



Ventura County Community College District

PURCHASING DEPARTMENT

Date: October 5, 2020

Dear Prospective Bidders,

Attached is the bid packet for **Bid 606 Ventura College Applied Science CNC Lab Project**

- **A mandatory Job-Walk will begin at 10:30 a.m. Tuesday, October 20, 2020.** Bidders are to meet at the Ventura College Maintenance and Operations Department, 4900 Loma Vista Rd., Ventura CA 93003.
- Following the job-walk, all further questions are to be emailed to the Purchasing Specialist as listed below.
The Deadline for Questions is 5:00 p.m., Tuesday, October 27, 2020.
- **The Deadline for Proposal Submission is 3:00 p.m., Wednesday, November 4, 2020.** Bid proposals should be enclosed in a sealed envelope, addressed and delivered to the Ventura County Community College District Purchasing Department, 761 E Daily Drive, Suite 200, Camarillo, CA, 93010, prior to this time. Each envelope shall bear the Title of the Project, the Project Number and the Name of the Bidder. No electronic proposals shall be accepted. Proposals that arrive after the time set will be returned to the Bidder unopened. It is the responsibility of the Bidder to verify that their proposal has been received by the VCCCD Purchasing Department prior to the opening date. Verification of receipt can be made through the listed Purchasing Specialist.
- Prevailing Wage is required. In accordance with Section §1773 of the California Labor Code, the Contractor shall post a copy of the determination prevailing rates of wages at each job site. A copy of these determinations, entitled "PREVAILING WAGE SCALE" is available to any interested party through the internet at: www.dir.ca.gov. The Contractor and any Subcontractor(s) shall not pay less than the specified prevailing rates of wages to all workers employed by them in execution of the contract.
- Each Bidder submitting a proposal to complete the work, labor, materials and/or services ("Work") subject to this procurement must be a Department of Industrial Relations registered contractor pursuant to Labor Code 1725.5("DIR Registered Contractor"). A Bidder who is not a DIR Registered Contractor when submitting a proposal for the work is deemed "not qualified" and the proposal of such a Bidder will be rejected for non-responsiveness. Pursuant to Labor Code 1725.5; all Subcontractors identified in a Bidder's Subcontractor List shall be DIR Registered Contractors. If awarded the Contract for the Work, at all times during performance of the work, the Bidder and all Subcontractors, of any tier shall be DIR Registered Contractors.
- Pursuant to Public Contract Code §3300, Bidder must possess a current Class B California Contractors License at the time that the Contract for the Work is awarded.
- The award shall be subject to final agreement on terms, conditions, and scope of work between VCCCD and Bidder.

Thank you for your interest in this project. You may contact me with any questions about this project at the email address listed below or by calling 805-652-5560.

Sincerely,

Janice Kisch

Purchasing Specialist / jkisch@vcccd.edu

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VENTURA COUNTY COMMUNITY COLLEGE DISTRICT NOTICE TO CONTRACTOR CALLING FOR BID

NOTICE IS HEREBY GIVEN that the above-named California Community College District, acting by and through its Board of Trustees, hereinafter referred to as “the District”, is calling for bids for **Bid 606 Ventura College Applied Science CNC Lab Project**. Bids will be received at Ventura County Community College District, 761 E Daily Drive, Suite 200, Camarillo, CA 93010, Attn: Purchasing Department up to but no later than 3:00 p.m. on Wednesday, 11/04/20, at which time bids will be opened and publicly read. All bid proposals must be sealed and submitted on forms furnished by the District. Each bid proposal must be accompanied by: (a) the required Bid Security; not less than 10% of the maximum amount of Bid Proposal inclusive of add-on or alternates, (b) Subcontractors List, (c) Non-Collusion Affidavit, and (d) Statement of Bidder’s Qualifications, all of which must be fully executed. Failure to comply shall render such proposal to be “Non Responsive” and rejected. Bid proposals must conform with and be responsive to the bid and contract documents. Copies may be obtained as PDF from the website at <https://purchasing.vcccd.edu/>

A mandatory Job-Walk will begin at 10:30 a.m., Tuesday, 10/20/20. Bidders are to meet at Ventura College Maintenance & Operations Dept, 4900 Loma Vista Road, Ventura, CA 93003. Pursuant to Public Contract Code §3300, Bidder must possess a current Class B Contractors License at the time that the contract for the work is awarded. Each Bidder submitting a proposal to complete the work, labor, materials and/or services (“Work”) subject to this procurement must be a Department of Industrial Relations registered contractor pursuant to Labor Code §1725.5 (“DIR Registered Contractor”). A Bidder who is not a DIR Registered Contractor when submitting a proposal for the work is deemed ‘not qualified’ and the proposal of such a Bidder will be rejected for non-responsiveness. Pursuant to Labor Code §1725.5; all Subcontractors identified in a Bidder’s Subcontractor List shall be DIR Registered Contractors. If awarded the Contract for the Work, at all times during performance of the work, the Bidder and all Subcontractors, of any tier shall be DIR Registered Contractors. In accordance with Section §1770 of the CA Labor Code, the Contractor shall post a copy of the determination prevailing rates of wages at each job site. In accordance with the provisions of CA Public Contract Code §22300, substitution of eligible and equivalent securities for any monies to ensure performance under the contract will be permitted at the request and expense of the Contractor.

The Owner reserves the right to reject any or all bid proposals or to waive any irregularities or informalities in any bid proposal or in the bidding.

Janice Kisch, Purchasing Specialist

Publication Dates: 10/7 & 10/14/20

INSTRUCTIONS FOR BIDDERS

Section 00100

1.01 Preparation and Submittal of Bid Proposal

- A. Bid Proposal Preparation.** All information required by the bid forms must be completely and accurately provided. Numbers shall be stated in both words and figures where so indicated in the bid forms; conflicts between a number stated in words and in figures are governed by the words, except where the figures represent an express, correctly calculated sum. Partially completed Bid Proposals may be deemed non-responsive. Bid Proposals submitted on other than the bid forms included herein shall be deemed non-responsive. 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. Each Bidder is solely responsible for all costs and expenses incurred by the Bidder in preparing and submitting a Bid Proposal to the District.
- B. Bid Proposal Submittal.** Bid Proposals shall be submitted at the place designated in the Call for Bids in sealed envelopes bearing on the outside the Bidder’s name and address along with an identification of the Work for which the Bid Proposal is submitted. Bidders are solely responsible for timely submission of Bid Proposals to the District at the place designated in the Call for Bids.
- C. Date and Time of Bid Proposal Submittal.** A Bid Proposal is considered submitted only if the outer envelope containing the Bid Proposal is stamped by the District’s date/time stamp machine at the place designated for submittal of the Bid Proposal. The date/time stamp is controlling and determinative as to the date and time of the Bidder’s submittal of its Bid Proposal. Bid Proposals received after the date and time specified in the Call for Bids are non-responsive and will be returned to the Bidder unopened.
- D. Alternate Bid Item(s).** If the Bid Proposal forms do not specifically call for the submittal of alternate bid item(s) and a Bidder submits alternate bid item(s), the District may deem the Bid Proposal to be non-responsive and reject the same. In the event that alternate item(s) are specifically called for in the Bid Proposal forms, any Bid Proposal which does not include bid(s) for the alternate item(s) may result in the Bid Proposal being deemed by the District to be non-responsive and rejected. In the event that bids for alternate item(s) are specifically called for in the Bid Proposal forms, the Bidder is referenced to the provisions of the Contract Documents permitting the District, during performance of the Work of the Contract Documents, to add or delete such alternate item(s) with the cost or credit (inclusive of all direct and indirect costs, supervision, overhead and profit) for such alternate item(s) to be in the amount(s) set forth in the Bidder’s Bid Proposal for such alternate item(s).

- 1.02 Bid Security.** Bid Security shall be in the form of: (a) cash, (b) a certified or cashier’s check made payable to the District or (c) a Bid Bond, in the form and content attached hereto, in favor of the District executed by the Bidder as a principal and an Admitted Surety Insurer under Code of Civil Procedure §§995.120 and 995.311 as surety (the “Bid Security”) in an amount not less than the percentage of the maximum amount of the Bid Proposal. Any Bid Proposal submitted without the required Bid Security is non-responsive and will be rejected.

- 1.03 Signatures.** All bid forms shall be executed by an individual duly authorized to execute the same on behalf of the Bidder.
- 1.04 Modifications.** Changes to the Bid Proposal which are not specifically called for or permitted may result in the District's rejection of the Bid Proposal as being non-responsive. No oral or telephonic modification of any submitted Bid Proposal will be considered. A written modification may be considered only if actually received by the District ten (10) days prior to the scheduled closing time for receipt of Bid Proposals.
- 1.05 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, inter-lineation or correction the surname(s) of the person(s) signing the Bid Proposal. Any Bid Proposal not conforming to the foregoing may be deemed by the District to be non-responsive. If any Bid Proposal, or portions thereof, is determined by the District to be illegible, ambiguous or inconsistent, the District may reject such a Bid Proposal as being non-responsive.
- 1.06 Examination of Site and Contract Documents.** Each Bidder shall, at its sole cost and expense, inspect the Site to become fully acquainted with the Contract Documents and conditions affecting the Work. The failure of a Bidder to receive or examine any of the Contract Documents or to inspect the Site shall not relieve such Bidder from any obligation with respect to the Bid Proposal, the Contract or the Work required under the Contract Documents. The District assumes no responsibility or liability to any Bidder for, nor shall the District be bound by, any understandings, representations or agreements of the District's agents, employees or officers concerning the Contract Documents or the Work made prior to execution of the Contract. The submission of a Bid Proposal shall be deemed prima facie evidence of the Bidder's full compliance with the requirements of this section.
- 1.07 Withdrawal of Bid Proposal.** Any Bidder may withdraw its Bid Proposal without penalty by written request received by the District prior to the scheduled closing time for the receipt of Bid Proposals. Requests for withdrawal of bid proposals after scheduled closing time shall be in accordance with Public Contract Code §§5100 et seq.
- 1.08 Documents Required Upon Award of Contract.** The Agreement which the successful Bidder, as Contractor, will be required to execute along with the other documents which will be required to be furnished are included in the Contract Documents and shall be carefully examined by the Bidder.
- 1.09 Interpretation of Drawings, Specifications or Contract Documents.** Any Bidder in doubt as to the true meaning of any part of the Contract Documents or who finds discrepancies, errors or omissions therein; or who finds variances in any of the Contract Documents with applicable rules, regulations, ordinances and/or laws, may submit to the District a written request for an interpretation or correction thereof. It is the sole and exclusive responsibility of the Bidder to submit such request not less than seven (7) days prior to the scheduled closing for the receipt of Bid Proposals. Interpretations or corrections of the Contract Documents will be by written addendum issued by the District, a copy of which will be sent to each Bidder who attends the mandatory pre-bid job walk. 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. 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.

- 1.10 Request for Substitutions Prior to Bid Opening.** Any Bidder may submit Request(s) for Substitution on the form provided herein (Section 01630), together with all substantiating data, no later than seven (7) days prior to the scheduled closing time for receipt of the Bid Proposals, in accordance with Public Contract Code §3400. The District shall use its best efforts to consider and act upon such Request for Substitution in a timely fashion. Actions taken, if any, concerning the Request for Substitution will be by written addendum issued by the District, a copy of which will be sent to each Bidder who attends the mandatory pre-bid job walk. In the absence of written addendum, the Request for Substitution shall be deemed denied for purposes of the District's evaluation of the Bid Proposals and award of the Contract.
- 1.11 District's Right to Modify Contract Documents.** Before the scheduled closing time for receipt of Bid Proposals, the District may modify the Work, the Contract Documents, or any portion(s) thereof by the issuance of written addenda disseminated to all Bidders who have attended the mandatory pre-bid job walk. If the District issues any addenda, the failure of any Bidder to acknowledge such addenda in its Bid Proposal may render the Bid Proposal non-responsive.
- 1.12 Bidders Interested in More Than One Bid Proposal.** 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.
- 1.13 Award of Contract**
- A. Waiver of Irregularities or Informalities.** The District reserves the right to reject any and all Bid Proposals or to waive any irregularities or informalities in any Bid Proposal or in the bidding.
 - B. Award to Lowest Responsive Responsible Bidder.** The award of the Contract, if any, will be to the responsible Bidder submitting the lowest responsive Bid Proposal on the basis of the Base Bid Proposal and accepted bid alternate items, if any.
 - C. Selection of Alternate Bid Items; Basis of Award of Contract.** The selection of Bid Alternates for determination of the lowest Bid Proposal will be based upon the Base Bid Proposal alone or a combination of the Base Bid Proposal and one or more Bid Alternates as selected by the District in accordance with the method for additive or deductive items specified in the bid solicitation.
 - D. Alternate Bid Items Not Included in Award of Contract.** During performance of the Work, it is the District's option to add or delete from the scope of the Work Alternate Bid Items that were not included in the award of Contract. District may elect to have work done at price(s) set forth in the Alternate Bid Items Proposal.
 - E. Responsive Bid Proposal.** A responsive Bid Proposal shall mean a Bid Proposal which conforms, in all material respects, to the Bid and Contract Documents.

