds.
 - 7. Sanding Sealers: Not more than 50 grams of VOC per liter of coating less water and exempt compounds.
 - 8. Waterproofing Sealers: Not more than 250 grams of VOC per liter of coating less water and exempt compounds.
 - 9. Concrete Slab Sealers: Not more than 400 grams of VOC per liter of coating less water and exempt compounds.
 - 10. Polyurethanes: Not more than 100 grams of VOC per liter of coating less water and exempt compounds.
 - 11. Stains: Not more than 250 grams of VOC per liter of coating less water and exempt compounds.
 - 12. Interior paints shall not contain antimicrobial additives (such as fungicides and biocides).
 - 13. Aromatic Compounds: Paints and coatings shall not contain more than 1% (by weight) total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
 - 14. Restricted Components: Paints and coatings shall not contain any of the following:

- a. Acrolein
- b. Acrylonitrile
- c. Aniline dyes
- d. Antimony
- e. Benzene
- f. Butyl benzyl phthalate
- g. Cadmium
- h. Di (2-ethylhexyl) phthalate
- i. Di-n-butyl phthalate
- j. Di-n-octyl phthalate
- k. 1,2-dichlorobenzene
- l. Diethyl phthalate
- m. Dimethyl phthalate
- n. Ethylbenzene
- o. Formaldehyde
- p. Hexavalent chromium
- q. Isophorone
- r. Lead
- s. Mercury
- t. Methyl ethyl ketone
- u. Methyl isobutyl ketone
- v. Methylene chloride
- w. Naphthalene
- x. Toluene (methylbenzene)
- y. 1,1,1-trichloroethane
- z. Vinyl chloride
- aa. Xylene

2.3 COMPOSITE WOOD AND AGRIFIBER BINDERS

- A. All composite wood, agrifiber products, and wood doors shall contain no added urea-formaldehyde binder resins.

PART 3 - EXECUTION

3.1 IAQ MANAGEMENT – EMISSIONS CONTROL

- A. During construction operations, follow the recommendations in SMACNA IAQ Guidelines for Occupied Buildings under Construction.
- B. HVAC Protection:
 - 1. Seal return registers during construction operations.
 - 2. Provide temporary exhaust during construction operations.
 - 3. To the greatest extent possible, isolate and/or shut down the return side of the HVAC system during construction. When ventilation system must be operational during construction activities, provide temporary filters.

- a. Provide filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 as determined by ASHRAE 52.2 during construction. Replace filters prior to occupancy with those recommended in Mechanical Plans. Coordinate with work of Division 23 Heating Ventilating and Air Conditioning (HVAC).
- C. Source Control: Provide low and zero VOC materials as specified.
- D. Pathway Interruption: Isolate areas of work as necessary to prevent contamination of clean or occupied spaces. Provide pressure differentials and/or physical barriers to protect clean or occupied spaces.
- E. Housekeeping: During construction, maintain project and building products and systems to prevent contamination of building spaces.
- F. Scheduling: Schedule construction operations involving wet products prior to packaged dry products to the greatest extent possible.
- G. Provide adequate ventilation during and after installation of interior wet products and interior final finishes.

3.2 IAQ MANAGEMENT – MOISTURE CONTROL

- A. Housekeeping:
 1. Keep materials dry. Protect stored on-site and installed absorptive materials from moisture damage.
 2. Verify that installed materials and products are dry prior to sealing and weatherproofing the building envelope.
 3. Install interior absorptive materials only after building envelope is sealed and weatherproofed.
- B. Inspections: Document and report results of inspections; state whether or not inspections indicate satisfactory conditions.
 1. Examine materials for dampness as they arrive. If acceptable to Architect/Owner, dry damp materials completely prior to installation; otherwise, reject materials that arrive damp.
 2. Examine materials for mold as they arrive and reject materials that arrive contaminated with mold.
 3. Inspect stored and installed absorptive materials regularly for dampness and mold growth. Inspect after each rain event.
 - a. Where stored on-site or installed absorptive materials become wet, notify Architect and Owner. Inspect for damage. If acceptable to Architect/Owner, dry completely prior to closing in assemblies; otherwise, remove and replace with new materials.
 4. Site drainage: Verify that final grades of site work and landscaping drain surface water and ground water away from the building.

5. Weather-proofing: Inspect moisture control materials as they are being installed. Include the following:
 - a. Air barrier: Verify air barrier is installed without punctures and/or other damage. Verify air barrier is sealed completely.
 - b. Flashing: Verify correct shingling of the flashing for roof, walls, windows, doors, and other penetrations.
 - c. Insulation layer: Verify insulation is installed without voids.
 - d. Roofing: In accordance with ASTM D7186 Standard Practice for Quality Assurance Observation of Roof Construction and Repair.
 6. Plumbing: Verify satisfactory pressure test of pipes and drains is performed before closing in and insulating lines.
 7. HVAC: Inspect HVAC system as specified in Section 019113 General Commissioning Requirements.
- C. Schedule:
1. Schedule work such that absorptive materials, including but not limited to porous insulations, paper-faced gypsum board, ceiling tile, and finish flooring, are not installed until they can be protected from rain and construction-related water.
 2. Weather-proof as quickly as possible. Schedule installation of moisture-control materials, including but not limited to, air barriers, flashing, exterior sealants and roofing, at the earliest possible time.

END OF SECTION 015719

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SECTION 033570 - CONCRETE MOISTURE BARRIER

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. In areas to receive porcelain floor tile, provide polymer based concrete moisture barrier coating to form a permanent low permeable surface meeting testing requirements listed in this Specification. **Specialty curing/sealing/hardening compounds do not meet the intent of this section.**
 - a. Applied as a waterproofed, vapor barrier, in replacement for curing and sealing materials to a fine broom finish.

B. Related Documents

- 1. Division 01 Section "Testing and Inspections".
- 2. Division 01 Section "Concrete Slab Moisture & pH Testing".
- 3. Division 03 Section "Cast-in-Place Concrete".
- 4. Division 09 Section "Ceramic Tile".

1.3 REFERENCES

A. Standards: Comply with the following:

- 1. ASMT E 96 Water Vapor Transmission.
- 2. ASTM D 1309 Chemical Resistance to 14 pH.
- 3. ASTM F 1869 Measuring Moisture Vapor Emission Rate of concrete Subfloor using Anhydrous Calcium Chloride.
(or)
ASTM F 2170 Determining Relative Humidity in Concrete Floor Slabs Using *In Situ* Probes
- 4. ASTM F 710 Concrete Alkalinity pH Testing.
- 5. ASTM D 4541 Concrete Adhesion.

1.4 DEFINITIONS

- A. Barrier: Water vapor emission control barrier

- B. Pounds: Weight in pounds of moisture vapor in 1,000 ft² in 24 hours per ASTM F 710 and F 1869.
- C. System: Specified water vapor emission control system.

1.5 SUBMITTALS

- A. General: Submit the following according to the Conditions of contract and Division 1 Specifications Sections.

- B. Product Data: For each type of product installed including

1. Descriptive literature/installation details.
2. Current product safety data.

- C. Environmental Submittals:

Reference Standard: California Green Building Standards Code California Code of Regulations, Title 24, Part 11 (CALGreen).

1. Product data for sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L.

- D. Independent Testing Agency Reports:

1. Concrete test results per ASTM F 1869 for moisture and ASTM F 710 for alkalinity.
2. Digital photos of installed moisture kits and locations map for each results.
3. Post Barrier Installation Testing: ASTM F 1869 Calcium Chloride Testing and ASTM D 4541 pull-off adhesion strength.

- E. Qualification data for firms and persons specified in the "Quality Assurance" Article. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm experienced in manufacturing products similar to those indicated for this Project and that has a (5) year record of successful in-service performance.
- B. Installer Qualifications: Five (5) years of verifiable contracting experience and successful completion of projects of similar scope approved by manufacturer.

1.7 WARRANTY

- A. Provide written guarantee, signed by manufacturer agreeing to replace system that does not comply with requirements or that does not remain moisture vapor or alkalinity resistant during specified warranty period.

- B. Special Warranty: Barrier shall remain resistant to an alkalinity level of 14 pH per ASTM F710 and maintain a water vapor emission rate of 2.0 (± 0.5) per ASTM F1869 for a period of (15) years. In the event of concrete moisture vapor or alkalinity damages, barrier manufacturer shall repair or replace barrier, flooring, adhesives, coatings, patching materials and supply labor to re-install at no additional cost to Owner.
- C. Warranties limited to material defects are not acceptable.
- D. Warranty shall not exclude the following:
 - 1. Concrete shrinkage cracks after application.
 - 2. Non-compatibility with specified admixtures
 - 3. Concrete silicates or resin treatments
 - 4. ACI 318 or ACI 201 limitations.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to job site in undamaged, original containers with labels intact and legible.
- B. Store materials protected and covered at temperatures not exceeding 100 deg. F (38 deg. C) or below 40 deg. F (4 deg. C).
- C. Store product tightly capped in its original container in upright position.

1.9 PROJECT CONDITIONS

- A. Weather and Substrate Conditions: Do not proceed with application of water repellent sealer under any of the following conditions:
 - 1. Ambient temperature or surface temperature is less than 50 deg F, more than 90 deg F, or when in direct sunlight when surface is hot to the touch. Do not apply when the above conditions may occur within 4 hours after application.
 - 2. Substrate surfaces shall have cured for such time as required by water repellent manufacturer.
 - 3. When rain or fog are predicted within a period of 4 hours after application.
 - 4. When surfaces are wet.
 - 5. Windy condition such that repellent may be blown to vegetation or substrates not intended.
- B. On warm days, apply early in the day in shaded areas only.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Provide Moisture Control Barrier System as shown from one of the following manufacturers:

1. Mapei, "Planiseal VS", basis of design
2. Ardex Group, "Ardex MC Rapid"
3. Koester USA "Vap1 2000" (25 pound, 70 square feet per gallon).
4. No others will be accepted.

B. Formulation:

1. Formulation: 100% Pure Synthetic or Plural Component Polymer Chemistry.
 - a. Components shall not be corrosive, toxic or harmful to the skin.
 - b. Shall not contain silicate, acrylic, latex or epoxy based components.
2. Shall not contain corrosive, toxic, flammable, combustible or hazardous components in factory sealed units or mixed for use form.
3. Formulation shall comply with VOC requirements for concrete slab sealers set forth in "Indoor Air Quality (IAQ) Management Section.
4. Barrier shall be resistant to UV exposure and thermal expansion during exterior exposure period.

C. Performance Requirements: Comply with the following.

1. Penetrating chemical and mechanical bond.
2. Concrete moisture, mold, and alkalinity barrier.
3. Vapor reduction of up to 97% (per ASTM E 96), maintain that level.
4. Moisture: 30 lbs., no upper limits.
5. Permanently control alkalinity/ acid for a long-term resistance of pH 14 (per ASTM D1308).
6. Concrete adhesion strength up to 500psi (per ASTM D 4541).
7. ASTM F 1869 Post Installation Testing: 2.0 lbs (± 0.5).
8. System shall be compatible with floor covering or coating materials.
9. Performance warranty covering concrete adhesion, softening, improper installations, application defects, moisture and alkalinity damage to installed flooring.

D. Physical Properties:

1. ASTM E 96 Water Vapor Transmission, wet method: 97% Vapor Reduction.
2. ASTM D 1308 Chemical Resistance: 100% alkali resistant.
3. ASTM D 4541 Adhesion Strength: 500psi (100% concrete cohesive failure).
4. Barrier Compressive Yield: 12,000psi.
5. Barrier Tensile Strength: 6,000 to 8,000psi.
6. Ultimate Flexural: 10,000psi.

E. Fire Resistance:

1. Smoke Development: None (0)
2. Flame Spread: Nil (5)
3. Fuel Contribution: None (0)

2.2 ACCESSORIES

- A. Underlayment Compound - Self Leveling, 4,100 psi, 100% cement based, as recommend by barrier manufacturer.
- B. Semi-rigid epoxy sealant, as recommended by barrier manufacturer to fill expansion joints, saw cuts and cracks.

2.3 MIXES

- A. System: Clean containers and mix thoroughly as per manufacturer's requirements to obtain a homogeneous mixture.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrate conditions and review approved concrete mix design prior to application. Notify Architect of unacceptable conditions.

3.2 INSTALLATION

- A. Installation to occur after slab preparation and prior to interior construction taking place.
- B. Concrete surface to be mechanically profiled using dustless method to obtain a CSP of #2-#3. Shot blast floor surface to meet an ICRI # 3 profile and diamond grind near edges.

- C. Fill control joints, saw cuts and cracks with approved semi-rigid epoxy sealant, as recommended by barrier manufacturer.
- D. Apply barrier to control water vapor emission level up to 25 pounds and yield a result of 2.0 lbs. (± 0.50) prior to application of floor coverings.
- E. Roller apply barrier over entire substrate, cracks, joints and penetrations in the presence of manufacturers on site personnel.
 - 1. Apply by lint free $\frac{3}{4}$ inch nap roller and squeegee as required to promote maximum material absorption.
 - 2. Re-apply barrier in areas that become transparent or require addition barrier protection.

3.3 FIELD QUALITY CONTROL

- A. Protect from trade traffic for a minimum of 24 to 48 hours as required by weather conditions.
- B. Inspection:
 - 1. Schedule inspections and notify the Architect, Project Inspector and any other regulatory agencies of the time at least 48 hours prior to the inspection.
 - 2. Installer to guarantee installed system is compatible with specified flooring and specified floor coverings.
 - 3. Provide concrete adhesion testing to determine barrier adhesion acceptance for subsequent flooring at a minimum of 5 locations. Results shall be not less than 10% concretes compressive strength or 100% concrete surface failure.
- C. Report field testing to Architect, Owner and Inspector for approval prior to use.

3.4 PROTECTION

- A. Protect barrier during specified cure periods from any kind of traffic, topical water, and contaminants.

SECTION CONTINUED ON FOLLOWING PAGE

Date: _____ Project Name: Antelope Valley College – SCT Restroom Renovations

WARRANTY FOR _____, in Agreement between Antelope Valley Community College District

(Specification Section)

(Owner)

and _____
(the "Contractor") Name of Installer or Subcontractor or Manufacturer)

hereby guarantees to the Owner that the portion of the Work described as follows:

_____, which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section _____ and the other requirements of the Contract.

The undersigned further agrees that, if at any time within _____ after the date hereof the undersigned receives notice from the Owner that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within ten (10) calendar days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within ten (10) calendar days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize the Owner to undertake such correction, repair, or replacement at the expense of the undersigned; and the Contractor will pay to the Owner promptly upon demand all costs and expenses incurred by the Owner in connection therewith.

This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents.

SUBCONTRACTOR OR INSTALLER

Signed _____ Title _____

Typed Name _____

Name of Firm _____

Contractor License Number _____

Address _____

Phone Number _____

MANUFACTURER (If Applicable)

Signed _____ Title _____

Typed Name _____

Name of Firm _____

CONTRACTOR

Signed _____ Title _____

Typed Name _____

Name of Firm _____

END OF SECTION 033570

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SECTION 051200 - STRUCTURAL STEEL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Structural steel in areas where existing roof is remodeled for exhaust fans.

B. Related Sections:

- 1. Division 01 Section "Quality Requirements" for independent testing agency procedures and administrative requirements.

1.3 DEFINITIONS

- A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

1.4 SUBMITTALS

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

- B. Shop Drawings: Show fabrication of structural-steel components.

- 1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.

- C. Qualification Data: For qualified Installer and fabricator.

- D. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

- E. Mill test reports for structural steel, including chemical and physical properties.

- F. Product Test Reports: For the following:

- 1. Bolts, nuts, and washers including mechanical properties and chemical analysis.
- 2. Shop primers.

- G. Source quality-control reports.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified fabricator who holds a current certificate of approval from the City of Los Angeles as a licensed fabricator.
- B. Shop-Painting Applicators: Qualified according to AISC's Sophisticated Paint Endorsement P1 or SSPC-QP 3, "Standard Procedure for Evaluating Qualifications of Shop Painting Applicators."
- C. Comply with applicable provisions of the following specifications and documents:
 - 1. AISC 303.
 - 2. AISC 360.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
 - 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

- A. Channels, Angles, Shapes: ASTM A 36/A 36M.
- B. Plate and Bar: ASTM A 36/A 36M.

2.2 BOLTS, CONNECTORS, AND ANCHORS

- A. Threaded Rods: ASTM A 36/A 36M.
 - 1. Nuts: **ASTM A 563** heavy-hex carbon steel.
 - 2. Washers: ASTM A 36/A 36M carbon steel.
 - 3. Finish: Plain.

2.3 PRIMER

- A. Primer: Series 10 Tnemec Primer.

- B. Galvanizing Repair Paint: MPI#18, MPI#19, or SSPC-Paint 20.

2.4 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.
 - 1. Mark and match-mark materials for field assembly.
 - 2. Complete structural-steel assemblies, before starting shop-priming operations.
- B. Bolt Holes: Cut, drill, mechanically thermal cut, or punch standard bolt holes perpendicular to metal surfaces.
- C. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
- D. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 2, "Hand Tool Cleaning."
- E. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel framing members.
 - 1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
 - 2. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.5 SHOP PRIMING

- A. Shop prime steel surfaces except the following:
 - 1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of **2 inches**.
 - 2. Surfaces to be field welded.
 - 3. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
- B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
 - 1. SSPC-SP 2, "Hand Tool Cleaning."
 - 2. SSPC-SP 3, "Power Tool Cleaning."
- C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of **1.5 mils (0.038 mm)**. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
 - 1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

2. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.

2.6 SOURCE QUALITY CONTROL

- A. Testing Agency: Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.
 1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
 1. Prepare a certified survey of bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.

3.3 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
- B. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
- C. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be

in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.
 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.
- D. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections.
- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

3.5 REPAIRS AND PROTECTION

- A. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.
- B. Touchup Painting: Cleaning and touchup painting are specified in Division 09 painting Sections.

END OF SECTION

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SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions for the Contract including Conditions and Division 1 General Requirements Sections, apply to this Section.

1.1 SUMMARY

- A. Section Includes:

- 1. Silicone joint sealants.
- 2. Acoustical joint sealants.

- B. Related Sections:

- 1. Division 01 Section "Indoor Air Quality (IAQ) Management."
- 2. Division 09 Section "Gypsum Board" for sealing perimeter joints.

1.2 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
- B. All construction joints, structural or mechanical or electrical penetrations, recessed boxes or fixtures, etc. shall be installed airtight to prevent sound transmission through building construction or from one room to another. The responsibility for airtight construction shall fall on the contractor and all subcontractors who must coordinate their work in the field.

1.3 PRECONSTRUCTION TESTING

- A. Preconstruction compatibility and adhesion testing in first paragraph below is performed off-site by sealant manufacturer. Tests require many Samples, and some tests require four weeks to complete. If retaining, also retain "Preconstruction Compatibility and Adhesion Test Reports" Paragraph in "Submittals" Article.
- B. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
 - 1. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
 - 2. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
 - 3. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.

4. Retain subparagraph below if generic test data are acceptable.
 5. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.
- C. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates as follows:
1. Locate test joints as directed by Architect.
 2. Conduct field tests for each application indicated below:
 - a. Each kind of sealant and joint substrate indicated.
 3. Notify Architect seven days in advance of dates and times when test joints will be erected.
 4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
 - a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - 1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
 5. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
 6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

1.4 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- C. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- B. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Joint-Sealant Schedule: Include the following information:
 1. Joint-sealant application, joint location, and designation.
 2. Joint-sealant manufacturer and product name.

3. Joint-sealant formulation.
4. Joint-sealant color.

1.5 INFORMATIONAL SUBMITTALS

A. Environmental Submittals:

Reference Standard: California Green Building Standards Code California Code of Regulations, Title 24, Part 11 (CALGreen)

1. Product data for sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L.

B. Qualification Data: For qualified Installer.

C. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.

D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

E. Preconstruction Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:

1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

F. Field-Adhesion Test Reports: For each sealant application tested.

G. Warranties: Sample of special warranties.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose Work has resulted in joint-sealant installations with a record of successful in-service performance.

B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

C. Mockups: Apply each sealant to anticipated materials at each joint to be sealed, in 6-inch long sections.

1. Submit to Architect for approval before beginning sealant Work at Project.
2. Demonstrate qualities of materials, execution, and appearance.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials in compliance with manufacturer's written instructions to prevent their deterioration or damage to moisture, high or low temperatures, contaminants, or other causes.

1.8 PROJECT CONDITIONS

- A. Environmental Limitations: Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 deg F (4.4 deg C).
 - 2. When joint substrates are wet.
- B. Joint-Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
- C. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.9 WARRANTY

- A. General Warranty: Special warranties specified in this Article shall not deprive District of other rights District may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Special Installer's Warranty: Written warranty, signed by Installer agreeing to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Three years from date of Completion.
- C. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
 - 1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
 - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.
 - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 PRODUCTS AND MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified in the sealant schedules at the end of Part 3.

2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
 - 1. Colors of Exposed Joint Sealants: Match adjacent material, except if two materials are present, obtain color selection from Architect from manufacturer's full range of colors.
- B. All sealants to be field-applied, within the building envelope must comply with VOC limits in Division 01 Section "Indoor Air Quality (IAQ) Management".

2.3 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealant Standard: Comply with ASTM C920 and other requirements indicated for each liquid-applied chemical curing sealant in the Elastomeric Joint-Sealant Schedule at the end of Part 3, including those referencing ASTM C920 classifications for type, grade, class, and uses.

2.4 LATEX JOINT SEALANTS

- A. Latex Sealant Standard: Comply with ASTM C 834 for each product of this description indicated in the Latex Joint-Sealant Schedule at the end of Part 3.

2.5 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, of type indicated below and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
 - 1. Type C: Closed-cell material with a surface skin.
 - 2. Type O: Open-cell material.
 - 3. Type B: Bicellular material with a surface skin.
 - 4. Type: Any material indicated above, provided it is compatible with sealant and materials adjacent.
- C. Elastomeric Tubing Sealant Backing: Neoprene, Butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at

temperatures down to minus 26 deg F (minus 32 deg C). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and otherwise contribute to optimum sealant performance.

- D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.6 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants with joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 AIRTIGHT EXECUTION

- A. Partition Bases: Provide 1/4" (high) continuous bead of acoustical sealant at all locations where gypsum board meets structural flooring. The depth of the sealant shall equal the thickness of the gypsum layer or layers.
- B. Partition Heads: Provide the same detail as for bases at flat structure or decking with flutes parallel to the partition. Where heads meet decking with flutes perpendicular to the partition, cut gypsum board escutcheons to fit flutes and install over outer layers of gypsum board on both sides of partition, then caulk as described above.
- C. Partition or Ceiling Joints at Dissimilar Materials: Provide 1/4" continuous bead of acoustical sealant at all locations where gypsum board meets dissimilar material. The depth of the sealant shall equal the thickness of the gypsum layer or layers.
- D. Partition Ends at Window Mullions: Attach single or multiple layers of gypsum board (matching the partition) continuously over the exposed sides of the window mullion. Caulk resulting joints at the wall end at the window glass.
- E. Partition/Partition or Partition/Ceiling Joints: Provide standard corner taping detail.

- F. Pipe, Duct, Conduit, or Structural Penetrations: Provide 1/4" wide bead of acoustical sealant around perimeter of each penetrating element. The depth of the sealant shall equal the thickness of the gypsum layer or layers.
- G. Electrical Boxes 4" x 4" or under: Provide 1/4" wide bead of acoustical sealant around perimeters of electrical boxes. The depth of the sealant shall equal the thickness of the gypsum layer or layers. Provide sheet caulking (e.g. Lowry Pads) continuous around the back side of boxes.
- H. Electrical, Lighting, or Other Recessed Boxes Over 4" x 4": Provide one layer of 5/8" gypsum board continuous around the back of such boxes. Caulk or tape all joints and caulk all conduit penetrations with acoustical sealant.

3.2 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 PREPARATION

- A. Surface Cleaning of Joints: 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 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, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Porous joint surfaces include the following:
 - a. Concrete.
 - b. Masonry.
 - c. Unglazed surfaces of ceramic tile.
 - 3. Remove laitance and form-release agents from concrete.
 - 4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
 - a. Metal.
 - b. Glass.
 - c. Glazed surfaces of ceramic tile.

- B. Joint Priming: Prime joint substrates where recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.4 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of type indicated to support sealants during application and at positions required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and back of joints. Do not allow 3-sided bond of sealants.
- E. Install sealants by proven techniques to comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses provided for each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealants from surfaces adjacent to joint.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

3.5 CLEANING

- A. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installation with repaired areas are indistinguishable from the original Work.

3.7 ELASTOMERIC JOINT-SEALANT SCHEDULE

- A. Low-Modulus Nonacid-Curing Silicone Sealant: Where joint sealants of this type are indicated, provide products complying with the following:
 - 1. Products: Provide one of the following, or approved equal:
 - a. 795; Dow Corning, or approved equal by GE, or Tremco.
 - 2. Type and Grade: S (single component) and NS (nonsag).
 - 3. Hardness: 36.
 - 4. Class: 25.
 - 5. Use Related to Exposure: NT (nontraffic).
 - 6. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.
 - 7. Stain-Test-Response Characteristics: Nonstaining to porous substrates per ASTM C 1248.
 - 8. Applications: Use for exterior vertical surfaces where sealant is not to be painted.
- B. Mildew-Resistant Silicone Sealant: Where joint sealants of this type are indicated, provide products formulated with fungicide that are intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures or high humidity and temperature extremes, and that comply with the following:
 - 1. Products: Provide one of the following, or approved equal:
 - a. 786 Mildew Resistant; Dow Corning.
 - b. Sanitary 1700; GE Silicones.
 - c. 898 Silicone Sanitary Sealant; Pecora Corporation.
 - d. Tremsil 600 White; Tremco.
 - 2. Type and Grade: S (single component) and NS (nonsag).
 - 3. Class: 25.
 - 4. Use Related to Exposure: NT (nontraffic).
 - 5. Uses Related to Joint Substrates: G, A, and, as applicable to joint substrates indicated O.

6. Applications: Use at plumbing fixtures.
- C. Multicomponent Nonsag Urethane Sealant: Where joint sealants of this type are indicated, provide products complying with the following:
1. Products: Provide one of the following or equal:
 - a. Chem-Calk 2000; Bostik Inc.
 - b. Vulkem 227; Mameco International.
 - c. Vulkem 922; Mameco International.
 - d. Elasto-Thane 920 Gun Grade; Pacific Polymers, Inc.
 - e. Dynatred; Pecora Corporation.
 - f. PSI-270SL; Polymeric Systems, Inc.
 - g. NP 2; Sonneborn Building Products Div., ChemRex Inc.
 2. Type and Grade: M (multicomponent) and NS (nonsag).
 3. Class: 25.
 4. Uses Related to Exposure: T (traffic).
 5. Uses Related to Joint Substrates: M, A, and, as applicable to joint substrates indicated, O.
 6. Applications: Use for exterior and interior joints subject to vehicle or pedestrian traffic.

3.8 LATEX JOINT-SEALANT SCHEDULE

- A. Latex Sealant: Where joint sealants of this type are indicated, provide products complying with the following:
1. Products: Provide one of the following, or approved equal:
 - a. Chem-Calk 600; Bostik, Inc.
 - b. LC 160 All Purpose Acrylic Caulk; Ohio Sealants, Inc.
 - c. AC-20; Pecora Corporation.
 2. Applications: Use for interior sealants in vertical surfaces that are to be painted.

THIS SECTION CONTINUED ON FOLLOWING PAGE

Date: _____ Project Name: Antelope Valley College – SCT Restroom Renovations

WARRANTY FOR _____, in Agreement between Antelope Valley Com. College District
(Specification Section) (Owner)

and _____
(the "Contractor") (Name of Installer or Subcontractor or Manufacturer)

hereby guarantees to the Owner that the portion of the Work described as follows:

_____, which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section _____ and the other requirements of the Contract.

The undersigned further agrees that, if at any time within _____ after the date hereof the undersigned receives notice from the Owner that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within ten (10) calendar days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within ten (10) calendar days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize the Owner to undertake such correction, repair, or replacement at the expense of the undersigned; and the Contractor will pay to the Owner promptly upon demand all costs and expenses incurred by the Owner in connection therewith.

This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents.

SUBCONTRACTOR OR INSTALLER

Signed _____ Title _____

Typed Name _____

Name of Firm _____

Contractor License Number _____

Address _____

Phone Number _____

MANUFACTURER (If Applicable)

Signed _____ Title _____

Typed Name _____

Name of Firm _____

CONTRACTOR

Signed _____ Title _____

Typed Name _____

Name of Firm _____

END OF SECTION 079200

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SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes non-load-bearing steel framing members for the following applications:
 - 1. Interior framing systems (e.g., supports for partition walls, furring, etc.).
 - 2. Installing metal backing supplied under Division 05 Section "Metal Fabrications."
- B. Related Sections include the following:
 - 1. Division 5 Section "Metal Fabrications" for supplying metal backing.
 - 2. Division 09 Section "Cement Plastering" for metal lath supported by non-load-bearing steel framing.

1.3 SUBMITTALS

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

1.4 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

PART 2 - PRODUCTS

2.1 NON-LOAD-BEARING STEEL FRAMING, GENERAL

- A. Recycled Content of Steel Products: Provide products with average recycled content of steel products such that postconsumer recycled content plus one-half of pre-consumer recycled content is not less than 25 percent.
- B. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal, unless otherwise indicated.

2. Protective Coating: ASTM A 653/A, G40, hot-dip galvanized.

2.2 STEEL FRAMING FOR FRAMED ASSEMBLIES

A. Steel Studs and Runners: ASTM C 645.

1. Minimum Base-Metal Thickness: As indicated on Drawings. Minimum 16 gauge if not shown.
2. Depth: As indicated on Drawings.

B. Slotted Head Tracks: At all interior partitions provide the following:

1. Runner System: ASTM C 645 top runner with 2-1/2 inch- deep slotted flange and fastened to studs.

C. Cold-Rolled Steel Backing: Minimum 16 gauge thickness.

1. Depth: As indicated on Drawings.

D. Hat-Shaped, Rigid Furring Channels: ASTM C 645.

1. Minimum Base Metal Thickness: 0.0312 inch.
2. Depth: 7/8 inch.

2.3 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards.

1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

B. Isolation Strip at Exterior Walls: Provide one of the following:

1. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance.

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

3.2 INSTALLATION, GENERAL

A. Installation Standard: ASTM C 754, except comply with framing sizes and spacing indicated.

1. Portland Cement Plaster Assemblies: Also comply with requirements in ASTM C 1063 that apply to framing installation.
 2. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, handrails, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.
- 3.3 INSTALLING FRAMED ASSEMBLIES
- A. Where studs are installed directly against exterior concrete walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- B. Install studs so flanges within framing system point in same direction.
1. Space studs as follows:
 - a. Single-Layer Application: 16 inches.
- C. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above ceilings. Continue framing around ducts penetrating partitions.
1. Slotted-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb, unless otherwise indicated.
 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 4. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
 5. Curved Partitions:
 - a. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.
 - b. Begin and end each arc with a stud, and space intermediate studs equally along arcs. On straight lengths of not less than 2 studs at ends of arcs, place studs 6 inches o.c.
- D. Direct Furring:
1. Attach to concrete with powder-driven fasteners spaced 24 inches o.c.

- E. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/16 inch from the plane formed by faces of adjacent framing.

THIS SECTION CONTINUED ON FOLLOWING PAGE

Date: _____ Project Name: Antelope Valley College –SCT Restroom Renovation

WARRANTY FOR _____, in Agreement between Antelope Valley Com. College District
(Specification Section) (Owner)

and _____
(the "Contractor") (Name of Installer or Subcontractor or Manufacturer)

hereby guarantees to the Owner that the portion of the Work described as follows:

_____, which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section _____ and the other requirements of the Contract.

The undersigned further agrees that, if at any time within _____ after the date hereof the undersigned receives notice from the Owner that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within ten (10) calendar days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within ten (10) calendar days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize the Owner to undertake such correction, repair, or replacement at the expense of the undersigned; and the Contractor will pay to the Owner promptly upon demand all costs and expenses incurred by the Owner in connection therewith.

This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents.

SUBCONTRACTOR OR INSTALLER

Signed _____ Title _____

Typed Name _____

Name of Firm _____

Contractor License Number _____

Address _____

Phone Number _____

MANUFACTURER (If Applicable)

Signed _____ Title _____

Typed Name _____

Name of Firm _____

CONTRACTOR

Signed _____ Title _____

Typed Name _____

Name of Firm _____

END OF SECTION 092216

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SECTION 092900 - GYPSUM BOARD**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Tile backing panels.
 - 2. Aluminum Edge Trim
 - 3. New gypsum board walls.
 - 4. Patching of existing plaster and gypsum board surfaces.
- B. Related Requirements:
 - 1. Division 09 Section "Non-Structural Metal Framing" for non-structural framing and suspension systems that support gypsum board panels.
 - 2. Division 09 Section "Ceramic Tile."
 - 3. Division 09 Section "Interior Painting."

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product, including all auxiliary materials.
- B. Samples: For the following products:
 - 1. Trim Accessories: Full-size Sample in 12-inch- long length for each trim accessory indicated.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design: Subject to compliance with requirements, provide products indicated by CertainTeed Corporation; or comparable products by one of the following:
 1. Georgia-Pacific Gypsum LLC.
 2. USG Corporation.

2.2 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.
- C. Low Emitting Materials: For ceiling and wall assemblies, provide materials and construction identical to those tested in assembly and complying with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers." Provide proof of performance requirements.

2.3 GYPSUM BOARD, GENERAL

- A. Recycled Content of Gypsum Panel Products: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 60 percent.
- B. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.4 TILE BACKING PANELS

- A. Glass-Mat, Water-Resistant Backing Board: ASTM C 1178/C 1178M, with manufacturer's standard edges.
 1. Basis-of-Design Product: CertainTeed Diamondback, Glasroc Glass Reinforced Gypsum Tile Backer.
 2. Core: 5/8 inch (15.9 mm), Type X.

3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.5 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
 1. Interior Gypsum Board: Paper.

2.6 ALUMINUM EDGE TRIM

- A. Provide Gordon "Final Forms 1 – Series 200" Edge Trim at intersection of (e) gyp bd. or (e) plaster and new backer board.
 1. Part Number #234
 2. Size: 3/4 in. x 7/8 in.

2.7 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
 1. Laminating adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 2. Use screws complying with ASTM C 954 for fastening panels to steel members.
- C. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, non-staining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. USG Corporation; SHEETROCK Acoustical Sealant.
 - b. Pecora Corporation; AC-20 FTR AIS-919.
 - c. Grabber Construction Products; Acoustical Sealant GSC.
 2. Acoustical joint sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - a. All sealants and adhesives to be field-applied, within the building envelope must comply with VOC limits in Division 01 Section "Indoor Air Quality (IAQ) Management".

- D. Plaster and Gypsum Board Patching: Quikrete Patching Plaster.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, for compliance with requirements and other conditions affecting performance.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- C. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- D. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc., except in chases braced internally).
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
- E. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4 inch wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- F. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

3.3 APPLYING INTERIOR GYPSUM BOARD

- A. Single-Layer Application:
 - 1. On partitions/walls, apply gypsum panels (perpendicular to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.

2. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints at locations indicated on Drawings.

3.5 PATCHING OF PLASTER AND GYPSUM BOARD

- A. Follow manufacturer's recommended procedures.

3.6 PROTECTION

- C. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- D. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- E. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

THIS SECTION CONTINUED ON FOLLOWING PAGE

Date: _____ Project Name: Antelope Valley College –SCT Restroom Renovations

WARRANTY FOR _____, in Agreement between Antelope Valley Com. College District
(Specification Section) (Owner)

and _____
(the "Contractor") (Name of Installer or Subcontractor or Manufacturer)

hereby guarantees to the Owner that the portion of the Work described as follows:

_____, which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section _____ and the other requirements of the Contract.

The undersigned further agrees that, if at any time within _____ after the date hereof the undersigned receives notice from the Owner that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within ten (10) calendar days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within ten (10) calendar days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize the Owner to undertake such correction, repair, or replacement at the expense of the undersigned; and the Contractor will pay to the Owner promptly upon demand all costs and expenses incurred by the Owner in connection therewith.

This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents.

SUBCONTRACTOR OR INSTALLER

Signed _____ Title _____

Typed Name _____

Name of Firm _____

Contractor License Number _____

Address _____

Phone Number _____

MANUFACTURER (If Applicable)

Signed _____ Title _____

Typed Name _____

Name of Firm _____

CONTRACTOR

Signed _____ Title _____

Typed Name _____

Name of Firm _____

END OF SECTION 092900

SECTION 093013 – CERAMIC TILE**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY**A. Section Includes:**

1. Porcelain Wall Tile.
2. Porcelain Floor Tile
3. Stainless Steel Floor Transition Edge Trim (where specified)
4. Aluminum Wall Tile Trim
5. Waterproofing/crack isolation membrane.
6. Epoxy Grout

B. Related Sections:

1. Division 01 Section "Indoor Air Quality (IAQ) Management".
2. Division 01 Section "Concrete Slab Moisture & pH Testing".
3. Division 03 Section "Cast-in-Place Concrete".
4. Division 03 Section "Concrete Moisture Barrier".
5. Division 09 Section "Gypsum Board" for tile backing panels and Aluminum Edge Trim

1.3 DEFINITIONS

- A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.

1. Module Size: Actual tile size plus joint width indicated.
2. Face Size: Actual tile size, excluding spacer lugs.

1.4 PERFORMANCE REQUIREMENTS

- A. Dynamic Coefficient of Friction: For tile installed on walkway surfaces, provide products with the following values when tested per A127.1-2012, Section 9.6.:

1. Dynamic Coefficient of Friction: Minimum 4.2

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated including tile-setting and grouting products.

- B. Environmental Submittals:
Reference Standard: California Green Building Standards Code California Code of Regulations, Title 24, Part 11 (CALGreen).
1. All components used in installation of tile to meet requirements of SCAQMD Rule#1168 and Green Seal Standard GC-36 for Adhesives and Sealants. Documentation is required.
- C. Shop Drawings: Show locations of each type of tile and tile pattern. Show widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.
- D. Samples for Initial Selection: For each type of tile and grout indicated. Include Samples of accessories involving color selection.
- E. Samples for Verification:
1. Full-size units of each type and composition of tile and for each color and finish required. For ceramic mosaic tile in color blend patterns, provide full sheets of each color blend.
 3. Full-size units of each type of trim and accessory for each color and finish required.
 4. Sample of stainless steel transition strip.
- F. Qualification Data: For qualified Installer.
- G. Material Test Reports: For each tile-setting and -grouting product.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer who has completed tile installations similar in material, design, and extent to that indicated for this Project and with a record of 3 years successful in-service performance.
- B. Source Limitations for Tile: Obtain tile of each type and color or finish from one source or producer.
1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area. Coved base tile and trim pieces that are coordinating with floor tile should match floor tile in appearance and color.
- C. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from one manufacturer and each aggregate from one source or producer.
1. Products to be coordinated in order to provide manufacturer's system warranty as mentioned in Warranty Section below.

- D. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer for each product:

1. Metal Transition Trim

1.7 WARRANTY

- A. Manufacturer's Warranty: Submit for Owner's acceptance, manufacturer's standard "system warranty document. Manufacturer's warranty is in addition to and not a limitation of other rights Owner may have under contract Documents.

1. Warranty Period for Ceramic and Porcelain Tile: Manufacturer's standard warranty, but not less than one (1) year limited warranty.
2. Warranty Period for tile setting and grouting material system: Manufacturer's twenty five (25) year or Lifetime Product and System limited warranty.
3. Warranties to commence on Date of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirement of ANSI A137.1 for labeling sealed tile packages.
- B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.
- D. Store liquid materials in unopened containers and protected from freezing.
- E. Handle tile with temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units. If coating does contact bonding surfaces of tile, remove coating from bonding surfaces before setting tile.

1.9 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install tile until construction in spaces is completed and ambient temperature and humidity conditions are being maintained to comply with referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1, "Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated.
 - 1. Provide tile complying with Standard Grade requirements, unless otherwise indicated.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCA installation methods specified in tile installation schedules, and other requirements specified.
- C. Colors, Textures, and Patterns: Where manufacturer's standard products are indicated for tile, grout, and other products requiring selection of colors, surface textures, patterns, and other appearance characteristics, provide specific products or materials complying with the following requirements.
 - 1. Colors are indicated on Drawings.
 - 2. Provide tile trim and accessories that match color and finish of adjoining flat tile.
- D. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved samples.
- E. Mounting: Where factory-mounted tile is required, provide back- or edge-mounted tile assemblies as standard with manufacturer, unless another mounting method is indicated.
 - 1. Where tile is indicated for installation on exterior or in wet areas, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies in writing that this type of mounting is suitable for these kinds of installations and has a record of successful in-service performance.

2.2 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include the following, or approved equal:
 - 1. Tile Products (basis of design):
 - a. Crossville – no know equal.
 - 2. Tile-Setting and -Grouting Materials (basis of design):
 - a. Laticrete International, Inc

2.3 TILE PRODUCTS

- A. T1, T3, T5 & T7: Crossville, "Retro Active", Porcelain Stone® Wall Tile
1. Size: 3 in. x 12 in.
 2. Thickness: 5/16 in.
 3. Finish: Cross-Sheen®, Polished
 4. Grout Size: 1/8 in.
 5. Breaking Strength per ASTM C648: 350-420 lb/f
 6. Bond Strength per ASTM C482: >200 psi
 7. Chemical Resistance per ASTM C650: Unaffected
 8. Water Absorption per ASTM C373: <0.10%
 9. Scratch Hardness: 6 Mohs Scale
 10. SCS Certified, Green Square Certified, Min. of 4% recycled content
 11. Colors & Patterns: As shown on Drawings
- B. T2, T4 & T6: Crossville, "Retro Active", Porcelain Stone® Wall Tile
1. Size: 6 in. x 12 in.
 2. Thickness: 5/16 in.
 3. Finish: Cross-Sheen®, Polished
 4. Grout Size: 1/8 in.
 5. Breaking Strength per ASTM C648: 350-420 lb/f
 6. Bond Strength per ASTM C482: >200 psi
 7. Chemical Resistance per ASTM C650: Unaffected
 8. Water Absorption per ASTM C373: <0.10%
 9. Scratch Hardness: 6 Mohs Scale
 10. SCS Certified, Green Square Certified, Min. of 4% recycled content
 11. Colors & Patterns: As shown on Drawings
- C. T8 & T11 & T13: Crossville, "Retro Active", Porcelain Stone® Floor Tile
1. Size: 3 in. x 12 in.
 2. Thickness: 5/16 in.
 3. Finish: Cross-Sheen®, Polished
 4. Grout Size: 1/8 in.
 5. Wet Dynamic Coefficient of Friction: .50-.60 (UPS) 0.31-0.41 (PO)
 6. Breaking Strength per ASTM C648: 350-420 lb/f
 7. Bond Strength per ASTM C482: >200 psi
 8. Chemical Resistance per ASTM C650: Unaffected
 9. Water Absorption per ASTM C373: <0.10%
 10. Scratch Hardness: 6 Mohs Scale
 11. SCS Certified, Green Square Certified, Min. of 4% recycled content
 12. Colors & Patterns: As shown on Drawings
- D. T9: Crossville, "Retro Active", Porcelain Stone® Floor Tile
1. Size: 6 in. x 12 in.
 2. Thickness: 5/16 in.
 3. Finish: Cross-Sheen®, Polished
 4. Grout Size: 1/8 in.
 5. Wet Dynamic Coefficient of Friction: .50-.60 (UPS) 0.31-0.41 (PO)

6. Breaking Strength per ASTM C648: 350-420 lb/f
7. Bond Strength per ASTM C482: >200 psi
8. Chemical Resistance per ASTM C650: Unaffected
9. Water Absorption per ASTM C373: <0.10%
10. Scratch Hardness: 6 Mohs Scale
11. SCS Certified, Green Square Certified, Min. of 4% recycled content
12. Colors & Patterns: As shown on Drawings

E. T10 & T12: Crossville, "Retro Active", Porcelain Stone® Floor Tile

1. Size: 3 in. x 3 in. (Cut down from 3 in. x 12 in. tile)
2. Thickness: 5/16 in.
3. Finish: Cross-Sheen®, Polished
4. Grout Size: 1/8 in.
5. Wet Dynamic Coefficient of Friction: .50-.60 (UPS) 0.31-0.41 (PO)
6. Breaking Strength per ASTM C648: 350-420 lb/f
7. Bond Strength per ASTM C482: >200 psi
8. Chemical Resistance per ASTM C650: Unaffected
9. Water Absorption per ASTM C373: <0.10%
10. Scratch Hardness: 6 Mohs Scale
11. SCS Certified, Green Square Certified, Min. of 4% recycled content
12. Colors & Patterns: As shown on Drawings

F. B1: Crossville, "Retro Active", Porcelain Stone® Cove Base Tile

1. Size: 2 in. x 12 in. (including 2 in. x 2 in. inside cove & 2 in. x 4 in. outside cove base trims)
2. Thickness: 3/8 in.
3. Finish: Cross-Sheen®, Polished
4. Grout Size: 1/8 in.
5. Wet Dynamic Coefficient of Friction: .50-.60 (UPS) 0.31-0.41 (PO)
6. Breaking Strength per ASTM C648: 350-420 lb/f
7. Bond Strength per ASTM C482: >200 psi
8. Chemical Resistance per ASTM C650: Unaffected
9. Water Absorption per ASTM C373: <0.10%
10. Scratch Hardness: 6 Mohs Scale
11. SCS Certified, Green Square Certified, Min. of 4% recycled content
12. Colors & Patterns: As shown on Drawings

2.4 ALUMINUM WALLTILE TRIM ACCESSORIES

- A. Available Manufacturers: Subject to compliance with requirements, provide products by Schluter Systems , or approved equal:
- B. Provide stainless steel transition edge trim at floor tile transitions in doorways and other locations indicated on Drawings
 1. Trim Pattern: Schluter Systems "Schiene"
 2. Product Code: E80/V4A

3. Material: Stainless Steel
4. Finish/Color: Stainless Steel
5. Height: 8mm (5/16")
6. Length: 8 ft. 2 ½ in. sections

C. Provide aluminum edge protection trim at top of wall tile wainscot as indicated on Drawings.

1. Trim Pattern: Schluter Systems "Jolly"
2. Product Code: A80AT
3. Material: Aluminum
4. Finish/Color: Satin Nickel Anodized
5. Height: 8mm (5/16")
6. Length: 8 ft. 2 ½ in. sections

D. Provide aluminum rounded corner wall trim at outside corners of wall tile as indicated on Drawings.

1. Trim Pattern: Schluter Systems "Rondec"
2. Product Code: RO80AT
3. Material: Aluminum
4. Finish/Color: Satin Nickel Anodized
5. Height: 8mm (5/16")
6. Length: 8 ft. 2 ½ in. sections

E. Provide aluminum cove profile wall trim at inside corners where tiled as indicated on Drawings.

1. Trim Pattern: Schluter Systems "Dilex-AHK Cove Base"
2. Product Code: AHK1S80AT
3. Material: Aluminum
4. Finish/Color: Satin Nickel Anodized
5. Height: 8mm (5/16")
6. Length: 8 ft. 2 ½ in. sections

2.5 SETTING MATERIALS

A. Thick-Set Polymer Fortified Mortar Installation Materials: Provide materials complying with ANSI A108.02 and as specified below, or approved equal:

1. Floors:
 - a. Laticrete "254 Platinum" One-step, polymer fortified mortar
 - b. Laticrete 3701 Fortified Mortar Bed.
 - c. Welded, Galvanized Reinforcing Wire Fabric: 16 gauge, 2 in. x 2 in. (50 mm x 50 mm.)
 - d. Cleavage Membrane: 4 mil polyethylene or 15 lb. Builder's Felt.
2. Walls:
 - a. Laticrete "254 Platinum" One-step, polymer fortified mortar, or equal.
 - b. Laticrete 3701 Fortified Mortar Bed.
 - c. Metal Lath: 3.4 lb. galvanized diamond wire.

2.6 GROUTING MATERIALS

A. Floors:

1. Epoxy Grout, 100% solids epoxy as formulated for floor applications with high temperature resistance complying with ANSI A118.3 and as specified below.
 - a. Laticrete "SpectraLock 2000 IG" 100% solids epoxy industrial grout with Microban stain, mold and mildew inhibitor.

B. Walls:

1. High Performance Epoxy Grout, as formulated for floor and wall applications complying with ANSI A118.3 and as specified below.
 - a. Laticrete "SpectraLock Pro Premium" epoxy grout with Microban stain, mold and mildew inhibitor.

C. Verify grout colors with Architect before ordering.

2.7 ELASTOMERIC SEALANTS

A. Provide sealants specified in Division 7 Section "Joint Sealants".

1. Backing Material: Closed cell polyethylene foam, compatible with sealant, 20 percent thicker than expansion joint.

2.8 MISCELLANEOUS MATERIALS

- A. Trowelable Underlayment and Patching Compounds: Latex-modified, portland-cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.
- B. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

2.9 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.
- B. Add materials, water, and additives in accurate proportions.
- C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
 - 1. Verify that substrates for setting tile are firm; dry; clean; free from oil, waxy films, and curing compounds; and within flatness tolerances required by referenced ANSI A108 series of tile installation standards for installations indicated.
 - 2. Verify that concrete substrates for tile floors installed with thin-set mortar comply with surface finish requirements listed in Cast-in-Place-Concrete Specification.
 - a. Verify that surfaces that received a steel towel finish have been mechanically scarified.
 - b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.
 - 2. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of Work, and similar items located in or behind tile has been completed before installing tile.
 - 3. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.
- A. Prior to flooring installation, Contractor to perform moisture vapor emission and alkalinity testing per Spec. Section 01 45 24 Concrete Slab Moisture & pH Testing. If test results are unsatisfactory to meet manufacturer's flooring warranty, take action indicated below.
 - 1. If testing indicates moisture vapor levels higher than 75% RH, or 5 lbs./1,000 ft²/ 24 hours, install Moisture barrier as indicated in Section 03 35 70 Concrete Moisture Barrier.

- B. Do not proceed with installation until satisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove coatings, including curing compounds, and other substances that contain soap, wax, oil, or silicone and are incompatible with tile-setting materials by using a terrazzo or concrete grinder, a drum sander, or a polishing machine equipped with a heavy-duty wire brush.

- B. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thin-set mortar with trowelable, leveling and patching compound specifically recommended by tile-setting material manufacturer.
- C. Blending: For tile exhibiting color variations within the ranges selected during Sample submittals, verify that tile has been blended in the factory and packaged so tile units taken from one package show the same range in colors as those taken from other packages and match approved samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.
- D. Field-Applied Temporary Protective Coating: Where needed to prevent adhesion or staining of exposed tile surfaces by grout, protect exposed surfaces of tile against adherence of mortar and grout by pre-coating them with a continuous film of temporary protective coating taking care not to coat unexposed tile surfaces.

3.3 INSTALLATION, GENERAL

- A. ANSI Tile Installation Standards: Comply with parts of ANSI A108 series of tile installation standards in "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in ceramic tile installation schedules.
- B. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation". Comply with TCA installation methods indicated in ceramic tile Installation Schedule at end of this Section.
- C. Blending: Blend tiles at factory. Provide additional blending at job site as needed to secure Architect's approval and to match approved mockups.
- D. Extend tile Work into recesses and under or behind equipment and fixtures to form a complete covering without interruptions, unless otherwise indicated. Terminate Work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- E. Accurately form intersections and returns. Perform cutting and drilling without marring visible surfaces. Carefully grind cut edges abutting trim, finish, or built-in items for straight aligned joints. Fit closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile or slate.
- F. Jointing Pattern: Lay tile in grid pattern, unless otherwise indicated. Align joints when adjoining tiles on floor, base, walls, and trim are the same size. Lay out tile and center tile fields in both directions in each space or on each wall area unless noted otherwise on Drawings. Adjust to minimize cutting. Provide uniform joint widths, unless otherwise indicated.
 - 1. For tile mounted in sheets, make joints between sheets the same width as joints within sheets so joints between sheets are not apparent in finished Work.
 - 2. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be the same size, align joints.
 - 3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor,

base, walls, or trim, align joints unless other indicated.

- G. Lay out tile wainscots as shown on Drawings.

3.4 WATERPROOFING/CRACK ISOLATION MEMBRANE

- A. Install waterproofing/crack isolation membrane, in compliance with waterproofing manufacturer's written instructions.
- B. Do not install tile over membrane until membrane is cured and has been tested to determine that it is watertight.
- C. Verify that drains, sleeves and curbs which pass through surfaces to receive waterproofing are rigidly installed.

3.5 TILE INSTALLATION

- A. General: Install tile to comply with requirements in the Installation Schedule at the end of this Section, including those referencing TCA installation methods and ANSI A108 series of tile installation standards.
- B. Joint Widths: as indicated in Tile Materials Section.
- C. Metal Edge Strips: Install at locations where exposed edge of tile flooring meets other flooring that finishes flush with top of tile.
- D. Install all cove base tile "flush" per TCA installation methods.

3.6 ALLOWABLE TOLERANCE

- A. Do not exceed the following deviations from level and plumb and from elevations:
 - 1. Horizontal Surfaces: 1/8-inch in 10 feet in all directions.
 - 2. Vertical Surfaces: 1/8-inch in 8 feet in all directions.

3.7 EXPANSION/CONTROL JOINTS

- A. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated on Drawings. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
- B. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.
- C. Verify exact locations of joints with the Architect before proceeding with the Work.
- D. Extend openings for joints completely through the tile, mortar, mortar bed, and reinforcing.

1. Make openings for joints the same width as the tile joints, unless indicated otherwise.
 2. Keep joints open and free from mortar and grout until filled with sealant.
 3. Prepare joints and apply sealants to comply with requirements in Section: "Joint Sealants."
 4. Make joint edges free from dirt, oils, wax, and other contaminants.
- C. Seal between tile and penetration and restraining surfaces with sealant matching the color of grout-joint filler

3.8 CLEANING AND PROTECTING

- A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
1. Remove grout residue from tile as soon as possible.
 2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.
 3. Remove temporary protective coating (if any) by method recommended by coating manufacturer that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent it from clogging drains.
- B. Finished Work: Leave finished installation clean and free of cracked, chipped, broken, unbonded, and otherwise defective tiles.
- C. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, which ensure tile is without damage or deterioration at the time of Completion.
1. Protect installed Work with Kraft paper or other heavy covering during construction period to prevent staining, damage, and wear.
 2. Prohibit foot and wheel traffic from floors for at least 7 days after grouting is completed.
- D. Before inspection for Completion remove protective coverings and rinse surfaces.

3.9 INSTALLATION SCHEDULE

- A. Thinset on Floors:
1. Tile Installation TCA F115.12 as indicated on drawings.
 - a. Thin-Set Mortar for Cured-Bed Method: Polymer fortified mortar.

- b. Grout: 100% solids epoxy grout.
- B. Thinset on Walls with Glass Mat Backer Board:
 - 1. Tile Installation TCA W245-12 as indicated on drawings.
 - a. Thin-Set Mortar for Cured-Bed Method: Polymer fortified mortar.
 - a. Grout: Epoxy grout.
- C. Movement Joints: TCA Detail EJ171, appropriate type.

Date: _____ Project Name: Antelope Valley College SCT Restroom Renovation
WARRANTY FOR _____, in Agreement between Antelope Vally Comm. College District

(Specification Section)

(Owner)

and _____
(the "Contractor") _____ Name of Installer or Subcontractor or Manufacturer)

hereby guarantees to the Owner that the portion of the Work described as follows:

_____, which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section _____ and the other requirements of the Contract.

The undersigned further agrees that, if at any time within sixty (60) months after the date hereof the undersigned receives notice from the Owner that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within ten (10) calendar days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within ten (10) calendar days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize the Owner to undertake such correction, repair, or replacement at the expense of the undersigned; and the Contractor will pay to the Owner promptly upon demand all costs and expenses incurred by the Owner in connection therewith.

This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents.

SUBCONTRACTOR OR INSTALLER

Signed _____ Title _____

Typed Name _____

Name of Firm _____

Contractor License Number _____

Address _____

Phone Number _____

MANUFACTURER (If Applicable)

Signed _____ Title _____

Typed Name _____

Name of Firm _____

CONTRACTOR

Signed _____ Title _____

Typed Name _____

Name of Firm _____

END OF SECTION 093013

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SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes surface preparation and the application of paint systems on the following interior substrates:
 - 1. Gypsum Board
 - 2. Steel Door Frames
 - 3. Steel Doors
 - 4. Cement Plaster Ceilings
- B. Related Sections include the following:
 - 1. Division 01 Section "Indoor Air Quality (IAQ) Management".
 - 2. Division 09 Section "Gypsum Board".

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of topcoat product indicated.
- C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat indicated.
 - 1. Submit Samples on substrates they will be applied to, 8 in x 10" min.
 - 2. Label each Sample with paint system, color, gloss level, location and application area.
- D. 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. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.
- E. Environmental Submittals:

Reference Standard: California Green Building Standards Code California Code of Regulations, Title 24, Part 11 (CALGreen).

1. Provide Project Data:
 - a. For paint systems, documentation including printed statement of VOC content.

1.4 QUALITY ASSURANCE

- A. Mockups: Apply (6) mockup benchmark paint sample colors – one complete pattern repeat, as shown in Drawings, to verify colors selected, demonstrate aesthetic effects and set quality standards for materials and execution.
 1. Provide samples for the following paint designations in sizes and configurations shown on the drawings. Coordinate areas to be painted with Architect prior to starting mockups.
 2. Apply benchmark samples after permanent lighting and other environmental services have been activated.
 3. Final approval of color selections will be based on benchmark samples.
 - a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Architect at no added cost to Owner.
 - b. Accepted samples may remain as part of the Work.

1.5 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.

1.6 PROJECT 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 when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1.7 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Dunn Edwards Corporation (basis of design)
 - 2. Frazee Paint
 - 3. PPG Coatings

2.2 PAINT, GENERAL

- A. 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.
- B. Colors: As indicated on Drawings.

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 work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Concrete: 12 percent.
 - 2. Gypsum Board: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
 - 1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove plates, machined surfaces, and similar items already in place that 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 if any.
 - 2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- C. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and re-prime substrate with compatible primers as required to produce paint systems indicated.
- D. Concrete Substrates: 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.
- E. Steel Substrates: Remove rust and loose mill scale. Clean using methods recommended in writing by paint manufacturer.
- F. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- G. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

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 equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but 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 Mechanical and Electrical Work: Paint items exposed in occupied spaces including, but not limited to, the following:
 - 1. Mechanical Work:
 - a. Un-insulated metal piping.
 - b. Un-insulated plastic piping.
 - c. Pipe hangers and supports.
 - d. Metal ducts, without liner.
 - e. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - f. Mechanical equipment that is indicated to have a factory-primed finish for field painting.
 - 2. Electrical Work:
 - a. All exposed electric conduit.
 - b. Electrical equipment that is indicated to have a factory-primed finish for field painting.

3.4 FIELD QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when paints are being applied:
 - 1. Owner will engage the services of a qualified testing agency to sample paint materials being used. Samples of material delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor.
 - 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 non-complying-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.

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.

SECTION CONTINUED ON NEXT PAGE

3.6 INTERIOR PAINTING SCHEDULE

- A. Type X Gypsum Board – Paint Type P1:
- 100% Acrylic System, Semi-Gloss Finish (Gloss Level 40-50% on a 60° meter)
1st coat: Dunn Edwards, ULTRA-GRIP Premium, Multi-Surface, Water-Based Primer, (50 g/L VOCs).
2nd coat: Dunn Edwards, EVEREST, EVER50, 100% Acrylic, (2 g/L VOCs).
3rd coat: Dunn Edwards, EVEREST, EVER50, 100% Acrylic, (2 g/L VOCs).
- B. Cement Plaster – Paint Type P1:
- Acrylic Eggshell Finish (Gloss Level 10-15% on a 60° meter)
1st coat: Dunn Edwards, SUPER-LOC Premium, SLPROO-2-WH, Masonry/Bonding Primer, (50 g/L VOCs).
2nd coat: Dunn Edwards, SPARTAZERO, SZR030, (2 g/L VOCs).
3rd coat: Dunn Edwards, SPARTAZERO, SZR030, (2 g/L VOCs).
- C. Metal Doors – Paint Type P2:
- Acrylic Urethane System, Semi-Gloss Finish (Gloss Level 40-50% on a 60° meter)
1st coat: Dunn Edwards, BLOC-RUST Premium, BRPROO-2-WH, Rust Inhibitive Water-Based Primer, 50 g/L VOCs).
2nd coat: Dunn Edwards, ULTRASHIELD, ULDM50, (0 g/L VOCs).
3rd coat: Dunn Edwards, ULTRASHIELD, ULDM50, (0 g/L VOCs).
- D. Exposed Metal Mechanical & Electrical Equipment – Paint Type P29D:
- Fast-Drying, Non-bridging Waterborne Dry Fall Flat Finish
1st coat: Dunn Edwards, AQUAFALL, AQUA10, (35 g/L VOCs).
2nd coat: Dunn Edwards, AQUAFALL, AQUA10, (35 g/L VOCs).
- E. Metal Door Frames – Paint Type P3:
- Metallic Opaque Finish
1st coat: Zinsser, Bulls Eye 1-2-3 Primer-Sealer/Stain Killer/Bond Coat (\leq 100 g/L VOCs).
2nd coat: Modern Masters Pre-mixed, Metallic Paint, (350 g/L VOCs – Faux Finish).
3rd coat: Modern Masters Pre-mixed, Metallic Paint, (350 g/L VOCs – Faux Finish).
4th coat: Modern Masters Pre-mixed, Metallic Paint, (350 g/L VOCs – Faux Finish).
5th coat: Modern Masters Master Clear Acrylic/Polyurethane Protective Clear Topcoat ME66, Semi-Gloss Finish, (\leq 100 g/L VOCs).

THIS SECTION CONTINUED ON FOLLOWING PAGE

Date: _____ Project Name: Antelope Valley College –SCT Restroom Renovation

WARRANTY FOR _____, in Agreement between Antelope Valley Com. College District

(Specification Section)

(Owner)

and _____
(the "Contractor") _____ Name of Installer or Subcontractor or Manufacturer)

hereby guarantees to the Owner that the portion of the Work described as follows:

_____, which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section _____ and the other requirements of the Contract.

The undersigned further agrees that, if at any time within _____ after the date hereof the undersigned receives notice from the Owner that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within ten (10) calendar days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within ten (10) calendar days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize the Owner to undertake such correction, repair, or replacement at the expense of the undersigned; and the Contractor will pay to the Owner promptly upon demand all costs and expenses incurred by the Owner in connection therewith.

This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents.

SUBCONTRACTOR OR INSTALLER

Signed _____ Title _____

Typed Name _____

Name of Firm _____

Contractor License Number _____

Address _____

Phone Number _____

MANUFACTURER (If Applicable)

Signed _____ Title _____

Typed Name _____

Name of Firm _____

CONTRACTOR

Signed _____ Title _____

Typed Name _____

Name of Firm _____

END OF SECTION 099123

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SECTION 101423 - SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Interior Panel Signs: Fixed, frameless acrylic panel signs and accessories.
- B. Related Sections:
 - 1. Division 01 Section "Indoor Air Quality (IAQ) Management".
- C. Refer to Drawings for sign types and locations.
- D. Refer to Message Schedule for detail references on the Drawings.
- E. Installation of all signs.

1.3 REGULATORY REQUIREMENTS

- A. Comply with the Americans with Disabilities Act (ADA) and with code provisions adopted by the State of California, Division of the State Architect (DSA).
- B. Signage shall be in compliance with 2013 California Building Code (CBC) Sections 1003.2.8, 11B-201.1, 11B-603.2.3, and 11B-703.

1.4 SUBMITTALS

- A. General: Submittal procedures are according to the Conditions of the Contract and Division 1 "Submittal Procedures".
- B. Submit product data. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of sign.
- C. Environmental Submittals:
Reference Standard: California Green Building Standards Code (CGBSC), 2013 Edition.
 - 1. Product data for adhesives and sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L.
- D. Submit shop drawings to scale; indicating sign styles, large-scale details of wording, lettering font and height, Tactile and Braille layout including dimensions, Pictograms, foreground and background colors, fabrication methods, each sign location, edge details, mounting heights, and

overall dimensions and thickness of each sign. Show attachments, layout, reinforcement, accessories, and installation/mounting details.

1. Sign Contractor is required to obtain an approved reviewed set of shop drawings (reviewed by the Architect) prior to fabricating any sign products.
- E. Submit proposed sign schedule for each sign, including message text/symbols and arrangement, sign location relative to room or door number, quantity, sign material and colors.
- F. Samples for Selection: For each type of sign material indicated, that involves color selection.
1. Provide samples approximately 4 inches square of each color selected.
- G. Project Specific samples for verification:
1. Must be reviewed prior to fabrication.
 2. Provide one sample each of the following specified sign types for each material used:
 - a. Interior Panel Signs
 3. If approved, the sample will be returned for installation.
 4. The Owner reserves the right to add to and otherwise modify sign text and lettering layout during the shop drawing review phase at no additional cost to the Owner. Room numbers are indicated in the Message Schedule. All room numbering shall be verified by Owner's Representative at Pre-Construction Meetings.
- H. Manufacturer's Installation Instructions: Submit on adhesive & tape.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain signs through one source from a single manufacturer.
- B. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum five years documented experience and sufficient production capacity to produce sign units required without causing delay in the Work.
- C. Installer: Company experienced in installing signage similar to that indicated for this Project with a minimum three years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. All signage material shall be protected during fabrication, shipment, site storage and installation to prevent environmental damage or damage from other trades. Deliver signs in manufacturer's original boxes, properly labeled with corresponding sign message as the signs packed within. Store signs inside a well ventilated area and protected from weather, moisture, soiling, abrasion, extreme temperatures, and humidity.
- B. Division 1 - Product Requirements: Product storage and handling requirements.
- C. Store adhesive and attachment tape at ambient room temperatures.

1.7 PERFORMANCE REQUIREMENTS

- A. Sign finish shall comply with the following:
 - 1. Sign finish shall show no affect after repeated use of cleaners such as Graffiti Remove #1120 manufactured by Fine Organics Corp., Lodi, New Jersey.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Division 1 - Product Requirements: Environmental conditions affecting products on site.
- B. Do not install signs when ambient temperature is lower than recommended by manufacturer. Maintain this minimum temperature during and after installation of signs. Provide adequate ventilation per adhesive manufacturer's instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers of Panel Signs: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include:
 - 1. Signs of Success, Santa Maria (805) 925-7545
 - 2. Freedom Signs, Santa Barbara, CA (800) 965.1410
 - 3. Signs by Ken, Santa Barbara, CA (805) 966.7405
 - 4. Karman Ltd., (818) 888.3818

2.2 MATERIALS

- A. Interior Panel Signs:
 - 1. ADA Signage: Provide "Rowmark" single ply modified acrylic face plate with text pre-cut out of face mounted to 1/8" top-painted acrylic back plate.
 - a. Text will be drop-fitted into place.
 - 2. Non-ADA Signage: Provide "Rowmark" 1/16" non-glare acrylic face plate that is backpainted with sub-surface engraved, paint filled text. Face plate to be mounted to 1/8" top-painted acrylic back plate.
- B. Braille dots indicated on drawings must be domed or rounded.

2.3 PANEL SIGNS, GENERAL

- A. Provide panel signs that comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, attachment methods and details of construction. Comply with ADA Accessibility Guidelines (ADAAG) and CBC Sections 11B-603.2.3 and 11B-703.1.
 - 1. Produce smooth panel sign surfaces constructed to remain flat under installed conditions within tolerance of plus or minus 1/16 inch measured diagonally. Ease all edges and radius corners of signs. Saw marks, kerfs, rough or uneven edges are unacceptable.

- Edges shall be precision machined and visually smooth. All edges shall be painted with polyurethane paint; color as indicated in drawings.
2. Size: As indicated on Drawings.
 3. Thickness:
 - a. Interior Panel Signs (Tactile and Non-Tactile): 1/4 inch thickness. Laminating panels together to achieve 1/4" thickness is not acceptable.
 4. Color: As selected by Architect from manufacturer's full selection range, unless otherwise indicated on drawings.
- B. Tactile and Braille Copy: Manufacturer's standard process for producing copy. Comply with the following:
1. Tactile Copy: Produce precisely formed characters, raised 1/32 inch minimum, with square, beveled, or rounded edges free from burrs and cut marks. 1/8 inch minimum between two closest points of adjacent tactile characters, measured from the top surface of the characters.
 2. Braille: Use rounded or domed California Braille dots per ANSI-117.1 703.5, integral to sign and same color as background, each distinct and separate. DOTS WITH STRAIGHT SIDES AND/OR FLAT TOPS WITH OR WITHOUT EASED EDGES ARE NOT READABLE FOR MANY BRAILLE USERS, AND ARE NOT ACCEPTABLE.
- C. Mounting Accessories:
1. Adhesives: Non-staining and non-sagging, high shear and tensile strength, Adhesive shall not embrittle, crack or lose flexibility with exposure to heat. Adhesives shall be used in conjunction with Black Foam Tape.
 - a. All sealants and adhesives to be field-applied, within the building envelope must comply with VOC limits in Division 01 Section "Indoor Air Quality (IAQ) Management".
 - b. Interior panel signs: Pressure sensitive adhesive or high grade industrial silicone adhesive as recommended by the adhesive manufacturer for the substrates shown.
 - 1) "OSI Sealants, Inc." PL 400 VOC.
 - 2) "Simpson Strong-Tie Anchor Systems" Epoxy-Tie SET.
 - 3) "Macco" Liquid Nails Ultra Duty Poly LN-950 4)
 - 4) Or proven equal.
 2. Tape: 3M Scotch™ #4949 Black Acrylic Foam Tape (or proven equal), placed in 1/2" wide strips continuously around entire perimeter of panel.
 3. Blank Backer Panels: Same dimensions of sign; mount to second face of glass to conceal adhesive, etc.
- D. All graphic characters and symbols shall be painted. Applied Vinyl Die-cut characters or symbols created from vinyl film with pressure-sensitive adhesive backing are strictly prohibited. Any product submitted with Applied Vinyl Die-cut materials will be rejected and returned with-out review.

- E. Graphic Content and Style: Provide sign copy that complies with requirements indicated for size, style, spacing, content, mounting height and location, material, finishes, and colors of signage.