F. Responsible Bidder. A responsible Bidder is a Bidder who has the capability in all respects to perform fully the requirements of the Contract Documents and the moral and business integrity and reliability that will assure good faith performance. In determining responsibility, the following criteria will be considered: (i) the ability, capacity and skill of the Bidder to perform the Work of the Contract Documents; (ii) whether the Bidder can perform the Work promptly and within the time specified, without delay or interference; (iii) the character, integrity, reputation, judgment, experience and efficiency of the Bidder; (iv) the quality of performance of the Bidder on previous contracts, by way of example only, the following information will be considered: (a) the administrative, consultant or other cost overruns incurred by the District on previous contracts with the Bidder; (b) the Bidder's compliance record with contract general conditions on other projects; (c) the submittal by the Bidder of excessive and/or unsubstantiated extra cost proposals and claims on other projects; (d) the Bidder's record for completion of work within the contract time and the Bidder's compliance with the scheduling and coordination requirements on other projects; (e) the Bidder's demonstrated cooperation with the District and other contractors on previous contracts; (f) whether the work performed and materials furnished on previous contracts was in accordance with the Contract Documents; (v) the previous and existing compliance by the Bidder with laws and ordinances relating to contracts; (vi) the sufficiency of the financial resources and ability of the Bidder to perform the work of the Contract Documents; (vii) the quality, availability and adaptability of the goods or services to the particular use required; (viii) the ability of the Bidder to provide future maintenance and service for the warranty period of the Contract; (ix) whether the Bidder is in arrears on debt or contract or is a defaulter on any surety bond; (x) such other information as may be secured by the District having a bearing on the decision to award the Contract, to include without limitation the ability, experience and commitment of the Bidder to properly and reasonably plan, schedule, coordinate and execute the Work of the Contract Documents and whether the Bidder has ever been debarred from bidding or found ineligible for bidding on any other projects. The ability of a Bidder to provide the required bonds will not of itself demonstrate responsibility of the Bidder. Upon request of the District, Bidder must promptly submit satisfactory evidence of any of the items listed above. The District may reject a Bidder or subcontractor that has failed to complete past Contract work for the District. The District reserves the right to reject any or all bid proposals or to waive any irregularities or informalities in any bid proposal or in the bidding.

G. Participation by Other Public Entities: Other public entities in the State of California may procure items and /or services off this bid under the same terms and conditions stated in this bid.

1.14 Subcontractors

A. Designation of Subcontractors; Subcontractors List. Each Bidder shall submit a list of its proposed Subcontractors for the proposed Work as required by the Subletting and Subcontracting Fair Practices Act (California Public Contract Code §§4100 et seq.) on the form furnished (Section 00215). The District may request that one or more apparent low Bidders provide to the District within twenty four (24) hours of bid opening the license numbers and value of work for each listed subcontractor submitted by Bidder. Any Bidder's failure to comply with the District's request may deem such Bidder's bid non-responsive and subject to rejection by the District.

B. Work of Subcontractors. 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 reasonably inferable from the Contract Documents is not a basis for adjustment of the Contract Price or the Contract Time.

- 1.15 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 Workers Compensation Insurance certificate provided in Section 00415 prior to performing any of the Work under the Contract.
- 1.16 Bid Security Return.** The Bid Security of three or more low Bidders, the number being solely at the discretion of the District, will be held by the District for ten (10) days after the period for which Bid Proposals must be held open (which is set forth in 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 will be returned to them.
- 1.17 Forfeiture of Bid Security.** If the Bidder awarded the Contract fails or refuses to execute the Agreement within seven (7) 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 Work to the responsible Bidder submitting the next lowest responsive Bid Proposal or may call for new bids, in District's sole and exclusive discretion.
- 1.18 Contractor's 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 the Contract Documents, in accordance with the Contractors License Law, California Business & Professions Code §§7000 et seq. This requirement is not a mere formality and cannot be waived by the District or its Board of Trustees. The required California Contractor's License classification(s) for the Work is set forth in the Call for Bids. The Contractor will be required to maintain the license(s) through the duration of the Contract. Any questions concerning a Contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 2600, Sacramento, CA 95826.
- 1.19 Anti-Discrimination.** 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 or marital status. All Bidders agree to comply with the District's anti-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.

1.20 Job-Walk

- A. District Conduct of Job-Walk.** The District will conduct a Job Walk at the time and place designated in the Call for Bids. Regardless of whether the Job Walk is or is not designated as being mandatory, the District may, in its sole and exclusive discretion, elect to conduct one or more Job Walks in addition to that set forth in the Call for Bids, in which event the District shall notify all Bidders who have obtained the Contract Documents pursuant to the Call for Bids of any such additional Job Walk. If the District elects to conduct any Job Walk in addition to that set

forth in the Call for Bids, the District shall, in its notice of any such additional Job Walks, indicate whether Bidders' attendance at such additional Job-Walks is/are mandatory; in the event that any such additional Job-Walks is/are designated as being mandatory, the provisions of this section 1.21 shall be deemed to apply to such additional Job-Walks.

- B. Mandatory Job Walk.** If the Job Walk is designated in the Call for Bids as being mandatory, the failure of any Bidder to have its authorized representative present at the Job Walk will be grounds for the District to reject such bid and the Bid Proposal will be returned to the Bidder unopened. Where the Job Walk is mandatory, a Bidder may have more than one authorized representative and/or representatives of its Subcontractors present at the Job Walk; provided, however that attendance by representatives of the Bidder's Subcontractors without attendance by a representative of the Bidder shall not be sufficient to meet the Bidder's obligations hereunder and will be grounds for the District to declare the Bid Proposal of such Bidder to be non-responsive. Notwithstanding any other provisions of the Call for Bids or these Instructions for Bidders, in the event that the Job Walk is designated in the Call for Bids as being mandatory, the District will not consider the Bid Proposal of any Bidder who has obtained the Bid and Contract Documents, pursuant to Call for Bids, after the date and time set forth therein for such mandatory Job Walk; any Bid Proposal submitted by any such Bidder shall be deemed non-responsive, rejected and returned unopened to the Bidder submitting the same.
- C. Non-Mandatory Job Walk.** Unless designated in the Call for Bids as being mandatory, the Job Walk shall be deemed non-mandatory. The failure of any Bidder to have its authorized representative(s) present at such non-mandatory Job Walk shall not be a basis for deeming the Bid Proposal of such Bidder to be non-responsive. The foregoing notwithstanding, all Bidders are encouraged to attend the Job Walk. In the event that the Job Walk is not designated as being mandatory, Bid and Contract Documents may be obtained by a Bidder, on or after the time designated for the Job Walk; in such event, if such Bidder desires a Job Walk to be conducted, it shall be the sole and exclusive responsibility of such Bidder to request, in writing, that the District conduct an additional Job Walk. The District may, in its sole and exclusive discretion, elect to conduct or not conduct such requested Job Walk with consideration of factors such as the time remaining before the scheduled closing time for the receipt of Bid Proposals; the District may condition the conducting of such requested Job Walk upon reimbursement, by the Bidder requesting such Job Walk, of the actual or reasonable costs of the District's personnel and/or the District's agents or representatives in arranging for and conducting such Job Walk. The election of the District not to conduct a Job Walk requested by a Bidder obtaining the Contract Documents after the date and time designated in the Call for Bids for the Job Walk shall not operate to waive, limit or restrict any of the provisions of the Contract Documents, the Bidder's submittal of a Bid Proposal in conformity with the Contract Documents, or if awarded the Contract, performance of the Work and other obligations in strict conformity with the Contract Documents. If the District elects to conduct an additional Job Walk requested by a Bidder who has obtained the Contract Documents after the time designated in the Call for Bids for the Job Walk, the District shall notify all other Bidders who have theretofore obtained the Contract Documents of such requested Job Walk and the date, time and place where such requested Job Walk will be conducted and all such other Bidders may attend such requested additional Job Walk.

1.21 Drug Free Workplace Certificate. In accordance with California Government Code §§8350 et seq., the Drug Free Workplace Act of 1990, the successful Bidder will be required to execute a Drug Free Workplace Certificate concurrently with execution of the Agreement. The successful Bidder will be required to implement and take the affirmative measures outlined in such provisions. Failure of the

successful Bidder to comply with the measures outlined in such provisions may result in penalties, including without limitation, the termination of the Agreement, the suspension of any payment of the Contract Price otherwise due under the Contract Documents and/or debarment of the successful Bidder.

1.22 Compliance with Immigration Reform and Control Act of 1986. The Bidder is solely and exclusively responsible for employment of individuals for the Work of the Contract in conformity with the Immigration Reform and Control Act of 1986, 8 USC §§1101 et seq. (“IRCA”); the successful Bidder shall also require that any person or entity employing labor in connection with any of the Work of the Contract shall so similarly comply with the IRCA.

1.23 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, 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 Contract will be considered.

1.24 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:

- A. The bid protest is in writing;
- B. The bid protest is filed and received by the District’s Purchasing Department not more than five (5) calendar days following the date of issuance of the District’s Notice of Intent to Award the Contract; and
- C. 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 creditable 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 Purchasing Department or designee, shall review and evaluate the basis of the bid protest. The District’s Purchasing Department or designee shall provide the Bidder submitting the bid protest with a written statement concurring with or denying the bid protest. The District’s Board of Trustees will render a final determination and disposition of a bid protest by taking action to adopt, modify or reject the disposition of a bid protest as reflected in the written statement of the District’s Purchasing Department or designee. Action by the District’s Board of Trustees relative to a bid protest shall be final and not subject to appeal or reconsideration by the District, any employee or officer of the District or the District’s Board of Trustees. The issuance of a written statement by the Purchasing Department (or designee) and subsequent action by the District’s Board of Trustees shall be express conditions precedent to the institution of any legal or equitable 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. In the event that any such legal or equitable 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 therefrom.

1.25 Public Records. All documents included in Bid Proposals become the exclusive property of the District upon submittal to the District. All Bid Proposals and other documents submitted in response to the Call for Bids become a matter of public record, except for information contained in such Bid Proposals deemed to be Trade Secrets (as defined in California Civil Code §3426.1). A Bidder that indiscriminately marks all or most of its Bid Proposal as exempt from disclosure as a public record, whether by the notations of "Trade Secret," "Confidential," "Proprietary," or otherwise, may render the Bid Proposal non-responsive and rejected. 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. At such time as 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, by request made to the District in conformity with the California Access to Public Records Act, California Government Code §§6250, et. seq.

1.26 Bidder and Subcontractors DIR Registered Contractor Status.

Bidder Status. In addition to other requirements established herein relating to Bidder qualifications, in order to be deemed “qualified” to submit a proposal for the Work, the Bidder must be a DIR Registered Contractor when submitting a proposal. The proposal of a Bidder who is not a DIR Registered Contractor when the proposal is submitted will be rejected for non-responsiveness.

Listed Subcontractor’s Status. All Subcontractors identified in a Bidder’s Subcontractor List shall be DIR Registered Contractors at the time of submittal of the proposal for the Work. The foregoing notwithstanding, a proposal is not subject to rejection for non-responsiveness when the Subcontractors List accompanying the proposal lists any Subcontractor(s) who is/are not DIR Registered Contractors if the listed subcontractors who are not DIR Registered become DIR Registered prior to the opening of proposals or become DIR Registered within twenty-four (24) hours of the opening of the proposals pursuant to Labor Code 1771.1 (c)(1) or (2). If the Subcontractors List accompanying the proposal lists any Subcontractor(s) who is/are not DIR Registered do not become registered prior to the opening of proposals or become DIR Registered within twenty four (24) hours of the opening of proposals pursuant to Labor Code 1771.1©(1) or (2), such proposal is not subject to rejection for non-responsiveness, provided that if the Bidder submitting the Subcontractors List with non-DIR registered Subcontractors is awarded the Contract for the Work, the Bidder shall request consent of the District to substitute another 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.

Additionally, all contractors and subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner (aka Division of Labor Standards Enforcement). The phase-in timetable for this requirement can be found on the following link at <http://www.cir.ca.gov/Public-Works/SB854.html> (also find all related SB854 related information).

1.27 Prevailing Wage Rates, Employment of Apprentices and Labor Compliance Program.

A. Payment of Prevailing Wage Rates. The Bidder and all potential Subcontractors shall utilize the relevant prevailing wage rate determinations in the PREVAILING WAGE SCALE established by the Director of the Department of Industrial Relations in effect on the first advertisement date of the Notice to Contractors Calling For Bids in preparing the Bid Proposal and all component price quotations. Pursuant to Labor Code §1773.2, copies of these determinations are maintained at the District’s Measure Y offices located at 740 West Woodbury Road, Pasadena, CA 91103, and are available to any interested party upon request. Copies of

rate schedules are also available on the Internet at http://www.dir.ca.gov/DIR/S&R/statistics_research.html.

- B. Apprenticeship Committee Contract Award Information.** Pursuant to Labor Code §1777.5 and Title 8 California Code of Regulations §230, the Contractor and Subcontractors of any tier who are not already approved to train by an apprenticeship program sponsor shall, within ten (10) calendar days of signing the Contract or Subcontract, as applicable, but in any event prior to the first day in which the Contractor or Subcontractor has workers employed on the Project, submit the Public Works Contract Award Information form (DAS form 140 included in Section 00900 of the Contract Specifications) to the appropriate local apprenticeship committees whose geographic area of operation include the area of the Project and who can supply apprentices to the Project. Contractors and Subcontractors must also submit a copy of the forms to the District.
- C. Statement of Employer Fringe Benefit Payments.** Within five (5) calendar days of signing the Contract or Subcontract, as applicable, the Statement of Employer Payments (DSLE Form PW 26 included in Section 00900 of the Specifications) must be completed and submitted to the District by each Contractor and Subcontractor of any tier who pays benefits to a third party trust, plan or fund for health and welfare benefits, vacation funds or makes pension contributions. The form must contain, for each worker classification, the fund or trust name, address, administrator, and amount per hour contributed and frequency of contributions. Training fund contributions must also be reported on this form. See Article 4.21.9 of the Contract General Conditions.
- D. Notice to Subcontractors.** Bidders shall notify all potential Subcontractors submitting price quotations for portions of the Work of the requirements concerning payment of prevailing wage rates, payroll records, hours of work, employment of apprentices and the District's LCP requirements and enforcement procedures set forth in Article 4.21 of Section 00700 (General Conditions) and Section 00900 of the Contract Specifications.