2.4 CODE REQUIREMENTS FOR PANEL SIGNS

- A. Finish and Contrast: Characters, symbols and their background shall have a nonglare finish. Characters and symbols shall contrast with their background, either light on a dark background or dark on a light background.
- B. Proportions: Raised characters on signs shall be selected from fonts where the width of the uppercase letter "O" is 60 percent minimum and 110 percent maximum of the height of the uppercase letter "I." Stroke thickness of the uppercase letter "I" shall be 15 percent maximum of the height of the character.
- C. Visual Character Height: Raised characters shall be a minimum of 5/8 inches and a maximum of 2 inches high based upon the height of the uppercase letter "I".
1. Height from finish floor from baseline of character: 40 to ≤ 70 inches:
 - a. Horizontal viewing distance < 72 inches from finish floor: 5/8 inch minimum.
 - b. Horizontal viewing distance ≥ 72 inches from finish floor: 5/8 inch, plus 1/8 inch per foot of viewing distance above 72 inches.
 2. Height from finish floor from baseline of character > 70 to ≤ 120 inches:
 - a. Horizontal viewing distance < 180 inches from finish floor: 2 inches.
 - b. Horizontal viewing distance ≥ 180 inches from finish floor: 2 inches plus 1/8 inch per foot of viewing distance above 180 inches.
 3. Height from finish floor from baseline of character > 120 inches:
 - a. Horizontal viewing distance < 21 feet from finish floor: 3 inches.
 - b. Horizontal viewing distance ≥ 21 feet from finish floor: 3-inches plus 1/8 inch per foot of viewing distance above 21 feet.
- D. Raised Characters and Pictorial Symbol Signs: When raised characters are required or when pictorial symbols (pictograms) are used on such signs, they shall conform to the following requirements:
1. Character Type. Characters on signs shall be raised 1/32 inch minimum and shall be sans serif uppercase characters accompanied by contracted (Grade 2) Braille complying with CBC Section 11B-703.3.
 2. Character Size. Raised characters shall be a minimum of 5/8 inch and a maximum of 2 inches high.
 3. Pictorial Symbol Signs (Pictograms). Pictorial symbol signs (pictograms) shall be accompanied by the verbal description placed directly below the pictogram. The outside dimension of the pictogram field shall be a minimum of 6 inches in height.
 4. Character Placement. Characters and Braille shall be in a horizontal format. Braille shall be placed a minimum of 3/8 inch and a maximum of 1/2 inch directly below the tactile

- characters; flush left or centered. When tactile text is multi-lined, all Braille shall be placed together below all lines of tactile text.
5. Proportions: Raised characters on signs shall be selected from fonts where the width of the uppercase letter "O" is 60 percent minimum and 110 percent maximum of the height of the uppercase letter "I." Stroke thickness of the uppercase letter "I" shall be 15 percent maximum of the height of the character.
- E. Braille: Contracted (Grade 2) Braille shall be used wherever Braille is required. Dots shall be 1/10 inch on center in each cell with 2/10-inch space between cells, measured from the second column of dots in the first cell to the first column of dots in the second cell. Dots shall be raised a minimum of 1/40 inch above the background. Braille dots shall be domed or rounded.
 - F. Mounting Location and Height: Where permanent identification signs are provided for rooms and spaces, signs shall be installed on the wall adjacent to the latch side of the door. Where there is no wall space on the latch side, including at double leaf doors, signs shall be placed on the nearest adjacent wall, preferably on the right.
 1. Where permanent identification signage is provided for rooms and spaces they shall be located on the approach side of the door as one enters the room or space. Signs that identify exits shall be located on the approach side of the door as one exits the room or space.
 2. Signs with raised characters and Braille shall be located 48 inches minimum above the finish floor or ground surface, measured from the baseline of the lowest line of Braille and 60 inches maximum above the finish floor or ground surface, measured from the baseline of the highest line of raised characters. Mounting location shall be determined so that a person may approach within 3 inches of signage without encountering protruding objects or standing within the swing of a door.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, measurements and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance. Notify Owner in writing of unacceptable substrates or detrimental conditions.
- B. Proceed with installation only after unsatisfactory conditions have been corrected. Beginning of installation means that installer accepts substrates and surfaces.
- C. Prior to installation, coordinate with Owner for removal of all wall mounted items which will interfere with signage installation.

3.2 INSTALLATION

- A. Prior to installation Contractor to arrange meeting with Architect at the site to inspect fabricated signs.
- B. General: Locate signs and accessories where indicated, using mounting methods of types described and in compliance with manufacturer's written instructions. Provide adequate attachment adhesive materials. It shall be the sole responsibility of the Sign Contractor to provide

adequate attachment adhesive materials. Use adhesive type recommended in writing by manufacturer to attach signs to irregular, porous, or vinyl covered surfaces. Any de-lamination or warping caused by the failure of mounting adhesives shall require repair and replacement of sign products at no expense to the Owner during the 'Guarantee to Repair Period' specified in the General Conditions.

1. All sealants and adhesives to be field-applied, within the building envelope must comply with VOC limits in Division 01 Section "Indoor Air Quality (IAQ) Management".
- C. Bond surfaces should be clean, structurally sound, dry, and free from all foreign materials which would adversely affect positive adhesion. Lightly sand bond areas of wall down to layer below paint prior to applying adhesive. Apply adhesive in a continuous bead and insure edges and center are adequately supplied to assure a complete and total bond.
- D. Install signs after doors and wall surfaces are finished, in locations indicated.
- E. Install signs level, plumb, and at heights indicated, with sign surfaces free from distortion and other defects in appearance.
- F. Interior Panel signs shall be mounted to substrate with both black foam tape and adhesive, applied to back of sign. Drilling through signs or using exposed fasteners is not acceptable.

3.3 CLEANING AND PROTECTION

- A. After installation, clean and polish sign surfaces ensuring removal of all fingerprints, dirt, shavings, adhesive, dust particles, etc., according to the manufacturer's written instructions.
- B. Prior to leaving the installation location, clean the work area, walls, floor, etc., that may be soiled during the installation process. Protect units from damage until acceptance by the Owner.

3.4 SCHEDULES

- A. Text is provided for bidding purposes only; final verification will take place during submittal review.
- B. Message Schedule on Drawings:
 1. Additional signs not listed here may be located throughout Project which are not associated with a door. See Drawings.

THIS SECTION CONTINUED ON FOLLOWING PAGE

Date: _____ Project Name: Antelope Valley College – SCT Restroom Renovations

WARRANTY FOR _____, in Agreement between Antelope Valley Com. College District
(Specification Section) (Owner)

and _____
(the "Contractor") (Name of Installer or Subcontractor or Manufacturer)

hereby guarantees to the Owner that the portion of the Work described as follows:

_____, which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section _____ and the other requirements of the Contract.

The undersigned further agrees that, if at any time within _____ after the date hereof the undersigned receives notice from the Owner that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within ten (10) calendar days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within ten (10) calendar days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize the Owner to undertake such correction, repair, or replacement at the expense of the undersigned; and the Contractor will pay to the Owner promptly upon demand all costs and expenses incurred by the Owner in connection therewith.

This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents.

SUBCONTRACTOR OR INSTALLER

Signed _____ Title _____

Typed Name _____

Name of Firm _____

Contractor License Number _____

Address _____

Phone Number _____

MANUFACTURER (If Applicable)

Signed _____ Title _____

Typed Name _____

Name of Firm _____

CONTRACTOR

Signed _____ Title _____

Typed Name _____

Name of Firm _____

END OF SECTION 101423

SECTION 102113 - TOILET COMPARTMENTS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Documents affecting Work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, Special Conditions and Division 01.
- B. This Section includes toilet compartments and screens as follows:
1. Type: Solid color reinforced composite.
 2. Compartment Style: Floor Anchored and overhead braced.
- C. Related Sections:
1. Division 01 Section "Indoor Air Quality (IAQ) Management".
 2. Division 09 Section "Non-Structural Metal Framing" for blocking support.
 3. Division 10 Section "Toilet Accessories" for toilet paper holders, grab bars, and similar accessories.

1.3 REGULATORY REQUIREMENTS

- A. Comply with CAS/CAR and ADA for accessibility for the physically disabled.
- B. ASTM Test Standards ASTM Results.

<u>Property</u>	<u>Value</u>	<u>Units</u>	<u>ASTM Method</u>
Self Ignition	650 F.	700 F.	D 1929 – 77
Rate of Burn	2.0 cm/min.	1.29 cm/min.	D 635 – 81
Smoke Density	<75	13.9	D 2843

1.4 SUBMITTALS

- A. Submit the following according to Conditions of Contract and Division 1 Specifications Sections.
- B. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

C. Environmental Submittals:

Reference Standard: California Green Building Standards Code California Code of Regulations, Title 24, Part 11 (CALGreen).

1. Provide Project Data:

- a. Product data for adhesives and for interior sealants used to install toilet partitions, including printed statement of VOC content.
- b. Provide documentation that all composite wood and agrifiber products including core materials and all laminating adhesives, on site or shop applied, contain no added urea-formaldehyde resins.

D. Shop Drawings: For toilet compartments. Include plans, elevations, sections, details, and attachments to other work.

1. Show locations of cutouts for compartment-mounted toilet accessories.
2. Show locations of reinforcements for compartment-mounted grab bars.
3. Show locations of centerlines of toilet fixtures.

E. Samples for Initial Selection: For each type of unit indicated. Include Samples of hardware and accessories involving material and color selection.

F. Delete "Samples for Initial Selection" Paragraph above if colors and other characteristics are preselected and specified or scheduled. Retain first paragraph below with or without above.

G. Samples for Verification: For the following products, in manufacturer's standard sizes unless otherwise indicated:

1. Each type of material, color, and finish required for units, prepared on 6-inch- square Samples of same thickness and material indicated for Work.
2. Each type of hardware and accessory.

H. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Comply with requirements in GSA's CID-A-A-60003, "Partitions, Toilets, Complete."

1. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84, or another standard acceptable to authorities having jurisdiction, by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

- a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less.
2. Regulatory Requirements: Comply with applicable provisions in California Building Code (CBC) 2007 Edition, and Division of the State Architect 2008 California Compliance Reference Manual for toilet compartments designated as accessible.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify dimensions in areas of installation by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating units without field measurements. Coordinate wall backing, supports, adjacent construction, and fixture locations to ensure actual dimensions correspond to established dimensions.

1.8 COORDINATION

- A. Coordinate placement of backing in walls. Backing by others.

1.9 WARRANTY

- A. Furnish manufacturer's ten-year warranty for panels, doors, and stiles against breakage, corrosion, de-lamination, and defects in factory workmanship.
- B. Furnish one-year guarantee against defects in material and workmanship for stainless steel door hardware and mounting brackets.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Model numbers for toilet partitions manufactured by Bobrick Washroom Equipment, Inc. are listed to establish a standard of quality for design, function, materials, workmanship and appearance. Other manufacturers may be submitted for evaluation by the Architect by following the conditions listed in Division 01.
- B. Toilet partitions shall be the product(s) of a single manufacturer.

2.2 MOUNTING CONFIGURATIONS

- A. Toilet partitions shall be:
1. Overhead-braced, 1092/1092.67 Bobrick Sierra™ Series.
- B. Urinal screens shall be:

1. Wall-hung 1095 Bobrick Sierra™ Series.

2.3 COMPONENTS & MATERIALS

- A. Toilet partitions shall be constructed of Solid Color Reinforced Composite (SCRC) material, which is composed of dyes, organic fibrous material, and polycarbonate/phenolic resins. Material shall have a non-ghosting, graffiti resistant surface integrally bonded to core through a series of manufacturing steps requiring thermal and mechanical pressure. Edges of material shall be the same color as the surface.
1. SCRC material including all laminating adhesives, on site or shop applied, shall contain no added urea-formaldehyde resins.
- B. Stiles, panels, doors and screens shall be all manufactured from Solid Color Reinforced Composite (SCRC) material.
- C. Hardware
1. All hardware to be 18-8, type-304 stainless steel with satin finish.
 2. Hardware of chrome-plated "Zamak", aluminum, or extruded plastic is unacceptable.
- D. Latches
1. Sliding door latch shall be 14 gauge (2 mm) and shall slide on nylon track.
 2. Sliding door latch shall require less than 5-lb force to operate. Twisting latch operation will not be acceptable.
 3. Latch track shall be attached to door my machine screws into factory-installed threaded brass inserts.
 4. Threaded brass inserts shall be factory installed for door hinge and latch connections and shall withstand a direct pull exceeding 1,500 lbs. per insert.
 5. Through bolted, stainless steel, pin-in-head Torx sex bolt fasteners shall be used at latch keeper-to-stile connections and shall withstand direct pull force exceeding 1,500 lbs. per fastener.
- E. Door Pulls: Manufacturer's standard unit that complies with accessibility requirements of authorities having jurisdiction at out-swinging doors. Provide units on both sides of doors at compartments indicated to be accessible. Mount between 30 inches and 44 inches above finish floor.
- F. Hinges
1. Cam shall be adjustable in the field to permit door to be fully closed or partially open when compartment in unoccupied.
 2. Hinges shall be attached to door and stile by theft-resistant, pin-in-head Torx stainless steel machine screws into factory-installed, threaded brass inserts.

3. Fasteners secured directly into the core are not acceptable.
4. Door shall be furnished with two 11-gauge (3 mm) stainless steel door stop plates with attached rubber bumpers.
5. Door stops and hinges shall be secured with stainless steel, pin-in-head Torx machine screws into threaded brass inserts.
6. Threaded brass inserts shall withstand a direct pull force exceeding 1,500 lbs. per insert.

G. Coat Hooks

1. Coat hook shall be constructed of stainless steel and shall project no more than 1 1/8" from the face of the door.
2. Coat hooks shall be secured to door by through-bolted, pin-in-head Torx stainless steel screws. Through-bolted fasteners shall withstand a direct pull force exceeding 1,500 lbs. per fastener.

H. Mounting Brackets: Through bolted, stainless steel, pin-in-head Torx sex bolt fasteners shall be used for panel-to-stile connections.

1. Mounting brackets shall be 18-gauge (1.2- mm) stainless steel and extend full height of panel.
2. U-channels shall be furnished to secure panels to stiles.
3. Angle brackets shall be furnished to secure stiles to walls and panels to walls.
4. Fasteners at locations connecting panels-to-stiles shall utilize through bolted, stainless steel, pin-in-head Torx sex bolt fasteners. Throughbolted fasteners shall withstand direct pull force exceeding 1,500 lbs. per fastener.
5. Wall mounted urinal screen brackets shall be 11 gauge (3 mm) double thickness.

I. Leveling Device shall be 7-gauge, 3/16" (5-mm) hot rolled steel bar; chromate treated and zinc-plated; through-bolted to base of solid color reinforced composite stile.

J. Stile Shoe shall be one-piece, 4" (102-mm) high, type-304, 22-gauge (0.8-mm) stainless steel with satin finish. Top shall have 90° return to stile. Shoe will be composed of one-piece of stainless steel and capable of being fastened (by clip) to stiles starting at wall line.

K. Headrail (Overhead Braced) shall be satin finish, extruded anodized aluminum (.125" / 3-mm thick) with anti-grip profile.

2.4 FABRICATION

- A. Fabricate partitions from SCRC material with finished faces, free of saw marks, and all edges eased.
- B. Bevel corners and edges cutouts.
- C. Doors, Stiles, and Panels:
 - 1. Thickness: $\frac{3}{4}$ " (19 mm)..
 - 2. Height: 55 inches, mounted 14 inches above floor.
 - 3. Door Widths: 24 inches minimum
 - 4. Door Width for Physically Disabled Use: 36 inches.
 - 5. Pilaster Height: Field Verify
- D. Urinal Screens:
 - 1. Thickness: $\frac{3}{4}$ " (19 mm)..
 - 2. Screen Width: 24 inches minimum.
 - 3. Screen Height: 42 inches mounted 14 inches above floor.

2.5 FINISHING

- A. Color: To be selected by Architect.
- B. Stainless Steel Surfaces: No. 4 satin finish.
- C. Aluminum: Anodized clear natural color.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify areas scheduled to receive compartments for correct dimensions, plumbness of walls, and soundness of surfaces that would affect installation of mounting brackets.
- B. Verify correct location of built-in framing, anchorage, and backing.
- C. Verify spacing of plumbing fixtures to assure compatibility with installation of compartments as shown on drawings
- D. Discuss any discrepancies of items listed above with Architect prior to proceeding with installation.

3.2 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, plumb, and level. Provide clearances of not more than 1/2 inch between pilasters and panels and not more than 1 inch between panels and walls. Scribe panels to uneven or off sets in wall surfaces to maintain specified clearances. Secure units in position with manufacturer's recommended anchoring devices.

1. Secure panels to walls and panels with continuous brackets attached as recommended by manufacturer.
 2. Screens: Set units level and plumb and to resist impact.
- B. Overhead-Braced-and-Floor-Anchored Compartments: Secure pilaster to floor and level, plumb, and tighten. Secure continuous head rail to each pilaster with not less than 2 fasteners. Provide end caps on exposed ends of head rail. Hang doors and adjust so tops of doors are parallel with overhead brace when doors are in closed position.
- C. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

3.3 ERECTION TOLERANCES

- A. Maximum Variation From True Position: $\frac{1}{4}$ inch. Clearance at vertical edges of doors shall be uniform top to bottom and shall not exceed $\frac{1}{4}$ inch.
- B. Maximum Variation From Plumb: $\frac{1}{8}$ inch.

3.4 ADJUSTING & CLEANING

- A. Hardware Adjustment: Adjust and lubricate hardware according to manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and swing doors in entrance screens to return to fully closed position.
- B. Provide final protection and maintain conditions that ensure toilet compartments and screens are without damage or deterioration at the time of Completion.
- C. Clean exposed surfaces of compartments, hardware, and fittings.
- D. All surfaces shall be free of imperfections, scratch marks, blemishes or color variations.
- E. Remove and replace any components indicating evidence of imperfections.

SECTION CONTINUED ON NEXT PAGE

Date: _____ Project Name: Antelope Valley College –SCT Restroom Renovation

WARRANTY FOR _____, in Agreement between Antelope Valley Com. College District
(Specification Section) (Owner)

and _____
(the "Contractor") (Name of Installer or Subcontractor or Manufacturer)

hereby guarantees to the Owner that the portion of the Work described as follows:

_____, which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section _____ and the other requirements of the Contract.

The undersigned further agrees that, if at any time within _____ after the date hereof the undersigned receives notice from the Owner that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within ten (10) calendar days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within ten (10) calendar days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize the Owner to undertake such correction, repair, or replacement at the expense of the undersigned; and the Contractor will pay to the Owner promptly upon demand all costs and expenses incurred by the Owner in connection therewith.

This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents.

SUBCONTRACTOR OR INSTALLER

Signed _____ Title _____

Typed Name _____

Name of Firm _____

Contractor License Number _____

Address _____

Phone Number _____

MANUFACTURER (If Applicable)

Signed _____ Title _____

Typed Name _____

Name of Firm _____

CONTRACTOR

Signed _____ Title _____

Typed Name _____

Name of Firm _____

END OF SECTION 102113

SECTION 102800 - TOILET ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Toilet room accessories.
- 2. Underlavatory guards.

B. Related Sections:

- 1. Section 093013 "Ceramic Tile."
- 2. Section 092216 "Non-Structural Metal Framing" for required backing at toilet accessories.
- 3. Section 102113 "Toilet Compartments" for coordination of panel hung accessories and coat hooks.

1.3 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Coordinate backing devices set into Non-Structural Metal Framing as required to prevent delaying the Work.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- 2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
- 3. Include electrical characteristics.

B. Samples: If requested by Architect, provide full size sample of accessory items to verify design, operation, and finish requirements.

- 1. Approved full-size Samples will be returned and may be used in the Work.

- C. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.
- D. Environmental Submittals:
- E. Environmental Submittals:
 - Reference Standard: California Green Building Standards Code California Code of Regulations, Title 24, Part 11 (CALGreen).
 - 1. Provide Project Data:
 - a. For installation adhesives, documentation including printed statement of VOC content.

1.5 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For manufacturer's special warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For accessories to include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Source Limitations: For products listed together in the same Part 2 articles, obtain products from single source from single manufacturer.

1.8 WARRANTY

- A. Special Mirror Warranty: Manufacturer's standard form in which manufacturer agrees to replace mirrors that develop visible silver spoilage defects and that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 15 years from date of Substantial Completion.
- B. Special Warm Air Dryer Warranty: Manufacturer's standard form in which manufacturer agrees to replace warm air dryers that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: 5 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 TOILET ROOM ACCESSORIES

- A. Basis-of-Design Products: Subject to compliance with requirements, provide products indicated by one of the following:
1. Bobrick Washroom Equipment, Inc.
 2. Bradley Corporation.
 3. Georgia Pacific.
 4. Kimberly Clark Professional.
- B. Surface-Mount Jumbo-Roll Toilet Tissue Dispenser: Install at non-accessible water closets only.
1. Basis-of-Design Product: Bobrick Model B-2890, or approved equal.
 2. Description: One-roll unit.
 3. Mounting: Surface mounted.
 4. Capacity: Holds one 9- or 10-inch- (228- or 254-mm-) diameter roll.
 5. Material and Finish: Stainless steel with No. 4 finish (satin).
 6. Lockset: Tumbler Type.
- C. Recessed Toilet Tissue (Roll) Dispenser: Install at all accessible water closets.
1. Basis-of-Design Product: Bobrick Model B-3888, or approved equal.
 2. Description: Roll-in reserve dispenser with hinged front secured with tumbler lockset.
 3. Mounting: Recessed mounted with 3-inch maximum projection from wall.
 4. Operation: Non-controlled delivery with theft-resistant spindle.
 5. Capacity: Holds rolls up to 5¼ inches in diameter (1800 sheets).
 6. Material and Finish: Stainless steel with No. 4 finish (satin).
 7. Lockset: Tumbler type.
- D. Deck-Mounted Liquid-Soap Dispenser: .
1. Basis-of-Design: Bobrick Model B-822, or approved equal.
 2. Description: Designed for dispensing soap in liquid or lotion form.
 3. Mounting: Deck mounted on vanity.
 4. Capacity: 32 oz. (1.0-L).
 5. Materials: Piston and spout assembly to be stainless steel with bright polished finish. Valve to be ABS plastic cylinder with stainless steel spring. Reservoir to be translucent, shatter-resistant polyethylene.
- E. Grab Bars:
1. Basis-of-Design Product: Bobrick B-6806 Series, or approved equal.
 2. Mounting: Flanges with concealed fasteners.
 3. Material: Stainless steel, 0.05 inch thick with smooth, No. 4 finish (satin).
 - a. Finish: Smooth, No. 4 finish (satin).
 4. Outside Diameter: 1-1/2 inches.

5. Configuration and Length: As indicated on Drawings.
- F. Sanitary Napkin and Tampon Vendor:
1. Basis-of-Design Product: Bobrick, Model B-3706-50, or approved equal.
 2. Mounting: Fully recessed, designed for 4-inch (100 mm) wall depth.
 3. Capacity: 20 sanitary napkins and 30 tampons.
 4. Operation: Two coin (50 cents).
 5. Exposed Material and Finish: Stainless steel, No. 4 finish (satin).
 6. Lockset: Tumbler type with separate lock and key for coin box.
- G. Surface-Mounted Sanitary-Napkin Disposal Unit: Install at non-accessible water closets only.
1. Basis-of-Design Product: Bobrick Model B-254, or approved equal.
 2. Mounting: Surface mounted.
 3. Door or Cover: Self-closing, disposal-opening cover.
 4. Receptacle: Removable.
 5. Material and Finish: Stainless steel, No. 4 finish (satin) with rigid molded polyethylene insert.
 6. Lockset: Tumbler type.
- H. Two-Sided Partition-Mounted Sanitary-Napkin Disposal Unit: Install between pairs of non-accessible water closets only.
1. District Standard Product: Bobrick Model B-354, or approved equal.
 2. Mounting: Partition-mounted with flanges on each side.
 3. Door or Cover: Self-closing, disposal-opening cover each side. Hinged door opening one side.
 4. Receptacle: Removable.
 5. Material and Finish: Stainless steel, No. 4 finish (satin) with rigid molded polyethylene insert.
 6. Lockset: Tumbler type.
- I. Recessed Sanitary-Napkin Disposal Unit: Install at accessible water closets only.
1. Basis-of-Design Product: Bobrick Model B-353, or approved equal.
 2. Mounting: Recessed.
 3. Door or Cover: Self-closing, disposal-opening cover.
 4. Receptacle: Removable.
 5. Material and Finish: Stainless steel, No. 4 finish (satin) with rigid molded polyethylene insert.
 6. Lockset: Tumbler type.
- J. Seat-Cover Dispenser: Install at each water closet.
1. Basis-of-Design Product: Bobrick B-221, or approved equal.
 2. Mounting: Surface mounted.
 3. Minimum Capacity: 500 single-fold or 250 half-fold seat covers.

4. Exposed Material and Finish: Stainless steel, No. 4 finish (satin).

K. Mirror Unit:

1. Basis-of-Design Product: Bobrick B-165 Series, or approved equal.
2. Frame: Stainless-steel channel, with corners welded and ground smooth.
3. Hangers: Produce rigid, tamper- and theft-resistant installation, using method indicated below.
 - a. One-piece, galvanized-steel, wall-hanger device with spring-action locking mechanism to hold mirror unit in position with no exposed screws or bolts.
4. Sizes: As indicated on Drawings.

L. Purse Hook: Provide one hook at each toilet compartment..

1. Basis-of-Design Product: Bobrick, Model B-6777 or approved equal.
2. Description: Single-prong unit.
3. Material and Finish: Stainless steel, No. 4 finish (satin).

2.3 UNDERLAVATORY GUARDS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide products indicated or comparable product by the following:
 1. Truebro by IPS Corporation (no known equal).
- B. Underlavatory Guard at Countertop-Mounted Lavatories and Sinks:
 1. Basis-of-Design Product: LavGuard 2 Undersink Piping Cover, or approved equal.
 2. Description: Insulating pipe covering for supply and drain piping assemblies that prevents direct contact with and burns from piping; allows service access without removing coverings. Sized to fit
 3. Material and Finish: Antimicrobial, molded plastic, white.

2.4 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch (0.8-mm) minimum nominal thickness unless otherwise indicated.
- B. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.036-inch (0.9-mm) minimum nominal thickness.
- C. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 (Z180) hot-dip zinc coating.
- D. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- E. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.

- F. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).
- G. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.
- H. All paints, coatings, sealants and adhesives to be field-applied, within the building envelope must comply with VOC limits in Division 01 Section "Indoor Air Quality (IAQ) Management".

2.5 FABRICATION

- A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
- B. Grab Bars: Install to withstand a downward load of at least 250 lbf, when tested according to ASTM F 446.

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

SECTION CONTINUES ON FOLLOWING PAGE

Date: _____ Project Name: Antelope Valley College –SCT Restroom Renovation

WARRANTY FOR _____, in Agreement between Antelope Valley Comm. College District
(Specification Section) (Owner)

and _____
(the "Contractor") (Name of Installer or Subcontractor or Manufacturer)

hereby guarantees to the Owner that the portion of the Work described as follows:

_____, which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section _____ and the other requirements of the Contract.

The undersigned further agrees that, if at any time within _____ after the date hereof the undersigned receives notice from the Owner that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within ten (10) calendar days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within ten (10) calendar days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize the Owner to undertake such correction, repair, or replacement at the expense of the undersigned; and the Contractor will pay to the Owner promptly upon demand all costs and expenses incurred by the Owner in connection therewith.

This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents.

SUBCONTRACTOR OR INSTALLER

Signed _____ Title _____

Typed Name _____

Name of Firm _____

Contractor License Number _____

Address _____

Phone Number _____

MANUFACTURER (If Applicable)

Signed _____ Title _____

Typed Name _____

Name of Firm _____

CONTRACTOR

Signed _____ Title _____

Typed Name _____

Name of Firm _____

END OF SECTION 102800

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SECTION 123661 – SOLID SURFACE COUNTERTOPS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Solid-surface-material countertops ledges and backsplashes.
- B. Related Sections:
 - 1. Division 07 Section “Joint Sealants”
 - 2. Division 22 Section “Plumbing” for sinks and fittings.

1.3 SUBMITTALS

- A. Environmental Submittals:
 - Reference Standard: California Green Building Standards Code California Code of Regulations, Title 24, Part 11 (CALGreen).
 - 1. Product data for adhesives and sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L.
- B. Shop Drawings: For countertops. Show materials, finishes, edge and backsplash profiles, methods of joining, seam locations with dimensions and cutouts for plumbing fixtures, transaction trays, grommets, etc.
- C. Samples for Verification:
 - 1. (3) samples of each solid surface material specified.

1.4 MOCK-UPS

- A. Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and quality of materials and execution. Approved mockups will set quality standard for fabrication and installation.
- B. Provide 6 in. x 6 in. mockups of the following for review prior to fabrication:
 - 1. 1 in. thick countertop with ¼” eased edges and apron on two sides.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer who has completed tile installations similar in material, design, and extent to that indicated for this Project and with a record of 3 years successful in-service performance.
- B. Source Limitations: Engage a qualified fabricator to assume undivided responsibility for production and installation of solid surface fabrications.

1.6 PROJECT CONDITIONS

- B. Field Measurements: Verify dimensions of countertops by field measurements after base cabinets are installed but before countertop fabrication is complete.

1.7 COORDINATION

- A. Coordinate locations of utilities that will penetrate countertops or backsplashes.

1.8 WARRANTY

- A. Warranty solid surface fabrications against defects in material and workmanship.
 - 1. Warranty Period: 10 years from Date of Completion.

PART 2 - PRODUCTS

2.1 SOLID-SURFACE-MATERIAL COUNTERTOPS

- A. Countertops: 1 in. thick, material top w/ apron on front and sides, dimensions as shown on Architectural Drawings.
- B. Backsplashes: ½ in. thick, dimensions as shown on Architectural Drawings.
- C. Fabrication: Fabricate tops in one piece with shop-applied edges and backsplashes unless otherwise indicated. Comply with solid-surface-material manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.

2.2 COUNTERTOP MATERIALS

- A. Composite Wood and Agrifiber Products: Provide products that comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- B. Particleboard: ANSI A208.1, Grade M-2, made with binder containing no urea formaldehyde.

- C. Plywood: Exterior softwood plywood complying with DOC PS 1, Grade C-C Plugged, touch sanded.
- D. Adhesives: Adhesives to be field-applied, within the building envelope must comply with VOC limits in Division 01 Section "Indoor Air Quality (IAQ) Management".
- E. Solid Surface Material: Homogeneous solid sheets of filled plastic resin complying with ANSI SS-

Available Manufacturers: Subject to compliance with requirements, provide products from Avonite Surfaces by Aristech Acrylics LLC, basis of design, 7350 Empire Drive, Florence, KY 41042 (800) 354-9858, www.avonitesurfaces.com, or equal.

1. Product Designation:
 - a. Product: Avonite "Studio Collection"
2. Sheet Dimensions: 36" x 120"
3. Thickness: 1/2" (12 mm).
4. Colors and Finishes as specified in Drawings.
5. Performance Characteristics based on 1/2 inch thickness:
 - a. Specific Gravity: 1.6 per ASTM D792
 - b. Hardness: 60 when tested in accordance with ASTM D2583
 - c. Un-notched Izod Impact: 0.67 ft. lbs./in. when tested in accordance with ASTM D 4812
 - d. Ball Impact Resistance: no fracture at >150 inch drop when tested in accordance with NEMA LD3-3.8
 - e. Tensile strength: 3700 psi when tested in accordance with ASTM D638
 - f. Tensile Modulus: 1,200,000 psi when tested in accordance with ASTM D638
 - g. Water Absorption after 24 hours: 0.03%, when tested in accordance with ASTM D570
 - h. Coefficient of Thermal Expansion: 2.1×10^5 in./in.° F when tested in accordance with ASTM D696
 - i. High Temperature Resistance: No Effect to moderate effect, when tested in accordance with ISSFA SST 9.1-00
 - j. Boiling Water Resistance: No Effect to moderate effect, when tested in accordance with ISSFA SST89.1-00.
 - k. Stain Resistance: Pass, when tested in accordance with ANSI Z124.3
 - l. Weight per sq. ft., 1/2 inch thickness: 4.3 lbs
 - m. Flame Spread Classification: I

2.3 FABRICATION

- A. Assemble work at shop following manufacturer's printed fabrication instructions. Manufacturer in largest practical pieces for handling and shipping without seams.
 1. Grade: WI Premium
 2. Fabricate work square and to required lines.
 3. Recess and conceal fasteners, connections and reinforcing.

4. Design construction and installation details to allow for expansion and contraction of materials.
 5. Fabricate countertops and vanities with back splash and side splash pieces to profiles and sizes indicated.
 6. Fabricate items to profiles shown with connections and supports as indicated or as required for complete installation in accordance with manufacturer's written instructions and approved submittals.
 7. Provide cut-outs for plumbing fixtures, grommets, deal trays, and related items. Confirm layout with manufacturer's cut-out templates before beginning work. Round corners of cut-outs and sand edges smooth.
 8. Finish exposed surfaces smooth and polish to a low sheen
 9. Radius or ease corners and edges as indicated.
- B. Fasten countertops by screwing through corner blocks of base units into underside of countertop. Pre-drill holes for screws as recommended by manufacturer. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
1. Install back splashes and end splashes to comply with manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.
 2. Seal edges of cutouts in particleboard sub-tops by saturating with varnish.

2.4 INSTALLATION

- A. Install countertops level to a tolerance of 1/8 inch in 8 feet (3 mm in 2.4 m).
- B. Fasten countertops by screwing through corner blocks of base units into underside of countertop. Pre-drill holes for screws as recommended by manufacturer. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
1. Install back splashes and end splashes to comply with manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.
 2. Seal edges of cutouts in particleboard sub-tops by saturating with varnish.

2.5 CLEANING AND PROTECTION

- A. Cleaning:
1. Promptly remove excessive mastic and seam adhesive.
 2. Clean and polish fabrications in accordance with manufacturer's instructions.
- B. Protection:
1. Cover all counter top surfaces with a rigid, non-staining board material to protect from scratches until final completion of job. Cover all exposed corners in traffic areas with card board to protect from damage. Maintain conditions in a manner acceptable to fabricator and Installer that ensures that casework is without damage or deterioration at the time of Completion.

Date: _____ Project Name: Antelope Valley College –SCT Restroom Renovation

WARRANTY FOR _____, in Agreement between Antelope Valley Comm. College District
(Specification Section) (Owner)

and _____
(the "Contractor") (Name of Installer or Subcontractor or Manufacturer)

hereby guarantees to the Owner that the portion of the Work described as follows:

_____, which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section _____ and the other requirements of the Contract.

The undersigned further agrees that, if at any time within _____ after the date hereof the undersigned receives notice from the Owner that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within ten (10) calendar days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within ten (10) calendar days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize the Owner to undertake such correction, repair, or replacement at the expense of the undersigned; and the Contractor will pay to the Owner promptly upon demand all costs and expenses incurred by the Owner in connection therewith.

This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents.

SUBCONTRACTOR OR INSTALLER

Signed _____ Title _____

Typed Name _____

Name of Firm _____

Contractor License Number _____

Address _____

Phone Number _____

MANUFACTURER (If Applicable)

Signed _____ Title _____

Typed Name _____

Name of Firm _____

CONTRACTOR

Signed _____ Title _____

Typed Name _____

Name of Firm _____

END OF SECTION 123661

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SECTION 220500 - COMMON WORK RESULTS FOR PLUMBING**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Identification for Plumbing Piping and Equipment.
 - 2. Sleeves.
 - 3. Mechanical sleeve seals.
 - 4. Formed steel channel.
- B. Related Sections:
 - 1. Division 08 Section "Access Doors."

1.3 DESCRIPTION

- A. Work Included: The work includes the furnishing of labor, materials, appliances and tools necessary for the installation, in complete working order, of plumbing systems as herein specified and as indicated on the drawings. The item of work shall include, but not be limited to, the following principal items:
 - 1. Fixtures and equipment included in plumbing schedule or as indicated on the drawings.
 - 2. Waste and vent piping system.
 - 3. Natural gas piping system.
 - 4. Storm drain system.
 - 5. Potable hot and cold water, tempered water, and piping systems.
 - 6. Non-potable hot and cold water, tempered water, and piping systems.
 - 7. Sleeves, hangers and seismic bracing for piping systems.
 - 8. Insulation of piping.
 - 9. Testing.
 - 10. Excavation and backfill.
 - 11. Rough-in and final gas and water connections to mechanical equipment.
- B. Other work herein specified and shown on the accompanying drawings including addenda, change order and approved shop drawings.
- C. The Contractor shall furnish other tradesmen with drawings and directions necessary to enable them to properly construct their work so that the systems shall be properly interconnected.

- D. The Contractor shall be responsible for the correctness of his drawings and instructions and make, at his expense, necessary changes in the completed work of other trades made necessary by errors in his drawings or instructions.

1.4 FEES, PERMITS AND PAYMENTS

- A. Fees, Permits and Payments: Contractor shall secure permits and inspections and pay full cost of same.

1.5 CODES, ORDINANCES, REGULATIONS AND DEFINITIONS

- A. Work and materials shall be in full accordance with rules and regulations of the following Agencies and Codes:
 - 1. Division of the State Architect
 - 2. The Safety Orders of the Division of Industrial Safety
 - 3. The 2013 Edition of California Title 24 State Code of Regulations including: California Building Code, California Mechanical Code, California Plumbing Code, California Fire Code, and California Energy Code.
 - 4. City ordinances and other applicable laws or regulations.

1.6 EQUIPMENT RESTRICTIONS

- A. The proprietary name, and/or model indicated on the drawings, or the first listed for each category in the specifications is the make and/or model used as the basis for design. Bids shall be based on the use of the products of the selected manufacturers. The contract drawings indicate the installation of the products or equipment of selected manufacturers. Other acceptable manufacturers are named in these specifications.
 - 1. Substitutions will be considered as outlined in General Conditions and Division 01; Section, "Substitutions."
- B. Choice of Equipment: Equipment has been chosen, which will properly fit into the physical spaces provided and indicated, allowing ample room for access, serving, removal and replacement of parts, etc. Adequate space shall be allowed for clearance in accordance with the code requirements and the requirements of the local inspection Department. Physical dimensions and arrangements of equipment to be installed shall be subject to the District's approval. Submit shop drawings of equipment layout for approval where equipment space does not comply with drawings. Changes in piping, motors, wiring, controls, structural or installation procedures required by the substituted product or equipment shall be made at no additional cost to the District, and with no reduction in scope.
- C. Space Requirements: In the preparation of drawings, a reasonable effort has been made to include equipment manufacturers' recommendations. Since space requirements and equipment arrangement vary according to manufacturer, the responsibility for initial access and proper fit rests with the Contractor. The final arrangement of the equipment and service connections shall allow the unit to be serviced. This shall include space to pull motors, filters, coils, tubes, etc.