[End Of Section]

BID PROPOSAL

Section 00210

TO: **VENTURA COUNTY COMMUNITY COLLEGE DISTRICT**, a California Community College District, acting by and through its Board of Trustees ("District"), at 761 E. Daily Drive, Suite 200, Camarillo, CA 93010.

FROM:

(Name of Bidder - as listed on license)

(Address)

(City, State, Zip Code)

_____ *(Telephone)* _____ *(Fax)*

(E-Mail Address)

(Name(s) of Bidder's Authorized Representative(s) and Title)

1.01 Bid Proposal

A. Bid Proposal Amount

Pursuant to and in compliance with the Notice to Contractors Calling for Bids, the Instructions for Bidders and the other documents relating thereto, the undersigned Bidder, having reviewed the Instructions for Bidders and all other Contract Documents and upon compliance with all requirements therein with reference to the submittal of this Bid Proposal, hereby proposes and agrees to perform the Contract including, without limitation, all of its component parts; to perform everything required to be performed; to provide and furnish any and all of the labor, materials, tools, equipment, applicable taxes, and services necessary to perform the work of the Contract in strict compliance with the Contract Documents and complete in a workmanlike manner all of the Work required for the Project described as:

Bid 606 Ventura College Applied Science CNC Lab Project

Base Bid Amount: \$ _____
(Total bid amount in figures)

_____ Dollars
(Total bid amount in words)

B. Acknowledgment of Bid Addenda

In submitting this Bid Proposal, the undersigned Bidder acknowledges receipt of all Bid Addenda issued by or on behalf of the District, as set forth below. The Bidder confirms that this Bid Proposal incorporates and is inclusive of, all items or other matters contained in Bid Addenda.

_____ **No Addenda Issued**
(initial)

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

1.02 Rejection of Bid; Holding Open of Bid

It is understood that the District reserves the right to reject this Bid Proposal and that this Bid Proposal shall remain open and not be withdrawn for the period of time specified in the Call for Bids, except as provided by law.

1.03 Documents Comprising Bid Proposal

The undersigned Bidder has submitted as its Bid Proposal the following: Bid Proposal (00210), List of Subcontractors (00215), Non-Collusion Affidavit (00220), Statement of Bidder’s Qualifications (00240), Bid Security (Cash, Cashier’s Check, Certified Check or Bid Bond (00260) and Verification of DIR Registration.

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 as non-responsive.

1.04 Award of Contract

It is understood and agreed that if written notice of the acceptance of this Bid Proposal and award of the Contract thereon is mailed or delivered by the District to the undersigned after the opening of Bid Proposals and within the time this Bid Proposal is required to remain open or at any time thereafter before this Bid Proposal is withdrawn, the undersigned will execute and deliver to the District the Agreement in the form attached hereto in accordance with the Bid Proposal as accepted within seven (7) calendar days after notification of acceptance and award. Concurrently with delivery of the executed Agreement to the District, the Bidder awarded the Contract shall deliver to the District: (1) the Labor and Material Payment Bond; (2) the Performance Bond; (3) the Drug-Free Workplace Certificate; (4) Certificates of Insurance evidencing all insurance coverages required to be provided under the Contract Documents; and (5) the Certificate of Workers’ Compensation Insurance. The Work under the Contract Documents shall be commenced by the undersigned Bidder, if awarded the Contract, on the date stated in the District's Notice to Proceed issued pursuant to the Contract Documents.

Completion of the Work and all Interim Milestones shall be achieved within the Contract Time and Interim Milestones specified in the Contract Documents.

1.05 Notices

All notices or other correspondence shall be addressed to the District and the Bidder at their respective addresses set forth herein. Notices shall be effective only if in writing and in conformity with the requirements for service of notices set forth in the Contract Documents.

1.06 Contractor's License

The undersigned Bidder is currently and duly licensed in accordance with the California Contractors License Law, California Business & Professions Code §§7000 et seq., under the following:

License Number: _____
Class _____ Expiration Date _____ Class _____ Expiration Date _____
Class _____ Expiration Date _____ Class _____ Expiration Date _____

DIR Registration Number: _____ Expiration Date: _____

By executing this Bid Proposal, the Bidder hereby certifies that: (a) it is duly licensed, in the necessary class(es), for performing the Work of the Contract Documents; (b) that such license shall be in full force and effect throughout the duration of the performance of the Work under the Contract Documents; and (c) that all Subcontractors providing or performing any portion of the Work of the Contract Documents shall be so similarly and appropriately licensed to perform or provide such portion of the Work.

1.07 Designation of Subcontractors

In compliance with the Subletting and Subcontracting Fair Practices Act (California Public Contract Code §§4100, et seq.) and amendments thereof, each Bidder shall set forth in the Subcontractors List: (a) the name and location of the place of business of each Subcontractor who will perform work or labor or render services to the Bidder in or about the construction of the Work to be performed under the Contract Documents in an amount in excess of one-half of one percent (0.5%) of the Bidder's Bid Proposal; and (b) the trade and/or portion of the Work which will be performed by each listed Subcontractor. The Bidder shall list only one Subcontractor for each trade and/or portion of the Work as is defined by the Bidder in its Bid Proposal. If a Bidder fails to list a Subcontractor for a portion of the work in excess of one-half of one percent (0.5%) of the Bidder's Bid Proposal or if the Bidder specifies more than one Subcontractor for the same portion of Work to be performed under the Contract Documents valued in excess of one-half of one percent (0.5%) of the Bidder's Bid Proposal amount, the Bidder shall be deemed to have agreed that it is fully qualified to perform that portion of the Work itself and that it shall perform that portion of the Work.

1.08 Confirmation of Figures

By submitting this Bid Proposal, 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 errors or omissions on the part of the undersigned Bidder in preparing and submitting this Bid Proposal. All amounts will be entered on the proposal in the written amount and listed in figures. In the event there is a discrepancy between the bidder's written amounts and figures, the written amount will prevail.

1.09 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. The undersigned Bidder certifies that the Contract Documents are, in its opinion, adequate, feasible and complete for providing, performing and constructing the Work in a sound and suitable manner for the use specified and intended by the Contract Documents. The undersigned Bidder certifies 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. The undersigned Bidder certifies that its bid amount includes funds sufficient to allow the Bidder to comply with all applicable local, state and federal laws and regulations governing the labor and services to be provided for the performance of the Work of the Contract and shall indemnify, defend and hold District harmless from and against any and all claims, demands, losses, liabilities and damages arising out of or relating to Bidder's failure to comply with applicable law in this regard.

By: _____
(Signature & Date)

(Corporate Seal)

(Typed or Printed Name of Bidder's Authorized Representative)

Title: _____

Date: _____

[End Of Section]

LIST OF SUBCONTRACTORS
Section 00215

| 1. Licensed Name of Subcontractor | 2. Address of Office, Mill or Shop | 3. Trade or Portion of Work | 4. Subcontractor's License Number | 4. DIR Registration Number | 5. \$ Value of Work |
|-----------------------------------|------------------------------------|-----------------------------|-----------------------------------|----------------------------|--|
| | | | Requested by District | Requested by District | Fill out ONLY if requested by District |
| | | | Requested by District | Requested by District | Fill out ONLY if requested by District |
| | | | Requested by District | Requested by District | Fill out ONLY if requested by District |
| | | | Requested by District | Requested by District | Fill out ONLY if requested by District |
| | | | Requested by District | Requested by District | Fill out ONLY if requested by District |
| | | | Requested by District | Requested by District | Fill out ONLY if requested by District |
| | | | Requested by District | Requested by District | Fill out ONLY if requested by District |
| | | | Requested by District | Requested by District | Fill out ONLY if requested by District |
| | | | Requested by District | Requested by District | Fill out ONLY if requested by District |

Name of Vendor: _____ **Authorized Signature:** _____

[Duplicate and attach additional page(s) as required.]

NON-COLLUSION AFFIDAVIT

Section 00220

STATE OF CALIFORNIA
COUNTY OF _____

I, _____ being first duly sworn, depose and say that I am
(Typed or Printed Name)
the _____ of _____,
(Title) *(Bidder Name)*
the party submitting the foregoing Bid Proposal (the "Bidder"). In connection with the foregoing Bid Proposal, the undersigned declares, states and certifies that:

- 1.01 The Bid Proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization or corporation.
- 1.02 The Bid Proposal is genuine and not collusive or sham.
- 1.03 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.
- 1.04 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.
- 1.05 All statements contained in the Bid Proposal and related documents are true.
- 1.06 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.

Signature

Address

Name Printed or Typed

City, County and State

(_____)
Area Code and Telephone Number

STATEMENT OF BIDDER'S QUALIFICATIONS
Section 00240

1.01 Bidder's Organization

A. Form of entity of Bidder, i.e, corporation, partnership, etc. _____

1. If a corporation, state the following: _____
State of Incorporation: _____
Date of Incorporation: _____
President/Chief Executive Officer: _____
Secretary: _____
Treasure/Chief Financial Officer: _____

2. If a partnership, state the following:
Date of Organization: _____
Type of Partnership (general, limited): _____
Names of all general partners; if any of the general partners are not natural persons, provide the information for each such general partner requested by Paragraphs 1.01.A.1, 1.01.A.2 and 1.01.A.4 as appropriate: _____

3. If a proprietorship, state the following:
Names of all proprietors: _____

4. If a joint venture, state the following: _____
Date of organization: _____
Names of all Joint Venture members. For each Joint Venture member, identify the form of entity and provide the information requested by Paragraphs 1.01.A.1, 1.01.A.2 and 1.01.1.C for each Joint Venture member as appropriate: _____

5. Bidder's form of entity is other than listed above, describe the type of entity or organization and identify all principals or owners of equity in the entity or organization _____

B. Number of years your organization has been in business as a contractor: _____
Organization longevity must also be in compliance with item 1.03 C. Licensing, and have been in business with the advertised classification for a minimum of 5 years. Do you meet this qualification? ____ Yes ____ No

C. Number of years your organization has conducted business under its present name: _____

1. If your organization has conducted business under a name or name style different than your organization's present name, identify all prior name(s) or name style(s): _____

2. For each name or name style identified in Paragraph 1.01.C.1, state the dates during which you conducted business under each name or style: ____

1.02 Financial

A. Attach a current audited, reviewed or compiled Financial Statement for your organization prepared by a Certified Public Accountant licensed under the laws of the State of California utilizing generally accepted accounting practices applied in a consistent manner. The Financial Statement must include a current balance sheet and income statement showing: (i) current assets (i.e., cash, accounts receivable, accrued income, deposits, material inventory, etc.); (ii) net fixed assets; (iii) other assets; (iv) current liabilities (i.e., accounts payable, accrued salaries, accrued payroll taxes, etc.); and (v) other liabilities (i.e., capital, capital stock, earned surplus, retained earnings, etc.).

B. Is the attached Financial Statement for the identical organization as the Bidder?
_____ Yes _____ No.

If not, explain the relationship and financial responsibility of the organization whose Financial Statement is provided (i.e., parent/subsidiary, etc.).

1.03 Licensing

A. California Contractors License:

License Number: _____

Expiration Date: _____

Responsible Managing Employee/Officer: _____

License Classification(s): _____

B. Has a claim or other demand ever been made against your organization's California Contractors License Bond? _____ Yes _____ No

If yes, on a separate attachment, state the following: (i) the name, address and telephone number of each person or entity making claim or demand; (ii) the date of each claim or demand; (iii) the circumstances giving rise to each such claim or demand; and (iv) the disposition of each such claim or demand.

C. The District requires a minimum of 5 years of licensed work experience within the Contractor Classification advertised, with no gaps in license coverage or change of company name. State the number of years this company has performed work under the above and advertised classification: _____ years.

D. Has a complaint ever been filed against your organization's California Contractors License with the California Contractors State License Board?

_____ Yes _____ No

If yes, on a separate attachment, state the following for each complaint: (i) the name, address and telephone number of each person or entity making the complaint; (ii) the date of each complaint; (iii) the circumstances giving rise to each such complaint; and (iv) the disposition of each such complaint, including without limitation, any disciplinary or other action imposed or taken by the California Contractors State License Board as a result of any such complaint.

E. Attach to this Statement true and correct copies of the following:

1. Your organization's California Contractors License (the copy must clearly and legibly show: (i) the licensee name; (ii) the expiration date; (iii) the classification(s) of licensure).
2. The Contractors License Bond posted by your organization in connection with your California Contractors License pursuant to California Business & Professions Code §§7071.5 and 7071.6.
3. If your organization's California Contractors License is issued by virtue of the qualification of a responsible managing employee or responsible managing officer, the Qualifiers Bond if required pursuant to California Business & Professions Code §7071.9).

- F. Attach to this statement a copy of the Contractors DIR Registration.
1. Each Bidder submitting a proposal to complete the work, labor, materials and/or services (“Work”) subject to this procurement must be a Department of Industrial Relations registered contractor pursuant to Labor Code 1725.5 (“DIR Registered Contractor”).
 2. Pursuant to Labor Code 1725.5; all Subcontractors identified in a Bidder’s Subcontractor List shall be DIR Registered Contractors.
 3. If awarded the Contract for the Work, at all times during performance of the work, the Bidder and all Subcontractors, of any tier shall be DIR Registered Contractors.

1.04 Experience

A. List the categories of work your organization typically performs with your own forces: _____

B. Claims and lawsuits (if you answer yes to any of the following, you must attach details).

1. Have any lawsuits or other administrative, legal, arbitration or other proceedings, ever been brought or commenced against your organization or any of its principals, officers or equity owners in connection with any construction contract or construction project? _____ Yes _____ No

If so, describe the circumstances, the amount demanded or other relief demand and the disposition of each such lawsuit or other proceeding.

2. Has your organization ever filed a lawsuit or commenced other administrative, legal or other proceedings in connection with any construction contract or construction project? _____ Yes _____ No

If so, describe the circumstances, the amount demanded or other relief demand and the disposition of each such lawsuit or other proceeding.

3. Are there any judgments, orders, decrees or arbitration awards pending, outstanding against your organization or any of the officers, directors, employees or principals of your organization? _____ Yes _____ No

If so, describe each such judgment, order, decree or arbitration award and the present status of the satisfaction or discharge thereof.

C. On a separate attachment, list all construction projects your organization has in progress and for each project listed, state: (i) a general description of the work performed by your organization on the project; (ii) the dollar value of the work performed or to be performed by your organization; (iii) the owner's name, name of the owner's representative and the address and telephone number of the owner and the owner's representative; (iv) the project architect's name, address, telephone number and contact person; (v) percent presently complete; and (vi) the current scheduled completion date.

D. On a separate attachment, list all construction projects completed by your organization in the past five (5) years and for each project identified, state: (i) a general description of the work performed by your organization on the project; (ii) the dollar value of the work performed or to be performed by your organization; (iii) the owner's name, name of the owner's representative and the address and telephone number of the owner and the owner's representative; (iv) the project architect's name, address, telephone number and contact person; (v) percent presently complete; and (vi) the current scheduled completion date.

E. Has your organization ever refused to sign a contract awarded to it?
_____ Yes _____ No

If so, on a separate attachment, state the following: (i) describe each such contract; (ii) the owner's name, address, telephone number and contact person; and (iii) the circumstances of your refusal to sign such contract.

F. Has your organization ever failed to complete a construction contract?
_____ Yes _____ No

If so, on a separate attachment, state the following: (i) describe each such contract; (ii) the owner's name, address, telephone number and contact person; and (iii) the circumstances of your failure to complete such contract.

G. Has your organization ever been declared in default of a construction contract?
_____ Yes _____ No

If so, on a separate attachment, state the following: (i) describe each such contract; (ii) the owner's name, address, telephone number and contact person; and (iii) the circumstances of each such declaration of default.

H. Has any construction contract to which your organization is a party been terminated for the convenience of the project owner? _____ Yes _____ No

If so, identify the project and project owner along with a description of the circumstances under which the convenience termination occurred.

I. Has a claim or other demand ever been asserted against any Bid Bond, Performance Bond, or Payment Bond posted by your organization in connection with any construction contract or your submittal of a bid proposal for a

construction contract? _____ Yes _____ No

If so, on a separate attachment, state the following: (i) the name, address, telephone number and contact person for each claimant; (ii) the date upon which each such demand or claim was made; and (iii) the disposition of each such demand or claim.

1.05 References (include name, contact person, telephone, email address, fax and address for each reference provided)

A. Trade References (three (3) minimum) _____

B. Bank References _____

C. Public Works Inspectors of Record _____

D. Owner references (must have completed at least two (2) Federal, State, K-12 or higher education building projects in the past five (5) years. Please list these two (2) projects and at least one (1) other Owner referenced, preferably another Federal, State, K-12 or higher education project). _____

E. Insurance Carriers (General Liability, Auto, and Workers' Compensation) _____

F. Surety Firms (issuing your Bid, Performance and Payment Bonds) _____

1.06 Accuracy and Authority

The undersigned is duly authorized to execute this Statement of Bidders Qualifications under penalty of perjury on behalf of the Bidder. The undersigned warrants and represents that he/she has personal knowledge of each of the responses to this Statement of Bidder's 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 Bidder's Qualifications.

The undersigned declares and certifies that the responses to this Statement of Bidder's 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.

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.

(Signature)

(Typed or written name)

[End Of Section]

BID SECURITY BOND

Section 00260

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, as Principal, and _____, as Surety, are held and firmly bound, along with our respective heirs, executors, administrators, successors and assigns, jointly and severally, unto **VENTURA COUNTY COMMUNITY COLLEGE DISTRICT**, hereinafter "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 for the Work commonly described as **Bid 606 Ventura College Applied Science CNC Lab Project** and the Bid Proposal must be accompanied by Bid Security.

WHEREAS, subject to the terms of this Bond, the Surety is firmly bound unto the Obligee in the penal sum of **TEN PERCENT (10%)** of the maximum amount of the Bid Proposal submitted by the Principal to the Obligee, as set forth above, inclusive of additive 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 or otherwise procuring said Work or supplies, 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 thereunder, the Drawings or the Specifications accompanying the same, or any other portion of the Contract Documents shall in any 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 that suit or other proceeding is brought upon this Bond by the Obligee, the Surety shall pay to the Obligee all costs, expenses and 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:

(corporate Seal)

(Principal's Name)

By: _____
(Signature)

(Typed or Printed Name & Title)

(Address)

Surety:

(Corporate Seal)

(Surety's Name)

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

(Attach Attorney-in-Fact Certificate)

(Typed or Printed Name)

(Address of Surety's Office where Bond is issued)

(Area Code and Telephone Number of Surety)

**SECTION 00310
AGREEMENT**

THIS AGREEMENT is made this ____ day of _____, 2020__, in the City of Camarillo, County of Ventura, State of California, by and between VENTURA COUNTY COMMUNITY COLLEGE DISTRICT, a California Community College District, hereinafter called the “District” and _____, hereinafter called the “Contractor”, with a principal place of business located at _____.

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

1.01 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 **Bid 606 Ventura College Applied Science CNC Lab Project**.

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 Article 5 below, along with all modifications and addenda thereto issued in accordance with the Contract Documents.

1.02 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 within 80 consecutive calendar days after the date stated in the District’s Notice to Proceed (see Section 1.01 of the Contract Special Conditions and as otherwise provided in the Contract Documents).

The Awarded Bidder must meet with the Facilities, Maintenance and Operations Director within one week of award to schedule work and accommodate any special conditions called out by Campus Director.

1.03 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 any additions or deduction as provided for in the Contract Documents, the Contract Price of _____ Dollars \$ _____).

The Contract Price is based upon the Contractor’s Base Bid Proposal and the following Alternate Bid Items, if any:

The District’s payment of the Contract Price shall be in accordance with the Contract Documents.

1.04 Liquidated Damages. In the event of the failure or refusal of the Contractor to achieve Completion of the Work of the Contract Documents within the Contract Time, as adjusted, the Contractor shall be subject to assessment of Liquidated Damages in accordance with the Contract Documents.

1.05 The Contract Documents. The Contract Documents consist of the following:

- | | |
|--|-------------------------------------|
| Notice to Contractors Calling for Bids | Labor and Material Payment Bond |
| Instructions for Bidders | Performance Bond |
| Bid Proposal | Certificate of Workers Compensation |
| Subcontractors List | Drug Free Workplace Certification |
| Non-Collusion Affidavit | General Conditions |
| Statement of Bidder's Qualifications | Special Conditions |
| Bid Bond | Specifications |
| Agreement | Drawings |
| Labor Compliance Program | Guarantee |
| Proof of DIR Registration Per SB 854 | |

1.06 Award of Contract. The award shall be subject to final agreement on terms, conditions, and scope of work between VCCCD and Bidder.

1.07 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.

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

DISTRICT:

CONTRACTOR:

VENTURA COUNTY COMMUNITY
COLLEGE DISTRICT,
a California Community College District

(Contractor's License Number)

By: _____

By: _____

Name: Terry Cobos

Name: _____

Title: Director of General Services

Title: _____

[Corporate Seal]

[End Of Section]

LABOR AND MATERIAL PAYMENT BOND

Section 00400

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, as Principal, and _____, as Surety, are held and firmly bound, along with our respective heirs, executors, administrators, successors and assigns, jointly and severally, unto **VENTURA COUNTY COMMUNITY COLLEGE DISTRICT**, hereinafter "Obligee", for payment of the penal sum of _____ Dollars (\$) in lawful money of the United States, as more particularly set forth herein.

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 commonly described as **Bid 606 Ventura College Applied Science CNC Lab Project**.

WHEREAS, the Principal, on or about _____, 20____, entered into a Contract 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 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 §3181, 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 that 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 §3250.

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.

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

(Corporate Seal)

(Principal Name)

By: _____

(Signature)

(Typed or Printed Name)

Title: _____

(Corporate Seal)

(Surety Name)

By: _____

(Signature of Attorney-in-Fact for Surety)

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

(Attach Attorney-in-Fact Certificate)

(Address)

(Area Code and Telephone Number of Surety)

[End of Section]

PERFORMANCE BOND

Section 00410

KNOW ALL MEN BY THESE PRESENTS:

That we _____, as Principal, and _____, as Surety, are held and firmly bound, along with our respective heirs, executors, administrators, successors and assigns, jointly and severally, unto **VENTURA COUNTY COMMUNITY COLLEGE DISTRICT**, hereinafter "Obligee", for payment of the penal sum of _____ Dollars (\$) in lawful money of the United States, as more particularly set forth herein.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by action of its Board of Trustees, has awarded to the Principal a Contract for the Work commonly described as **Bid 606 Ventura College Applied Science CNC Lab Project**.

WHEREAS, the Principal, on or about _____ 20__, entered into a contract 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 ("Contract"), the Principal is required to furnish a bond ensuring the Principal's prompt, full and faithful performance of the Work of the Contract.

WHEREAS, the Principal and the Surety, jointly and severally, bind themselves, their heirs, executors, administrative, successors and assigns, to the Obligee for the prompt, full and faithful performance of the Contract, which is incorporated herein by this reference.

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 as said Contract 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, stop notices, costs, and fees of every description, whether imposed by law or equity, 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, 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.

In the event the Principal is declared by the Obligee to be in breach or default in the performance of the Contract, then, after written notice from the Obligee to the Surety, as provided for herein, the Surety shall either remedy the default or breach of the Principal or shall take charge of the Work of the Contract and complete the Contract with a Contractor other than the Principal at its own expense; 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.

If the Surety does not proceed to cure or remedy the Principal's default(s) of its performance of the Contract with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen (15) calendar days after receipt of a written notice from Obligees to the Surety demanding that the Surety perform its obligations under this Bond, and the Obligees shall be entitled to enforce any remedy available to Obligees.

Within fifteen (15) calendar days of Obligees' written notice to the Surety of the failure of performance of the Contract by the Principal, it shall be the duty of the Surety to give to the Obligees an unequivocal notice in writing of the Surety's election to remedy the default(s) of the Principal promptly, or to arrange for performance of the Contract promptly by a Contractor other than the Principal, time being of essence to this Bond. In said Notice of Election, the Surety shall state the date of commencement of its cure or remedy of the Principal's default(s) or its performance of the Contract. The Surety's obligations for cure or remedy, include but are not limited to: correction of defective or incomplete work and completion of the Contract, additional legal, design professional and delay costs arising from Surety's actions or failure to act; and liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance by the Principal. The Surety shall give prompt written notice to the Obligees upon completion of the cure or remedy of the Principal's default(s) of its performance of the Contract.

In the event the Surety shall fail to issue its Notice of Election to Obligees within the time provided for herein above, the Obligees 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 each jointly and severally liable to the Obligees for all damages and costs sustained by the Obligees 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 exceeding the then remaining balance of the Contract Price.

The Surety, for value received, hereby stipulates and agrees that no change or adjustment of the Contract Time or Contract Price, alterations, deletions, additions or any other modifications to the Contract Documents, or the Work to be performed thereunder, shall in any way limit, restrict, or otherwise affect the obligations of the Surety under this Bond. Surety waives notice of any change or adjustment of the Contract Time or Contract Price, alterations, deletions, additions or any other modifications to the Contract Documents, or the Work to be performed thereunder and agrees to automatically adjust the penal sum of this Bond to reflect any adjustments of the Contract Time or Contract Price which increase the Contract Price.

Principal and Surety agree that if Obligees is required to engage the services of an attorney in connection with enforcement of this Bond, each shall pay Obligees' costs and reasonable attorney's fees incurred, with or without suit, in addition to the above penal sum.

The guarantees contained in this Bond survive Final Completion of the Work called for in the Contract Documents with respect to the obligations and liabilities of the Principal, which survive Final Completion of the Work.