Make changes in piping and ductwork to suit actual installed equipment without further instructions or additional cost.

- D. Certificates: Execute on behalf of the District and deliver to the District manufacturers' warranty certificates and instructions, etc. required to assure that the manufacturers' warranties are properly documented and in full effect for the warranty period.

1.7 SUBMITTALS

- A. Section 013300 – Submittal Procedures

- B. Product Data:

1. Submit six copies of data as specified hereafter and in individual sections.
2. Substituted Products:
 - a. The contract drawings indicate the installation of the products or equipment of selected manufacturers. Other acceptable manufacturers are named in these specifications.
 - b. If the installation of the particular product or equipment the Contractor has submitted requires changes in material or size from that required in the contract drawings and specifications, such changes shall be submitted as shop drawings.
 - c. Changes in piping, motors, wiring, controls, structural or installation procedures required by the substituted product or equipment shall be made at no additional cost to the District, and with no reduction in scope.

- C. Shop Drawings: Submit for piping and equipment identification list of wording, symbols, letter size, and color coding for pipe identification and valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.

1.8 CLOSEOUT SUBMITTALS

- A. Section 017700 – Execution and Closeout Requirements.

- B. Record Drawings:

1. On completion of work, furnish the District through the Architect, with a complete set of record drawings which properly reflect the locations of equipment, fixtures, piping, controls, etc., as actually installed. Where necessary to locate concealed equipment, dimensions, shall be included on these drawings.
 - a. Maintain a separate set of drawings at the job site for such marking of "As-Built" locations. This set shall be updated as the installation work progresses and shall be available to the Architect at job visits. The Contractor shall indicate on the "Record Drawings As-Built" deletions in green. Additions, relocations, rerouting and modifications shall be indicated in red.

- C. Operating and Maintenance Books (Refer to Division 1): Provide the District through the Architect, operating instructions and maintenance data books for equipment and materials furnished under this Division.
 - 1. Submit four copies of operating and maintenance data books to the Architect for review two weeks before final inspection of the project. Assemble data in a single complete indexed volume and identify the size, model and features indicated for each item.

1.9 QUALITY ASSURANCE

A. Complete Performance of Work

- 1. Practices of the Trades: Work shall be executed in strict accordance with the best practice of the trades by competent workmen.
- 2. Complete Functioning of Work: Labor, materials, apparatus, and appliances essential to the complete functioning of the systems described and/or indicated, or which may be reasonably implied as essential, whether mentioned in these contract documents or not, shall be furnished and installed by the Contractor. In cases of doubt as to the work intended, or in the event of need for explanation thereof, the Contractor shall call upon the Architect for supplemental instructions.

B. Control and Observation

- 1. The Architect, Engineer, and District shall have the right to reject materials or workmanship, which in their opinion are not in accordance with this contract, to interpret contract provisions and the meaning of the drawings and specifications. The above named parties shall be allowed access to the work for observation.
- 2. Defective work or work contrary to the contract documents may be rejected without regard to state of completion, even though said work has been accepted as a result of a previous observation.

C. Damage by Leaks

- 1. During the time period from the date of contract until termination date of this guarantee, the Contractor shall be responsible for damages to the ground, walls, roads, building, piping systems, electrical systems, heating, ventilating and air conditioning systems, building equipment, furniture and other building contents caused by leaks in the piping systems or equipment being installed or having been installed by him. Repair work shall be done as directed by, in a manner satisfactory to the District at no additional cost to the District.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Section 016000 – Product Requirements: Product storage and handling requirements.
- B. Deliver and store valves in shipping containers, with labeling in place.
- C. Furnish cast iron and steel valves with temporary protective coating.

- D. Furnish temporary end caps and closures on piping and fittings. Maintain in place until installation.
- E. Protection: Protect the materials of this section before, during, and after installation and to protect the work and materials of other trades.
- F. Replacements: In the event of damage, immediately make repairs and replacements necessary and at no additional cost to the District.

1.11 WARRANTY

- A. Section 017700 – Execution and Closeout Requirements: Product warranties and product bonds.
- B. Furnish one year manufacturer warranty for plumbing materials and methods.
- C. The Contractor shall leave the entire installation in complete working order and free from defects in materials, workmanship or finish. Contractor shall repair or replace at his own expense a part that may develop defects due to faulty material or workmanship during the tests and within a period of one year after the work is accepted by the District. Contractor shall guarantee also to repair or replace with like materials existing work of the building or equipment, which is damaged during the repairing of such defective apparatus, materials or workmanship. The signing of the contract for his work covered by these specifications and of which they shall become a part, shall become a written guarantee on the part of the Contractor to carry out the provisions of this section of these specifications.

1.12 EXTRA MATERIALS

- A. Section 017700 – Execution and Closeout Requirements: Spare parts and maintenance products.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Standard of Quality: Materials and equipment shall be new and in good condition. The commercially standard items of equipment and the specific names mentioned in sections of Division 22 are intended to establish the standards of quality and performance necessary for the proper functioning of the mechanical work.
- B. Variations: Since manufacturing methods vary, reasonable minor equipment variations are expected; however, performance and material specifications are minimum requirements. The Architect retains the right to judge equality of equipment that deviates from the specifications.
- C. Symbols are for identification. Symbols, capacities, sizes, and electrical characteristics are indicated on the drawings. Contractor shall make necessary provisions for installation of his equipment and for attaching or connecting his work to other trades.

2.2 IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

- A. Plastic Nameplates: Laminated three-layer plastic with engraved black letters on light background color.
- B. Plastic Tags: Laminated three-layer plastic with engraved black letters on light background color, minimum 1-1/2-inch diameter.
- C. Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering. Larger sizes may have maximum sheet size with spring fastener. Color and Lettering: Conform to ASME A13.1.
- D. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings. Color and Lettering: Conform to ASME A13.1.
- E. Plastic Underground Pipe Markers: Bright colored continuously printed plastic ribbon tape, minimum 6-inch wide by 4-mil thick, manufactured for direct burial service.

2.3 FLASHINGS

- A. Make pipes and vents passing through roof or outside wall waterproof with flashings and storm collars or counter flashings.
- B. Except as otherwise noted or required, extend vent pipes passing through roof at least 12-inch above finished roofline.
- C. Furnish and install on each pipe passing through the roof a galvanized sheet metal flashing assembly with eight-inch skirt.
- D. Furnish and install on each pipe passing through the roof a six-pound seamless lead flashing assembly with eight-inch skirt. Flashing shall have steel reinforced conical boot and be complete with open top cast iron counter flashing and permaseal waterproofing compound. For sanitary vent, provide a hood with a minimum 2 to 1 free area to vent pipe size.

2.4 SLEEVES

- A. Sleeves for Pipes Through Non-fire Rated Floors: 18-gage thick galvanized steel.
- B. Sleeves for Pipes Through Non-fire Rated Walls, Footings, and Potentially Wet Floors: Steel pipe.
 - 1. For waterproof sleeves, use J.R. Smith Fig. 172 or equivalent by Zurn or Josam.
- C. Size pipe sleeves to permit placing pipe and specified isolation material for pipes passing through concrete or masonry walls or concrete slabs.
- D. Insulated pipe shall be insulated in sleeves, caulked and sealed as above. Use type CS-CW inserts as manufactured by Pipe Shields, Inc.

2.5 MECHANICAL SLEEVE SEALS

A. Manufacturers:

1. Thunderline Link-Seal, Inc.
2. NMP Corporation.
3. Or approved equal.

- B. Product Description: Modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between object and sleeve, connected with bolts and pressure plates causing rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.

2.6 PIPE ISOLATORS AND COVERING PROTECTION

- A. Pipe isolators: Provide each hanger or clamp for un-insulated piping with an isolation material, having metal backing, to isolate sound vibration and electrolysis. Provide Elcen "Isolator or appeared equal." Isolator not required for fire protection automatic sprinkler piping, waste, vent and natural gas piping.

2.7 ESCUTCHEONS

- A. Provide heavy chrome-plated or nickel plated plates or approved pattern on pipe passing through floors, walls and ceilings in finished areas. Escutcheons shall be chrome-plated steel plates with concealed hinges and setscrew. Pattern shall be approved by the Architect.

2.8 ACCESS COVER AND ACCESS DOORS

- A. Provide access covers over under floor buried mechanical valves, controls, cleanouts, located in interior and exterior floor and grade areas.
- B. Provide access door over concealed mechanical valves, controls, duct coils, dampers, fire dampers, pipe chases, concealed mechanical equipment through fire rated walls and ceilings.
- C. Provide fire rated doors for access to mechanical equipment valves.
- D. Access covers – Interior concrete floors:
1. Type: Square or rectangular frame with hinged and secured cover.
 2. Size: Nominal 10-inch x 10-inch.
 3. Construction: Aluminum alloy frame and hinged score rated XH cover with lifting device. Secure with vandal proof screws.
 4. Marking: Cast cover with words "CLEANOUT", "GAS SHUT-OFF" or "WATER SHUT-OFF" when used for these services.
 5. Acceptable manufacturers: Smith No. 4915, Zurn, Josam.

E. Access Covers – Interior vinyl tile floors:

1. Type: Square or rectangular frame with recessed cover.
2. Size: Nominal 10-inch x 10-inch.
3. Construction: Aluminum alloy frame and tile recess XH cover with lifting device. Secure with vandal proof screws at each corner.
4. Acceptable manufacturers: Smith No. 4920, Zurn, Josam.

F. Access Doors – Walls and ceilings:

1. Type: Flush or recessed panel.
2. Size: Minimum 12-inch x 12-inch nominal door for hand access, minimum 16-inch x 20-inch nominal door for personal access.
3. Location and style:

Masonry/concrete walls	Milcor "M" Standard
Gypsum wallboard walls and ceilings	Milcor "M" Standard
Plastered surfaces (except toilet and walls)	Milcor "K" Standard
Tile/terrazzo/kitchen/toilet room walls	Milcor "M" Standard (with casing bead stainless)
Acoustical tile (check type of ceiling system)	Milcor "A"
General areas	Milcor "M" Standard
Fire-rated shafts, rated walls and ceilings	Milcor "B" Standard

4. Materials:
 - a. Stainless Steel, No. 302 with No. 4 finish.
 - b. Standard manufacturer's standard construction and finish for type specified.
5. Locking: Screwdriver: Flush screwdriver operated with case hardened cam.
6. Acceptable Manufacturers Milcor, Zurn, Miami, Carey, Potter-Roemer.

2.9 FORMED STEEL CHANNEL

A. Manufacturers:

1. Allied Tube & Conduit Corp.
2. B-Line Systems.
3. Unistrut Corp.
4. Or approved equal.

B. Product Description: Galvanized 12-gage thick steel. With holes 1-1/2-inch on center.

PART 3 - EXECUTION

3.1 PROTECTION, CARE AND CLEANING

- A. The premises shall be maintained as required by Division 1.
- B. Materials and Equipment:
 - 1. Effectively protect materials and equipment to be installed on a project against moisture, dirt and damage during the construction period, to the entire satisfaction of the District. Special care shall be taken to provide protective and similar equipment that are particularly vulnerable to grit and dirt.
 - 2. Drain and flush piping to remove grease and foreign matter. Thoroughly clean out valves, traps, strainers, and demonstrate the cleanliness to the District.

3.2 PIPING AND EQUIPMENT IDENTIFICATION

- A. Equipment Labels: Equipment furnished and installed under this section shall be provided with manufacturers metal labels securely attached to each individual piece of equipment and showing complete and comprehensive performance characteristics, size, model, serial number etc.
- B. Install plastic nameplates with adhesive.
- C. Install plastic tags with corrosion resistant metal chain.
 - 1. Valves shall have tags attached with "S" mounting. Tags shall be at least 1-1/2-inch in diameter. Tags shall be stamped with valve I.D. number and be keyed to valve identification table submitted as part of the Operating Instruction and Maintenance Manuals.
- D. Piping shall have color coded markers as to type of use, service, and direction of flow in accordance with the latest edition of ANSI A 13.1. Locate markers at each valve, at entries to walls, and 20-foot on center for straight runs of pipe. Provide a flow arrow at each identification marker. Labels or markers shall be made of plastic sheet with pressure sensitive adhesive suitable for the intended application.
 - 1. Color Coding for Labels and Bands by Hazard Classification:
 - a. Safe Materials – Green:
 - 1) Domestic cold and hot water – green with black letters.
 - 2) City water – green with white letters
 - b. Dangerous Materials – Yellow:
 - 1) Natural Gas – yellow with black letters
 - 2) Industrial cold water – yellow with black letters
 - 3) Heating hot water – yellow with black letters

- c. Fire Protection Equipment – Red:
 - 1) Fire Sprinkler Piping – red with black letters

SECTION CONTINUES ON FOLLOWING PAGE

Date: _____ Project Name: Antelope Valley College – SCT, SSV & LS1 Restroom Renovations

WARRANTY FOR _____, in Agreement between Antelope Valley Com. College District
_____ (Specification Section) _____ (District)

and _____
(the "Contractor") _____ Name of Installer or Subcontractor or Manufacturer)

hereby guarantees to the District that the portion of the Work described as follows:

_____, which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section _____ and the other requirements of the Contract.

The undersigned further agrees that, if at any time within _____ after the date hereof the undersigned receives notice from the District that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within ten (10) calendar days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within ten (10) calendar days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize the District to undertake such correction, repair, or replacement at the expense of the undersigned; and the Contractor will pay to the District promptly upon demand all costs and expenses incurred by the District in connection therewith.

This warranty shall be in addition to and not a limitation of other rights the District may have against the Contractor under the Contract Documents.

SUBCONTRACTOR OR INSTALLER

Signed _____ Title _____

Typed Name _____

Name of Firm _____

Contractor License Number _____

Address _____

Phone Number _____

MANUFACTURER (If Applicable)

Signed _____ Title _____

Typed Name _____

Name of Firm _____

CONTRACTOR

Signed _____ Title _____

Typed Name _____

Name of Firm _____

END OF SECTION 220500

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SECTION 22 15 00 - PLUMBING**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. The work listed or required by this section of the specifications is not intended to limit or establish the extent of the Plumbing work. The General Contractor shall be responsible for determining the extent of the Plumbing work to be done under a subcontract.

1.3 DESCRIPTION

- A. Work Included: The work includes the furnishing of all labor, materials, appliances and tools necessary for the installation, in complete working order, of plumbing systems as herein specified and as indicated on the drawings. The item of work shall include, but not be limited to, the following principal items:
 - 1. Plumbing fixtures and equipment included in plumbing schedule or as indicated on the drawings including but not limited to the plumbing drawings and specifications.
 - 2. Potable cold water piping system.
 - 3. Soil, waste and vent piping systems
 - 4. Sleeves, hangers and seismic bracing for piping systems.
 - 5. Insulation of piping.
 - 6. Testing.
 - 7. Excavation and backfill.
 - 8. All other miscellaneous items and equipment required for a complete installation.
 - 9. Seismic restraints for pipe.
- B. All other work herein specified and shown on the accompanying drawings including addenda, change order and approved shop drawings.
- C. The Contractor shall furnish other tradesmen with all drawings and directions necessary to enable them to properly construct their work so that all the systems shall be properly interconnected.
- D. The Contractor shall be responsible for the correctness of his drawings and instructions and make, at his expense, any necessary changes in the completed work of other trades made necessary by errors in his drawings or instructions.

1.4 RELATED WORK SPECIFIED ELSEWHERE

- A. Work designated on drawings to be installed or performed by other sections of the specifications including Section 230500: Common Work Results for Mechanical.
- B. Finish painting of equipment, piping and ductwork shall be under Division 09 Sections "Interior Painting", except as noted otherwise.
- C. Division 10 Section "Toilet Accessories" for underlavatory guards at accessible lavatories and sinks.

1.5 EQUIPMENT RESTRICTIONS

- A. Refer to Section 230500

1.6 SUBMITTALS

- A. In addition to the requirements of Section 22 05 00, submittal brochures shall include the following items:

1. Piping Materials:

Waste and Vent

Potable Cold Water

2. Piping Accessories:

Hangers
Hanger Supports
Hanger Brackets
Seismic Restraints

Dielectric Couplers
Insulation
Water Hammer Arrestors
Piping Identification

3. Valves

Gate Valves
Ball Valves

Check Valves
Gas Regulators

4. Access Panels.

5. Fixtures and Equipment:

Water Closets
Lavatories

Urinals

- B. provide shop drawings of the following:

- 1. Dimension drawings for concrete pad, curb and equipment foundations (1/4" scale minimum) including bolt sizes and locations.
- 2. Steel fabrication drawings for equipment and pipe supports attachments (1/8" scale).
- 3. Control Wiring Diagrams.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Plumbing fixtures, fittings or valves intended to dispense water for human consumption which contain more than 0.25% LEAD are not permitted to be sold or installed anywhere within the State of California. These devices shall be 3rd party listed to ANNEX G of NSF/ANSI 61-2008 or other approved testing standard. Evidence of compliance shall be presented to the Building Inspector prior to final inspection California Health & Safety Code 116875 (AB1963).

2.2 PIPING SYSTEMS

A. Sewer, Waste & Vent Drain Piping:

1. Hub-less cast iron pipe and fitting with stainless steel compression couplings conforming to the requirements of CISPI Standard 301, ASTM A888 or ASTM A74 for all pipe and fittings.
2. Pipe and fittings shall be marked with collective trademark of Cast Iron Soil Pipe Institute and shall be listed by NSF International.
3. Joints for hub-less pipe and fitting shall conform to the manufacture's installation instructions, CISPI Standard 301 and local code requirements. Hub-less coupling gaskets shall conform to ASTM Standard C-654. No-Hub couplings shall be listed by NSF International.

B. Potable and Non-Potable Cold Water

1. ASTM B88, Type "L" seamless hard drawn copper tubing with ASTM B16.22 wrought copper fittings. Joints shall be soldered with lead-free, tin-zinc alloy solder such as Harris Stay-Safe 50. Flanges, bronze solder joint, ANSI 150 lb.

C. Potable and Non-Potable Cold Water Piping (Below Grade):

1. ASTM B88, Type "K" seamless hard drawn copper tubing with ASTM B16.22 wrought copper fittings. Joints shall be brazed with Sil Fos 7.

2.3 VALVES

- A. Provide all valves required for draining, servicing, and full control of all piping and equipment

B. Gate Valve

1. Manufacturer based upon Stockham or Crane
2. Provide solid wedge disc with non-rising stem, repackable under full operating pressure when wide open.
3. Provide valves designed for 125 psig stem and 200 psig non-shock water working pressures.
4. Size 2" and smaller:

- a. Bronze body, bonnet and disc conforming to ASTM B62. Stems shall be copper silicon alloy, ASTM B371.

- 1) Stockham.

- a) Figure B-104, solder joint ends
- b) Figure B-103, NPT threaded ends.

- 2) Crane

- a) Figure 1701, solder joint ends
- b) Figure 1701, NPT threaded ends

C. Pressure Reducing Valve

1. Manufacturer based upon Wilkins "500 YSBR Series". Equal products by Watts Regulator or Cla-Val may be submitted for approval.
2. Bronze body and bell housing, nylon reinforced Buna-N diaphragm and renewable stainless steel seat.

D. Backflow Prevention

1. Manufacturer based upon Wilkins. Equal products by Watts Regulator or Cla-Val may be submitted for approval.
2. Reduced Pressure Principle Type: Cast Iron Body with spring loaded, diaphragm assisted main check valve, a spring loaded second check valve and a spring loaded diaphragm actuated differential pressure relief valve, body rated for 175 psi working pressure complete with two full port resilient wedge gate valves and four resilient seated ball valve test cocks. Stainless steel and bronze corrosion resistant internal parts and replaceable seats.
3. Double Check Type: Cast Iron body with two independently acting check valves, two gate valves, four test cocks. Body rated for 150 lb. working pressure. Stainless steel and bronze corrosion resistant internal parts and replacement seats.
4. Arrange for and pay all fees for testing and certification of all backflow prevention devices by a firm or agency approved by the District's Representative.

E. Relief Valve.

1. Manufacturer based upon Wilkins. Equal products by McDonald Miller or Watts Regulator may be submitted for approval.
2. Potable Water Temperature and Pressure: On hot water storage tanks provide an American Society of Mechanical Engineers (ASME) rated, thermostatic, self-closing temperature and pressure relief valve, located in the relief valve openings of tanks. Valve shall have a minimum thermal discharge capacity equal to the input capacity of the heater, standard pressure setting of 125 psig and standard temperature setting of 210°F. Route discharge pipe to service sink or other approved indirect waste receptor.

2.4 WATER HAMMER ARRESTORS

A. Water Hammer Arrestors

1. Manufacturer based upon J.R. Smith Model "Hydrotrol" constructed of stainless steel size by manufacturer. Equal products by Zurn or Wade may be submitted for approval.

2.5 INSULATION

- A. All pipe fittings and valves and duct thickness shall conform to Title 24 as a minimum. Use thickness specified, if greater than Title 24 requirements. All insulation to have a flame spread of not more than 25 and a smoke density not exceeding 50 when tested as a composite.

B. Pipe

1. Manufacturer based upon Johns Manville. Equal products by Schuller or Owens Corning may be submitted for approval.
2. Micro-Lok
 - a. Rigid molded fiber glass pipe insulation meeting ASTM C 547
 - b. Chilled water thermal conductivity ("k") value of 0.23 Btu*in/(hr*ft2*°F) at 75°F
 - c. Heating hot water thermal conductivity ("k") value of 0.29 Btu*in/(hr*ft2*°F) at 200°F
 - d. Maximum service temperature of 850°F
 - e. Provide vapor retarder jacket AP-T PLUS white kraft paper paper reinforced with glass fiber yarn and bonded to aluminum foil, secures with self-sealing longitudinal laps and butt strips or AP jacket with outward clinch expanding staples or vapor barrier mastic as needed.
 - f. Noncombustible as per ASTM E136 test.
3. Zeston 2000 PVC
 - a. One piece, field applied pipe fitting cover and jacketing material, gloss white, UV-resistant.

C. Equipment

1. Manufacturer based upon Johns Manville. Equal products by Schuller or Owens Corning may be submitted for approval.
2. 812 Series Spin-Glas
 - a. Flexible equipment insulation meeting ASTM C 533, Type III
 - b. Thermal conductivity ("k") value of 0.24 Btu*in/(hr*ft2*°F) at 75°F.
 - c. Maximum service temperature of 450°F
 - d. Density shall equal 1.50 lb / ft3
 - e. Provide aluminum foil reinforced with fiber glass yarn and laminated with fire-resistive adhesive to kraft paper (FSK Reinforced Foil and Paper). Secure with UL listed pressure sensitive tape and / or outward clinch expanding staples and vapor barrier mastic.

3. 814 Series Spin-Glas
 - a. Rigid equipment insulation meeting ASTM C 612, Type IA and IB
 - b. Thermal conductivity ("k") value of 0.23 Btu*in/(hr*ft2*°F) at 75°F.
 - c. Maximum service temperature of 450°F
 - d. Density shall equal 3.00 lb / ft3
 - e. Provide aluminum foil reinforced with fiber glass yarn and laminated with fire-resistive adhesive to kraft paper (FSK Reinforced Foil and Paper). Secure with UL listed pressure sensitive tape and / or outward clinch expanding staples and vapor barrier mastic.

2.6 FIXTURES (See Plumbing drawing for complete plumbing fixture specifications)

Accessible plumbing fixtures shall comply with all of the requirements of CBC Section 11B-213. Heights and location of all fixtures shall be according to CBC Table 11B-604. Fixture controls shall comply with CBC Section 11B-308.

- A. Plumbing fixtures shall be by the manufacturers listed below. Make type and Model Number for fixtures are shown on drawing schedules:
 1. For water closets, urinals, lavatories, and service sinks – American Standard, Kohler or Crane.
 2. Water closet and urinal flush valves – Sloan or Delany.
 3. Lavatory faucets – American Standard, Kohler, Crane, Sloan or Delany..
 4. Toilet seats – Church, Olsonite or Beneke.
 5. Sink Faucet – Elkay or Just.
 6. Trap primers – Precision Plumbing Products or approved equal.For water closer

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General
 1. Inspect the architectural, structural, fire protection, special systems and HVAC drawings and specifications to become familiar with the type of building construction and to coordinate with the work of others.
 2. All apparatus, fixtures, devices and appliances which require pipe connections shall be so equipped and each such pipe connection shall be valved or trapped, or provided with special apparatus as indicated on the drawings or elsewhere specified. Where such connections are not indicated on the drawings or specified, they shall be made in the usual manner recommended by the manufacturer of each such equipment including but not limited to the final connections to the food service equipment. Coordinate with the Kitchen consultant drawings and specifications.

B. Piping:

1. Install in a manner that permits expansion and contraction caused by changes in water temperature and pressure. Provide additional supports as required. Run pipes straight and true, parallel to or at right angles to the building walls. Springing or forcing piping into place will not be permitted.
2. Reduced fittings shall be used in lieu of bushings. Close nipples will not be permitted.
3. Pipelines shall be installed in the locations and of the sizes shown on the drawings or specified herein and of the material and workmanship herein specified and shall be free from all stain, tool marks or other foreign substances.
4. All exposed piping in the building shall be installed parallel to or at right angles to the building walls. All pipelines shall be installed free from traps and air pockets and true to line and grade. All horizontal lines shall be installed as close to the building construction as possible so as to leave the greatest possible head room under them.
5. The only filler that may be used in making up screw joints in pipe lines shall be an approved graphite paste or Teflon tape.
6. Copper tube water lines shall be fitted with drop ear elbows securely anchored to the building framing at each fixture supply stub-out.
7. Where pipes of two dissimilar metals are joined, "Mallory" dielectric couplings or approved equal shall be installed.
8. Saw cut or core drill existing slabs or walls to install pipes, equipment or fixtures.
9. Where valves are not accessible from utility or furred spaces, the contractor shall furnish and install "Access Panels" as specified hereinafter.
10. Where screw end valves are used in threaded pipelines there shall be a union installed in the pipe as close to the valve as possible. At soldered pipelines an I.P.S. to copper adaptor shall be installed on both sides of valve screw end.
11. All vales of pipe lines of all service shall be tagged with the valve discs or nameplates as specified hereinafter, except where the use is obvious or where the apparatus controlled is visible form the valve.
12. All vales other than relief valves and air vent valves shall be the same size as the pipe lines in which they are installed. All valves shall be packed with an approved brand or graphited valve stem packing.

C. Fixtures and Equipment:

1. Install in strict accordance with manufacturer's written installation instructions and recommendations. Fixtures shall be roughed in only from fixture manufacturer's certified "Rough-In" Measurement Drawings" which shall be submitted to the Contracting Officer Representative for approval.

- D. Backflow protection devices of code approved type and shall be provided and installed where required by code.

3.2 INSULATION

- A. Verify that all surfaces are clean, dry and free of foreign material.

- B. Install materials in accordance with manufacturer's recommendations, building codes and industry standards.
- C. Continue insulation vapor through penetrations except where prohibited by code.
- D. Piping Insulation:
 - 1. Locate insulation and cover seams in least visible locations.
 - 2. Neatly finish insulation at supports, protrusions and interruptions.
 - 3. Provide insulated dual temperature pipes or cold pipes conveying fluids below ambient temperature with vapor retardant jackets with self-sealing laps. Insulate complete system.
 - 4. For insulated pipes conveying fluids above ambient temperature, secure jackets with self-sealing lap or outward clinched, expanded staples. Bevel and seal ends of insulation at equipment, flanges and unions.
 - 5. Provide insert between support shield and piping on piping 1-1/2 inches (38 mm) diameter or larger. Fabricate of Johns Manville Thermo-12 or other heavy density insulating material suitable for temperature. Insulation inserts shall not be less than the following lengths:

1-1/2" to 2-1/2" pipe size	10" long
3" to 6" pipe size	12" long
 - 6. For pipe exposed in mechanical equipment rooms or in finished spaces below 10 feet (3 meters) above finished floor, finish with Johns Manville Zeston 2000 PVC jacket and fitting covers or aluminum jacket.
 - 7. For exterior applications, provide weather protection jacket or coating. Insulated pipe, fittings, joints and valves shall be covered with Johns Manville Zeston 2000 PVC or aluminum jacket. Jacket seams shall be located on bottom side of horizontal piping.

3.3 SEISMIC REQUIREMENTS

- A. Equipment and piping shall be provided with seismic restraint devices to limit movement. See Section 230500.

3.4 PIPE CLEANING AND DISINFECTION FOR POTABLE WATER PIPING

- A. Pipe cleaning and disinfection applied to hot and cold potable water systems and shall be performed after all pipes, valves, fixtures, and other components of the systems are installed, tested and ready for operation.
- B. All potable water piping shall be thoroughly flushed with clean potable water prior to disinfection, to remove dirt and other contaminants. Screens to faucets shall be removed before flushing and reinstalled after completion of disinfection.
- C. Disinfection shall be done using either chlorine gas or liquid chlorine. Calcium or sodium hypochlorite may be used as approved in AWWA C601 procedures.

- D. A service cock shall be provided and located at the water service entrance. The disinfecting agent shall be injected into the system from this clock only.
- E. The disinfecting agent shall be injected by a proportioning pump or device through the service cock slowly and continuously at an even rate. During disinfection, backflow of disinfecting agent into main water supply is not permitted.
- F. All sectional valves must be operated during disinfection. All outlets must be fully opened at least twice during injection and the residual checked with orthotolin solution.
- G. When the chlorine residual concentration, calculated on the volume of water the piping will contain, indicates not less than 50 Parts per Million (PPM) at all outlets, then all valves must be closed and secured.
- H. The residual chlorine shall be retained in the piping systems for a period of not less than 24 hours.
- I. After the retention, the residual shall be not less than 4PPM. If less, then the process shall be repeated as described above.
- J. If satisfactory, then all fixtures shall be flushed with clean potable water until residual chlorine by orthotolin tests shall be not greater than the incoming water supply (this may be zero).
- K. All work and certification of performance shall be performed by approved applicators or qualified personnel with chemical and laboratory experience. Certification of performance shall indicate:
 - 1. Name and location of the job and date when disinfection was performed.
 - 2. Material used for disinfection.
 - 3. Retention period of disinfectant in piping system.
 - 4. PPM chlorine during retention.
 - 5. PPM chlorine after flushing.
 - 6. Statement that disinfection was performed as specified.
 - 7. Signature and address of company/ person performing disinfection.
- L. Upon completion of final flushing (after retention period), the Contractor shall obtain one water sample from hot water system and one from the cold water system and submit samples to a State approved laboratory. Results from laboratory shall be provided to Architect and shall indicate:
 - 1. Name and address of approved laboratory testing the samples.
 - 2. Name and location of job and date the samples were obtained.
 - 3. The coliform organism count. An acceptable test shall show absence of coliform organisms.
- M. If analysis does not satisfy the above minimum requirements, the disinfection procedure must be repeated.

- N. Before acceptance of the systems, the Contractor shall submit to the Contracting Officer Representative for his or her review, three (3) copies of Laboratory Report and three (3) copies of Certification of Performance as specified above.
- O. Under no circumstances shall the Contractor permit the use of any portion of potable water systems until properly disinfected, flushed and certified.

3.5 TESTS

- A. Drainage piping shall be tested and proved tight under 10 feet of water pressure prior to replacing any ceilings.
- B. All water piping and pumped drain or forced main piping shall be purged of all air and tested and proved tight under 125 PSI hydrostatic pressure for a period of not less than two (2) hours.
- C. Gas piping shall be tested with air and proved tight under 60 psi or code minimum for a period of not less than two hours.

3.6 CLEANING

- A. Equipment, piping, etc., shall be thoroughly cleaned so as to remove rust, scale, plaster, or internal obstructions before a covering is installed or piping or equipment is painted. no scarring or disfiguring of equipment, piping, etc. will be acceptable before covering or painting is applied.
- B. Parts of the work which are to be painted or which are exposed in the finished work shall be thoroughly cleaned and made ready to receive paint finish.
- C. The exposed parts of equipment shall be cleaned, oil and grease removed, and the bright parts left clean and polished.
- D. Upon completion of the work, remove rubbish, debris and surplus materials, resulting there from, the premises together with his instruments, and equipment and shall leave the site in a neat, clean and acceptable condition as approved by the Architect.

3.7 PRELIMINARY OPERATIONS

- A. Should the District require that a portion of the systems or equipment be operated prior to the final completion and acceptance of the work, the Contractor shall furnish such operation. The expense thereof will be paid by the District, separate and distinct from money paid on account of the contract.
- B. Such preliminary operation or testing, payment shall not be construed as final acceptance of the work of this contract.

3.8 EXCAVATION AND BACKFILL

- A. Comply with the requirements for trenching, backfilling and compaction as specified in Division 32.

SECTION CONTINUES ON FOLLOWING PAGE

Date: _____ Project Name: Antelope Valley College – Campus Restroom Remodel Phase 1

WARRANTY FOR _____, in Agreement between Antelope Valley Com. College District
(Specification Section) (District)

and _____
(the "Contractor") (Name of Installer or Subcontractor or Manufacturer)

hereby guarantees to the District that the portion of the Work described as follows:

_____, which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section _____ and the other requirements of the Contract.

The undersigned further agrees that, if at any time within _____ after the date hereof the undersigned receives notice from the District that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within ten (10) calendar days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within ten (10) calendar days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize the District to undertake such correction, repair, or replacement at the expense of the undersigned; and the Contractor will pay to the District promptly upon demand all costs and expenses incurred by the District in connection therewith.

This warranty shall be in addition to and not a limitation of other rights the District may have against the Contractor under the Contract Documents.

SUBCONTRACTOR OR INSTALLER

Signed _____ Title _____

Typed Name _____

Name of Firm _____

Contractor License Number _____

Address _____

Phone Number _____

MANUFACTURER (If Applicable)

Signed _____ Title _____

Typed Name _____

Name of Firm _____

CONTRACTOR

Signed _____ Title _____

Typed Name _____

Name of Firm _____

END OF SECTION 22 15 00

SECTION 23 05 00 - COMMON WORK RESULTS FOR MECHANICAL**PART 1 - GENERAL****1.1 SECTION INCLUDES**

- A. Requirements of Divisions 0 and 1 apply to work of this section.

1.2 RELATED SECTIONS

- A. This section applies to all sections of Division 23, except as may be otherwise modified in each section.

1.3 FEES, PERMITS AND PAYMENTS

- A. Fees, Permits and Payments: Contractor shall secure permits and inspections and pay full cost of same.

1.4 RELATED WORK SPECIFIED ELSEWHERE

- A. Work designated on drawing or specifications to be installed or performed by other sections of the inspections.
- B. Finish painting: Equipment furnished shall be factory finished. If the factory finish is damaged during shipment, installation, etc., it shall be repainted by the Contractor subject to the Architect's approval.
- C. Electrical connections for motors, line voltage wiring and conduit and low voltage wiring and conduit.
- D. Individual motor controllers except when furnished as integral parts of packaged equipment.

1.5 EQUIPMENT RESTRICTIONS

- A. The proprietary name, and/or model indicated on the drawings, or the first listed for a category in the specifications is the make and/or model used as the basis for design. Bids shall be based on the use of the products of the selected manufacturers. Substitutions will be considered as outlined in General Conditions and Division 1; Section, "Substitutions." Other acceptable manufacturers are named in these specifications.
- B. Choice of Equipment: Equipment has been chosen, which will properly fit into the physical spaces provided and indicated, allowing ample room for access, serving, removal and replacement of parts, etc. Adequate space shall be allowed for clearance in accordance with the code requirements and the requirements of the local inspection Department. Physical

dimensions and arrangements of equipment to be installed shall be subject to the Owner's approval. Submit shop drawings of equipment layout for approval where equipment space does not comply with drawings. Changes in piping, motors, wiring, controls, structural or installation procedures required by the substituted product or equipment shall be made at no additional cost to the Owner, and with no reduction in scope.