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

(Corporate Seal)

(Principal Name)

By: _____

(Signature)

(Typed or Printed Name)

Title: _____

(Corporate Seal)

(Surety Name)

By: _____

(Signature of Attorney-in-Fact for Surety)

(Attach Attorney-in-Fact Certificate)

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

(Address)

(Area Code and Telephone Number of Surety)

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

Section 00415

I, _____ the _____,
(Name) *(Title)*
of _____, declare, state and certify that:
(Contractor Name)

1.01 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."

1.02 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.

By: _____
(Signature)

(Date)

DRUG-FREE WORKPLACE CERTIFICATION

Section 00417

I, _____ the _____,
(Name) (Title)
of _____, declare, state and certify that:
(Contractor Name)

1.01 I am aware of the provisions and requirements of California Government Code §§8350 et seq., the Drug Free Workplace Act of 1990.

1.02 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:

A. 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;

B. Establishing a drug-free awareness program to inform employees about all of the following:

1. The dangers of drug abuse in the workplace;
2. Contractor's policy of maintaining a drug-free workplace;
3. The availability of drug counseling, rehabilitation and employee-assistance programs; and
4. The penalties that may be imposed upon employees for drug abuse violations;

C. Requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by subdivision (A), 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.

1.03 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: (a) the prohibition of any controlled substance in the workplace, (b) establishing a drug-free awareness program, and (c) 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.

- 1.04 Contractor and I understand that if the District determines that Contractor has either: (a) made a false certification herein, or (b) 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.
- 1.05 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 at _____ this _____ day of _____, 20__
(City and State)

(Signature)

(Typed or Printed Name)

GUARANTEE

Section 00420

_____ (*Contractor's Name*) hereby unconditionally guarantees that the work performed under and pursuant to the Ventura County Community College District (District) project known as the **Bid 606 Ventura College Applied Science CNC Lab Project**. ("Project") has been done in strict accordance with the requirements of the Contract and therefore further guarantees the work of the contract to be and remain free of defects in workmanship and materials for a period of one (1) year from the date of completion of the contract, unless a longer guarantee period is called for by the Contract Documents, in which case the terms of the longer guarantee shall govern. The Contractor hereby agrees to repair or replace any and all work, together with any other work which may have been damaged or displaced in so doing, that may prove to be not in accordance with the requirements of the Contract or that may be defective in its workmanship or materials within the guarantee period specified, without any expense whatsoever to the District, ordinary wear and tear and unusual abuse and neglect only excepted. The Contractor has provided contract bonds which will remain in full force and effect during the guarantee period.

The Contractor further agrees that within ten (10) calendar days after being notified in writing by the District of any work not in accordance with the requirements of the contract or any defects in the work, he will commence and prosecute with due diligence all work necessary to fulfill the terms of this guarantee, and to complete the work within a reasonable period of time. In the event he fails to so comply, he does hereby authorize the District to proceed to have such work done at the Contractor's expense and he will pay the cost thereof upon demand. The District shall be entitled to all costs, including reasonable attorneys' fees, necessarily incurred upon the Contractor's refusal to pay the above costs.

Notwithstanding the foregoing paragraph, in the event of an emergency constituting an immediate hazard to the health or safety of the employees of the District, or its property or licensees, the District may undertake at the Contractor's expense without prior notice, all work necessary to correct such hazardous condition when it was caused by the work of the Contractor not being in accordance with the requirements of this contract, or being defective, and to charge the same to the Contractor as specified in the preceding paragraph.

The guarantee set forth herein is not intended by the parties, nor shall it be construed, as in any way limiting or reducing the District's rights to enforce all terms of the contract referenced herein above or the time for enforcement thereof. This guarantee is provided in addition to, and not in lieu of, the District's rights on such contract.

Contractor's Signature: _____ Date: _____

Subcontractor's Signature _____ Date: _____

Representative to be contacted for services:

Name: _____

Address: _____

Phone No.: _____ Fax No.: _____

Email: _____

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GENERAL CONDITIONS

ARTICLE 1: DEFINITIONS; GENERAL

1.1 Architect.

The Architect is the person or entity identified as such in the Agreement; references to the "Architect" includes the Architect's authorized representative and his, her or its successor(s).

1.2 Construction Equipment

"Construction Equipment" is equipment utilized for the performance of any portion of the Work, but which is not incorporated into the Work.

1.3 Contract Documents

The Contract Documents consist of the Agreement between the District and the Contractor, Conditions of the Contract (whether General, Special or otherwise), Drawings, Specifications, including addenda thereto issued prior to execution of the Agreement and any other documents listed in the Agreement. The Contract Documents shall include modifications issued after execution of the Agreement. The Contract Documents form the Contract for Construction.

1.4 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" shall mean as approved, directed, satisfactory, accepted, acceptable, proper, required, necessary and equal, in the opinion of the District, its agents or representatives. 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 similar areas; Work in such other areas shall conform to that shown as "typical" or as reasonably inferable therefrom.

1.5 Contractor

The Contractor is the person or entity identified as such in the Agreement; references to "Contractor" include the Contractor's authorized representative.

1.6 Contractor's Superintendent

The Contractor's Superintendent is the individual employed by the Contractor whose principal responsibility shall be the supervision and coordination of the Work; the Contractor's Superintendent shall not perform routine construction labor.

1.7 Days

Unless otherwise expressly stated, references to "days" in the Contract Documents shall be deemed to be calendar days.

1.8 Deferred Approval Items

Deferred approval items are those items that shall not be started until detailed plans, specifications, and engineering calculations have been accepted and signed by the Architect or Engineer.

1.9 District

The "District" refers to **Ventura County Community College District** and its authorized representatives, including the Project Manager, the District's Board of Trustees and the District's officers, employees, agents and representatives.

1.10 District's Inspector

The District's Inspector is the individual designated and employed by the District in accordance with the requirements of Title 24 of the California Code of Regulations. The District's Inspector shall be 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, as the same may be amended from time to time.

1.11 Division of State Architect ("DSA")

The DSA is the California Division of the State Architect including without limitation the DSA's Office of Construction Services, Office of Design Services and the Office of Regulation Services; references to the DSA in the Contract Documents shall mean the DSA, its offices and its authorized 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 Title 24 of the California Code of Regulations.

1.12 Drawings and Specifications

The Drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing generally, the design, location and dimensions of the Work and may include without limitation, plans, elevations, sections, details, schedules, notes or diagrams. The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards, criteria and workmanship for the Work and related services. The Drawings and Specifications are intended to delineate and describe the Work and its component parts so as to permit skilled and competent contractors to bid upon the Work and prosecute the same to completion.

1.13 Intent and Correlation of Contract Documents

1.13.1 Work of the Contract Documents

The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary and what is required by one shall be as binding as if required by all. Performance by the Contractor shall be required to the extent consistent with the Contract Documents and reasonably inferable therefrom as being necessary to produce the intended results. Organization of the Specifications into divisions, sections or articles, and the arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. Where any portion of the Contract Documents is silent and information appears elsewhere in the Contract Documents, such other portions of the Contract Documents shall control. Work not particularly detailed, marked or specified shall be the same as similar parts that are detailed, marked or specified.

1.13.2 Technical Terms

Unless otherwise stated in the Contract Documents, words or terms, which have, well-

known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

1.13.3 Conflict in Contract Documents

The Contract Documents are intended to be fully cooperative and to agree. If Contractor observes any conflict, inconsistency or ambiguity, Contractor shall promptly notify the District and the Architect in writing of such conflict, inconsistency or ambiguity prior to commencement of affected Work. If a conflict, inconsistency or ambiguity arises, the following order or precedence shall generally apply, provided, however, that the order of precedence shall not be so rigidly interpreted as to create an absurd or costly result: Special Conditions shall take precedence over General Conditions, Specifications shall take precedence over Drawings and shall govern as to materials, workmanship and installation procedures. Plans identify the scope and location of the Work. With regard to Drawings, figures govern over scaled dimensions, larger details govern over general drawings, addenda and change order drawings govern over contract drawings, contract drawings govern over standard drawings.

1.14 Material Supplier

A Material Supplier is any person or entity who only furnishes materials, equipment or supplies for the Work without fabricating, installing or consuming them in the Work.

1.15 Project

The Project is the total construction of which the Work performed by the Contractor under the Contract Documents may be the whole or a part of the Project and which may include construction by the District or by separate contractors.

1.16 Project Manager

The Project Manager, if any, is the individual or entity designated as such in the Special Conditions. The Project Manager is an independent contractor retained by the District and shall be authorized and empowered to act on behalf of the District. The removal or replacement of the designated Project Manager shall not result in adjustment of the Contract Price or the Contract Time or otherwise affect, limit or restrict Contractor's obligations hereunder.

1.17 Record Documents

The Record Documents are a set of the Drawings and Specifications marked by the Contractor during the performance of the Work to indicate completely and accurately the actual as-built condition of the Work. The Record Documents shall be sufficient for a capable and qualified draftsman to modify the Drawings to reflect and indicate the Work actually in place at Final Completion of the Work.

1.18 Shop Drawings; Samples; Product Data (“Submittals”)

Shop Drawings are diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor of any tier, manufacturer, Material Supplier, or distributor to illustrate some portion of the Work. Samples are physical examples of materials, equipment or workmanship forming a part of, or to be incorporated into the Work. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work. Shop Drawings, Samples and Product Data prepared or furnished by the Contractor or any of its Subcontractors or Material Suppliers are collectively referred to as “Submittals”.

1.19 Site

The Site is the physical area designated in the Contract Documents for Contractor's performance, construction and installation of the Work.

1.20 Subcontractors; Sub-Subcontractors

A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work. "Subcontractor" does not include a separate contractor to the District or subcontractors of any separate contractor. A Sub-Subcontractor is a person or entity of any tier, who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site.

1.21 Special Conditions

If made a part of the Contract Documents, Special Conditions are special or supplemental provisions, not otherwise provided for in the Agreement or the General Conditions.

1.22 Surety. The Surety is the person or entity that executes, as surety, the Contractor's Labor and Material Payment Bond and/or Performance Bond or other bonds provided by the Contractor.

1.23 Work

The "Work" is the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment or services provided or to be provided by the Contractor to fulfill the Contractor's obligations under the Contract Documents. The Work may constitute the whole or a part of the Project.

ARTICLE 2: DISTRICT

2.1 Information Required of District

2.1.1 Surveys; Site Information

District may provide information concerning physical characteristics of the Site. Information not provided by the District concerning physical characteristics of the Site, which is required, shall be obtained by Contractor without adjustment to the Contract Price or the Contract Time.

2.1.2 Drawings and Specifications

All of the Drawings and the Specifications shall remain the property of the District; the Contractor shall not use the Drawings or the Specifications in connection with any other work of improvement other than the Work of the Project.

2.1.3 Furnishing of Information

Information or services to be provided by the District under the Contract Documents shall be furnished by the District with reasonable promptness to avoid delay in the orderly progress of the Work. Information about existing conditions furnished by the District under the Contract Documents is obtained from sources believed to be reliable, but the District neither guarantees nor warrants that such information is complete and accurate. The Contractor shall verify all information provided by the District. To the extent that the Contract Documents depict existing conditions on or about the Site, or the Work involves the renovation, removal or remodeling of existing improvements, or the Work involves

any tie-in or other connection with any existing improvements, the conditions and/or existing improvements depicted in the Contract Documents are as they are believed to exist.

2.2 District's Right to Stop the Work

In addition to the District's right to suspend the Work or terminate the Contract pursuant to the Contract Documents, the District may, by written order, direct the Contractor to stop the Work, or any portion thereof, until the cause for such stop work order has been eliminated, if the Contractor: (i) fails to correct Work which is not in conformity and in accordance with the requirements of the Contract Documents, or (ii) otherwise fails to carry out the Work in conformity and accordance with the Contract Documents. The right of the District to stop the Work hereunder shall not be deemed a duty on the part of the District to exercise such right for the benefit of the Contractor or any other person or entity, nor shall the District's exercise of such right waive or limit the exercise of any other right or remedy of the District under the Contract Documents or at law.

2.3 Partial Occupancy or Use

2.3.1 District's Right to Partial Occupancy

The District may occupy or use any completed or partially completed portion of the Work, provided that the District and the Contractor have accepted, in writing, the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, utilities, damage to the Work, insurance and the period for correction of the Work and commencement of warranties required by the Contract Documents for such portion of the Work partially used or occupied by the District. If the Contractor and the District are unable to agree upon the matters set forth above, the District may nevertheless use or occupy any portion of the Work, with the responsibility for such matters subject to resolution in accordance with the Contract Documents. Immediately prior to such partial occupancy or use of the Work, or portions thereof, the District, the District's Inspector, the Contractor and the Architect shall jointly inspect the portions of the Work to be occupied or to be used to determine and record the condition of the Work. The District's use or occupancy of the Work or portions thereof pursuant to the preceding shall not be deemed "completion" of the Work as that term is used in Public Contract Code §7107.

2.3.2 No Acceptance of Defective or Nonconforming Work

Unless otherwise expressly agreed upon by the District and the Contractor, the District's partial occupancy or use of the Work or any portion thereof, shall not constitute the District's acceptance of the Work not complying with the requirements of the Contract Documents or which is otherwise defective.