C. Space Requirements:

1. In the preparation of drawings, a reasonable effort has been made to include equipment manufacturer's recommendations. Since space requirements and equipment arrangement vary according to manufacturer, the responsibility for initial access and proper fit rests with the Contractor. The final arrangement of the equipment and service connections shall allow the unit to be serviced. This shall include space to pull motors, filters, coils, tubes, etc. Make changes in piping and ductwork to suit actual installed equipment without further instructions or additional cost.
2. If the installation of the particular product or equipment, the Contractor has submitted, requires changes in material or size from that required in the contract drawings and specifications, such changes shall be submitted as shop drawings.
3. Contractor shall be aware that some equipment in the mechanical room must be in place before walls and/or roof is installed and shall schedule the installation of equipment accordingly.
4. Contractor shall pay the costs of design (3.0 x direct payroll) and installation of changes resulting from substitution of alternate products. Acceptance of alternate products by Architect does not change this requirement.

1.6 QUALITY ASSURANCE

A. Installer's Qualifications:

1. For the actual fabrication, installation, and testing of work, use only thoroughly trained and experienced workmen completely familiar with the items required and the manufacturers' current recommended methods of installation.
2. In acceptance or rejection of the finished installation, no allowance will be made for lack of skill on the part of the installers.

B. Certificates: Execute on behalf of the Owner and deliver to the Architect manufacturers' warranty certificates and instructions, etc. required to assure that the manufacturers' warranties are properly documented and in full effect for the warranty period.

1.7 CODES, ORDINANCES, REGULATIONS AND DEFINITIONS

A. Work and materials shall be in full accordance with the 2013 rules and regulations of the following Agencies and Codes, the Safety Orders of the Division of Industrial Safety; the California Mechanical Code; the California Plumbing Code; California Fire Code; the California Building Code; California Energy Conservation Code; city ordinances and other applicable laws or regulations.

- B. Nothing in the drawings or specifications is to be constructed to permit work not conforming to these codes. Drawings and specifications shall take precedence when work and materials called for exceed code requirements.
- C. References to Code Specifications shall mean editions in effect at date of proposals.
- D. Reference to technical societies, trade organizations, governmental agencies are made in Mechanical Sections in accordance with the following abbreviations:

AABC	<i>Associated Air Balance Council National Standards for Field Measurement and Instrumentation, Total System Balance</i>
AMCA	<i>Air Moving and Conditioning Association</i>
ANSI	<i>American National Standards Institute</i>
ARI	<i>Air Conditioning and Refrigeration Institute</i>
ASHRAE	<i>American Society of Heating, Refrigerating, and Air Conditioning Engineers</i>
ASTM	<i>American Society of Testing and Materials</i>
ETL	<i>Electrical Testing Laboratory</i>
ICC-ES	<i>International Code Council Evaluation Service</i>
IRI	<i>Industrial Risk Insurers</i>
ISO	<i>Insurance Service Organization</i>
NEBB	<i>National Environmental Balancing Bureau Procedural Standards for Testing, Balancing and Adjusting of Environmental Systems</i>
NEC	<i>National Electrical Code</i>
NFC	<i>National Fire Codes</i>
NFPA	<i>National Fire Protection Association</i>
NRCA	<i>National Roofing Contractor's Association</i>
OSHPD	<i>Office of Statewide Health Planning and Development for the State of California</i>
SMACNA	<i>Sheet Metal and Air Conditioning</i>
UL	<i>Underwriter's Laboratories, Inc.</i>

E. Definitions:

APPROVED *As approved by Owner's Representative.*

ARCHITECT / ENGINEER	<i>The Architect or Engineer of record for this project. The Architect or Engineer is the Owner's representative regarding preparation, revisions and interpretation of the contract documents.</i>
AS DIRECTED	<i>As directed by the Owner's Representative.</i>
AS REQUIRED	<i>As required by applicable Code requirements; by good business practice; by the conditions prevailing; by the Contract Documents; by Owner, or by Owner's Representative.</i>
AS SELECTED	<i>As selected by Owner's Representative.</i>
BY OTHERS	<i>Work on this Project that is outside the Scope of Work to be performed by the Contractor under this Contract, but that will be performed by Owner, other Contractors or other means.</i>
CERTIFIED TEST REPORTS	<i>Test Reports signed by an authorized official stating that tests were performed in accordance with the test method specified that the results reported are accurate, and that items tested either meet or fail to meet the stated minimum requirements.</i>
CERTIFIED INSPECTION REPORTS	<i>Reports signed by approved Inspectors attesting that the items inspected meet the Specification requirements other than any exceptions included in the report.</i>
CONCEALED	<i>Embedded in masonry, concrete or other construction, installed within furred spaces, or in enclosures.</i>
EQUAL	<i>The Contract documents are based upon the manufacturer and model number indicated on the drawings or specifications. Bidder may propose alternative product but will be considered only if the bidder has submitted a base Bid, which is in accordance with the specified product. Alternate proposal shall include complete technical data and itemized price adjustments. Bidder shall assume the responsibility that the alternate product meets the physical, mechanical, electrical, structural, acoustical and architectural requirements of the specified product. Acceptance of an alternate product does not entitle the Contractor to a Change</i>

	<i>Order to modify architectural, structural, mechanical, electrical, control or any other systems necessary to accommodate the alternate product. The Owner or his representative may reject alternate products.</i>
EXPOSED	<i>Not installed underground or not concealed as defined above.</i>
FIELD TESTS	<i>Tests or analysis made at, or in the vicinity of the job site in connection with the actual construction.</i>
FURNISH	<i>Supply and deliver to the Project site only, not install (unless required to be installed elsewhere in the Contract Documents). Product must be delivered ready for installation and in operable condition.</i>
INSTALL	<i>Install (services or labor) only, not furnish (unless required to be furnished elsewhere in the Contract Documents). Install means to place in final position, complete, anchored, connected and ready to operate.</i>
LIFE SAFETY SYSTEMS	<p><i>Systems involved with fire protection: including sprinkler piping, fire pumps, jockey pumps, fire pump control panels, service water supply piping, water tanks, fire dampers, and smoke exhaust.</i></p> <p><i>Systems involved with and/or connected to emergency power supply: including generators, transfer switches, transformers, and circuits to fire protection, smoke evacuation, and emergency lighting systems.</i></p> <p><i>Medical and life support systems.</i></p> <p><i>Fresh air and relief systems on emergency smoke control sequence.</i></p>
MAIN	<i>The principal artery of a system of continuous piping or ductwork, to which branches may be connected.</i>
MANUFACTURER'S DIRECTIONS, INSTRUCTIONS, RECOMMENDATIONS, SPECIFICATIONS	<i>Manufacturer's written directions, instructions, recommendations, specifications.</i>
PRODUCT	<i>Materials, systems, equipment and fixtures.</i>

MANUFACTURER'S CERTIFICATE CONFORMANCE	<i>A certificate signed by an authorized manufacturer's official attesting that the material or equipment delivered meets the specification requirements. Manufacturer's representative certificate is not acceptable.</i>
MUST; SHALL; TO; WILL	<i>When used as a directive to the Contractor, these items indicate a mandatory action.</i>
NECESSARY	<i>Essential to completion of work.</i>
OWNER-FURNISHED, CONTRACTOR-INSTALLED	<i>To be furnished by the Owner at its cost and installed by the Contractor as part of the work.</i>
PROVIDE	<i>Shall include "Furnish and install" which means supply, fabricate, deliver, place and connect, complete in place, ready for operational use. When neither furnish, install or provide is stated, "provide" is implied.</i>
REMOVE	<i>To remove item completely including attachments, frames, anchors, fittings, bases, pipes, conduits and supports, capping behind finished surfaces and repairing floors, bases and walls to match color and texture and be smooth with existing adjacent surfaces.</i>
SHOWN	<i>As indicated on the Drawings.</i>
SPECIFIED	<i>As written in the Contract Documents.</i>
SUBMIT	<i>Submit to Owner's Representative.</i>
TESTING LABORATORY	<i>A person or organization whose functions include testing, analyzing or inspecting products and/or evaluating the designs or specifications of such products according to the requirements of applicable standards.</i>
WORK	<i>Work of the Contractor or Subcontractor includes labor or materials (including, without limitation, without equipment and appliance) or both, incorporated in, or to be incorporated in the construction covered by the complete Contract.</i>

1.8 SEISMIC RESTRAINT

- A. Design, furnish, and install attachment devices, anchor bolts, and seismic restraints that are required for seismic compliance for all equipment, apparatus, piping, conduit and raceways, ductwork, and other components of the specified systems required by reference codes and standards.
- B. Provide seismic restraint types as described. If the item to be restrained is not listed, select appropriate restraint and submit for approval.
- C. Provide seismic bracing for mechanical, plumbing, and fire protection systems.
- D. Performance Requirements
 - 1. Isolate motor driven mechanical equipment, unless otherwise noted, from the building structure, and from the systems which they serve, to prevent equipment vibrations from being transmitted to the structure.
 - 2. Consider equipment weight distribution to provide uniform deflections.
 - 3. For equipment with variable speed capability, select vibration isolation devices based on the lowest speed.
 - 4. Seismic Restraints Requirements
 - a. For each seismic restraint, provide certified calculations to verify adequacy to meet the following design requirements:
 - b. Ability to accommodate relative seismic displacements of supported item between points of support.
 - c. Ability to accommodate the required seismic forces.
 - d. For each respective set of anchor bolts provide calculations to verify adequacy to meet combined seismic-induced sheer and tension forces.
 - e. For each weld between structure and item subject to seismic force, provide calculations to verify adequacy.
 - f. Restraints shall maintain the restrained item in a captive position without short circuiting the vibration isolation.

1.9 SUBMITTALS

- A. General: Refer to Division 1.
- B. Project Drawings:
 - 1. The drawings are diagrammatic and indicate the general layout of the equipment.
 - 2. The exact location shall be field determined, after shop drawing review for the installation in available space at the job site.
- C. Equipment Lists and Equipment Brochures and Shop Drawings.
 - 1. Copies: Submit six copies of data as specified hereafter.

2. Items of material and equipment required by this Division shall be reviewed by the Architect prior to the start of work. The Contractor shall submit items requiring such review, allowing ample time for the checking and processing, and shall assume responsibility for delays incurred due to the rejected items. Rejected items shall be resubmitted as specified only. Submittal information covering items shall be neatly bound together into booklets, each booklet containing individual items specified. Separate submittals of individual items are not allowed. Each submittal item shall be identified with the governing specification section, paragraph, subparagraph, or reference drawings, as applicable.
3. Equipment Lists: Provide name of manufacturer, brand name, and catalog number of each item. Submit complete submittals, at one time, having items arranged in numerical sequence with each item identified by section and article of the specifications. Listing items "as specified" without both name and model or type designation is not acceptable, except pipe and fitting not specified by brand names may be listed "as specified" without manufacturer's name, provided proposed materials comply with specification requirements.
4. Material Brochures: Provide copies of complete description, information and performance data covering materials and equipment, which are specified. Brochures submitted to the Architect shall be published by the manufacturers and shall contain complete and detailed engineering and dimensional information. Brochures not compiled in the following manner shall be returned for re-submittal. Brochures submitted shall contain only information relevant to the particular equipment or materials to be furnished. The Contractor shall not submit catalogs, which describe several different items other than those items to be used unless all irrelevant information is marked out, or unless relevant information is clearly marked. Brochures from each manufacturer shall be identified.
5. Shop Drawings:
 - a. Refer to Divisions 0 and 1.
 - b. Provide additional data as specified in Governing Specification Section.
6. Seismic Restraint
 - a. Shop Drawings
 - 1) Where walls and slabs are used as seismic restraint locations, provide details of acceptable methods for restraint of equipment, ducts, conduit and pipe shall be included, with supporting certified calculations.
 - 2) Provide specific details of seismic restraints and anchors; include number, size and locations for each piece of equipment.
 - 3) A copy of the coordination or contract drawings shall be marked-up with the specific locations and types of restraints shown for pipe, duct, and equipment. Rod bracing and assigned load at each restraint location shall be clearly delineated. Each drawing shall be signed by the same engineer performing the seismic calculations noted below.
 - 4) For ceiling suspended equipment, provide minimum and maximum installation angle allowed for restraint system, as well as braced and un-braced rod lengths at each allowable installation condition.

- b. Seismic Certification and Analysis
 - 1) Seismic restraint calculations shall be provided for connections of equipment to the structure. Performance of products (such as: strut, cable, anchors, clips, etc.) associated with restraints shall be supported with manufacturer's data sheets or certified calculations. Seismic calculation shall be certified by a Professional Structural or Civil Engineer registered in the State of the project.
 - 2) Seismic restraint calculations shall be based on the acceleration criteria required by local codes. Note: For roof-mounted equipment, both the seismic acceleration and wind loads shall be calculated; the highest load shall be utilized for the design of the restraints and isolators.
 - 3) Calculations to support seismic restraints designs shall be stamped by a professional engineer who is registered in the state where the work is being performed, with at least five years of seismic design experience.
 - 4) Table elevations refer to the structural point of attachment of the equipment support system (i.e., use floor slab for floor supported equipment and the elevation of the slab above for suspended equipment).
 - 5) Analysis shall indicate calculated dead loads, derived loads, and materials utilized for connections to equipment and structure. Analysis shall detail anchoring methods, bolt diameter, embedment and/or weld length.
- c. Product Data: For the following:
 - 1) Include rated load, rated deflection, and overload capacity for each vibration isolation device.
 - 2) Illustrate and indicate style, material, strength, fastening provision, and finish for each type and size of seismic-restraint component used.
 - a) Tabulate types and sizes of seismic restraints, complete with report numbers and rated strength in tension and shear as evaluated by OSHPD or an agency acceptable to authorities having jurisdiction.
 - b) Annotate to indicate application of each product submitted and compliance with requirements.
 - 3) Interlocking Snubbers: Include ratings for horizontal, vertical, and combined loads.
- d. Delegated-Design Submittal: For vibration isolation and seismic-restraint details indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer with at least five years of seismic design experience responsible for their preparation.
 - 1) Design Calculations: Calculate static and dynamic loading due to equipment weight and operation, seismic and wind forces required to select vibration isolators, seismic and wind restraints, and for designing vibration isolation bases.
 - a) Coordinate design calculations with wind load calculations required for equipment mounted outdoors. Comply with requirements in other Division 15 Sections for equipment mounted outdoors.
 - 2) Riser Supports: Include riser diagrams and calculations showing anticipated expansion and contraction at each support point, initial and final loads on

building structure, spring deflection changes, and seismic loads. Include certification that riser system has been examined for excessive stress and that none will exist.

- 3) Vibration Isolation Base Details: Detail overall dimensions, including anchorages and attachments to structure and to supported equipment. Include auxiliary motor slides and rails, base weights, equipment static loads, power transmission, component misalignment, and cantilever loads.
 - 4) Seismic-Restraint Details:
 - a) Design Analysis: To support selection and arrangement of seismic restraints. Include calculations of combined tensile and shear loads.
 - b) Details: Indicate fabrication and arrangement. Detail attachments of restraints to the restrained items and to the structure. Show attachment locations, methods, and spacing. Identify components, list their strengths, and indicate directions and values of forces transmitted to the structure during seismic events. Indicate association with vibration isolation devices.
 - c) Coordinate seismic-restraint and vibration isolation details with wind restraint details required for equipment mounted outdoors. Comply with requirements in other Division 15 Sections for equipment mounted outdoors.
 - d) Preapproval and Evaluation Documentation: By OSHPD or an agency acceptable to authorities having jurisdiction, showing maximum ratings of restraint items and the basis for approval (tests or calculations).
 - e. Coordination Drawings: Show coordination of seismic bracing for HVAC piping and equipment with other systems and equipment in the vicinity, including other supports and seismic restraints.
 - f. Welding certificates.
 - g. Qualification Data: For professional engineer and testing agency.
 - h. Field quality-control test reports.
 7. Miscellaneous: Prior to installation, submit to Construction Supervisor on the job site, two copies of the following:
 - a. Shop Drawings of equipment layouts
 - b. Installation instructions for each piece of mechanical equipment furnished.
 - c. Dimension drawings for mechanical equipment pads and curbs including bolt sizes and locations.
 8. Submittals required by these specifications, include drawings, calculations, brochures, samples, etc. shall be submitted as one package. Partial submittals will be returned unprocessed.
- D. Record Drawings and Operating and Maintenance Books
1. Record Drawings (Refer to Division 1): On completion of work, furnish the Owner through the Architect, with a complete set electronic record drawings and shop drawings which properly reflect the locations of all equipment, fixtures, piping, ductwork, diffusers, mixing boxes, controls, etc., as actually installed. Where necessary to locate concealed

equipment, dimensions, shall be included on these drawings. Maintain a separate set of drawing prints at the job site for such marking of "As-Built" locations. This set shall be updated as the installation work progresses and shall be available to the Architect at job visits. The Contractor shall indicate on the "As-Built" Drawings all deletions in green. Additions, relocations, rerouting and modifications shall be indicated in red.

2. The format shall be AutoCad 2015 or later. A CD with the electronic model will be supplied to the successful bidder for this purpose. Monthly changes shall be made to the drawings on a layer named "record" and the color shall be green. A copy of the model on CD with any "as-built" changes shall be submitted to the Architect along with all payment applications.
3. At the end of the project, the Contractor shall take "as-built" drawings modifying the electronic drawing files to show all changes, modification or additions made during construction. These drawings will become "Record Drawings" to be delivered to the Architect.
4. Final Record Drawings shall include legends, schedules, plans, sections and details.
5. Record Drawings shall be marked on the lower right corner with the following:
 - a. Name of Contractor
 - b. Record Drawings
 - c. Date
 - d. Building Permit Number
 - e. Letter shall be bold and print 1/4 inches high minimum.
6. Contractor shall submit to the Architect, Record Drawings as follows:
 - a. Four CDs (AutoCad 2015 or later)
 - b. One reproducible set of drawings
 - c. Four sets of drawings
7. The Architect will distribute the final Record Drawings as follows:

	OWNER	ARCHITECT	ENGINEER
CDs	1	1	1
Reproducible drawing set	1	0	0
Drawing Sets	1	1	1
8. Delivery of complete set of Record Drawings is one condition for the release of Contractor's final payment under the Contract.

E. Operating and Maintenance Books

1. Operating and Maintenance Books (Refer to Division 1): Provide the Owner through the Architect, operating instructions and maintenance data books for all equipment and materials furnished under this Division.
2. Submit five copies of operating and maintenance data books to the Architect for review two weeks before final inspection of the project. Assemble data in a single complete indexed volume and identify the size, model and features indicated for each item, as follows:

- a. Identification readable from the outside of the cover, stating "Heating, Ventilating and Air Conditioning and/or Plumbing and/or Fire Protection Installation. Owner, by (name of company)."
- b. Neatly typewritten index near the front of the manual, furnishing immediate information as to location in the manual of emergency data regarding the installation.
- c. Complete instructions regarding the operation and maintenance of all equipment involved.
- d. Complete nomenclature of replaceable parts, their part numbers, current cost and name and address of the nearest vendor of replacement parts.
- e. Valve identification table keyed to valve I.D. number (e.g. V-1) on brass tag attached to each valve. Table shall indicate type of valve, product or service (e.g. domestic cold water), and function (e.g. shut-off, balancing, etc.).
- f. Copy of guarantees and warranties issued on the installation showing dates of expiration.
- g. Copy of the Air and Water Balancing Reports.

1.10 EXPLANATION AND PRECEDENCE OF DRAWINGS

- A. For purpose of clearness and legibility, the drawings are essentially diagrammatic although size and location of equipment is drawn to scale wherever possible. The Contractor shall make use of data in contract documents and shall verify this information at building site.
- B. Attention is called to the inclusion of flow diagrams, riser diagrams and details. Diagrams are not for the purpose of giving physical dimensions or locations, but rather to clarify sizes and the interconnections of the piping and of the various units of the process.
- C. Other drawings of the contract set are hereby made a part of these specifications and shall be consulted by the Contractor and his work adjusted to meet the installation conditions.
- D. Drawings indicate required size and termination of pipes and ducts and suggest proper routes of piping and duct to conform to the structure, to avoid obstructions and to preserve clearance. However, it is not the intention to indicate necessary offsets and it shall be the responsibility of the Contractor, under this section, to install ductwork and piping in such a manner as to conform to structure, avoid obstructions, preserve headroom, keeping openings and passageways clear, and make equipment requiring inspection, maintenance and repair accessible without further instructions or extra cost to the Owner.
- E. Changes in location on piping, apparatus and equipment as indicated on the drawings shall be made to meet the architectural and structural conditions as required and acceptable to the Architect. Changes in work which has not been installed shall be made by Contractor without additional compensation, except changes which are caused by architectural and structural changes which increase the lengths of pipe or duct runs.
- F. Contractor shall coordinate with other trades so that no interferences shall occur, as no extras will be allowed for changes made necessary by interferences with the work between trades.

- G. CAD files plots and reproductions for this project are the property and instruments of service of dHA+CALPEC. dHA+CALPEC reserves and retains copyright authority, privileges and rights.
1. Upon request and subject to some limitations dHA with their client's approval, may allow contractors and/or vendors to acquire and use copies of the electronic media file data for preparation of:
 - a. Fabrication of shop drawings for this project.
 - b. Submittals pertaining to this project.
 - c. Record documents.
 2. Applicable limitations include:
 - a. The Contractor or vendor acquiring these files agrees to hold harmless dHA the Architect and Owner from liability and/or damages resulting from their use.
 - b. The Contractor or vendor acquiring these data files assumes full responsibility for their use and for the correctness of any information or features contained therein.
 - c. dHA does not warranty, (explicit or implied) the accuracy of the building backgrounds, or dimensions or features contained therein.
 - d. Usage is limited to this specific project and the specific acquirer.
 - e. The files are released solely for the convenience of the contractor or vendor acquiring same and CAD files may not be transferred to third parties without written prior approval.
 - f. dHA shall remove seals, proprietary identification, etc.

1.11 COMPLETE PERFORMANCE OF WORK

- A. Practices of the Trades: Work shall be executed in strict accordance with the best practice of the trades by competent workmen.
- B. Complete Functioning of Work: Labor, materials, apparatus, and appliances essential to the complete functioning of the systems described and/or indicated, or which may be reasonably implied as essential, whether mentioned in these contract documents or not, shall be furnished and installed by the Contractor. In cases of doubt as to the work intended, or in the event of need for explanation thereof, the Contractor shall call upon the Architect for supplemental instructions.
- C. Work not shown in complete details shall be installed in conformance with accepted standard practice.

1.12 CONTROL AND OBSERVATION

- A. The Architect and Owner shall have the right to reject materials or workmanship, which in their opinion are not in accordance with this contract, to interpret contract provisions and the meaning of the drawings and specifications. The above named parties shall be allowed access to the work for observation at all times.

- B. Defective work or work contrary to the contract documents may be rejected without regard to state of completion, even though said work has been accepted as a result of a previous observation.

1.13 APROVALS

- A. Electrical equipment shall meet the listing requirements and bear a minimum of one of the following agency labels:
 1. Underwriter's Laboratories (UL)
 2. Electrical Testing Laboratories (ETL)
- B. No equipment will be accepted on the jobsite without prior written approval.

1.14 GUARANTEES

- A. In addition to specific guarantees mentioned in these specifications, the Contractor shall leave the entire installation in complete working order and free from defects in materials, workmanship or finish. Contractor shall repair or replace at his own expense work or parts of work that may develop defects due to faulty material or workmanship during the tests and within a period of one year after the work is accepted by the Owner. Contractor shall guarantee also to repair or replace with like materials existing work of the building or equipment, which is damaged during the repairing of such defective apparatus, materials or workmanship. The signing of the contract for his work covered by these specifications and of which they shall become a part, shall become a written guarantee on the part of the Contractor to carry out the provisions of this section of these specifications.

1.15 SEISMIC RESTRAINT QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.
- B. Comply with seismic-restraint requirements in the CBC unless requirements in this Section are more stringent.
- C. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- D. Seismic-restraint devices shall have horizontal and vertical load testing and analysis and shall bear anchorage preapproval OPA number from OSHPD, preapproval by ICC-ES, or preapproval by another agency acceptable to authorities having jurisdiction, showing maximum seismic-restraint ratings. Ratings based on independent testing are preferred to ratings based on calculations. If preapproved ratings are not available, submittals based on independent testing are preferred. Calculations (including combining shear and tensile loads) to support seismic-restraint designs must be signed and sealed by a qualified professional engineer with at least five years of seismic design experience.

1.16 DAMAGE BY LEAKS

- A. During the time period from the date of contract until termination date of this guarantee, the Contractor shall be responsible for damages to the ground, walls, roads, building, piping systems, electrical systems, heating, ventilating and air conditioning systems, building equipment, furniture and other building contents caused by leaks in the piping systems or equipment being installed or having been installed by him. Repair work shall be done as directed by, in a manner satisfactory to the Owner at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Standard of Quality: Materials and equipment shall be new and in good condition. The commercially standard items of equipment and the specific names mentioned in sections of Division 22 & 23 are intended to establish the standards of quality and performance necessary for the proper functioning of the mechanical work.
- B. Variations: Since manufacturing methods vary, reasonable minor equipment variations are expected; however, performance and material requirements are minimum. The Architect retains the right to judge equality of equipment that deviates from the specifications.
- C. Symbols are for identification. Symbols, capacities, sizes, and electrical characteristics are indicated on the drawings. Contractor shall make necessary provisions for installation of his equipment and for attaching or connecting his work to other trades.

2.2 FLASHINGS

- A. Make pipes and vents passing through roof or outside wall waterproof with flashings and storm collars or counter flashings.
- B. Except as otherwise noted or required, extend vent pipes passing through roof at least 12 inches above finished roofline.
- C. Furnish and install on each pipe passing through the roof a galvanized sheet metal flashing assembly with eight-inch skirt.
- D. Ductwork penetrating roof or exterior walls shall be flashed and counter flashed with galvanized sheet metal.
- E. Furnish and install on each pipe passing through the roof a six-pound seamless lead flashing assembly with eight-inch skirt. Flashing shall have steel reinforced conical boot and be complete with open top cast iron counter flashing and permaseal waterproofing compound. For sanitary vent, provide a hood with a minimum 2 to 1 free area to vent pipe size.

- F. Ductwork-penetrating roof or exterior walls shall be flashed and counter flashed with galvanized sheet metal.

2.3 PIPE SLEEVES

- A. Provide pipe sleeves for mechanical piping.
- B. Size pipe sleeves to permit placing pipe and specified isolation material for pipes passing through concrete or masonry walls or concrete slabs.
- C. Sleeve for pipes through floor slabs standard weight black steel pipe with top of sleeve projecting 3" above finished floor. For waterproof sleeves, use J.R. Smith Fig. 172 or equivalent by Zurn or Josam.
- D. Sleeves for pipes through walls shall standard weight black steel Schedule 40 pipe with ends flush with wall surfaces.
- E. Seal pipes passing through fire rated walls or roofs. Use Dow Corning 3-6548 Silicone RTV Foam in the annular space between pipes and sleeves. Sealant through fire rated walls or roofs shall be rated with the same fire rating as the wall or roof.
- F. Insulated pipe shall be insulated in sleeves, caulked and sealed as above. Use type CS-CW inserts as manufactured by Pipe Shields, Inc.
- G. Pipes passing through exterior walls and concrete walls shall be sealed watertight with "Linkseal" as manufactured by Thunderline Corp. Method of installation as recommended by the manufacturer.

2.4 PIPE ISOLATORS AND COVERING PROTECTION

- A. Pipe isolators: Provide each hanger or clamp for un-insulated piping with an isolation material, having metal backing, to isolate sound vibration and electrolysis. Provide Elcen "Isolator or appeared equal." Isolator not required for fire protection automatic sprinkler piping, waste, vent and natural gas piping.

2.5 ELECTRIC MOTORS

- A. Horizontal mounted fan and pump motors (close coupled excepted) shall be of the "Premium" efficiency type. Provide General Electric "Energy Saver," Westinghouse "Tee 11", U.S. Motors, "XB", Baldor "Super E", "Lincoln" "Ultimate EI" motors or approved equal unless otherwise specified. Guaranteed minimum full load efficiencies shall be certified in accordance with Institute of Electrical and Electronic Engineers (IEEE) Standard 112 Test Method B, National Electric Manufacturers' Association (NEMA) MG-1-12.53a, and shall meet or exceed the following minimum criteria:

GUARANTEED MINIMUM FULL-LOAD NOMINAL EFFICIENCY		
MOTOR	OPEN MOTORS	ENCLOSED MOTORS

HORSEPOWER	1,200 rpm	1,800 rpm	3,600 rpm	1,200 rpm	1,800 rpm	3,600 rpm
1	80.0	82.5	--	80.0	82.5	75.5
1.5	84.0	84.0	82.5	85.5	84.0	82.5
2	85.5	84.0	84.0	86.5	84.0	84.0
3	86.5	86.5	84.0	87.5	87.5	85.5
5	87.5	87.5	87.5	87.5	87.5	87.5
7.5	88.5	88.5	87.5	89.5	89.5	88.5
10	90.2	89.5	88.5	89.5	89.5	89.5
15	90.2	91.0	89.5	90.2	91.0	90.2
20	91.0	91.0	90.2	90.2	91.0	90.2
25	91.7	91.7	91.0	91.7	92.4	91.0

1. 1/2-Hp and Larger: 460-Volt, 3-phase, 60-Hertz.
2. Smaller than 1/2-Hp: 115-Volt, 1-phase, 60-Hertz.

B. General:

1. Motors shall be started across the line unless otherwise specified. Motors shall be selected with low starting current and shall be designed for continuous duty to provide the running torque and pull-in-torque required to suit the load. Unless otherwise specified, all motors shall be single speed –1750 rpm.
2. Motors shall have standard drip-proof enclosure unless otherwise specified.
3. Motors exposed to weather shall be of the totally enclosed fan-cooled type.
4. Motors shall have a minimum service factor of 1.15. Motors shall be selected to operate at design conditions without exceeding nameplate ratings without operating using the service factor.
5. Motors shall be sealed or field-lubricated in which case the latter shall be provided with grease fittings.
6. Pump motors shall be selected to drive the pump through its characteristic curve, from 0 to 25% above the design flow, without exceeding rated full load nameplate horsepower. Pump motor nameplate rating shall not be exceeded in pump operation anywhere in the pump curve.

C. Three-Phase: Three-phase motors 10-Hp and smaller shall have cast iron or steel housings and shall be of the squirrel cage induction type. Three-phase motors 15-Hp and larger shall have cast iron housings and shall be of the squirrel cage induction type.

D. Single Phase: Single phase motors shall be capacitor-start type having internal thermal overload protection and with starting, pull-in and running characteristics to suit the load.

E. Where motor is an integral part of equipment, motor manufacturer shall be as recommended by the equipment manufacturer. However, all other items shall comply with these specifications.

F. Nameplate: A motor nameplate shall be securely affixed to each motor and shall clearly indicate the class of insulation and the service factor in addition to the usual electrical data.

- G. Special Requirements: Refer to various sections of this Division for special requirement for specific items of equipment requiring motors.
- H. Submittals: Manufacturer's data for equipment requiring motors shall be submitted for review. Indicate the motor manufacturer, motor horsepower, voltage, speed, efficiency, special torque requirements, enclosure and other special requirements.

2.6 MOTOR CONTROLLERS

- A. Where required: In general, motor controllers for motors shall be furnished and installed under Division 16 unless indicated or specified otherwise. A motor controller that is not an integral part of a piece of equipment shall be furnished under this Division and shall be installed in accordance with the following specifications.
- B. General: The motor controller shall be steel mounted. Controllers shall be front wired and terminals shall be accessible for wiring directly from the front. No slate or ebony asbestos shall be permitted on any size controller from size 00 through size 8. Contacts shall be solid silver cadmium oxide alloy. Bare copper or silver flashed contacts shall not be permitted. Operating coils shall be pressure molded and so designed that if accidentally connected to excessive voltage, they will not expand, bubble or melt. When a coil fails under over-voltage condition, the motor controller shall definitely drop and not freeze the contacts in the "on" position.
- C. Overload Relays: Overload relays shall be furnished for all three phases and shall be of the hand-reset variety so that blocking the reset mechanism in the reset position will not prevent the starter from dropping out if the motor is overloaded. This specifically excludes those overload relays which change to automatic reset from hand-reset when the reset mechanism is blocked unless the automatic reset feature can be removed or voided. Accidental depressing of the reset button or mechanism shall not shut off the motor. Overload relays shall not be field convertible from hand to automatic reset type.
- D. Interlocks: Provide space to field-add one or more extra N.O. or N.C. interlocks to all (except size 00) motor controllers without removing existing wiring or removing the controller from its enclosure.
- E. Bulletin Numbers: A full voltage magnetic motor controller to be furnished under this Division shall be similar and approved equal to Allen-Bradley (AB) Bulletin Numbers as follows:
 1. Individual three phase motor controller – AB Bul. 709.
 2. Individual single phase motor controller – AB Bul. 709SP.
 3. Combination three phase motor controller with fusible or nonfusible disconnect switch –AB Bul. 712.
 4. Combination three motor controller with circuit breaker –AB Bu. 713.
 5. Individual three multi-speed motor controller for two speed, single or two winding motors – AB Bul. 716.
 6. Combination three phase multi-speed controller with circuit breakers for two speed, single or two winding motors –AB Bul. 717.

- F. NEMA Type: In general, motor controller enclosures shall be NEMA Type 1 general purpose unless exposed to the weather or otherwise indicated on the drawings. A motor controller including variable frequency drives exposed to the weather shall have NEMA Type 3R watertight enclosure.
- G. Holding Coils: General holding coils in full voltage magnetic motor controllers shall be suitable for use on 120-VAC control voltage.
- H. Overload Protection: Three phase full voltage magnetic motor controller shall be suitable for use on 120-VAC control voltage.
- I. Manual Controllers: Manual motor controllers where indicated on the drawings, required and/or specified shall be similar and equal to Allen Bradley Bul. 600 in NEMA Type 1 enclosure or otherwise required for the location of the installation.
- J. Accessories: Motor controllers shall be provided with accessories such as control power transformers, push buttons, selector switches, pilot lights, etc., as indicated on the drawings and as specified herein. In general, most motor controllers shall include a maintain-contact start-stop button or run switch.
- K. Manufacturer: Allen-Bradley or approved equal.

2.7 BELT DRIVES AND GUARDS

- A. Belt Driven Equipment: Provide with V-belt type, adjustable-pitch driving sheaves for up through 25-Hp motors. Motors 30-Hp and above shall have fixed pitch. Provide additional drive changes for motors when necessary to meet specified CFM for final air balance (one change minimum) at no additional cost to owner.
- B. Drives: Minimum horsepower rating of 1.5 times motor nameplate horsepower.
- C. Sheaves: Cast iron machined and balanced and keyed to shaft and locked with Allen type set screws.
- D. Pitch Diameters: Minimum 3-inch for A section belts, minimum 5-inch for B section belts.
- E. Guards: Provide belt drives with guards per OSHA requirements, metal construction, with angle iron framework with 1/2-inch expanded metal front panels and removable section held in place with studs and wing nuts for easy replacement of belts. Provide openings at shaft ends for tachometer readings.

2.8 ESCUTCHEONS

- A. Provide heavy chrome-plated or nickel plated plates or approved pattern on pipe passing through floors, walls and ceilings in finished areas. Escutcheons shall be chrome-plated steel plates with concealed hinges and setscrew. Pattern shall be approved by the Architect.

2.9 ACCESS COVERS AND ACCESS DOORS

- A. Access covers and doors locations shall coordinate with Architect.
- B. Provide access door over concealed mechanical valves, controls, duct coils, dampers, fire dampers, pipe chases, concealed mechanical equipment through fire rated walls and ceilings.
- C. Provide access doors for access to mechanical equipment valves.
- D. Provide rated access covers or doors when required by the ceiling and wall fire rating.
- E. Access Doors – Walls and ceilings:
 - 1. Type: Flush or recessed panel.
 - 2. Size: Minimum 12 x 12-inch nominal door for hand access, minimum 16 x 20-inch nominal door for personal access.
 - 3. Location and style:

Masonry/concrete walls	Milcor "M" Standard
Gypsum wallboard walls and ceilings	Milcor "M" Standard
Plastered surfaces (except toilet walls)	Milcor "K" Standard
Tile/terrazzo/toilet room walls (with casing bead stainless)	Milcor "M" Standard
Acoustical tile (check type of ceiling system)	Milcor "A"
General areas	Milcor "M" Standard
Fire rated shafts, rated walls and ceilings	Milcor "B" Standard
 - 4. Material:
 - a. Stainless Steel, No. 302 with No. 4 finish.
 - b. Standard manufacturer's standard construction and finish for type specified.
 - 5. Locking:
 - a. Screwdriver: Flush screwdriver operated with case hardened cam.
 - 6. Acceptable Manufacturers Milcor, Zurn, Miami, Carey, Potter-Roemer.

2.10 SEISMIC-RESTRAINT DEVICES

- A. Basis-of-Design Product and Systems: Subject to compliance with requirements, provide Mason Industries or a comparable product by one of the following:
 - 1. International Seismic Application Technology
 - 2. Kinetics Noise Control
 - 3. Loos & Co.; Cableware Division
 - 4. Mason Industries
 - 5. TOLCO Incorporated; a brand of NIBCO INC.

- B. Provide seismic restraints and seismic bracing equipment and systems as described in Part 3 and the Mason Industries Seismic Restraint Guidelines for acceptable restraint methods and OSHPD approved details.
- C. Seismic Restraint Types
1. Type II: Resilient Seismic Snubber. Mason Z-1011. Each corner or side of equipment base shall incorporate a seismic restraint having a minimum of 5/8-inch thick, all directional resilient pad limit stop. Restraints shall be fabricated of plate, structural members or square metal tubing. Angle bumpers are not acceptable.
 2. Type III: Cable or Brace Restraint. Mason SCB and SSB. Multiple metal cable or steel strut type with approved fastening devices to equipment and structure. System to be field bolted to deck or overhead structural members using two sided beam clamps or appropriately designed inserts for concrete.
 3. Type IV: Spring Neoprene Hanger. Mason 30N. Double deflection neoprene isolator min. 0.15-inch encased in ductile iron or steel casing.
 4. Type V: Non-isolated equipment shall be field bolted or welded (powder shots not acceptable) to the structures as required to meet seismic forces. Bolt diameter, imbedment data, and/or weld length must be shown in certified calculations as noted above.
- D. General Requirements for Restraint Components: Rated strengths, features, and applications shall be as defined in reports by OSHPD or an agency acceptable to authorities having jurisdiction.
1. Structural Safety Factor: Allowable strength in tension, shear, and pullout force of components shall be at least four times the maximum seismic forces to which they will be subjected.
- E. Snubbers: Factory fabricated using welded structural-steel shapes and plates, anchor bolts, and replaceable resilient isolation washers and bushings.
1. Anchor bolts for attaching to concrete shall be seismic-rated, drill-in, and stud-wedge or female-wedge type.
 2. Resilient Isolation Washers and Bushings: Oil- and water-resistant neoprene.
 3. Maximum 1/4-inch air gap, and minimum 1/4-inch thick resilient cushion.
- F. Channel Support System: Fabricated support assembly made of slotted steel channels with accessories for attachment to braced component at one end and to building structure at the other end and other matching components and with corrosion-resistant coating; and rated in tension, compression, and torsion forces.
- G. Restraint Cables: ASTM A 603 galvanized or ASTM A 492 stainless-steel cables with end connections made of steel assemblies with thimbles, brackets, swivel, and bolts designed for restraining cable service; and with a minimum of two clamping bolts for cable engagement.
- H. Hanger Rod Stiffener: Steel tube or steel slotted-support-system sleeve with internally bolted connections or reinforcing steel angle clamped to hanger rod.

- I. Bushings for Floor-Mounted Equipment Anchor Bolts: Neoprene bushings designed for rigid equipment mountings, and matched to type and size of anchor bolts and studs.
- J. Bushing Assemblies for Wall-Mounted Equipment Anchorage: Assemblies of neoprene elements and steel sleeves designed for rigid equipment mountings, and matched to type and size of attachment devices used.
- K. Resilient Isolation Washers and Bushings: One-piece, molded, oil- and water resistant neoprene, with a flat washer face.
- L. Mechanical Anchor Bolts: Drilled-in and stud-wedge or female-wedge type in zinc-coated steel for interior applications and stainless steel for exterior applications. Select anchor bolts with strength required for anchor and as tested according to ASTM E 488. Minimum length of eight times diameter.
- M. Adhesive Anchor Bolts: Drilled-in and capsule anchor system containing polyvinyl or urethane methacrylate-based resin and accelerator, or injected polymer or hybrid mortar adhesive. Provide anchor bolts and hardware with zinc-coated steel for interior applications and stainless steel for exterior applications. Select anchor bolts with strength required for anchor and as tested according to ASTM E 488.
- N. Factory Finishes
 - 1. Finish: Manufacturer's standard prime-coat finish ready for field painting.
 - 2. Finish: Manufacturer's standard paint applied to factory-assembled and - tested equipment before shipping.
 - a. Powder coating on springs and housings.
 - b. Hardware shall be galvanized. Hot-dip galvanize metal components for exterior use.
 - c. Baked enamel or powder coat for metal components on isolators for interior use.
 - d. Color-code or otherwise mark vibration isolation and seismic-control devices to indicate capacity range.

PART 3 - EXECUTION

3.1 SUPERVISION

- A. The Contractor shall furnish the services of a Superintendent experienced in the work of each section who shall be constantly in charge of the progress of the work, together with all the necessary journeymen, helpers and laborers required to properly unload, erect, connect, adjust, start, operate and test the work involved.

3.2 PROTECTION, CARE AND CLEANING

- A. The premises shall be maintained as required by Division 1.
- B. Materials and Equipment:

1. Effectively protect materials and equipment to be installed on a project against moisture, dirt and damage during the construction period, to the entire satisfaction of the Owner. Special care shall be taken to provide protective and similar equipment that are particularly vulnerable to grit and dirt.
2. Keep interior of ductwork free of dirt, grit, dust, installation and other foreign materials. Do not operate air distribution equipment until building is cleaned and air filters installed in order to prevent soiling of diffusers, ducts, air handling equipment, and buildings. Provide new set of filters after final acceptance of air distribution systems.
3. Drain and flush piping to remove grease and foreign matter. Thoroughly clean out valves, traps, strainers, and demonstrate the cleanliness to the Owner.

3.3 DISPOSITION OF MATERIALS

- A. Refer to Divisions 1 and 2.

3.4 CLEAN-UP

- A. Debris and Rubbish: Remove and transport debris and rubbish in a manner that will prevent spillage on pavement, streets, or adjacent areas. Limits to 3/4-cubic yard capacity buggies or other conveyances used roofs and within the building to transport removed debris. Clean up spillage from pavement, streets and adjacent areas.

3.5 INSTALLATION

- A. General: Inspect the architectural, structural, plumbing, fire protection, special systems and HVAC drawings and specifications to become familiar with the building construction and to coordinate with the work of others.
- B. Piping: Install in strict accordance with manufacturer's written installation instructions and recommendations. Install in a manner that permits expansion and contraction caused by changes in temperature and pressure. Provide additional support as required. Run pipes straight and true, parallel to or at right angles to the building walls. Springing or forcing piping into place will not be permitted.
- C. Fixtures and Equipment: Install in strict accordance with manufacturer's written installation instructions and recommendations. Fixtures (except for handicapped) shall be roughed in only from fixture manufacturer's certified "Rough-In Measurement Drawings" which shall be submitted to the Architect for approval. Handicapped fixtures shall be installed in accordance with 2007 California Building Code rough-in measurements adjusted from manufacturer's certified drawings.

3.6 STAGING AND HOISTING

- A. Provide hoisting equipment, staging scaffold, ladders, barricades, shores or similar facilities required to properly carry out this work in accordance with all safety regulations.

3.7 ENCLOSURES AND BARRICADES

- A. The Contractor shall provide, install and maintain for the duration of the work as required, lawful and necessary barricades and railings, lights, warning signs and signals and shall take other precautions as may be required to safeguard persons, the site and adjoining property, including improvements thereon, against injuries and damages of every nature whatsoever. This requirement applies continuously (24-hours, 7-days a week) for the duration of this contract and is not limited only to regular working hours.

3.8 CONTROL AND INSPECTION

- A. The Architect or Owner shall have the right to reject materials and workmanship which in his opinion are not in accordance with this contract, to interpret contract provisions and the meaning of the drawings and specifications.
- B. The above named parties shall be allowed access to the work for observations at all times.
- C. Defective work contrary to the contract documents may be rejected without regard to state of completion, even though said work has not been rejected as a result of a previous observation.

3.9 SLEEVES, CUTTING AND PATCHING

- A. The Contractor shall be responsible for the sizing and timely placing of sleeves of piping and insulation material passing through walls, partitions, beams, floors and roof while same are under construction. If a pipe is insulated, its pipe sleeve shall be larger than the outside diameter of the insulation around the pipe. Sleeves set in concrete floor construction shall be minimum 20-gage galvanized steel. If holes and/or sleeves are not properly installed and cutting and patching becomes necessary, it shall be done at no expense to the Owner by parties approved by the Architect.
- B. Openings into existing masonry shall be core drilled or saw cut. The Contractor shall undertake no cutting or patching without first securing the Architect's written approval. Where a pipe passes through a sleeve, provide 1/2-inch minimum clearance. No joint of the pipe (or its insulation) shall touch the sleeve. Caulk around such pipe with sufficient layers of 1/8-inch neoprene and seal off opening between pipe and sleeve with non-hardening mastic.
- C. Caulking in fire walls or floors shall be made using a UL listed, fire-rated material. For pipe or conduit penetrations through fire rated floors, walls, partitions, ceilings, etc., provide firestop system complying with the UL "Fire Resistance Directory" for "Through Penetration Firestop Systems" (XHEZ).

3.10 ANCHOR BOLTS

- A. Furnish and install anchor bolts for equipment placed on concrete equipment pads or on concrete slabs. Bolts shall be of the size and number recommended by the manufacturer of the equipment and shall be located by means of suitable templates. When equipment is placed on vibration

isolators, the equipment shall be secured to the isolator and the isolator to the floor, pad, or support as recommended by the vibration isolation Manufacturer.

3.11 LUBRICATION

- A. Where Necessary: Provide means for lubricating bearings and other machine parts. If a part requiring lubrication is concealed or inaccessible, extend a lubrication tube with suitable fitting to an accessible location and identify it.
- B. After Installation: Properly lubricate parts requiring lubrication and keep them adequately lubricated until final acceptance by Owner.

3.12 INSTALLATION OF EQUIPMENT

- A. Floor mounted equipment shall be set on housekeeping pads extending minimum 6-inch beyond sides of the equipment. Housekeeping pads shall be minimum 4-inch high unless otherwise shown on drawings.
- B. Equipment shall be secured in place using fasteners as recommended by SMACNA's Guideline for Seismic Restraints of Mechanical Systems latest edition.
- C. Vibration Isolation: Vibration of motors, fans and other moving machinery shall be effectively isolated to prevent vibration transmission to building. Isolation shall prevent noise transmission through structure and slabs. Equipment shall be set on or suspended from neoprene and steel spring vibration dampeners of proper rating as specified herein, as shown on drawings, or as otherwise required. Fans and motors shall be secured to a common base.

3.13 INSTALLATION OF VALVES

- A. General:
 - 1. Valves shall be full line size unless otherwise noted. Automatic control valves are exempted.
 - 2. Valves shall have proper clearances for handle operation and shall close tight at the specified test pressure.
 - 3. Pump discharge check valves shall be of non-slam type.
- B. Arrangement
 - 1. Valves shall be installed in the systems so located, arranged and operated as to give complete regulation of apparatus, equipment and fixtures.
 - 2. Valves shall be installed for accessibility and easy maintenance.
 - 3. Gate valves shall be installed with stems horizontal to vertically upright.
 - 4. Balance Valves: Install balance valves where shown.
- C. Location:

1. On both inlet and outlet of all apparatus and equipment.
2. For shutoff of branch mains.
3. Where shown on the drawings.
4. Ahead of each automatic control or regulation valve in water lines.

3.14 PIPE SUPPORTS

A. Installation:

1. Securely support piping from building construction with manufactured iron hangers, brackets, trapezes, guides, anchors and sway braces to maintain pipe alignment and prevent sagging, noise and excessive strain due to uncontrolled movement under operating conditions. Auxiliary secondary beams shall be furnished and installed under this division of the specifications wherever necessary to meet the requirements above.
2. Piping supports for each system shall be engineered as a system and the proposed system submitted for review.
3. Relocate hangers as necessary to correct unsatisfactory conditions that may become evident when system is put into operation.
4. Support of piping by wire, rope, wood or other make shift devices will not be permitted.
5. Burning of holes in beam flanges or narrow members will not be permitted.
6. Where calculated maximum travel due to thermal expansion exceeds 1 inch, provide rollers at supports.
7. Piping shall not be supported from roof decking. Furnish and install auxiliary steel members to span steel purlins to distribute the load. Refer to roof shop drawings for location of beams and purlins.
8. Sheet lead, lead wool or wood plugs shall not be accepted as a substitute of cinch anchors as a means of attaching materials and equipment to concrete.
9. Support for insulated pipe shall be outside the insulation. Protect pipe insulation at every hanger, support or guide with inserts and shields. The galvanized sheet shield shall be applied between the hanger or support and the pipe insulation. Provide saddles at all rollers of insulated pipe not equipped with inserts and shields.

3.15 SEISMIC RESTRAINT

A. Examination

1. Examine areas and equipment to receive vibration isolation and seismic and wind control devices for compliance with requirements for installation tolerances and other conditions affecting performance.
2. Examine roughing-in of reinforcement and cast-in-place anchors to verify actual locations before installation.
3. Proceed with installation only after unsatisfactory conditions have been corrected.

B. Applications

1. Multiple Pipe Supports: Secure pipes to trapeze member with clamps approved for application by OSHPD or an agency acceptable to authorities having jurisdiction.
2. Hanger Rod Stiffeners: Install hanger rod stiffeners where indicated or scheduled on Drawings to receive them and where required to prevent buckling of hanger rods due to seismic forces.
3. Strength of Support and Seismic-Restraint Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static and seismic loads within specified loading limits.

C. Seismic Restraint Installation

1. Install seismic restraint devices as necessary to meet AHJ requirements.
2. Equipment Restraints:
 - a. Install seismic snubbers on HVAC equipment mounted on vibration isolators. Locate snubbers as close as possible to vibration isolators and bolt to equipment base and supporting structure.
 - b. Install resilient bolt isolation washers on equipment anchor bolts where clearance between anchor and adjacent surface exceeds 0.125-inch.
 - c. Install seismic-restraint devices using methods approved by OSHPD or an agency acceptable to authorities having jurisdiction providing required submittals for component.
3. Piping Restraints:
 - a. Comply with requirements in MSS SP-127.
 - b. Space lateral supports a maximum of 40-ft on center, and longitudinal supports a maximum of 80-ft on center.
 - c. Brace a change of direction longer than 12-ft.
4. Install cables so they do not bend across edges of adjacent equipment or building structure.
5. Install seismic-restraint devices using methods approved by OSHPD or an agency acceptable to authorities having jurisdiction providing required submittals for component.
6. Install bushing assemblies for anchor bolts for floor-mounted equipment, arranged to provide resilient media between anchor bolt and mounting hole in concrete base.
7. Install bushing assemblies for mounting bolts for wall-mounted equipment, arranged to provide resilient media where equipment or equipment-mounting channels are attached to wall.
8. Attachment to Structure: If specific attachment is not indicated, anchor bracing to structure at flanges of beams, at upper truss chords of bar joists, or at concrete members.
9. Drilled-in Anchors:
 - a. Identify position of reinforcing steel and other embedded items prior to drilling holes for anchors. Do not damage existing reinforcing or embedded items during coring or drilling. Notify the structural engineer if reinforcing steel or other embedded items are encountered during drilling. Locate and avoid pre-stressed tendons, electrical and telecommunications conduit, and gas lines.

- b. Do not drill holes in concrete or masonry until concrete, mortar, or grout has achieved full design strength.
 - c. Wedge Anchors: Protect threads from damage during anchor installation. Heavy-duty sleeve anchors shall be installed with sleeve fully engaged in the structural element to which anchor is to be fastened.
 - d. Adhesive Anchors: Clean holes to remove loose material and drilling dust prior to installation of adhesive. Place adhesive in holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive.
 - e. Set anchors to manufacturer's recommended torque, using a torque wrench.
 - f. Install zinc-coated steel anchors for interior and stainless-steel anchors for exterior applications.
10. Seismic Restraint Application
- a. Floor mounted equipment whether isolated or not shall be snubbed, anchored, bolted or welded to structure to comply with the requirements of these specifications. Calculations that determine that isolated equipment movement may be less than the operating clearances of snubbers (restraints) do not preclude the need for snubbers. Equipment shall be positively attached to the structure.
 - b. Suspended equipment and apparatus shall be two or four point independently braced with Type III restraints, installed taught for non-isolated equipment and slack with 1/2-inch cable deflection for isolated equipment. Suspending rods shall be braced as necessary to restrain against angular motion. VAV Boxes (without fans) attached directly to ductwork on the main supply side shall be considered as ductwork for seismic design purposes. Fan powered VAV boxes shall be considered as equipment.
 - c. Suspended pipe, duct, cable trays, bus duct and conduit shall be restraint Type III or V.
 - d. For trapeze supported piping and conduit, the individual pipes and conduits shall be transversely and vertically restrained to the trapeze support at each restraint location.
 - e. For overhead supported components, overstress of the building structure must not occur. Bracing shall occur from:
 - 1) Flanges of structural beams
 - 2) Upper truss chords in bar joists.
 - 3) Cast in place inserts or drilled and shielded inserts in concrete structures.
 - f. Pipe Risers
 - 1) Where pipes pass through cored holes, core diameters shall be a maximum of 2-inch larger than pipe O.D. including insulation. Cored holes must be packed with resilient material or firestop as specified in other sections of this specification and/or state and local codes. No additional horizontal seismic bracing is required.
 - 2) Non-isolated, constant temperature pipe risers through cored holes require a riser clamp at each floor level on top of slab attached in a seismically approved manner for vertical restraint.

3) Isolated and/or variable temperature risers through cored holes require Type K riser resilient Guides and Anchors installed to meet both thermal expansion and seismic acceleration criteria. Each floor level shall have either a riser clamp that does not interfere with the thermal expansion/contraction of the pipe or a riser clamp/cable assembly (also non-interfering) capable of supporting the weight of the pipe between floors in the event of pipe joint failure. Riser guides and anchors shall also be selected to serve as seismic restraints.

- g. Non-isolated floor or wall mounted equipment and tanks shall use restraint Type III or V.
- h. Where base anchoring of equipment is insufficient to resist seismic forces, restraint TYPE III shall be located above the component's center of gravity to suitably resist "G" forces specified. Vertically mounted tanks and upblast tubular centrifugal fans, tanks, or similar equipment, may require this additional restraint.
- i. A rigid piping system shall not be braced to dissimilar parts of building on two dissimilar building systems that may respond in a different mode during an earthquake. Examples: Wall and roof; solid concrete wall and a metal deck with lightweight concrete fill, pipes, duct, conduit, etc., crossing a building expansion joint.

D. Exclusions From Seismic Restraint Requirements

- 1. With the exception of life safety components, certain components do not require seismic restraints.
- 2. The exclusions from seismic restraint requirements DO NOT apply for Life Safety Components as follows:
 - a. Piping: Fire protection, fuel oil, gasoline, natural gas, medical gas, compressed air, medical piping or piping that contains hazardous or corrosive materials that is 1-inch nominal diameter and larger.
 - b. Duct: Smoke evacuation duct or fresh air make-up connected to emergency system
- 3. With the exception of life safety components, the following items do not require seismic restraints:
 - a. Curb mounted mushroom, exhaust and vent fans with curb area less than nine square feet in cross sectional area.
 - b. Square or rectangular duct with less than 6-ft² cross sectional area.
 - c. Round air handling duct less than 28-inch in diameter.
 - d. Duct supported at locations by two rods less than 12-inch in length from the structural support to the structural connection at the ductwork with positive attachment to the structure.
 - e. Piping less than 2-1/2-inch diameter.
 - f. Clevis or trapeze supported piping suspended by hanger rods less than 12-inch in length (6-inch or less for fire sprinkler piping) with positive attachment to structure.

E. Accommodation Of Differential Seismic Motion

1. Install flexible connections in piping where they cross seismic joints, where adjacent sections or branches are supported by different structural elements, and where the connections terminate with connection to equipment that is anchored to a different structural element from the one supporting the connections as they approach equipment. Comply with requirements in Division 15 Sections HVAC, Plumbing, and Medical Gas for piping flexible connections.

F. Field Quality Control

1. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
2. Perform tests and inspections.
3. Tests and Inspections:
 - a. Provide evidence of recent calibration of test equipment by a testing agency acceptable to authorities having jurisdiction.
 - b. Schedule test with Owner, through Architect, before connecting anchorage device to restrained component (unless post connection testing has been approved), and with at least seven days' advance notice.
 - c. Obtain Architect's approval before transmitting test loads to structure.
 - d. Provide temporary load-spreading members.
 - e. Test at least four of each type and size of installed anchors and fasteners selected by Architect.
 - f. Test to 90% of rated proof load of device.
 - g. Measure isolator restraint clearance.
 - h. Measure isolator deflection.
 - i. Verify snubber minimum clearances.
 - j. If a device fails test, modify installations of same type and retest until satisfactory results are achieved.
4. Remove and replace malfunctioning units and retest as specified above.
5. Prepare test and inspection reports.
 - a. Upon completion of installation of seismic restraint devices, a certification report prepared by the manufacturer shall be submitted in writing to the contractor indicating that systems are installed properly and in compliance with the specifications. The report must identify those areas that require corrective measures or certify that none exists. Field coordination changes to the originally submitted seismic restraint designs must be clearly defined and detailed in this report.

G. Adjusting

1. Adjust isolators after piping system is at operating weight.
2. Adjust limit stops on restrained spring isolators to mount equipment at normal operating height. After equipment installation is complete, adjust limit stops so they are out of contact during normal operation.
3. Adjust active height of spring isolators.
4. Adjust restraints to permit free movement of equipment within normal mode of operation.

H. Demonstration

1. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain air-mounting systems. Refer to Division 01 Section "Demonstration And Training."

3.16 IDENTIFICATION OF EQUIPMENT, DUCTWORK, PIPING AND VALVES

- A. Equipment Labels: Equipment furnished and installed under this section shall be provided with manufacturers metal labels securely attached to each individual piece of equipment and showing complete and comprehensive performance characteristics, size, model, serial number etc.
- B. Name Plate: Install engraved Bakelite nameplates with 1/4-inch high white letters for equipment, switches, controls, room stats, damper motors, indicating zones, etc.
- C. Valves shall have tags attached with "S" mounting. Tags shall be at least 1-1/2-inch in diameter. Tags shall be stamped with valve I.D. number (e.g. V-1) and be keyed to valve identification table submitted as part of the Operating Instruction and Maintenance Manuals.
- D. Dampers: Mark volume dampers above new or existing ceilings by attaching a bright yellow 12-inch length strip of cloth attached to damper rod. Groove ends of shafts to indicate open and closed position.
- E. Piping exposed to view shall have color coded markers as to type of use, service, and direction of flow in accordance with the latest edition of ANSI A 13.1. Locate markers at each valve, at entries to walls, and on 20-ft centers on straight runs of pipe. Provide a flow arrow at each identification marker. Labels or markers shall be made of plastic sheet with pressure sensitive adhesive suitable for the intended application.
 1. Color Coding for Labels and Bands by Hazard Classification:
 - a. Dangerous Materials – Yellow:
 - 1) Natural Gas – yellow with black letters
- F. Nameplate designations shall correspond to the identifications on the "Record Drawings."
- G. Submit to the Architect for approval a list of items to be tagged within two weeks after award of the Contract.

3.17 CLEANING

- A. Equipment, piping, ductwork, and related valves and appurtenances, etc. Clean so as to remove rust, scale, plaster or internal obstructions before covering is installed or piping or equipment is painted. No scarring or disfiguring of equipment, piping, etc. will be acceptable before covering or painting is applied.
- B. Painted Work: Parts of the work, which are to be painted or which are exposed in the finished work shall be thoroughly cleaned and made ready to receive paint finish.

- C. Exposed Equipment: The exposed parts of equipment shall be cleaned, oil and grease removed, and the bright parts left clean and polished.
- D. Completion: Upon completion of the work, the Contractor shall remove rubbish, debris and surplus materials, resulting there, from the premises together with test instruments, and equipment and shall leave the site in a neat, clean and acceptable condition as approved by the Architect.

3.18 FLUSHING OF PIPE SYSTEMS

- A. Entire pipe systems shall be flushed and cleaned of foreign matter before they are placed in service. The length and number of flushing cycles shall be governed by the complexity of the system, but in no case less than two cycles.
- B. Flushing shall be performed using a similar media that is to be carried by the piping system. (Example: Cold water piping – water; etc.)
- C. Where pipe strainers have been designed or installed into the piping network, said strainers shall be opened and strainer baskets removed and cleaned several times during the flushing of the system.
- D. Chemical Cleaning: For chemical cleaning of closed circuit systems see Section 15500.

3.19 CORROSION PROTECTION

- A. Protective coverings for underground steel piping shall be installed in strict accordance with manufacturer's written installation instructions.
- B. Testing: Covered pipe shall be tested with high voltage holiday tester in the presence of Architect prior to backfilling all holidays shall be repaired and retested.
- C. Plastic sleeves, rubber seals, or other dielectric material shall be used to isolate piping from the building structure where steel piping penetrates concrete floor slabs or walls.

3.20 PAINTING

- A. Painting:
 - 1. Finish painting of mechanical equipment shall be as specified in Division 9, unless otherwise specified in Division 15.
 - 2. Equipment shall be provided with factory applied prime finish, unless otherwise specified.
- B. Touch-Up: If the factory finish on any equipment furnished by the Contractor is damaged in shipment or during construction of the building, the equipment shall be refinished by the Contractor to the satisfaction of the Architect.

- C. Concealed Materials: Uncoated cast iron or steel that will be concealed or will not be accessible when installations are completed shall be given one heavy coat of black asphalt before concealment.

3.21 ELECTRICAL WORK

- A. Furnish electrical interlock wiring diagrams and complete sequences of operation for equipment specified in Division 16 that must interface with other electrical, mechanical, or control equipment. These diagrams shall be submitted to both the mechanical, and electrical engineers for review and coordination.
- B. Furnish any additional line or low voltage, mechanical and control system wiring and conduit required over and above that specified in Division 16 as required for complete and functional systems is hereby specified in this Division in complete conformance with the requirements outlined in Division 16 at no additional cost to the Owner.

3.22 PENETRATIONS

- A. Duct and pipe penetrations of ceilings shall be sealed air tight with silicone caulking prior to installation of escutcheon rings.
- B. Duct and pipe walls or slab penetrations shall be sealed using a UL listed fire rated material.

3.23 PRELIMINARY OPERATIONS

- A. Should the Owner require that any portion of the system or equipment be operated prior to the final completion and acceptance of the work, the Contractor shall furnish such operation. The expense thereof will be paid, by the Owner separate and distinct from any money paid on account of the contract.
- B. For such preliminary operation, payment shall not be construed as final acceptance of the work of this contract.

3.24 OPERATING INSTRUCTIONS

- A. The Contractor shall provide the services of a competent Operating Engineer to supervise the operation of equipment specified herein and to instruct the Owner's operators during a three day operating period. The operating instruction period shall be defined as straight time working hours and shall not include nights and weekends.
- B. The Owner shall be notified in writing at least five days before each operating instruction period begins. The Owner must indicate acceptance of the instructional starting time in writing to the Contractor. Upon arrival, the various instructors shall report to the Owner.

3.25 TESTS

- A. Tests must be performed and systems approved prior to painting, covering, insulating, furring or concealing piping.
- B. Provide test equipment, instrumentations and labor in conjunction with tests.
- C. Prior to test, protect or remove control devices, air vent and other items, which are not designed to stand pressure used in test.
- D. Accomplish testing of piping in section so as not to leave a portion of pipe or joint untested.
- E. Obtain prior approval for test procedure.
- F. Responsibility for Damages: Contractor shall pay for costs for repair and restoration of work of other trades damaged by tests or cutting done in connection with tests.

3.26 REPAIRS AND RETEST

- A. Refer to related sections.
- B. Make other adjustments, repairs and alterations required to meet specified test results.
- C. Correct defects disclosed by tests or inspection; replace defective parts.
- D. Use only new materials in replacing defective parts; in case of pipe, replace with same length as defective piece.
- E. Repeat tests after defects have been corrected and parts replaced, until pronounced satisfactory.

3.27 MECHANICAL SYSTEMS STARTING

- A. Start-up all operating systems provided under Division 23.
- B. Demonstration of all operating systems provided under Division 23, including, but not limited to:
 - 1. Duct Heaters
 - 2. Control System
- C. Sequencing: Conduct demonstrations only after systems have been through start-up procedures, systems are complete and operating and operating maintenance data is complete.
- D. Verification of Conditions:
 - 1. Existing conditions: Examine preceding work to ensure that systems are operational.
 - 2. Verify with Division 26 contractor:
 - a. Temporary services are disconnected and permanent utility services are capable of full loan.

- b. Connections in main switchgear and subpanels are tight.
- c. Necessary tests and check meter readings have been made.
- 3. Mechanical:
 - a. Specified tests on piping systems have been made.
 - b. Specified cleaning of piping systems has been completed.
 - c. Piping: Conformance with drawings, specifications, and ANSI B31.1. Replace or correct work rejected because of defects or nonconformance with drawings, specifications and ANSI B31.1.
 - d. Operational and performance tests have been made.
 - e. Each piece of equipment comprising part of system has been checked for proper control sequence, and any other condition which may cause damage to equipment or endanger personnel.
 - f. Verify heating and/or cooling equipment cool and heat as controller requests.
 - g. Verify integrity of wiring.
 - h. Verify sensors are provided and in correct location.
 - i. Verify range of each device and check software is compatible sensor calibration.
 - j. Test voltage on each input and output.
 - k. Test start/stop points to verify correct equipment operates.
 - l. Verify sequence of operation.
 - m. Check sensor calibration.

E. Submit testing plan for review prior to testing. Indicate order of procedure, list items will be tested and order of testing show where controllers and devices are located.

F. Provide report indicating equipment operated properly and as per sequence of operation.

3.28 START-UP TESTING

- A. Notification: Notify owner at least two days in advance of start-up of mechanical systems.
- B. Start-up and Testing: Conduct start-up and start-up testing in presence of owners. See applicable Division 15 Sections for specific requirements.
- C. Lubrication: Field check and field lubricate equipment requiring lubrication prior to initial operation.
- D. Code Authorities: Complete tests required by code authorities including smoke detection, fire protection and health codes.
- E. Control Systems: Ensure control systems are fully operational in manual and automatic modes.
- F. Test equipment before and after installation as applicable where necessary to determine compliance with specifications.

- G. Start-up and Testing: Conduct start-up and start-up testing in presence of Owner. See applicable Division 15 Sections for specific requirements.
 - 1. Periodically clean various strainers during initial operation until no further accumulation of foreign materials occurs. Exercise care so minimum loss of water occurs when strainers are cleaned.
 - 2. Adjust safety and automatic control instruments as necessary to place them in proper operation and sequence.
- H. Field Tests: Subject the work of Division 15 to necessary field tests after installation and before acceptance.
 - 1. Make proper corrections, repairs and replacements should tests reveal evidence of malfunction. Repeat tests until proper and successful operation is achieved.
 - 2. If final control settings and adjustments cannot be properly made to performance tests because of time of year, make field tests as first seasonal use of systems following completion of project.
- I. Cleaning and Adjusting: After test runs have been completed and systems have been demonstrated to be satisfactory and ready for permanent operation. Clean permanent pipeline strainers properly adjust valve and pump packings, secure drive guards in place, check lubrication and replenish if required.
- J. Protection: If systems are not to continue in use following start-up procedures, take steps to ensure against accidental operation or operation by unauthorized personnel.
- K. Instruct Owner's representatives once on proper operation and maintenance of mechanical systems. Include seasonal concerns and operations.
- L. Systems: Mechanical systems provided under Division 23. See applicable Division 23 Sections for additional requirements.
- M. Contractor's Representatives: Have thorough knowledge of particular installation and system.
- N. Manufacturer's Representatives: Have thorough understanding of each particular equipment and system.
- O. Scheduling: Arrange and schedule demonstration times with Owner.
- P. Location: Conduct demonstrations at Project including tours of systems.
- Q. Operating and Maintenance Date: Arrange for data to be at demonstrations. Include review of data at demonstrations.
- R. Time Allotment: Provide demonstration periods of following minimum time periods:
 - 1. Water Systems: 8 hours (HVAC) for each system.
- S. Control Systems: 8 hours for each system.

3.29 COMPLETION DATE AND TESTING OF MECHANICAL SYSTEMS:

- A. Final Acceptance Tests shall be sufficiently in advance of the contract completion date to permit the execution before that expiration of the contract of any adjustments and/or alterations, which the final acceptance tests indicate as necessary for the proper functioning of equipment.
 - 1. Modifications shall be completed within the number of days allotted for completion of the contract. Retests shall not relieve the Contractor of completion date responsibility.
- B. Starting and Operation: Before starting or operating equipment of systems, make through check to determine that the systems have been flushed and cleaned as required and equipment has been properly installed, lubricated and serviced. Notify owner at least three days in advance of starting these tests.

3.30 FINAL REVIEW

- A. Date and Time: At a time designated by the Owner, the entire system shall be reviewed by the Architect. The Contractor shall be present at this review.
- B. System Operation: The system shall be operating properly within water and air volumes balanced and all temperature controls adjusted. Labels shall be removed from the plumbing fixtures, and the fixtures shall be cleaned and in operating condition. Air and Water Balance Report shall be submitted to the Owner.
- C. Documentation: Certificates and documents required herein shall be in order and presented to the Architect at least two weeks prior to the review.
- D. Changes and Corrections: After the review, changes or corrections noted by the Architect as necessary for the work to comply with these specifications and the drawings shall be accomplished without delay in order to secure final acceptance to the work.

END OF SECTION

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SECTION 23 60 00 - HEATING, VENTILATION AND AIR CONDITIONING**PART 1 - GENERAL****1.1 SECTION INCLUDES**

- A. Section 23 05 00, "Common Work Results for Mechanical" applies to the work of this Section.
- B. The work listed or required by this section of the specifications is not intended to limit or establish the extent of the Heating, Ventilating and Air Conditioning work. The General Contractor shall be responsible for determining the extent of work to be done under a subcontract.

1.2 DESCRIPTION

- A. Work Included: The work includes the furnishing of all labor, materials, appliances and tools necessary for the installation, in complete working order, of the Heating, Ventilating and Air Conditioning System as herein specified and as indicated on the drawings. The items of work shall include, but shall not be limited to, the following principal items:
 - 1. Equipment including exhaust fan, etc., as indicated on the drawings.
 - 2. Air distribution system, including ductwork, diffusers, registers, dampers, etc.
 - 3. Insulation for ductwork.
 - 4. Miscellaneous hangers, supports, sleeves, inserts, isolators, flexible connections, seismic bracings, and other auxiliary equipment for all systems under this section.
 - 5. Equipment identification, operations and maintenance instructions.
- B. All apparatus, piping, ductwork, etc. shall be installed and interconnected so as to form complete systems.
- C. Testing, adjustment and balancing of air systems.
- D. Measurement of final operating condition of HVAC Systems.
- E. Provide one eight-hour day of instructional time to Owner's maintenance of personnel by Contractor's start-up mechanic.
- F. All other work herein specified and shown on the accompanying drawings, including addendum, change orders and approved shop drawings.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Work designated on drawings to be installed or performed by other sections of the specifications.

- B. Motor starters shall be furnished and installed under Division 16 of the specifications, unless otherwise specified or shown. See equipment paragraphs, this section for packaged equipment to be furnished with starters.
- C. Finish painting of equipment, piping and ductwork shall be under Painting Section, except as noted otherwise.
- D. Equipment foundations, curbs or equipment pads as provided under the Concrete Section or Structural Steel Section. Coordinate exact foundation sizes and elevations and anchor bolt sizes and locations.

1.4 EQUIPMENT RESTRICTIONS

- A. Names of selected manufacturers have been specified for all items of equipment and materials. Bids shall be based on the use of the product of one of the selected manufacturers, and only such products may be submitted for approval.