2.4 The District's Inspector

In addition to the authority and rights of the District's Inspector as provided for elsewhere in the Contract Documents, all of the Work shall be performed under the observation of the District's Inspector in accordance with the provisions of Title 24 of the California Code of Regulations. The District's Inspector shall have access to all parts of the Work at any time, wherever located, including shop inspections, and whether partially or completely fabricated, manufactured, furnished or installed. The performance of the duties of the District's Inspector under the Contract Documents shall not relieve or limit the Contractor's performance of its obligations under the

ARTICLE 3: ARCHITECT

3.1 Architect's Administration of the Contract

3.1.1 Administration of Contract

The Architect will provide administration of the Contract as described in the Contract Documents, and will be one of the District's representatives during construction until the time that Final Payment is due the Contractor. The Architect will advise and consult with the District, the Project Manager and the District's Inspector with respect to the administration of the Contract and the Work. The Architect shall have the responsibilities and powers established by law, including Title 24 of the California Code of Regulations.

3.1.2 Periodic Site Inspections

The Architect will visit the Site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and to determine, in general, if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents. The Architect will not be required to make exhaustive or continuous Site inspections to check quality or quantity of the Work. On the basis of Site observations as an architect, the Architect will keep the District informed of the progress of the Work, and will endeavor to guard the District against defects and deficiencies in the Work.

3.1.3 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. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the Work.

3.1.4 Verification of Applications for Payment

In accordance with Article 8 hereof, the Architect will review the Contractor's Applications for Progress Payments and for Final Payment, verify the extent of Work performed and the amount properly due the Contractor on such Application for Payment.

3.1.5 Rejection of Work

The Architect is authorized to reject Work which is defective or does not conform to the requirements of the Contract Documents. Whenever the Architect considers it necessary or advisable, additional inspections or testing of the Work may be conducted, whether or not such Work is fabricated, installed or completed. Neither this authority of the Architect nor a decision made in good faith by the Architect to exercise or not to exercise such authority shall give rise to a duty or responsibility to the Contractor, Subcontractors, Material Suppliers, their agents or employees, or other persons performing portions of the Work.

3.1.6 Architect's Review of Submittals

The Architect will review and approve or take other appropriate action upon the Contractor's Submittals, but only for the limited purpose of checking for conformance with the design concept expressed in the Contract Documents. Review of Submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's Submittals shall not relieve the Contractor of its obligations under the Contract Documents. The Architect's review of Submittals shall not constitute approval of safety measures, programs or precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item in a Submittal shall not indicate approval of an assembly of which the item is a component. The Architect's review and return of Submittals will normally require a minimum of twenty one (21) days from date of receipt of complete submittal. Deferred approval submittals indicated in the Contract Documents require additional time for processing and review of all submittals.

3.1.7 Changes to the Work; Change Orders

The Architect will prepare Change Orders and may authorize minor changes in the Work in accordance with Article 9.9 hereof.

3.1.8 Completion

The Architect will conduct observations to determine the date(s) of interim milestones, if any, and the dates of Substantial and Final Completion. The Architect will verify that the Contractor has complied with all requirements of the Contract Documents and is entitled to receipt of Final Payment.

3.1.9 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, or as deemed necessary. The Architect's response to such requests will be made in writing with reasonable promptness and within the time limits specified in the Contract Documents. 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 with transmittal letter. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both the District and the Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith. The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

ARTICLE 4: THE CONTRACTOR

4.1 Communications

All communications regarding the Work, the performance thereof or the Contract Documents shall be in writing; oral communications, unless reduced to writing, are not binding on the parties. Communications between the Contractor and the District shall be through the Project Manager. Communications between separate contractors, if any, shall be through the Project Manager. Contractor shall make all written communications concerning the Project available to the District

upon request.

4.2 Contractor Review of Contract Documents

4.2.1 Examination of Contract Documents

The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the District pursuant to the Contract Documents and shall at once report to the District any 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 written notice to the District of the same, the Contractor shall assume full responsibility for such performance and shall bear all attributable costs for correction of the same.

4.2.2 Field Measurements

Prior to commencement of the Work, or portions thereof, the Contractor shall take field measurements and verify field conditions at the Site and shall carefully compare such field measurements and conditions and other information known to the Contractor with information provided in the Contract Documents. Errors, inconsistencies or omissions discovered shall be reported to the District at once.

4.2.3 Dimensions; Layouts and Field Engineering

Dimensions indicated in the Drawings are intended for reference only. The Contractor shall be solely responsible for dimensioning and coordinating the Work of the Contract Documents. All field engineering required for laying out the Work and/or establishing grades for earthwork operations shall be by the Contractor at its expense. Any field engineering or other engineering to be provided or performed by the Contractor under the Contract Documents and required or necessary for the proper execution or installation of the Work shall be provided and performed by an engineer duly registered under the laws of the State of California in the engineering discipline for such portion of the Work.

4.2.4 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”), it shall be the affirmative obligation of the Contractor to timely notify the District, in writing, of the Conditions encountered and to request information from the District 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 Contractor fails to timely notify the District in writing of any Conditions encountered and the Contractor proceeds to perform any portion of the Work containing or affected by such Conditions, the Contractor shall bear all costs associated with or required to correct, remove, or otherwise remedy any portion of the Work affected thereby without adjustment of the Contract Time or the Contract Price. The Contract Time shall not be subject to adjustment in the event that the Contractor fails to timely request information from the Architect. The Architect's responses to any such Contractor request for information shall be provided within five (5) days. The foregoing provisions notwithstanding, in the event that 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 associated with the processing, reviewing, evaluating and responding to any such request for information, including without limitation, fees of the Architect and any other design consultant to the Architect or the District.

4.2.5 Work in Accordance With Contract Documents

The Contractor shall perform all of the Work in strict conformity with the Contract Documents and approved Submittals.

4.3 Site Investigation; Subsurface Conditions

4.3.1 Contractor Investigation

The Contractor shall be responsible for, and by executing the Agreement acknowledges, that it has carefully examined the Site and has taken all steps it deems reasonably necessary to ascertain all conditions which may affect the Work, or the cost thereof, including, without limitation, conditions bearing upon transportation, disposal, handling or storage of materials; availability of labor or utilities; access to the Site; and the physical conditions and the character of equipment, materials, labor and services necessary to perform the Work. Any failure of the Contractor to do so will not relieve it from the responsibility for fully and completely performing all Work without adjustment to the Contract Price or the Contract Time. The District assumes no responsibility to the Contractor for any understandings or representations concerning conditions or characteristics of the Site, or the Work, made by any of its officers, employees or agents prior to the execution of the Agreement, unless such understandings or representations are expressly set forth in the Agreement.

4.3.2 Subsurface Data

By executing the Agreement, the Contractor acknowledges that it has examined the subsurface data available and 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, insofar as this information is reasonably ascertainable from an inspection of the Site, review of available subsurface data and analysis of information furnished by the District under the Contract Documents. 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 nor warranted by the District to be complete and accurate. The Contractor shall examine all subsurface data to make its own independent interpretation of the subsurface conditions and acknowledges that its bid is based upon its own opinion of the conditions which may be encountered. The District assumes no responsibility for any conclusions or interpretations made by Contractor on the basis of available subsurface data or other information furnished by District under the Contract Documents.

4.3.3 Subsurface Conditions

4.3.3.1 Procedures

If the Work under the Contract Documents involves digging trenches or other excavations that extend deeper than four feet below the surface, the Contractor shall promptly and before the following conditions are disturbed, notify the District's 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 upon notice to the District of the conditions described above and upon the District's investigation thereof, the District determines that the conditions so materially differ or involve such hazardous materials which require an adjustment to the Contract Price or the Contract Time, the District shall issue a Change Order in accordance with Article 9 hereof. In accordance with California Public Contract Code §7104, any dispute arising 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. The District reserves the right to terminate the Contract pursuant to Article 15.2 hereof should the District determine not to proceed because of any condition described in (i), (ii) or (iii) above.

4.3.3.2 Trenching

For all excavations in excess of five (5) feet involving an estimated expenditure in excess of \$25,000, Contractor shall submit to the District for acceptance a detailed Drawing showing the design of shoring, bracing, sloping or other provisions to be made for the protection of workmen from the hazard of caving ground. If such design varies from the standards established by the Construction Safety Orders of the California Division of Industrial Safety, the Drawing shall be prepared by a registered civil or structural engineer. None of the aforementioned trenching shall be started before Contractor receives notification of acceptance from the District. Contractor shall comply with all other applicable requirements of California Labor Code §6705, and as therein provided, no provisions of that Section or this Section shall be construed to impose tort liability upon the District. In any event, Contractor shall not commence any excavation work until it has secured all necessary permits including the required CAL OSHA excavation/shoring permit. Any permits shall be prominently displayed on the Project premises prior to commencement of any excavation.

4.4 Supervision and Construction Procedures

4.4.1 Supervision of the Work

The Contractor shall supervise and direct performance of the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract Documents, unless Contract Documents give other specific instructions concerning these matters. The Contractor shall be responsible for inspection of completed or partially completed portions of Work to determine that such portions are in proper condition to receive subsequent Work.

4.4.2 Responsibility for the Work; Coordination of the Work

The Contractor shall be responsible to the District for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and all other persons performing any portion of the Work under a contract with the Contractor. The Contractor shall not be relieved of the obligation to perform the Work in accordance with the Contract Documents either by activities or duties of the Project Manager, District's Inspector or the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor. The Contractor shall be responsible for all necessary or appropriate coordination of the Work and component parts thereof so that Substantial Completion of the Work will be achieved within the Contract Time and the Work will be completed for the Contract Price. The coordination of the Work is a material obligation of the Contractor hereunder and shall include without limitation, conducting regular coordination meetings with its Subcontractors and Material Suppliers, sequencing the operations of Subcontractors and Material Suppliers, and adapting its planned means, methods and sequences of construction operations as necessary to accommodate field or changed conditions at the Site.

4.4.3 Surveys

The Contractor shall prepare or cause to be prepared all detailed surveys necessary for performance of the Work. The Contractor shall be responsible for the establishment, location, maintenance and preservation of benchmarks, reference points and stakes for the Work, the cost of which shall be included within the Contract Price. The Contractor shall be solely responsible for all loss or costs resulting from the loss, destruction, disturbance or damage of benchmarks, reference points or stakes.

4.4.4 Construction Utilities

The Contractor shall arrange for the furnishing of and shall pay the costs of all utility services, including, without limitation, electricity, water, gas and telephone necessary for performance of the Work and the Contractor's obligations under the Contract Documents. The Contractor shall furnish and install necessary or appropriate temporary distributions of utilities, including meters, to the Site. Any such temporary distributions shall be removed by the Contractor upon completion of the Work. The costs of all such utility services, including the installation and removal of temporary distributions thereof, shall be borne by the Contractor and included in the Contract Price.

4.4.5 Existing Utilities; Removal, Relocation and Protection

In accordance with California Government Code §4215, the District shall assume the responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the Site which are not identified in the Drawings, Specifications or other Contract Documents. 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 Drawings, Specifications and other Contract Documents with reasonable accuracy, and for equipment on the Site necessarily idled during such work. 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 district to provide for removal or relocation of such utility facilities. Nothing in this Article 4.4.5 shall be deemed to require the District to indicate the presence of existing service laterals or appurtenances whenever the 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 by the District in the Drawings, Specifications, or other Contract Documents, the Contractor shall immediately notify, in writing, the District and the utility owner. In the event that 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 price determined in accordance with Article 9 of these General Conditions.

4.5 Labor and Materials

4.5.1 Payment for Labor, Materials and Services

Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, applicable taxes, and other facilities and 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 Skills

The Contractor shall enforce strict discipline and good order among the Contractor's employees, the employees of any Subcontractor of any tier, 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 project employees and direct any Subcontractor of any tier to dismiss from their employment on the project any person deemed by the District to be unfit or incompetent to perform Work and thereafter, the Contractor shall not employ nor permit the employment of such person for performance of any part of the Work without the prior written consent of the District, which consent may be withheld in the reasonable discretion of the District.

4.5.3 Contractor's Superintendent and Project Manager

The Contractor shall employ a competent superintendent, project manager and all necessary assistants who shall be in attendance at the Site at all times during performance of the Work. The Contractor's communications relating to the Work or the Contract Documents shall be through the Contractor's superintendent and/or project manager. The superintendent shall represent the Contractor at the Site and communications given to the superintendent shall be binding as if given to the Contractor. The Contractor shall dismiss

from the project the superintendent , project manager or any of his/her assistants if they are deemed, in the sole reasonable judgment of the District, to be unfit, incompetent or incapable of performing the functions assigned to them. In such event, the District shall have the right to approve of the replacement superintendent, project manager or assistant.

4.5.4 Prohibition on Harassment

4.5.4.1 District's Policy Prohibiting Harassment

The District is committed to providing a campus and workplace free of sexual harassment and harassment based on factors such as race, color religion, national origin, ancestry, age, medical condition, marital status, disability or veteran status. Harassment includes without limitation, verbal, physical or visual conduct which creates an intimidating, offensive or hostile environment such as racial slurs; ethnic jokes; posting of offensive statements, posters or cartoons or similar conduct. Sexual harassment includes without limitation the solicitation of sexual favors, unwelcome sexual advances, or other verbal, visual or physical conduct of a sexual nature.

4.5.4.2 Contractor's Adoption of Anti-Harassment Policy

Contractor shall adopt and implement all appropriate and necessary policies prohibiting any form of discrimination in the workplace, including without limitation harassment on the basis of any classification protected under local, state or federal law, regulation or policy. Contractor shall take all reasonable steps to prevent harassment from occurring, including without limitation affirmatively raising the subject of harassment among its employees, expressing strong disapproval of any form of harassment, developing appropriate sanctions, informing employees of their right to raise and how to raise the issue of harassment and informing complainants of the outcome of an investigation into a harassment claim. Contractor shall require that any Subcontractor or Sub-subcontractor performing any portion of the Work to adopt and implement policies in conformity with this Article 4.5.4.