1.5 SUBMITTALS

- A. In addition to the requirements of Section 23 05 00, the submittal brochures shall include the following items:

1. Air Distribution System:

Duct Sealer	Balancing Dampers
Duct Turns	Right Angle Extractors
Spin-In Fittings	

2. Equipment:

Exhaust Fans

3. Shop Drawings:

- a. Dimension Drawings for concrete pad, curb and equipment foundation (1/4" scale minimum) including bolt sizes and locations.
- b. Submit fabrication details for equipment bases including dimensions, structural member sizes and support point locations. (1/4" scale minimum).
- c. Provide all details of suspension and support for ceiling hung equipment.
- d. Where walls, floors, slabs or supplementary steel work are used for seismic restraint locations, details of acceptable attachment methods for ducts, conduit and pipe must be included and approved before the condition is accepted for installation. Restraint manufacturers' submittals must include spacing, static loads and seismic loads at all attachment and support points.

- e. Provide seismic details of seismic restraints and anchors; include number, size and locations for each piece of equipment.
 - f. Control Wiring Diagrams.
 - g. Ductwork equipment and piping systems show sections indicating routing and clearances between other trades.
 - h. Chilled and hot water piping, plans and sections (1/4" scale).
 - i. Submit fabrication details for equipment basis including dimensions, structural member sizes and support point locations. Provide all details of suspension and support for ceiling hung equipment. Where walls, floors, slabs or supplementary steel work is used for seismic restraint locations, details of acceptable attachment methods for ducts, conduit and pipe must be included and approved before the condition is accepted for installation. Restraint manufacturers submittals must include spacing, static loads and seismic loads at all attachment and support points. Provide specific details for seismic restraints and anchors; include number, size and locations for each piece of equipment.
4. Air and Water Balance Report Forms:
- a. Submit reports on AABC National Standards for Total System Balance or NEBB forms.
 - b. Forms shall include the following information:
 - 1) Title Page:
 - a) Company name
 - b) Company address
 - c) Company telephone number
 - d) Project Name
 - e) Project Location
 - f) Project Architect
 - g) Project Engineer
 - h) Project Contractor
 - i) Project altitude
 - 2) Instrument List:
 - a) Instrument
 - b) Manufacturer
 - c) Model
 - d) Serial Number
 - e) Range
 - f) Calibration date

- 3) Air Moving Equipment:
 - a) Location
 - b) Manufacturer
 - c) Model
 - d) Air flow, specified and actual return air flow, specified and actual
 - e) Outside air flow, specified and actual
 - f) Total static pressure (total external), specified and actual
 - g) Inlet pressure
 - h) Discharge pressure
 - i) Fan RPM
- 4) Supply Air/Return Air/Outside Air Data:
 - a) Identification/location
 - b) Design air flow
 - c) Actual air flow
 - d) Design return air flow
 - e) Actual return air flow
 - f) Design outside air flow
 - g) Actual outside air flow
 - h) Supply air temperature
 - i) Return air temperature
 - j) Outside air temperature
 - k) Required mixed air temperature
 - l) Actual mixed air temperature
 - m) Design outside/return air ratios
 - n) Actual outside/return air ratios
- 5) Electric Motors:
 - a) Manufacturer
 - b) HP/BHP
 - c) Phase, voltage, amperage, nameplate, actual, no load
 - d) RPM
 - e) Service actor
 - f) Starter size, rating, heater elements
- 6) V-Belt Drive:
 - a) Identification/location
 - b) Required drive RPM
 - c) Driven sheave, diameter and RPM
- 7) Air Distribution Test Sheet:
 - a) Air Inlet/Outlet number

- b) Room number/location
 - c) Inlet/Outlet type
 - d) Inlet/Outlet size
 - e) Area factor
 - f) Design velocity
 - g) Design air flow
 - h) Test (final) velocity
 - i) Test (final) air flow
 - j) Percent of design air flow
- 8) Sound Level Report:
- a) Location
 - b) Octave bands – equipment off
 - c) Octave bands – equipment on
- c. Project Record Documents
- 1) Accurately record actual locations of balancing valves and rough setting.
 - 2) Submit location chart.

1.6 VIBRATION ISOLATION

- A. Vibration Isolators: Isolators shall have integral seismic restraints and be selected for minimum static deflection of 1 inch or as otherwise noted and in accordance with the equipment manufacturer's weight distribution so as to produce reasonable uniform deflection. Vibration isolators shall be a system by a manufacturer as listed by the Office of Statewide Health Planning Development (OSHPD); with an anchorage pre-approval R-number.
- B. All mechanical equipment, piping and ductwork shall be mounted on vibration isolators to prevent the transmission of vibration and mechanically transmitted sound to the building structure. Vibration isolators shall be selected in accordance with the weight distribution so as to produce reasonable uniform deflections.
- C. All isolators and isolation materials shall be of the same manufacturer and shall be certified by the manufacturer.
- D. It is the intent of the seismic portion of this specification to keep all mechanical building system components in place during a seismic event. All such systems must be installed in strict accordance with seismic codes, component manufacturers and building construction standards. Whenever a conflict occurs between the manufacturers or construction standards, the most stringent shall apply.
- E. This specification is to be a minimum requirement for seismic consideration and is not intended as a substitute for legislated, more stringent, national, state construction requirements (i.e., California Title 24, California OSHPD) or other requirements.

- F. A variance or noncompliance with these specification requirements shall be corrected by the Contractor in an approved manner.
- G. Seismic restraint calculations must be provided for all connections of equipment to the structure. Calculations must be stamped by a registered professional engineer with at least five years of seismic design experience, licensed in the state of the job location.
- H. Calculations (including the combining of tensile and shear loadings) to support seismic restraint designs must be stamped by a registered professional engineer with at least five years of seismic design experience and licensed in the state of the job location. Testing and calculations must include both shear and tensile loads as well as one test or analysis at 45° to the weakest mode. Analysis must indicate calculated dead loads, static seismic loads and capacity of materials utilized for connections to equipment and structure. Analysis must detail anchoring methods, bolt diameters, embedment and/or welded length. All seismic restraint devices shall be designed to accept, without failure, the forces acting through the equipment center of gravity. Overturning moments may exceed forces at ground level.
- I. Provide calculations to determine strain loads resulting from seismic forces presented in CBC 1632. Seismic calculations shall be certified by a licensed engineer, experienced in the design of restraints.
- J. Constructor shall supply supplementary support steel for all equipment, piping, ductwork, etc., including the roof-mounted equipment as required.
- K. Contractor shall supply restraint attachment plates cast into housekeeping pads, concrete inserts, double-sided beam clamps, etc., in accordance with the requirements of the vibration vendor's calculations.
- L. Failure is defined as the discontinuance of any attachment point between equipment or structure, vertical permanent deformation greater than 1/8 inch and/or horizontal permanent deformation greater than 1/4 inch.

PART 2 - PRODUCTS

2.1 DUCTWORK

- A. General
 - 1. All ductwork shown on the drawings, unless otherwise indicated or specified shall be constructed of zinc-coated steel.
 - 2. Minimum 24 gage galvanized steel sheets shall be first quality cold rolled, galvanized, open hearth soft steel sheets, capable of double seaming without fracture, meeting ASTM A525-87.
 - 3. Aluminum sheets shall meet requirements of ASTM B209, 2, 1.4 mil finish.

4. Steel shapes shall be hot rolled, galvanized.
5. Screws and bolts shall be cadmium plated.
6. Materials and construction shall be in accordance with tables listed in SMACNA HVAC Duct Construction Standards and California Code of Regulations (Title 24, Part 4). The most stringent of the SMACNA Standards or the California Code of Regulations, shall be applicable.
7. Pressure: Unless otherwise indicated, all ductwork shall be constructed for 2" pressure class.

B. Materials, Application

1. Pressure: Unless otherwise indicated, all ductwork shall be constructed for 2" pressure class. Materials and construction shall be in accordance with tables listed in SMACNA HVAC Duct Construction Standards and International Code of Regulations. The most stringent of the SMACNA Standards or the International Code of Regulations, shall be applicable.
2. Ducts shall be sealed to SMACNA seal class "A", UL 555. No duct tape shall be permitted.
3. Transverse joints in rectangular ducts may be manufactured type similar to Ductmate Industries, Inc.

C. Circular Ducts

1. Circular (cross section) sheets shall be galvanized steel of spiral seam construction.
2. Joints between two ducts shall be made with beaded sleeve joint having duct sealer applied to joint. Mechanically fasten joints with sheet metal screws or pop rivets.
3. The radius of elbows shall be minimum of 150% of the diameter or maximum width of duct. Gored elbows are not acceptable.
4. The fittings shall be of conical type change in shape from round to rectangular mode with transformation joint with minimum of 1 to 7 taper.
5. Corrugated or flexible metal duct circular ducts will not be acceptable.

D. Spin-In Fittings

1. For all round duct takeoff from a rectangular duct shall be constructed of galvanized steel complete with angled, scoop extractor and spring loaded locking quadrant butterfly damper. Damper shall be a factory installed with spring loaded retractable bearing. Mounting groove shall be a die formed. Install using duct sealer at tap-in to a main duct.

E. Duct Supports

1. Duct hangers, spacing of hangers, upper and lower attachments, etc. shall conform to the most stringent requirements of the SMACNA or Uniform Mechanical Code. See Part 3.0 for seismic requirements.
2. Provide additional supports for upper attachments for ductwork utilizing a secondary steel support system consisting of roll-formed channel, "Unistrut" Series P-1002 (back-to-back 1-5/8" X 0.010") roll formed channels) members securely attached between support beams or purlins in accordance with structural engineers approval. Attach duct mounting straps to steel channels using "Unistrut" type spring-loaded, matching nuts and bolts. Furnish additional "Unistrut" channel, clamps, brackets, etc., for complete support of ductwork and diffusers. Do not penetrate a metal duct with any fasteners.

F. Access Doors

1. Manufacturer based upon Ventfabrics. Equal products by DuroDyne may be submitted for approval.
2. Non-walk-in access doors for circular ducts shall conform to SMACNA Duct Construction Standards, Figure 2-11 and accompanying description, except other items shall be the same as for rectangular ducts.
3. Non-walk-in access doors in rectangular sheet metal ducts shall conform to SMACNA Duct Construction Standards, Fig. 2-10, plus accompanying description, except that the following shall be provided:
 - a. Latch: Ventfabrics model 140 with stud long enough to accommodate a door up to 2" thick. Complete with steel and sponge rubber washer.
 - b. Hinge: Use two hinges on doors where the hinged edge is less than 24", three hinges on doors where the hinged edge is 24" and over. Doors under 14" x 14" size shall be No. 24 gauge with piano hinge and edge stiffeners.
 - c. Door Thickness: All doors shall be double thickness. Provide full thickness of insulation inside door panels in insulated ducts.
 - d. Gasketing: The door shall have a compressible gasket seal of incombustible material.
 - e. Dimensions: Minimum 12" X 12" in furred spaces and 18" X 18" in equipment rooms.

G. Dampers

1. Manufacturer based upon Pottorff model CD-10 and CD-10R. Equal products by Ruskin or Ventfabrics may be submitted for approval.

2. Manual volume dampers in ducts up to 48" in width shall conform to SMACNA Duct Construction Standards Fig. 2-12 or 2-13 plus its accompanying description except that the following shall be provided:
 - a. The gauge of leaf shall be equal to that of the duct in which the damper is located, except that it shall never be less than 22 gauge. Fasten damper leaves to square rods using damper blade clips. Blade shaft shall be 3/8" square, zinc plated with tight sealing nylon bushings. Damper leaves shall not exceed 8" in width. Use multiple leaves when required. All dampers shall be stiffened where necessary to prevent noise. Any damper causing any noise shall be replaced by new ones or additional stiffeners added so as to eliminate the noise.
3. All steel parts shall be galvanized.
4. For insulated ductwork, the operator arm shall be set on an extension bracket flush with the outside of the insulation. Notch all damper rod ends to indicate position of installed damper blades.
5. All volume dampers above suspended ceilings shall be marked by attaching a 12" length strip of bright yellow cloth to the damper rods.

H. Damper Regulator Hardware

1. Manufacturer based upon Ventfabrics. Equal products by Durodyne may be submitted for approval.
2. For accessible locations in low pressure ducts, provide each leaf with No. 607 end bearing and No. 640 or No. 641 self-locking regulator.

I. Duct Sealer

1. Manufacturer based upon Casco. Equal products by United Duct Sealer may be submitted for approval.
2. Duct sealer shall be UL Classified, water based, fire resistive, indoor/outdoor, permanently flexible.
3. Duct tape is unacceptable.

J. Instrument Test Holes

1. Manufacturer based upon Ventfabrics model 699. Equal products by Durodyne may be submitted for approval.
2. Test hole shall provide opening for Pitot tubes and other test instruments. The hole is sealed off with a heavy screw cap and gasket. Provide special gasket to adapt test hole to round duct. Height of test hole shall accommodate height of duct insulation.

3. Provide test holes in Air Handling Units supplying 10,000 CFM or greater in both horizontal and vertical positions at the following locations:
 - a. Exhaust air duct at each exhaust fan.

2.2 EXHAUST FANS

- A. Manufacturer based upon or COOK. Equal products by Greenheck may be submitted for approval.
- B. General:
 1. Fan shall be a spun aluminum, roof mounted, belt driven, upblast centrifugal exhaust ventilator.
- C. Certification:
 1. Fan shall be manufactured at an ISO 9001 certified facility. Fan shall be listed by Underwriters Laboratories (UL 705) and UL listed for Canada (cUL 705). Fan shall bear the AMCA certified ratings seal for sound and air performance.
- D. Construction:
 1. The fan shall be of bolted and welded construction utilizing corrosion resistant fasteners. The spun aluminum structural components shall be constructed of minimum 16 gauge marine alloy aluminum, bolted to a rigid aluminum support structure. The aluminum base shall have a one piece inlet spinning and continuously welded curb cap corners for maximum leak protection. The windband shall have a rolled bead for added strength. A two piece top cap shall have stainless steel quick release latches to provide access into the motor compartment without the use of tools. An integral conduit chase shall be provided into the motor compartment to facilitate wiring connections. The motor, bearings and drives shall be mounted on a minimum 14 gauge steel power assembly, isolated from the unit structure with rubber vibration isolators. These components shall be enclosed in a weather-tight compartment, separated from the exhaust airstream. Lifting lugs shall be provided to help prevent damage from improper lifting. Unit shall bear an engraved aluminum nameplate. Nameplate shall indicate design CFM, static pressure, and maximum fan RPM. Unit shall be shipped in ISTA certified transit tested packaging.
- E. Wheel:
 1. Wheel shall be centrifugal backward inclined, constructed of 100 percent aluminum, including a precision machined cast aluminum hub. Wheel inlet shall overlap an aerodynamic aluminum inlet cone to provide maximum performance and efficiency. Wheel shall be balanced in accordance with AMCA Standard 204-05, Balance Quality and Vibration Levels for Fans.

F. Motor:

1. Motor shall be Nema design B with class B insulation rated for continuous duty and furnished at the specified voltage, phase and enclosure.

G. Bearing:

1. Bearings shall be designed and individually tested specifically for use in air handling applications. Construction shall be heavy duty regreasable ball type in a cast iron pillow block housing selected for a minimum L50 life in excess of 200,000 hours at maximum cataloged operating speed.

H. Belts & Drives:

1. Belts shall be oil and heat resistant, static conducting. Drives shall be precision machined cast iron type, keyed and securely attached to the wheel and motor shafts. Drives shall be sized for 150 percent of the installed motor horsepower. The variable pitch motor drive must be factory set to the specified fan RPM.

I. Warranty:

1. The complete unit shall be covered by a parts warranty issued by the manufacturer covering the first year of operation. This warranty period shall start upon receipt of start-up forms for the unit or eighteen months after the date of shipment, whichever occurs first.
2. The installing contractor shall provide labor warranty during the unit's first year of operation.

PART 3 - EXECUTION

3.1 EQUIPMENT INSTALLATION

- A. General: Install work as indicated, in accordance with manufacturer's instructions. Locate properly, plumb and level and securely attach to substrate foundations.

3.2 VIBRATION ISOLATORS AND SEISMIC RESTRAINTS

- A. All vibration isolators and seismic restraint systems must be installed in strict accordance with the manufacturers written instructions and all certified submittal data.
- B. Installation of vibration isolators and seismic restraints must not cause any change of position of equipment, piping or ductwork resulting in stresses or misalignment.
- C. No rigid connections between equipment and the building structure shall be made that degrades the noise and vibration control system herein specified.

- D. The contractor shall not install any equipment, piping, duct or conduit which makes rigid connections with the building unless insulation unless otherwise specified. "Building" includes, but is not limited to, slabs, beams, columns, studs and walls.
- E. Coordinate work with other trades to avoid rigid contact with the building.
- F. Any conflicts with other trades which will result in rigid contact with equipment or piping due to inadequate space or other unforeseen conditions should be brought to the architects/engineers attention prior to installation. Corrective work necessitated by conflicts after installation shall be at the responsible contractors expense.
- G. Bring to the architects/engineers attention any discrepancies between the specifications and the field conditions or changes required due to specific equipment selection, prior to installation. Corrective work necessitated by discrepancies after installation shall be at the responsible contractors expense.
- H. Correct, at no additional cost, all installations which are deemed defective in workmanship and materials at the contractor's expense.
- I. Over stressing of the building structure must not occur because of overhead support of equipment. Contractor must submit loads to the structural engineer of record for approval. Generally bracing may occur from:
 - 1. Flanges of structural beams.
 - 2. Upper truss cords in bar joist construction.
 - 3. Cast in place inserts or wedge type drill-in concrete anchors.
- J. Seismic cable restraints as specified under products shall be installed slightly slack to avoid short circuiting the isolated suspended equipment, piping or conduit.
- K. Seismic cable assemblies as specified under products are installed taut on non-isolated systems. Seismic solid braces as specified under products may be used in place of cables on rigidly attached systems only.
- L. At locations where seismic restraints are attached to pipe clevis, the clevis cross bolt must be reinforced with pipe clevis bolt braces as specified under products.
- M. Drill in concrete anchors for ceiling and wall installation shall be stud wedge type or female wedge type for floor mounted equipment as specified under products.
- N. Vibration isolation manufacturer shall furnish integral structural steel bases as required. Independent steel rails are not permitted on this project.
- O. Where piping passes through walls, floors or ceilings, the vibration isolation manufacturer shall provide split wall seals as specified under products.

- P. Air handling equipment and centrifugal fans shall be protected against excessive displacement, which results from high air thrust in relation to the equipment weight. Horizontal thrust restraint shall be as specified under products.
- Q. Locate isolation hangers as near to the overload support structure as possible.
- R. Horizontal pipe isolation: The first three pipe hangers in the main lines near the mechanical equipment shall be M.W. Sausse type HXA-PC. These hangers must also be used in all transverse braced isolation location. Horizontal runs in all other locations throughout the building shall be isolated by hangers M.W. Sausse type HXA. Floor supported piping shall rest on M.W. Sausse type RMLS-EQ. Heat exchanger's and expansion tanks are considered part of the piping run. The first three isolators from the isolated equipment will have the same static deflection as specified for the mountings under the connected equipment. If piping is connected to equipment located in basements and hangs from ceilings under occupied spaces, the first three hangers shall have minimum 0.75" deflection for pipe sizes up to and including 3", minimum 1-1/2" deflection for pipe sizes up to and including 6" minimum and 2" deflection thereafter. Hangers shall be anchored to the overhead structure. Where piping connects to mechanical equipment, install flexible expansion joints or flexible stainless hoses if flexible expansion joints are not suitable for the service.
- S. Seismic Restraint of Piping
1. Seismically restrain all piping listed as a, b, or c below. Use seismic cable restraints if cables are isolated.
 - a. Piping located in boiler rooms, mechanical equipment rooms and refrigeration equipment rooms that is 1-1/4' I.D. and larger.
 - b. All other piping 2-1/2" diameter and larger.
 2. Transverse piping restraints shall be at 40' maximum spacing for all pipe sizes, except where lesser spacing is required to limit anchorage loads.
 3. Longitudinal restraints shall be at 80' maximum spacing for all pipe sizes, except where lesser spacing is required to limit anchorage loads.
 4. Where thermal expansion is a consideration, guides and anchors may be used as transverse and longitudinal restraints provided they have a capacity equal to or greater than the restraint loads in addition to the loads induced by expansion or contraction.
 5. Transverse restraint for one pipe section may also act as a longitudinal restraint for a pipe section of the same size connected perpendicular to it if the restraint is installed within 24" of the elbow or TEE or combined stresses are within allowable limits at longer distances.
 6. Hold down clamps must be used to attach pipe to all trapeze members before applying restraints in a manner similar to clevis supports.
 7. Branch lines may not be used to restrain main lines.

T. Vibration Isolation of Ductwork

1. All discharge runs for a distance of 50' from the connected equipment shall be isolated from the building structure by means of spring isolators and spring deflections shall be a minimum of 0.75".
2. All duct runs having air velocity of 1000 fpm or more shall be insulated from the building structure and spring deflection shall be a minimum of 0.75".

U. Seismic Restraint of Duct Work

1. Seismically restrain all ductwork with seismic cable restraints or seismic solid braces for SMACNA seismic hazard level "A" and connection level "Z" as listed below:
 - a. Restrain rectangular ducts with cross sectional are of 6 sq. ft. or larger.
 - b. Restrain round ducts with diameters of 28" or larger.
 - c. Restrain flat oval ducts the same as rectangular ducts of the same nominal size.
2. Transverse restraints shall occur at 30' intervals or at both ends of the duct run if less than the specified interval. Transverse restraints shall be installed at each duct run and at each end of a duct run.
3. Longitudinal restraints shall occur at 60' intervals with at least one restraint per duct run. Transverse restraints for one duct section may also act as a longitudinal restraint for a duct section connected perpendicular to it if the restraints are installed within 4' of the intersection of the ducts and if the restraints are sized for the larger duct. Duct joints shall conform to SMACNA duct construction standards.
4. The ductwork must be reinforced at the restraint locations. Reinforcement shall consist of an additional angle on top of the ductwork that is attached to the support hanger rods. Ductwork is to be attached to both upper angle and lower trapeze.
5. A group of ducts may be combined in a larger frame so that the combined weights and dimensions of the ducts are less than or equal to the maximum weight and dimensions of the duct for which bracing details are selected.
6. Walls, including gypsum board nonbearing partitions, which have ducts running through them may replace a typical transverse brace. Provide channel framing around ducts and solid blocking between the duct and frame.

V. Seismic Restraint Exclusions

1. Duct Work
 - a. Rectangular, square or oval ducts less than 6 sq. ft. in cross sectional area.

- b. Round duct less than 28" in diameter.
- c. All duct suspended by hangers 12" or less in length as measured from the top of the duct to the point of attachment to the structure. Hangers must be attached within 2" of the top of the duct with a minimum of two #10 sheet metal screws. If the 12" limit is exceeded by any hanger in the run, seismic bracing is required for the run.

2. Suspended Equipment

- a. VAV boxes and fan powered equipment weighing less than 50 lbs. and rigidly connected to the supply side of the duct system support with a minimum of four hanger rods.

3.3 DUCT SYSTEMS

- A. All ductwork installation shall be coordinated with consultant's drawings, notes and specifications.
- B. Ductwork shall be fabricated to field measurements established by the Contractor on the job. Ducts shall be of sizes and configuration shown on the drawings.
- C. All ducts shall be installed true to line and grade. All horizontal ducts shall be installed tight to structure to leave the greatest possible space under them. Where necessary, changes of elevation in the ducts shall be made to secure this result, but not without approval of the Architect.
- D. Should it be found that any necessary duct dimensions have been omitted from the drawings, Contractor shall notify the Architect, who will supply the dimensions and the Contractor shall then construct the ducts in accordance with these sizes at no extra charge. Should it be found impractical to install any duct of the exact sizes given, a duct of a different shape but having the same resistance shall be installed. The sizes of the substitute duct shall be approved by the Architect.
- E. All transverse seams in duct system shall be SMACNA 7-17 pocket lock standing seam sealed airtight with U.L. listed duct sealer which meets Class 1 requirements of NFPA 90-A, as manufactured by "United", "Duro-Dyne" or approved equal.
- F. Ductwork layout: Follow as close as possible layout indicated on drawings. Secondary beams shall be furnished and installed under this Section of the specifications whenever necessary to meet these requirements.
- G. Swaged joints: Elbows in round ducts may be adjustable type formed by mechanically interlocked swaged joint. Three-piece adjustable elbows may be used for turns up to 45 degrees and five-piece elbows shall be used for turns greater than 45 degrees. Apply duct sealer to swaged joints to seal against air leakage.
- H. Tees and elbows connecting to round spiral ductwork shall have crimped ends for insertion limits. Tee fittings are required for all tee connections in conjunction with spiral ductwork. Cutting of the spiral ductwork for direct connection of a tee branch is prohibited.

- I. Branch duct outlets of tee fittings may be attached using Pittsburgh lock, clinch lock, and/or inside the collar attached with sheet metal screws and continuously caulked with duct sealer.
- J. Connection of round to rectangular ducts: Where more than one round duct connects into a rectangular plenum, spin-in fittings with manual damper or fittings with collars (having manual damper) attached by sheet metal screws may be used. These shall be completely made airtight at the joint by continuous caulking with duct sealer. Provide an adjustable extractor.
- K. Attach crimped and slip-in joints with sheet metal screw and make airtight with continuous caulking with duct sealer.
- L. Flexible round duct connectors: Length of a flexible round duct connector in any branch duct shall not exceed 6', but shall not be less than directed. The installation shall be such that the centerline radius of a bend shall be not less than two diameters. Connections to metal fittings shall be made with sealer and strap clamps. Excess length of the connector shall be cut off and not bunched together, thus impeding a proper air blow. Shall not penetrate any wall without the Architect's approval.
- M. Duct materials: Sides, including bottom and top of all ducts and plenums, shall be constructed of sheet metal. No portion of the building construction, such as walls or slabs, shall be used as part of any duct or plenum unless called for on the drawings or otherwise specified.
- N. Ductwork dimensions: Duct dimensions indicated are inside dimensions for the net free area. If ducts are lined, the duct dimensions indicated are dimensions for the net free area inside the lining and the outer, or overall, dimensions of the actual ducts shall be increased accordingly to accommodate the duct lining specified.
- O. Ductwork installation: Ductwork shall be installed true to line and grade and with seismic restraints in accordance with SMACNA Guidelines for Seismic Restraints of Mechanical Systems and Plumbing piping systems. Should it be found impractical to install any duct of the exact sizes given, a duct of a different shape but having the same resistance shall be installed. Ductwork shall be connected to fire/smoke damper sleeves or assemblies in such a way that collapse of the ductwork shall not dislodge the damper or impair its proper operation. In addition to seismic restraints per above standard, duct hanger construction and spacing shall be per Uniform Mechanical Code. The most stringent, the SMACNA Guidelines for seismic restraints, Uniform Mechanical Code or the State Mechanical Code, shall be applicable.
- P. Ducts shall not be supported from decking. Furnish and install structural members to span steel purlins to distribute the load. Refer to roof shop drawings for location of beams and purlins for additional structural members for hangers.
- Q. Outlets Installation: Diffusers, registers, and grilles in ceilings and walls shall be located in accordance with Architectural reflected ceiling plans and interior elevation plans whenever such drawings exist. Locations on Mechanical Drawings are only approximate.
- R. Changes in Duct Elevation, unless otherwise shown, fitting shall be made by either of the following:

1. By curved sections of a minimum throat radius equal to the duct dimension in the place of the bend.
 2. By mitered elbows made with double thickness (formed) type turning vanes. Turning vanes in mitered elbows in lined ducts shall be factory manufactured extruded aluminum double thickness (formed) types with acoustical insulation between double wall and shall be approved equal to Sono Turn, manufactured by Sound Control Products Co., Palo Alto, California.
- S. Duct Transition Sections: Changes in the size of ducts shall be made by uniformly tapering sections with a maximum included angle of divergence of 20 degrees for enlargements and a maximum included angle of convergence of 45 degrees for contractions.
- T. Flexible Connections: Provide where indicated on drawings and at the ducted discharge and inlet of every air handling unit, fan-coil unit and fan. Connection shall be waterproof, fire-retardant and flexible.
1. Connection construction: At least 1" slack shall be allowed in flexible connections to insure that no vibration is transmitted from fan to ductwork or plenum. The fabric shall either be folded in with the metal or attached with metal collar frames at each end to prevent air leakage. Equipment shall be arranged and access doors provided as necessary to permit the convenient replacement of the flexible connection after initial installation.
- U. Flashing Duct through Roof: Install flashing to cover top and sides of curb and fit closely around duct. Cover top edge of base flashing with a collar soldered to duct and turned down over base flashing. Fabricate flashing from 24-gauge galvanized steel sheet (minimum).
- V. Manual Volume Dampers:
1. Required in the following locations:
 - a. Where indicated on drawings.
 - b. In each supply, return and exhaust duct branch.
 - c. In the main supply duct from an air handling unit. Locate dampers close to unit.
 2. Access doors in ducts and plenums:
 - a. Required in the following locations:
 - 1) Where indicated on drawings.
 - 2) Where specified herein.
 - 3) Fire damper access door location: At every fire damper, locate an access door to provide convenient accessibility to linkage and fusible link. Unless otherwise called for, access door not required when linkage and fusible link

are conveniently accessible through a duct having open ends. Door shall be minimum 14" x 14" where duct size permits.

- 4) Automatic damper access door location: At every automatic damper, locate an access door to provide convenient accessibility to a damper linkage and damper operator when mounted inside of the duct or plenum. Unless otherwise called for, access door not required when damper linkage and damper operators are conveniently accessible through a duct having open end.

W. Automatic Dampers: Install automatic dampers called for elsewhere on drawings and in the specifications.

3.4 ACCESS TO EQUIPMENT

A. General:

1. All ductwork, equipment, and accessories shall be installed to permit access for maintenance.
2. Any relocation of conduit, piping, equipment, and accessories required to provide maintenance access shall be accomplished by the Contractor at no additional cost to the Owner.

B. Access:

1. Provide access doors where any dampers, instruments, controls, motors and other equipment requiring access for servicing, repairs or replacement are located behind walls, chases, or above non-removable ceilings.
2. The location of access doors shall be coordinated with and installed by the applicable trade installing walls or ceilings.
3. Contractor shall arrange for the necessary openings in the building to allow for admittance of all apparatus.

3.5 AIR INLETS

- A. Any intake duct not protected by a louver, grille, or register shall have a 1/2" mesh-galvanized screen over an open end.
- B. Paint ductwork visible through grilles, registers, and other openings with one coat of flat black paint.

3.6 FINAL CONNECTIONS

- A. Provide final connections to all equipment.

3.7 EXAMINATION AND PREPARATION

- A. Verify that ductwork has been tested for leakage in accordance with SMACNA standards before applying insulation materials.
- B. Verify that all equipment and surfaces are clean, dry and free of foreign material.
- C. Verify piping has been tested as specified.

3.8 DUCT CLEANING

- A. Wire brush and vacuum the interior of the air handlers, including the fans and filter racks.
- B. Cut access openings in the ductwork as necessary to permit thorough cleaning.
- C. Disconnect the ductwork at the joints.
- D. Hand vacuum and brush the interior of the supply and return ductwork.
- E. Reconnect duct joints.
- F. Cover all access openings with sheet metal panels. Panels will be caulked airtight and screwed in place.
- G. Any exterior duct insulation removed in the process of cleaning will be tacked, taped or glued back in place.
- H. Remove, clean and reinstall the supply and return registers.
- I. Desks, equipment, etc., in all work areas will be covered with clean drop cloths.

3.9 TESTS

- A. General:
 - 1. All power, water and fuel required for tests will be furnished as specified under the General Conditions or General Requirements Sections. All other materials, gauges, test thermometers, and all labor necessary shall be furnished by this Contractor.
 - 2. Should any piece of apparatus or any material or work fail in any of these tests, it shall be removed immediately and be replaced by perfect material at the Contractors expense. Any such portions of work so replaced shall be retested. All tests shall be performed in the presence of the Architect.
- B. Equipment:
 - 1. After the entire heating, ventilating and air conditioning system installation has been completed, all ducts installed, and all dampers adjusted, etc., a complete test of each air conditioning unit shall be made to determine whether the equipment fulfills the guarantee

regarding the quantity of air delivered, efficiency, noiseless operation and other requirements.

2. Contractor shall furnish all labor necessary to adjust the operation of the apparatus and make the connections for the test. Contractor shall replace all fuses blown during the tests. After the tests, restore all connections, apparatus, etc., to their proper condition.
3. Contractor shall demonstrate proper operation of the temperature control system and control system interlocks.
4. Provide Owner with report certifying that all systems are operating properly.

3.10 OPERATION

- A. Operational Readiness: The Contractor shall insure that the complete installation including all equipment and controls, is complete, operating, checked, and adjusted at the time of final inspection. Contractor shall provide one complete extra set of filters, which shall be installed in all units prior to final inspection.
- B. The Contractor shall be held responsible for any delays incurred and/or reinspections required due to any lack of above-mentioned readiness.
- C. Each entire system shall be operated continuously for a period of three full days, at a time requested by the Owner, to prove that the systems will fulfill all guaranteed requirements.

END OF SECTION

SECTION 26 05 00 - COMMON WORKS FOR ELECTRICAL

PART 1 - GENERAL

1.1 REFERENCE

- A. General: Requirements in Addenda, General /Special Conditions and Division 1, 2, 3 collectively apply to this work.
1. Examination of Site and Contract Documents. Prior to bidding each bidder shall visit the site of the proposed work and to become fully acquainted with the conditions relating to the construction and labor so that full understanding of the facilities, difficulties, and restrictions attending the execution of the work under the contract is obtained. Bidders shall thoroughly examine and be familiar with the drawings and specifications. The failure or omission of a bidder to receive or examine contract documents, forms, instruments, addendums, or other documents, or to visit the site and acquaint himself with conditions there existing shall in no way relieve a bidder from any obligation with respect to their bid or to the contract. The submission of a bid shall be taken as prima facie evidence of compliance with this section.

1.2 DESCRIPTION

- A. Principal Work Items are: Provide labor, material and equipment necessary to complete and test the electrical work as shown on the drawings and as specified herein. Work will include, but not limited to the following:
1. Equipment and facilities required by the utility companies to provide temporary and permanent services, including facilities required for installation of the utility company metering, and pay charges required by the utilities company to provide temporary and permanent services except as indicated in the other paragraph below.
 2. Underground duct banks and pre-cast concrete pull-boxes/manholes, slab boxes, concrete pads for electric and telephone/fiber utility services.
 3. A complete electrical grounding system for the building, including electrical service grounding (Ground Rods in ground well, Ufer ground and cold water pipe) and Low Voltage Communication system reference ground with a single point of ground connection at the Main Ground Bus.
 4. Supports, duct spacers, clamps, hangers, fastening devices, sleeves, slots, concrete bases, physical protection, caulking, weatherproofing, sealing, closing, etc.
 5. Complete installation and supply of 480/277-Volt and 208/120-Volt, 3-Phase, 4-Wire Switchboard, Distribution Switchboards, Integrated Power Center switchboard, feeders, pull-boxes, distribution transformers, control transformers, motor starters, disconnect switches, panel boards, branch circuit conduit and wiring and all other electrical devices.

6. A complete grounding system for the 480/277-Volt and 208/120-Volt derived systems and all of the electrical equipment.
7. Luminaires (lighting fixtures), including LED driver, specified lamps and electronic ballasts, emergency battery pack (as applicable) or centralized battery inverter and occupancy sensor control or day light control and other control as noted complete and operable.
8. Exterior lighting fixtures including concrete bases for poles or low level area lights, walkway (bollard), step lights, and planter lighting.
9. Electrical work for the mechanical system, except as specified to be furnished or installed as part of other Sections in the Specifications.
10. Distribution materials and connection of the following listed equipment by the specific equipment furnished so that a complete and operable system results:
 - a. Building power, communication and fire alarm system.
 - b. Electrical operated roll down doors, gates and other type of door operator.
 - c. Electrical operated shades system.
 - d. Irrigation power connections.
 - e. Electrically operated plumbing fixtures.
 - f. Nurse Call system.
11. Emergency lighting system, including emergency battery pack units (integral or remote mount unit of the fixture) or centralized battery back-up lighting inverter system, unswitched power branch circuit wiring and connections to 2-circuit exit signs.
12. Furnish and install hangers, anchors, sleeves, chases, access panels and supports required for electrical works.
13. Electrical conduit system rough-in.
14. Complete Fire Detection and Alarm system including control equipment, devices, terminal cabinets, backboards, boxes, conduits, wiring and connections.
15. Complete system of empty conduit, outlets, backboxes, cabinets and/or terminal backboards for the security distribution system or other low voltage /signal systems.
16. Complete system of conduit with voice/data cables, outlets with devices, backboxes, cabinets and/or terminal backboards with terminating blocks or patch panels for voice/data distribution system.
17. Excavation, backfill and concrete works required to complete items of this section.

18. Closing of openings resulting from coring, sleeving, removal of conduit and/or equipment.
19. Cleaning, patching, fire stopping/proofing seal, repairing and painting.
20. Permits and Code Inspection fees.
21. Prime coat painting of electrical equipment exposed to view in public area where required and deemed necessary by Architect.
22. Identification nameplates, instruction plates, tags, labels, magnetic yellow tapes, underground warning tapes and etc. Including Arc-Flash and Shock Hazard Warning Label per NEC and NFPA 70E requirements.
23. Shop drawings and technical data; operating instruction and maintenance manual.
24. Test of equipment and system installed.
25. "As-built" drawings, including but not limited to record of actual routing of duct banks, location of Power Pull-boxes/Manholes and Communication Pull-boxes, lighting and power/communication plan as-built condition.
26. Incidental items not indicated on the drawings nor mentioned in the specifications that belong to the work described, or are required to provide complete systems, as though called out here in every detail.

B. Related Work Described Elsewhere: For detailed description of the electrical work, also see other Sections in Division 26 of these Specifications. Refer to the following Sections of the Specification for related work:

1. Trenching and Backfilling for Utilities: Section 023150.
2. Horizontal Directional Drilling: Section 024130

C. Work in Cooperation with Other Trades:

1. Examine the Drawings and Specifications and determine the work to be performed by the electrical, and other trades. Provide the type and amount of electrical materials and equipment necessary to place this work in proper operation, completely wired, tested, and ready for use. This shall include conduits, conductor, and other devices for the required operation and control sequences of electrical, and other existing systems or equipment.

1.3 SUBSTITUTIONS

A. General: Only written approval of Architect will permit substitutions for materials specified; See Section 012500, Contract Modification Procedures.

1.4 QUALITY ASSURANCE

A. Standards:

1. Comply with standards listed in the following:
 - a. Underwriters' Laboratories Inc. (UL).
 - b. The 2013 California Electrical Code, National Electric Code (NEC) 2008 edition, with California Amendments.
 - c. The USA National Fire Code (NFPA).
 - d. The National Electrical Manufacturers' Association (NEMA).
 - e. Institute of Electrical and Electronic Engineers (IEEE).
 - f. American National Standards Institute (ANSI).
 - g. 2013 California Code of regulations, Title 24.
 2. Off-Site Work: Conform to Governing Agencies requirements.
 3. Earthquake Provisions: Electrical components shall be anchored and braced to meet the force and displacement requirements prescribed in the 2010 CBC, Sections 1615A.1.12 through 1615a.1.22 and ASCE 7-05 Chapter 6 and 13.
 4. In case of conflict among the reference standards, the more stringent provisions shall govern and shall be resolved before installation at Contractor's expense. Prepare and secure approval for any clarifying details required by inspection authorities.
 5. Nothing in the Contract Documents shall be construed as authority to permit work not conforming to codes, ordinances, standards or regulations.
- B. Qualification of Installers:
1. Throughout the progress of installation of the work of each Section, provide where required as indicated in respective Sections, at least one manufacturer's authorized representative who shall be thoroughly familiar with the specified requirements, completely trained and experienced in the necessary skills, who shall be present at the job site and shall direct all work performed under that particular Section.
 2. Cutting and patching finish work shall be performed by workmen of the proper trade.
- C. Qualification of Manufacturers:
1. Manufacturers of the products supplied for this project shall have been in the business of manufacturing the particular product for at least five years and be able to prove a history of successful production acceptable to the Architect. As a condition for approval and when directed by the Architect, submit a list of past projects showing a minimum of five projects of similar scope to the Architect for approval.

2. Provide together with the Shop Drawing submittal, where called for in these Specifications, a list of five projects which shall have been in satisfactory operation for the past five years.

1.5 SUBMITTALS

- A. General: Comply with provisions of Section 013000.
- B. Samples: Follow procedure under General Conditions. Submit duplicate samples showing manufacturers' standard finishes, colors and textures for all equipment exposed to view.
- C. Manufacturers Data: Within 30 calendar days after award of Contract, submit:
 1. Complete materials list of all items proposed to be furnished and installed.
 2. Manufacturer's specifications and other data required to demonstrate compliance with the specified requirements.
 3. Unless specifically called for otherwise, provide bound copies of catalog cuts for standard products, not requiring specifically prepared Shop Drawings, for the following:
 - a. Conduit and raceways, including fittings, supports, spacers, etc.
 - b. Junction box and outlet box.
 - c. Wiring device and face plate.
 - d. Occupancy sensors and other lighting control components.
 - e. Conductor and connectors.
 - f. Underground warning and magnetic yellow tapes.
 - g. Grounding system components.
 4. Where more than one item, size, rating or other variations appear on a catalog cut sheet, clearly identify all items to be provided properly indexed and referenced to Architect's identification numbers, designations and/or details.
 5. Provide specially prepared Shop Drawings, including but not necessarily limited to:
 - a. Switchboard and Distribution Boards.
 - b. Integrated Power System.
 - c. Panelboards.
 - d. Short circuit, Over-current Device Coordination and Arc Flash Hazard Analyses.
 - e. Manhole/pull box.

- f. Typical hardware and accessories lay-out in the manhole.
 - 6. No work shall be initiated or fabrication of any equipment started prior to Architect's return of reviewed submittals.
 - D. Operating Instructions and Maintenance Manuals:
 - 1. Thoroughly instruct operating personnel designated by the District in the operation and maintenance of the equipment and systems installed.
 - 2. Following approval of Shop Drawings of electrical equipment and prior to acceptance of electrical work, prepare two copies of operating and maintenance manuals in accordance with Section 013300, describing operating, servicing, and maintenance requirements of electrical equipment installed under Division 26 with particular emphasis on safety devices. Operation and Maintenance Manuals shall cover electrical equipment and systems including but not limited to the following:
 - a. Integrated Power Center.
 - b. Switchboards and Distribution Boards.
 - c. Motor Control Center.
 - d. Lighting Control System.
 - E. Information contained in the manual for the above equipment shall include the following:
 - 1. Manufacturer's catalog cuts and printed descriptive bulletins.
 - 2. Manufacturer's installation, operating, and maintenance instruction booklets.
 - 3. Parts list and costs.
 - 4. List of recommended spare parts for 12 months' operation.
 - 5. Name, address, and phone number for closet source of spare parts.
 - 6. Wiring and schematic diagram.
- 1.6 PRODUCT HANDLING
- A. Protection: Protect materials before, during, and after installation and protect installed work and materials of all other trades.
 - B. Replacement: In the event of damage, immediately make all repairs and replacements necessary for the approval of the District's Representative and/or Architect and at no additional cost to the District.

- C. Delivery and Storage: Deliver all materials to the job site in their original unopened containers, where applicable, with all labels intact and legible at time of use. Store in strict accordance with the manufacturers' recommendations as approved by the District's Representative Inspector.

1.7 PERMITS

- A. General: Secure permits and pay all required fees for the installation of the electrical work.

1.8 RECORD DRAWINGS

- A. General: Refer to Specification Section 017700, Contract Close-Out, "Project Record Documents", for requirements.

1.9 CERTIFICATES

- A. General: Refer to Specification Section 017700, Contract Close-Out, for requirements.

1.10 GUARANTEE

- A. General: Refer to Specification Section 017700, Contract Close-Out, "Guarantee for Requirements."
- B. Manufacturers Guaranties: Submit guarantees for applicable equipment and devices.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. General: See General Conditions, Article titled "Materials".
 1. Architect shall be the sole judge of material conformance to Contract Documents. Equal products shall be as selected by the Architect.
 2. Materials and products shall be new and in perfect condition, and of the manufacturer's latest type and model. Unless otherwise noted, each material or product type shall be from one manufacturer only.
 3. Exterior mounted electrical boxes, devices and miscellaneous items shall be tamper-proof assemblies. Where not a standard feature, shop modify assembly to meet this requirement.
 4. Where devices or equipment is referred to or indicated in these documents or on the Drawings in the singular number, such reference shall be deemed to apply to as many such devices as are required to complete the intended installation as specified and/or as shown on the Drawings.
 5. In case of conflicts among Drawings and Specifications, the more stringent requirement, larger quantities, better qualities and/or more proper application and installation for the particular situation shall govern.

6. Wherever "finishes" are indicated to be selected by the Architect, such "finishes" shall include all standard as well as optional finishes offered by the Manufacturers.

7. Materials shall be UL listed where applicable.

B. Manufacturer and Catalog Numbers:

1. Where manufacturer and catalog numbers are indicated, the published data on the product by the manufacturer are deemed to be part of this specification.

2. Numbers used indicate basic minimum design and appearance required, and must be modified to meet all specific requirements of Contract Documents.

3. Before submitting bid, verify availability of such modification. Where manufacturers cannot meet these modifications, notify Architect 10 days prior to bid date and deem these products removed from approved list of equipment.

4. Act of submitting bid is certification that all equipment specified, with required modifications, is available from at least one manufacturer listed.

2.2 CONDUIT

A. General: Provide only new conduit with UL listing or label and deliver to the site in standard lengths.

B. Types:

1. Rigid Steel Conduit and Couplings: Hot-dipped galvanized or sherardized inside and out, with galvanized threads. Electro-galvanizing is not acceptable. Provide insulated throat metallic bushings.

2. Rigid Plastic Conduit: Extrude from virgin polyvinyl chloride compound, Schedule 40 heavy wall, in 10-foot lengths with couplings. Where threaded connection is required, provide Schedule 80 conduit.

2.3 GROUND ROD

A. Ground Electrode:

1. Install a grounding electrode constructed of 3/4-inch diameter by 10-foot long copper-weld rod driven vertically full length into the ground through the ground well.

2. Fill the inside of the ground well with a layer of fine sand and layer of crushed rock on top with the ground rod protruding approximately 3-inch above the two layers.

B. Acceptable Manufacturers: Provide J.A. Weaver W-3410 for the grounding electrode

PART 3 - EXECUTION

3.1 MATERIALS AND WORKMANSHIP

A. General:

1. Materials and equipment shall be installed in accordance with approved recommendations of the manufacturer and conforming to the Contract Documents. Devices and equipment are laid out per requirements of one manufacturer. Modify work and arrangements to suit actual equipment installed and pay for all additional cost incurred, if any. The installation shall conform to the applicable codes, rules, and regulations. The Drawings indicate, in diagrammatic form, the work to be done rather than exact routing, location and arrangement of equipment, conduit, and wiring. Make use of data in Contract Documents, verify against developed field conditions, install work in an orderly arrangement in a manner to overcome structural and other interference.
2. Study all Drawings and properly locate the outlets and equipment so that they are readily accessible. Locate equipment and outlets to avoid interference with mechanical or structural features. Do not support any electrical material, equipment or device from sheet metal roof decks or ductworks. If any conflicts occur necessitating departures from the Drawings, details of such departures and reasons therefore shall be submitted as soon as practicable for written approval.
3. Where developed conditions make revisions necessary to indicated locations and arrangements, Contractor shall make changes, at no additional cost, provided:
 - a. Change is ordered prior to time conduit is installed.
 - b. Length of conduit run is not changed more than 10%.
4. Architectural and structural drawings take precedence over electrical drawings in representation of general construction work, and drawings of various trades take precedence in representation of work of these trades. Refer to all Contract Documents and coordinate electrical work with other work.
5. Where discrepancies arise among the various Contract Documents, stop work in affected areas. Promptly notify Inspector of conditions.
6. Galvanic and chemical corrosion shall be prevented by isolating dissimilar metals and preventing contact of aluminum with concrete, plaster, mortar or earth.
7. All equipment shall be braced and/or anchored to meet the force and displacement requirements prescribed in the 2013 CBC.
8. The bracing and attachments to the structure shall be detailed on the approved drawings or they shall comply with one of the OSHPD pre-approvals (OPA #) as modified to satisfy anchorage requirements of ACI 318, Appendix D.
9. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads

3.2 WIRE AND WIRING METHODS

A. General:

1. Wiring and cable for all systems including low voltage, control circuits, and communication systems shall be installed in conduit or raceway unless otherwise noted.
2. Before installing conductors, remove debris and moisture from conduit and equipment enclosures. Use linseed soap, minerallac or other specifically approved wire pulling compound to facilitate the installation of conductors. Oil, grease or similar substances shall not be used as pulling compound.
3. Each circuit shall correspond to the branch circuit number or control circuit number as indicated. All control wiring shall conform to the wiring diagrams on the Drawings when indicated or as directed by Owner's Representative, and the manufacturer's wiring diagrams; and shall control the equipment in the manner specified under this and other Sections.

B. Splices:

1. Make joints, splices, taps and connections for 600-Volt conductors with solderless connections. Use only plated copper alloy connectors or lugs; aluminum connectors or lugs are not acceptable.
2. For copper conductors, the following connections are acceptable:
 - a. For #10 AWG and smaller: Use 3M "Scotchlok" or Ideal "Super Nut".
 - b. For #8 AWG and larger: Use T & B "Lock-Tie" connectors, Burndy Versitaps and heavy-duty connectors, or O.Z. solderless connectors.
3. Re-tighten all bolt type connectors 24 to 48 hours after initial installation and before taping.
4. Tape all connections made with non-insulated type connectors with rubber-type tape, 1-1/2 times the thickness of the conductor insulation, then cover with Scotch No. 33 tape.

C. Color Coding: Color code all feeders by means of factory color coded conductors. Each phase shall be the same color throughout the system and shall be a different color from other phases and other systems. The identified grounded neutral conductor shall be white, ground shall be green. Color coding for branch circuit wiring shall be per applicable codes and shall match those existing.

D. Tagging:

1. Neatly arrange and lace conductors in switchboards, panelboards, gutters and terminal cabinets by means of nylon twine, Scotch No. 33 tape, or T & B "Ty-Rap" ties.

2. Main and feeder cables shall be tagged in all boxes, panels, wireways, gutters and at terminal blocks. Tags shall identify where power source originates from, wire or cable number and equipment served and shall be made of flame resistant material.
 3. Tag wires for future use and tape exposed ends in same manner as required for non-insulated connectors.
- E. Voltage Drop: All branch circuits shall be limited to a maximum voltage drop of 2-1/2%. Increase branch circuit wire sizes where required to comply with this requirement. All feeders shall be limited to a maximum voltage drop of 1-1/2%.

3.3 CONDUIT AND TUBING

A. General:

1. Provide the type of conduit permitted in these Specifications or required for each location or condition per applicable codes and jurisdictions whichever is more stringent.
2. Where conduit penetrates fire-rated walls or floors, provide pipe sleeve two sizes larger than conduit; pack void around conduit with oakum and fill ends of sleeve with fire-resistive compound. Provide mechanical fire-stop fittings with UL listed fire rating equal to wall or floor rating. Seal opening around conduit with UL listed foamed silicone elastomer compound.

B. Conduit Usage:

1. Concrete or masonry in contact with earth and concrete block walls are not considered as dry locations.
2. Rigid plastic conduit, PVC Schedule 40, may be used only underground and below slabs on earth.
3. Use rigid metal conduit where Code required; where indicated as hazardous area; where exposed to the weather; where exposed at less than 7'-6" above the floor in areas accessible to anyone other than authorized operating or maintenance personnel; where underground; and where other types of conduits are not allowed in this Specification.

C. Supports:

1. Support conduit at Code required intervals as a minimum. Provide additional supports where required or as directed by the Architect.
2. Suspended conduit: Use malleable iron factory-made split-hinged pipe rings with threaded suspension rods sized for the weight to be carried (minimum 3/8-inch diameter), Kindorf or equal. For grouped conduits, construct racks with threaded rods and tiered angle-iron or unistrut cross members. Clamp each conduit individually to a cross member. Where rods are more than 12-inch long, provide rigid sway bracing.

3. Wherever conduit may be affected by movements of the supporting structures or medium, and where secured on both sides of building control joints, provide suitable flexible or expansion devices.
4. Conduits or pipe shall not be welded to steel structures.

D. Locations:

1. Route conduit to avoid drains equipment hatch, other gravity lines and all obstructions. Where conflicts occur, relocate conduit as required.
2. Keep conduit at least 6-inch from the coverings on hot water pipes; at least 18-inch from the covering on exhaust flues and breechings; and at least 24-inch from radiant heaters.
3. Where exposed conduit runs are permitted, run conduit parallel with or at right angles to structural members, walls or lines of the building. Route exposed conduit to preserve headroom, access space and work space.
4. Changes in direction of runs shall be made with symmetrical bends or cast metal fitting. Field-made bends and offsets shall be made with an approved hickey or conduit-bending machine. Bending radius shall not be less than those allowed in the NEC. Crushed or deformed raceways shall not be installed or when installed, shall be changed as directed by the Architect.
5. Conduit may be run in concrete members or slabs only with previous written permission of the Architect. Individual written permission shall be obtained for each conduit run or for conduits within each definitive area or for each particular condition.

E. Joints, Bends and Fittings:

1. Where conduit is underground, under slabs or grade, exposed to the weather, or in wet locations, make joints liquid tight and gas tight. Seal conduit entries with silicone sealant.
2. Threaded Conduit: Use red lead and oil applied to the male threads only and tighten joints securely. For underground or under slab conduits, apply a heavy coat of Pabco P & B No. 2 paint after installation to surfaces within 6" (150 mm) on both sides of fittings and to areas where wrenches or other tools have been applied. On exposed conduits, repair scratches and other defects with galvanizing repair stick, Enterprise Galvanizing "Galvabar", or equal.
3. Plastic Conduits: Use approved solvent-weld cement specifically manufactured for the purpose.
4. Bushings shall be installed on ends of all conduits and shall be of the insulating type where required by applicable codes.
5. Cut threads on rigid conduit to standard taper and to length such that bare metal exposed by the threading operation will be completely covered by the couplings or fittings used. In

addition, cut the lengths of the thread such that joints will become secure and wrench tight before conduit ends butt together in couplings and before conduit ends butt into the ends or shoulders of other fittings. Securely tighten threaded connections.

6. Keep bends and offsets in conduit runs to an absolute minimum. For the serving utilities, make large radius bends to meet their requirements. Replace deformed, flattened or kinked conduit.
 7. Rigid metal conduit of 1-1/4-inch trade size or larger: Provide large radius factory-made bends or field bend the conduit with a power bender designed for the purpose and utilizing bend forms sized for the conduit being bent.
 8. Plastic Conduit: Apply heat for bends so that conduit does not distort or discolor. Use a spring mandrel as required ensuring full inside diameter at bends.
 9. Bend conduit to radius no less than Code required minimum.
 10. For conduits entering or leaving hazardous areas, provide each conduit at point of entry and exit from such areas with sealing inlets whether indicated on Drawings or not. Fill each inlet with approved sealing compound.
- F. Underground Conduits and Duct Banks: Make installation in accordance with Section 260545.
- G. Conduit Stub-outs:
1. Unless otherwise indicated, all conduit stub-outs shall be minimum 4 or 5-inch as indicated in diameter and underground.
 2. Extend underground conduit stub-outs a minimum of 5-foot clear beyond building foundations, concrete walks, paving, other utilities and the like. Keep underground conduits a minimum of 10-foot clear of future building locations where indicated.
 3. Leave ends of underground stub-outs 6-inch clear of concrete envelope. Cap ends of steel conduit and wrap entire exposed portions with Scotchrap No. 50. Plug ends of nonmetallic conduit with Duxseal and cover with gravel and redwood planks for mechanical protection.
 4. Exact locations of stub-outs shall be indicated by a brass marker at finished grade and on Record Drawings.
- H. Conduit Stub-ups:
1. Use rigid steel conduit for stub-ups, 90-degree bends and risers to grade from other conduits. Stub-ups designated for future use shall be capped.
 2. Conduits stubbed up through concrete floors for connections to freestanding equipment shall be provided with a short elbow and an adjustable brass top or flush floor coupling set flush with the finished floor. Wiring shall be extended in rigid threaded conduit to the equipment, except that where required, flexible conduit to the equipment, except that

where required, flexible conduit may be used 6-inch above the floor. Screwdriver-operated threaded flush plugs shall be installed in conduits from which no equipment connections are made. Use oil or grease on top of coupling and in threads on plug to prevent sticking.

3. In utility rooms, electrical rooms, mechanical rooms and other unfinished areas not accessible to the public, terminate stub-ups to a minimum of 8-inch above floor unless otherwise indicated.

I. Empty Conduits:

1. Provide a nylon or polyethylene rope rated 250-lb tensile strength in each conduit more than 10-foot in length and left empty for future use. Not less than 10-inch of slack shall be left at end of the conduits.
2. Tag empty conduit at each accessible end identifying the purpose of the conduit and the location of the other end.
3. In wet, corrosive, outdoor or underground locations, use brass, bronze or copper No. 16 gauge tags or lead tags secured to conduit ends with No. 16 or larger galvanized wire. Inscribe on the tags with steel punch dies clear and complete identifying information.
4. In dry interior locations use metal-rimmed paper tags securely affixed with nylon twine. Inscribe on the tags with India ink, clear and complete identifying information.
5. Unused conduit openings shall be plugged or capped with a suitable device designed for the purpose. Caulking compound shall not be used for plugging empty conduits.

3.4 PENETRATIONS

- A. General: Penetrations in walls, floors or ceilings requiring protected openings shall be fire-stopped. Fire-stopping shall be of an approved material, securely installed and capable of maintaining its integrity when subjected to the time-temperature curve of State Fire Marshal Standard 12-43-3 and Standard 12-43-1. Manufacturer's instructions shall be made available to the inspection authority and kept at the job site.

3.5 MEMBRANE PENETRATION

- A. General: Where penetration through membrane cannot be avoided, cut and re-seal membrane at point of penetration as required.

3.6 PAINTING AND FINISHING

- A. General: Paint all electrical equipment exposed to view in public areas with one coat of primer. Finish coat painting will be provided under Section 09900. For equipment inside electrical room, mechanical room and utility closets accessible only to authorized maintenance personnel, standard manufacturer's finishes are acceptable.

3.7 GROUNDING

A. General:

1. Ground the neutral of each isolated AC or DC system having a neutral conductor with a system ground connection sized as indicated on the Drawings or per appropriate code requirement when not indicated. Ground clamps shall be readily accessible.
2. Resistance to ground shall not exceed 5-Ohm.

B. Ground Well:

1. In the event that a metallic cold water pipe system is not available or should the grounding system to the cold water line not provide the proper ground resistance as specified, install single or multiple ground wells to obtain the proper resistance.
2. Locate ground rods a minimum of 6-foot apart or as indicated. Connect rods with minimum #4/0 AWG stranded, medium-hard drawn bare copper ground wires. Install ground wires 6-inch below slabs or 18-inch below finished grade, laid slack and in contact with earth throughout. Make buried tapes or splices by an exothermic welding process, "Cadweld" (by Erico) or Burndy "Thermoweld", and connect to the rods with Burndy type GK connectors.
3. Longer ground rods driven to a greater depth may be used in lieu of additional ground wells or in conjunction with other ground wells to attain the specified ground resistance.
4. Provide a white colored insulated copper conductor in a rigid steel conduit from the system grounding points to the grounding electrode in the ground well. Connect the conductor to the electrode with a 2 bolt "Evedur" clamp.
5. Locate ground wells where accessible for inspection, maintenance and testing.

C. Equipment Ground:

1. Use the conduit system for equipment and enclosure grounding where separate ground wire is not specified.
2. Where nonmetallic conduits are used, provide a green color insulated copper ground conductor, of legal size, within the conduit and terminate properly to the equipment enclosures at each end. Enlarge size of conduit as required per applicable code(s).
3. Provide bonding devices, fittings or jumpers at expansion fittings or wherever continuity of grounding is not certain or where required by authorities having jurisdiction.
4. Provide, whether indicated on Drawings or not, each power feeder, single and multi-wire branch circuits (except those serving lights) with a separate green insulated ground wire, size as required by NEC, together in the circuit conduits and connect to the devices. Enlarge conduits where necessary to accommodate the ground wire. Conductor shield approved by conductor manufacturer may be used in lieu of a separate ground wire.

3.8 TESTS

- A. General: In addition to tests required by other sections, perform or cause to be performed in the presence of the Architect, all tests specified for electrical work when the work is substantially complete.
- B. Ground Resistance Test:
1. Employ a firm, qualified in such work, to measure resistance to grounding electrodes. Firm shall be approved by the Architect. Make tests before concrete is placed in affected areas in order that corrective measures, if required, may be taken.
 2. Test to demonstrate that the insulation resistance between phase conductors and ground to be not less than requirements of Title 24. All circuits shall be tested for neural connections.
 3. Test to demonstrate that the entire raceway, boxes and metallic enclosure system maintain electrical continuity and that the maximum resistance measured from any point on the system to a grounded point of reference does not exceed 5-Ohm.
 4. Submit to the Architect, a report showing the results of these measurements.
 5. If the resistances do not comply with the requirements of these Specifications, perform all corrective measures as directed by the Architect.
- C. Test of each duct for blockage or deformation after concrete has cured for 24 hours. Use a flexible mandrel/scrapper not less than 12-inch long with a diameter approximately 1/4-inch less than the inside diameter of the duct, pull a mandrel behind a stiff bristles brush.
1. Replace any duct section found blocked. Notify District Inspector 10 days before duct tests; submit written reports of tests to District Inspector.
- D. Service Voltage Test:
1. Measure the service voltages under no load and under maximum load conditions.
 2. Submit to the Architect, a report showing the results of these measurements.
 3. If, in the opinion of the Architect, the voltages regulation are not within acceptable limits make and complete arrangements with the utility company and/or other concerned agencies for proper electrical service.
- E. Operating Test: Upon completion of the work and adjustment of equipment, conduct an operating test and submit for approval at such time as the Architect directs. Conduct the test in the presence of the Architect and the District Inspector. Demonstrate systems and equipment to:
1. Operate in accordance with requirements of the Contract Documents.
 2. Be free from electrical and mechanical defects.

- F. Other Tests: Conduct all other and additional tests to assure the Architect that the electrical work is free from short circuits, grounds (ground faults) other than intentional grounds, and defective or damaged insulation. In addition, perform all tests that are required by authorities having jurisdiction or are requested by the Architect.
- G. Cost: All cost incurred, including required instruments and personnel for the tests shall be included on the bid price and paid for by the Contractor.

3.9 CLEANING

- A. General: Periodically remove waste and rubbish and maintain order. Clean and polish finished metal surfaces. Exposed materials, equipment and apparatus shall be thoroughly cleaned of dirt, rust, cement, plaster, etc., and have cracks and corners scraped out clean, and surfaces carefully cleaned of grease and oil spots and be left smooth and clean, with unfinished surfaces ready for painting. Clean grease, oil and other foreign substances from floors, walls, ceilings and fixtures, and leave premises clean and free from debris and unused construction materials, where caused by work under this Section. Completely clean insides of lighting fixtures removing dirt, bugs and other foreign substances.

3.10 COORDINATION

- A. General: Coordinate with each trade involved in the construction project. Work shall be fully laid out in advance, coordinating all features of construction, including control wiring between different systems.

3.11 QUALITY CONTROL

- A. General: Establish and maintain quality control for operations under this Section to ensure compliance with Contract requirements, and maintain records of quality control for all materials, equipment and construction operations.

3.12 INSPECTION

- A. Preparatory inspection shall be conducted prior to commencing work, as follows:
 1. Check to see that required shop drawings and other submittals have been made, are complete, and approved. Where exceptions have been taken to submittals, but approved subject to correction, check to verify that proper corrections have been made.
 2. Check materials and equipment upon delivery at job site for compliance with approved submittal. Verify for proper storage.
 3. Check layout drawings and details of interfaces with existing work, with interfaces and interrelations with work under other Divisions of the Specifications, and with interfaces with work performed.
 4. Check the actual conditions on the site for conformance with the above. Verify that conditions are ready for new work.

5. Review installation procedures and code requirements with each person involved in inspecting and performing the work.
 6. Review requirements of Drawings, Specifications, and the manufacturer's requirements and recommendations. In the event clarification or the Architect's decisions are required, such shall be obtained before proceeding with the work.
 7. Quiz personnel doing work to ensure their understanding of Contract requirements including workmanship and techniques.
 8. This inspection and the results thereof shall be recorded. Inspection records shall be made available for review by the Architect and the District Inspector at any time upon request.
- B. Initial inspection shall be conducted when a representative sample of the work is complete, as follows:
1. Review the representative sample of the work against the Specification and code requirements previously discussed at preparatory inspection. Review shall include, but is not to be limited to:
 - a. Layout and sub-grade work.
 - b. Conduit/raceway installation.
 - c. Equipment installation.
 - d. Grounding.
 - e. Manholes, hand holes, junction boxes, enclosures, etc.
 2. Note and discuss deficiencies observed and corrective action to be taken. If corrective action is to be taken, an additional inspection shall be conducted for compliance.
 3. This inspection and the results thereof shall be recorded. Inspection records shall be made available for review by the Architect or the District Inspector at any time upon request.
- C. Follow-up inspections shall be conducted daily to ensure compliance with corrections required by initial inspection, as follows:
1. Check completed work against corrected representative sample of work.
 2. Perform tests required by Contract to ensure compliance.
 3. This inspection and the results thereof shall be recorded. Inspection records shall be made available for review by the Architect or the District Inspector at any time upon request.

- D. Copies: Furnish the Architect a copy of these records and tests, as well as records of corrective action taken.

END OF SECTION

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SECTION 26 05 53 - IDENTIFICATION OF ELECTRICAL SYSTEMS**PART 1 - GENERAL****1.1 SUMMARY**

- A. This Section includes the following:
 - 1. Identification for conductors and communication and control cable.
 - 2. Warning labels and signs.
 - 3. Equipment identification labels.

1.2 SUBMITTALS

- A. Product Data: For each electrical identification product indicated.

1.3 QUALITY ASSURANCE

- A. Comply with ANSI A13.1.

1.4 COORDINATION

- A. Coordinate identification names, abbreviations, colors, and other features with requirements in the Contract Documents, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual, and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.

PART 2 - PRODUCTS**2.1 CONDUCTOR AND COMMUNICATION- AND CONTROL-CABLE IDENTIFICATION MATERIALS**

- A. Marker Tape: Vinyl or vinyl -cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.

2.2 WARNING LABELS AND SIGNS

- A. Comply with NFPA 70 and 29 CFR 1910.145.
- B. Self-Adhesive Warning Labels: Factory printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment, unless otherwise indicated.
- C. Baked-Enamel Warning Signs: Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application. 1/4-inch grommets in corners for mounting. Nominal size, 7 x 10-inch.

- D. Metal-Backed, Butyrate Warning Signs: Weather-resistant, non-fading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch galvanized-steel backing; and with colors, legend, and size required for application. 1/4-inch grommets in corners for mounting. Nominal size, 10 x 14-inch.
- E. Fasteners for Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.
- F. Warning label and sign shall include, but are not limited to, the following legends:
 - 1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
 - 2. Dimension in first subparagraph below is clear space prescribed in NFPA 70 (2002 Edition), Table 110-26(A)(1), for equipment with nominal voltage to ground of 151 to 600-Volt, and with grounded parts, including concrete, brick, or tile walls, opposite the equipment. Additional clear space is required at this voltage if there are unguarded exposed live parts on both sides of the workspace. Retain below and revise to suit Project conditions or requirements of authorities having jurisdiction, or indicate varying clearance requirements on Drawings.
 - 3. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES."
 - 4. Equipment containing or operating circuits more than 240-Volt nominal: Provide laminated plastic warning signs engraved in 1/2-inch high x 3/8-inch wide white letters on red background to read: "CAUTION HIGH VOLTAGE-XXX VOLT", XXX indicating actual voltage.
 - 5. Provide Arc Flash Name plate with PPE category information on each serviceable electrical equipment, which required maintenance and or calibration, including but not limited to Switchboards, Transformers, Disconnect Switches and Panels. PPE level shall be in accordance with the Arc Flash Hazard Analysis report done on the Short -circuit and Over-current device Coordination study

2.3 EQUIPMENT IDENTIFICATION LABELS

- A. Provide laminated plastic warning signs engraved in 1/2-inch high x 3/8-inch wide white letters on red background. Contractor must comply with NFPA 70 (2002 Edition), Article 110-22, "Identification of Disconnecting Means." Note that, unless otherwise indicated, the labeling products selected below will also be used for labeling that is not required by NFPA 70 but may be specified in Part 3 "Application" Article to identify equipment other than disconnect devices. See Evaluations.
- B. Provide three layers laminated plastic (micarta) nameplates engraved in 1/4-inch (minimum) high black letters on white background to correspond with the designations on the Drawings, electrical equipment nameplate shall be as follows:

1. The main nameplate shall give the equipment designation in 1/2-inch high letters, the second line in 1/4-inch high letters shall indicate the Amperage, Voltage-Phase, and Wire. The third line of same dimensions as the second line shall indicate where the equipment fed from. Following is an example of Panelboard nameplate:

PANEL "CHA"
225AMP, 480/277-VOLT, 3-PH, 4W
FED FROM "MS"

- C. Provide red letters on white background for emergency equipment.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Auxiliary Electrical Systems Conductor and Cable Identification: Use marker tape to identify field-installed alarm, control, signal, sound, intercommunications, voice, and data wiring connections.
 1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and cable pull points. Identify by system and circuit designation.
 2. Use system of designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
- B. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Comply with 29 CFR 1910.145 and apply metal-backed, butyrate warning signs. Identify system voltage with black letters on an orange background. Apply to exterior of door, cover, or other access.
 1. Equipment with Multiple Power or Control Sources: Apply to door or cover of equipment including, but not limited to, the following:
 - a. Power transfer switches.
 - b. Controls with external control power connections.
 2. Equipment Requiring Workspace Clearance According to NFPA 70: Unless otherwise indicated, apply to door or cover of equipment but not on flush panelboards and similar equipment in finished spaces.
- C. Coordinate paragraph and subparagraphs below with electrical Sections in Divisions 26, 27, and 28. Delete items not in Project.
- D. Equipment Identification Labels (name plates): On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.
 1. Labeling Instructions:

- a. Indoor Equipment: Provide laminated plastic nameplates engraved in black letters on white background, attached with rivets or self taping screws or with nuts and flat and lock washers.
 - b. Outdoor Equipment: Engraved, laminated acrylic or melamine label, drilled for screw attachment.
 - c. Elevated Components: Increase sizes of labels and legend to those appropriate for viewing from the floor.
 - d. Provide engraved branch circuit breaker numbering strip, screw or riveted on branch circuit and lighting panelboard internal trim. Permanent engraved numbering on internal trim is acceptable, sticker numbering system is not permitted.
 - e. Provide load schedules for all branch circuit and lighting panelboards, identifying type, size and location of load. Schedules shall be typewritten and protected by transparent plastic cover.
2. Equipment to be Labeled:
- a. Identification labeling of some items listed below may be required by individual Sections or by NFPA 70.
 - b. Panelboards, electrical cabinets, and enclosures.
 - c. Electrical switchgear and switchboards.
 - d. Transformers.
 - e. Substations.
 - f. Generators.
 - g. Motor-control centers.
 - h. Disconnect switches.
 - i. Enclosed circuit breakers.
 - j. Motor starters.
 - k. Push-button stations.
 - l. Power transfer equipment/MV Switches.
 - m. Contactors.
 - n. Pull boxes.

3.2 INSTALLATION

- A. Verify identity of each item before installing identification products.
- B. Coordinate first paragraph below with Drawings.
- C. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.

- D. Apply identification devices to surfaces that require finish after completing finish work.
- E. Retain paragraph below if self-adhesive identification products are specified.
- F. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- G. Retain paragraph below for nonadhesive signs or labels.
- H. Attach non-adhesive signs and plastic nameplates with rivets, or screws and auxiliary hardware appropriate to the location and substrate.
- I. Retain paragraph and subparagraphs below if color-coding of power and lighting conductors for voltage level identification is required to satisfy the Code, authorities having jurisdiction, or special Project requirements. If retaining, coordinate with Division 26 Section "Low-Voltage Electrical Power Conductors and Cables" and edit to indicate extent of color-coding required. Below applies only to phase conductors. Color-coding of grounded and grounding conductors is dictated by the Code.

END OF SECTION

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