4.5.4.3 Prohibition on Harassment at the Site

Contractor shall not permit any person, whether employed by Contractor, a Subcontractor, Sub-subcontractor, or any other person or entity, performing any Work at or about the Site to engage in any prohibited form of harassment. Any such person engaging in a prohibited form of harassment directed to any individual performing or providing any portion of the Work at or about the Site shall be subject to appropriate sanctions in accordance with the anti-harassment policy adopted and implemented pursuant to Article 4.5.4.2 above. Any person performing or providing Work on or about the Site who engages in a prohibited form of harassment directed to any student, faculty member or staff of the District or directed to any other person on or about the Site shall be subject to immediate removal and shall be prohibited thereafter from providing or performing any portion of the Work. Upon the District's receipt of any notice or complaint that any person employed directly or indirectly by Contractor in performing or providing the Work has engaged in a prohibited form of harassment, the District will promptly undertake an investigation of such notice or complaint. In the event

that the District, after such investigation, reasonably determines that a prohibited form of harassment has occurred, the District shall promptly notify the Contractor of the same and direct that the person engaging in such conduct be immediately removed from the Site. Unless the District's determination that a prohibited form of harassment has occurred is grossly negligent or without reasonable cause, the District shall have no liability for directing the removal of any person determined to have engaged in a prohibited form of harassment nor shall the Contract Price or the Contract Time be adjusted on account thereof. Contractor and the Surety shall defend, indemnify and hold harmless the District and its employees, officers, Board of Trustees, agents, and representatives 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 person dismissed from performing or providing work at the direction of the District pursuant to this Article 4.5.4.3; or (ii) the assertion by any person that any person directly or indirectly under the employment or direction of the Contractor has engaged in a prohibited form of harassment directed to or affecting such person. The obligations of the Contractor and the Surety under the preceding sentence are in addition to, and not in lieu of, any other obligation of defense, indemnity and hold harmless whether arising under the Contract Documents, at law or otherwise; these obligations survive completion of the Work or the termination of the Contract.

4.6 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.

4.7 Permits, Fees and Notices; Compliance with Laws

4.7.1 Payment of Permits, Fees

Unless otherwise provided in the Contract Documents, the Contractor shall secure, pay for, and include in the Contract Price the building permits, other permits, governmental fees, licenses and inspections necessary or required for the proper execution and completion of the Work.

4.7.2 Compliance with Laws

The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations and other orders of public authorities bearing on performance of the Work.

4.7.3 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, statutes, ordinances, building codes, regulations or rules, the Contractor shall promptly notify the District, in writing, of the same. If the Contractor performs Work knowing, or with reasonable diligence should have known, it to be contrary to laws, statutes, ordinances, building codes, rules or regulations applicable to the Work without such notice to the District, 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.

4.8 Submittals

4.8.1 Purpose of Submittals

Shop Drawings, Product Data, Samples and similar submittals (collectively “Submittals”) are not Contract Documents. The purpose for submission of Submittals is to demonstrate, for those portions of the Work for which Submittals are required, the manner in which the Contractor proposes to provide or incorporate such item of the Work in conformity with the information given and the design concept expressed in the Contract Documents.

4.8.2 Contractor's Submittals

4.8.2.1 Prompt Submittals

The Contractor shall review, confirm and submit to the Architect with the number of copies of Submittals within the timeframes required by the Contract Documents. Contractor’s submission of Submittals in conformity with the Submittal Schedule is a material consideration of the Contract. In the event that the District reasonably determines that all or any portion of any Submittal fails to comply with the requirements of the Contract Documents and/or such Submittals are not otherwise complete and accurate so as to require re-submission more than one (1) time, Contractor shall bear all costs associated with the review and approval of such resubmitted Submittals; provided that such costs are in addition to, and not in lieu of, any liquidated damages imposed under the Contract Documents for Contractor's delayed submission of Submittals. Submittals not required by the Contract Documents may be returned without action. No adjustment to the Contract Time or the Contract Price shall be granted to the Contractor on account of its failure to make timely submission of any Submittals.

4.8.2.2 Approval of Contractor’s Confirmation of Submittals

All Submittals prepared by Subcontractors, of any tier, Material Suppliers, manufacturers or distributors shall bear the written approval of the Contractor thereto prior to submission to the Architect for review. Any Submittal not bearing the Contractor's written approval shall be subject to return to the Contractor for re-submittal in conformity herewith, with the same being deemed to not have been submitted. Any delay, impact or cost associated therewith shall be the sole and exclusive responsibility of the Contractor without adjustment of the Contract Time or the Contract Price.

4.8.2.3 Verification of Submittal Information

By approving and submitting Submittals, the Contractor represents to the District and Architect that the Contractor has determined and verified materials, field measurements, field construction criteria, catalog numbers and similar data related thereto and has checked and coordinated the information contained within such Submittals with the requirements of the Work and of the Contract Documents.

4.8.2.4 Information Included in Submittals

All Submittals shall be accompanied by a written transmittal or other writing by

the Contractor providing an identification of the portion of the Drawings or the Specifications pertaining to the Submittal, with each Submittal numbered consecutively for ease of reference along with the following information: (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, evaluation and approval of the Contractor's Submittals.

4.8.2.5 Contractor Responsibility for Deviations

The Contractor shall not be relieved of responsibility for correcting deviations from the requirements of the Contract Documents by the Architect's approval of Submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submission of the Submittal and the District has given written approval to the specific deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Submittals by the Architect's approval thereof.

4.8.2.6 No Performance of Work without Approval

The Contractor shall perform no portion of the Work requiring the Architect's review and approval of Submittals until the Architect has completed its review and granted its approval of such Submittal. The Contractor shall not perform any portion of the Work forming a part of a Submittal or which is affected by a related Submittal until the entirety of the Submittal or other related Submittal has been fully approved.

4.8.3 Architect Review of Submittals

The purpose of the Architect's review of Submittals and the time for the Architect's return of Submittals to the Contractor shall be as set forth elsewhere in the Contract Documents, including without limitation, Article 3.1.6 of the General Conditions. If the Architect returns a Submittal as rejected or requiring correction(s) and re-submission, the Contractor, so as not to delay the progress of the Work, shall promptly thereafter resubmit a Submittal conforming to the requirements of the Contract Documents; the resubmitted Submittal shall indicate the portions thereof modified in order to obtain the Architect's approval. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications accompanying Submittals. The Architect's review of the Submittals is for the limited purposes described in the Contract Documents.

4.8.4 Deferred Approval Items

In the event that any portion of the Work is designated in the Contract Documents as a "Deferred Approval" item, Contractor shall be solely and exclusively responsible for the preparation of Submittals for such item(s) in a timely manner so as not to delay or hinder the completion of the Work within the Contract Time.

4.9 Materials and Equipment

4.9.1 Specified Materials, Equipment

Except as otherwise provided, references in the Contract Documents to any specific article, device, equipment, product, material, fixture, patented process, form, method or type of construction, by name, make, trade name, or catalog number, with or without the words "or equal" shall be deemed to establish a minimum standard of quality or performance, and shall not be construed as limiting competition.

4.9.2 Approval of or Equal, Substitutions or Alternatives

The Contractor may propose to furnish alternatives or substitutes for a particular item specified in the Contract Documents, provided that the Contractor provides advance written notice to the District of such proposed or equal, substitution or alternative and certifies to the District that the quality, performance capability, functionality and appearance of the proposed alternative or substitute will meet or exceed the quality, performance capability, functionality, and appearance of the item or process specified, and must demonstrate to the District that the use of the substitution or alternative is appropriate and will not delay completion of the Work or result in an increase to the Contract Price. The Contractor shall submit all data to the District to permit the Architect's proper evaluation of the proposed substitution or alternative. The Contractor shall not provide, furnish or install any substitution or alternative without the District's prior approval of the same; any alternative or substitution installed or incorporated into the Work without first obtaining the District's approval of the same shall be subject to removal pursuant to Article 12 hereof. The District's decision shall be final regarding the approval or disapproval of the Contractor's proposed substitutions or alternatives. The District's approval of any Contractor-proposed substitution shall be in accordance with Change Order procedures set forth in Article 9 and as otherwise specified in the Contract Documents.

4.9.3 Placement of Material and Equipment Orders

Contractor shall, after award of the Contract, promptly and timely place all orders for materials and/or equipment necessary for completion of the Work so that delivery of the same shall be made without delay or interruption to the timely completion of the Work. Contractor shall require that any Subcontractor of any tier performing any portion of the Work similarly place orders for all materials and/or equipment to be furnished by any such Subcontractor. Upon request of the District, the Contractor shall furnish reasonably satisfactory 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 of any tier.

4.9.4 District's Right to Place Orders for Materials and/or Equipment

If the Contractor fails or refuses to provide reasonably satisfactory written evidence of the placement of orders for materials and/or equipment necessary for completion of the Work, or should the District determine, in its sole and reasonable discretion, that such orders have not been placed in a manner that assures timely delivery of such materials and/or equipment to the Site so the Work can be completed without delay or interruption, the District shall have the right, but not the obligation, to place such orders on behalf of the Contractor. If the District exercises such right, the District's conduct in that regard does not assume control of the work. Rather, Contractor remains responsible for the means, methods, techniques, sequences or procedures for completion of the Work and is not relieved from any of Contractor's obligations under the Contract Documents, including

without limitation, completion of the Work within the Contract Time and for the Contract Price. If the District exercises the right hereunder to place orders for materials and/or equipment on behalf of Contractor pursuant to the foregoing, Contractor shall reimburse the District for all costs and fees incurred by the District in placing such orders; such costs and fees may be deducted by the District from the Contract Price then or thereafter due the Contractor.

4.10 Safety

4.10.1 Safety Programs

The Contractor shall be solely responsible for initiating, maintaining and supervising all safety programs required by applicable law, ordinance, regulation or governmental orders in connection with the performance of the Contract, or otherwise required by the type or nature of the Work. The Contractor shall require that its Subcontractors similarly initiate and maintain all appropriate or required safety programs.

4.10.2 Safety Precautions

The Contractor shall be solely responsible for initiating and maintaining reasonable precautions for safety of, and shall provide reasonable protection 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, under care, custody or control of the Contractor or the Contractor's Subcontractors of any tier; and (iii) other property or items at the site of the Work, or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities whether or not designated for removal, relocation or replacement in the course of construction. The Contractor shall erect and maintain, as required by existing conditions and conditions resulting from performance of the Contract, reasonable safeguards for safety and protection of property and persons, including, without limitation, posting danger signs and other warnings against hazards, promulgating safety regulations and notifying Districts and users of adjacent sites and utilities. The Contractor shall give or post all notices required by applicable law and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

4.10.3 Safety Coordinator

The Contractor shall designate a responsible member of the Contractor's organization at the Site whose duty shall be the prevention of accidents and the implementation and maintenance safety precautions and programs. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the District.

4.10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, to prevent threatened damage, injury or loss.

4.11 Hazardous Materials

4.11.1 Use of Hazardous Materials

In the event that the Contractor, any Subcontractor or anyone employed directly or indirectly by them shall use, at the Site, or incorporate into the Work, any material or substance deemed to be hazardous or toxic under any law, rule, ordinance, regulation or interpretation thereof (collectively "Hazardous Materials"), the Contractor shall comply with all laws, rules, ordinances or regulations applicable thereto and shall exercise all necessary safety precautions relating to the use, storage or disposal thereof. Unless otherwise provided, Contractor shall be solely responsible for the transportation and disposal of any Hazardous Materials on or about the Site.

4.11.2 Prohibition on Use of Asbestos Containing Building Materials ("ACBMs")

Notwithstanding any provision of the Drawings or the Specifications to the contrary, it is the intent of the District that ACBMs not be used or incorporated into any portion of the Work. If any portion of the Work depicted in the Drawings or the Specifications shall require materials or products which the Contractor knows, or should have known with reasonably diligent investigation, to contain ACBMs, Contractor shall promptly notify the District of the same so that an appropriate alternative can be made in a timely manner so as not to delay the progress of the Work. Contractor warrants to the District that there are no materials or products used or incorporated into the Work which contain ACBMs. Whether before or after completion of the Work, if it is discovered that any product or material forming a part of the Work or incorporated into the Work contains ACBMs, the Contractor shall at its sole cost and expense remove such product or material in accordance with any laws, rules, procedures and regulations applicable to the handling, removal and disposal of ACBMs and to replace such product or material with non-ACBM products or materials and to return the affected portion(s) of the Work to the finish condition depicted in the Drawings and Specifications relating to such portion(s) of the Work. Contractor's obligations under the preceding sentence shall survive the termination of the Contract, the warranty period provided under the Contract Documents, the Contractor's completion of the Work or the District's acceptance of the Work. In the event that the Contractor shall fail or refuse, 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 of the existence of ACBM materials or products in the Work, the District may thereafter proceed to cause the removal and replacement of such materials or products in any manner which the District determines to be reasonably necessary and appropriate; all costs, expenses and fees, incurred by the District in connection with such removal and replacement shall be the responsibility of the Contractor and the Contractor's Performance Bond Surety.

4.11.3 Encountering of Hazardous Materials

If the Contractor encounters Hazardous Materials at the Site which have not been rendered harmless or for which there is no provision in the Contract Documents for their containment, removal, abatement or handling, the Contractor shall immediately stop the Work in the affected area and shall immediately notify the District, in writing, of such condition. The Contractor shall diligently proceed with the Work in all other unaffected areas. The Contractor shall proceed with the Work in the affected area only after the Hazardous Materials have been rendered harmless, contained, removed or abated. Adjustments, if any, to the Contract Time or Price shall be made in accordance with Articles 7 and 9.

4.11.4 Material Safety Data Sheets

Contractor is required to insure that Material Safety Data Sheets (MSDS) for any material requiring a MSDS pursuant to the federal “hazard communication” standard or employee’s right-to-know law are available in a readily accessible place on the Work premises. The Contractor is also required to insure (i) the proper labeling of any substance brought onto the Work premises, and (ii) that the persons working with the material, or within the general area of the material, are informed about the hazards of the substance and follow proper handling and protection procedures.

4.11.5 Compliance with Proposition 65

Contractor is required to comply with the provisions of California Health and Safety Code § 25249.5, et seq., which requires the posting and giving of notice to persons who may be exposed to any chemical known to the State of California to cause cancer. The Contractor agrees to familiarize itself with such statutory provisions and to fully comply with the requirements set forth therein.

4.12 Maintenance of Documents

4.12.1 Documents at Site

The Contractor shall maintain at the Site: (i) one record copy of the Drawings, Specifications and all addenda thereto; (ii) Change Orders approved by the District and all other modifications to the Contract Documents; (iii) Submittals reviewed by the Architect; (iv) Requests for Information and responses thereto; (v) Record Drawings; (vi) Material Safety Data Sheets (“MSDS”) accompanying any materials, equipment or products delivered or stored at the Site or incorporated into the Work; and (vii) all building and other codes or regulations applicable to the Work, including without limitation, Title 24, Part 2 of the California Code of Regulations. During performance of the Work, all documents maintained by Contractor at the Site shall be available to the District, the Project Manager, the Architect, the District’s Inspector and DSA for review, inspection or reproduction. Upon completion of the Work, all documents maintained at the Site by the Contractor pursuant to the foregoing, except for (vii), shall be assembled and transmitted to the District.

4.12.2 Maintenance of Record Documents

During its performance of the Work, the Contractor shall continuously maintain Record Documents which are marked to indicate all field changes made to adapt the Work depicted in the Documents to field conditions, changes resulting from Change Orders and all concealed or buried installations, including without limitation, piping, conduit and utility services. The Record Documents shall be clean and all changes, corrections and dimensions shall be marked in a neat and legible manner in a contrasting color. The District’s inspection or review shall not be deemed to be the District’s approval or verification of the completeness or accuracy of the Record Documents. The failure or refusal of the Contractor to continuously maintain complete and accurate Record Documents or to make available the Record Documents for inspection and review by the District may be deemed by the District to be Contractor’s default of a material obligation hereunder. Payments to the Contractor are conditioned upon continuous maintenance and completion of the Record Documents pursuant to Articles 8.3.2 and 8.3.3. If the Contractor fails or refuses to continuously maintain the Record Documents in a complete

and accurate manner, the District may take appropriate action to cause such maintenance, and all costs incurred in connection therewith shall be charged to the Contractor; the District may deduct such costs from any portion of the Contract Price then or thereafter due the Contractor.

4.13 Use of Site

The Contractor shall confine operations at the Site to areas permitted by law, ordinances or permits, subject to any restrictions or limitations set forth in the Contract Documents. The Contractor shall not unreasonably encumber the Site or adjoining areas with materials or equipment. The Contractor shall be solely responsible for providing security at the Site with all such costs included in the Contract Price. The District shall at all times have access to the Site.

4.14 Noise and Dust Control

The Contractor shall be responsible for complying with the requirements of the city and county having jurisdiction with regard to noise ordinances governing construction sites and activities. Construction equipment noise is subject to the control of the Environmental Protection Agency's Noise Control Program (Code of Federal Regulations, Title 40, Part 204). The Contractor shall be solely responsible for maintaining all areas of the Work free from all materials and products that by becoming airborne may cause respiratory inconveniences to District students and personnel. Damages and/or any liability derived from the Contractor's failure to comply with these requirements shall be the sole cost of the Contractor, including all penalties incurred for violations of local, state and/or federal regulations.

4.15 Cutting and Patching

The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make the component parts thereof fit together properly in accordance with the Contract Documents. Only tradespersons skilled and experienced in cutting and patching shall perform such work. 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. The Contractor shall not cut, patch or otherwise alter the construction by the District or separate contractor without the prior written consent of the District or separate contractor thereto, which consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold consent to the request of the District or separate contractor to cut, patch or otherwise alter the Work.

4.16 Clean-Up

The Contractor shall at all times keep the Site and all adjoining areas free from the accumulation of any waste material, rubbish or excess materials and equipment, placed, caused by performance of the Work. The Contractor shall maintain the Site in a "rake-clean" standard on a daily basis. Prior to completion of the Work, Contractor shall remove from the Site all rubbish, waste and excess material, tools, Construction Equipment, machinery, temporary facilities and barricades, and any other items which are not the property of the District under the Contract Documents. Upon completion of the Work, the Site and all adjoining areas shall be left in a neat and broom clean condition satisfactory to District. The Project Manager is authorized to 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, and all costs incurred in connection therewith shall be charged to the Contractor; the District may deduct such costs from any portion of the Contract Price then or thereafter due the Contractor.

4.17 Access to the Work

The Contractor shall provide the DSA, the District, the Project Manager, the District's Inspector, Labor Compliance Officer and Labor Compliance administrator and consultant(s), the Architect and the Architect's consultant(s) with access to the Work, whether in place, preparation and progress and wherever located.

4.18 Information for the District's Inspector

The Contractor shall furnish the District's Inspector access to the Work for obtaining such information as may be necessary to keep the District's Inspector fully informed respecting the progress, quality and character of the Work and materials, equipment or other items incorporated therein.

4.19 Inspector's Field Office

The Contractor shall provide and include in the Contract Price a temporary furnished office at the Site, if specified in the Contract Documents, for use by the District, the Project Manager and the District's Inspector, until removal of the same is authorized by the District.

4.20 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.

4.21 Prevailing Wage Rates; Employment of Apprentices and Labor Compliance Program

4.21.1. Determination of Prevailing Wage Rates

Pursuant to Labor Code §§1770 et seq., the District has obtained from the Director of the Department of Industrial Relations determinations of the generally prevailing rates of per diem wages and the prevailing rate for holiday and overtime work in the locality in which the Work is to be performed. Copies of these determinations, entitled "PREVAILING WAGE SCALE", are maintained at the District office identified in the Notice to Contractors Calling For Bids and on the Internet. Holidays shall be as defined in the collective bargaining agreement applicable to each particular craft, classification or type of worker employed under the Contract. Per diem wages include employer payments for health and welfare, pensions, vacation, travel time and subsistence pay, apprenticeship or other training programs authorized by California Labor Code §3093, and similar purposes when the term "per diem wages" is used herein. Holiday and overtime work, when permitted by law, shall be paid for at the rate of at least one and one-half (1½) times the above specified rate of per diem wages, unless otherwise specified. The Contractor shall post, at appropriate and conspicuous locations on the Site, a schedule showing all determined general prevailing wage rates.

4.21.2. Labor Compliance Program

The Project is in part funded by the Kindergarten-University Public Education Facilities Bond Act of 2002 or the Kindergarten-University Public Education Facilities Bond Act of 2004. The District has initiated a Labor Compliance Program ("LCP") pursuant to the

provisions of Labor Code §1771.5 and other applicable law. The District's LCP Manual is included in Section 00900 of the Contract Specifications. The Contractor and all Subcontractors of any tier shall comply with the LCP initiated and enforced by the District.

4.21.3. Payment of Prevailing Wage Rates

4.21.3.1 Statutory Requirements

The Project is subject to the provisions of Labor Code §§1720 et seq. and the requirements of Title 8 of the California Code of Regulations §§16000 et seq., which govern the payment of prevailing wage rates on public works projects. The Contractor and Subcontractors of any tier shall be governed by and required to comply with these statutes and regulations in connection with the Project. Pursuant to Labor Code §1771, the Contractor and all Subcontractors of any tier shall pay not less than the prevailing wage rates to all workers employed in execution of the Contract. Contractor and Subcontractors shall comply with applicable statutes and regulations, including but not limited to Labor Code §§ 1771, 1775, 1777.5, 1813 and 1815, and the District's LCP. Copies of these statutes and the District's LCP are contained in Section 00900 of the Contract Specifications.

4.21.3.2. Weekly Payments to Employees

Contractor and all Subcontractors of any tier shall pay each worker on the Project, unconditionally and not less often than once each week, the full amounts that are due and payable for the period covered by the particular payday. Thus, an employer must establish a fixed workweek and an established payday. On each payday, each worker must receive all sums due at the end of the preceding workweek and must be provided with an itemized wage statement.

4.21.4. Penalty for Prevailing Wage Rate Underpayment

Pursuant to Labor Code §1775, the Contractor shall, as a penalty, forfeit up to Fifty Dollars (\$50.00) to the District for each calendar day or portion thereof, for each worker paid less than the prevailing wage rates as determined by the Director of the Department of Industrial Relations for such work or craft in which such worker is employed for the Work by the Contractor or by any Subcontractor, of any tier, in connection with the Work. The difference between prevailing wage rates and the amount paid to each worker each calendar day, or portion thereof, for which each worker paid less than the prevailing wage rate, shall be paid to each worker by the Contractor.

4.21.5. Payroll Records

4.21.5.1. Certified Payroll Reports and Basic Payroll Records

The Contractor and Subcontractors of any tier shall maintain Certified Payroll Reports and "Basic Payroll Records", as that term is defined in Appendix A to the District's LCP, during the course of the Work and shall preserve them for a period of three (3) years after completion of the Project

for all tradesworkers executing the Work of the Contract. Certified Payroll Reports must be submitted weekly at the time designated in Article 4.21.5.2 or upon request as described in Article 4.21.5.4. Basic Payroll Records may be requested by the District at any time and shall be provided within ten (10) calendar days following the receipt of the request.

4.21.5.2. Weekly Submittal of Certified Payroll Reports

4.21.5.2.1. Pursuant to Labor Code §1776, the Contractor and each Subcontractor of any tier shall maintain an accurate, weekly payroll record showing the employee full name, address, social security number, work classification, amount paid per hour, straight time, overtime and holiday hours worked each day and weekly totals, the actual per diem wages paid to each person employed for the Work, and the gross/net wages paid for this Project/all projects, as well as the Contractor name and address, Project name and location, and dates of payroll. If payments are made to any third party trust, funds or plans for health and welfare, pension or vacation trusts, those payments must be stated on the payroll report. The basic wage rate paid per hour plus the employer contributions for benefits, including training fund contributions, must at least equal the prevailing wage rate for that classification.

4.21.5.2.2. The Contractor shall maintain and submit its Certified Payroll Reports and those of the Subcontractors of any tier to the District each week, no later than seven (7) calendar days after the payday for the week covered by the payroll reports. If there is no work on a given week or on a given day, the Certified Payroll Report must indicate “no work” for that week or day(s). The Certified Payroll Reports must account for each day of the week including Saturdays, Sundays and holidays. Contractor and Subcontractors of every tier must write “final” on the last submitted payroll report for the Project.

4.21.5.2.3 The Certified Payroll Reports shall be verified by a written declaration made by a person with authority to represent the reporting entity, under penalty of perjury, that the information contained in the payroll record is true and correct and that the reporting entity has complied with the requirements of California Labor Code §§1771, 1811, and 1815 for any Work performed by his, her or its employees on the Project. Copies of the District’s certified payroll form and the required declaration are provided in Section 00900 of the Contract Specifications. The Contractor and Subcontractors must use the District-provided forms.

4.21.5.3. Penalty for Delinquent or Inadequate Payroll Records

In the event Contractor submits “Inadequate Payroll Records” or Contractor has “Delinquent Payroll Records”, as those terms are defined in Appendix A to the District’s LCP, the Contractor shall have ten (10) days in which to comply, subsequent to receipt of written notice specifying in what respects the Contractor must comply herewith. Should Contractor fail to strictly comply after such 10-day period, the Contractor shall, as a penalty to the District, forfeit Twenty-Five Dollars (\$25.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated.

4.21.5.4. Making Certified Payroll Reports Available Upon Request

Pursuant to Labor Code §1776, in addition to its obligation to deliver certified payroll records to the District on a weekly basis as set forth above, the Contractor shall also make payroll records available for inspection at all reasonable hours at the principal office of the Contractor on the following basis: (i) a certified copy of an employee's payroll record shall be made available for inspection or furnished to such employee or his/her authorized representative on request; (ii) a certified copy of all payroll records shall be made available for inspection or furnished upon request to the District, the Division of Labor Standards Enforcement and the Division of Apprenticeship Standards of the Department of Industrial Relations; (iii) a certified copy of payroll records shall be made available upon request to the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the District, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been previously provided to the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, the requesting party shall, prior to being provided the records, reimburse the cost of preparation by the Contractor, Subcontractors and the entity through which the request was made; the public shall not be given access to such records at the principal office of the Contractor; (iv) the Contractor shall file a certified copy of the payroll records with the entity that requested such records within ten (10) days after receipt of a written request; (v) any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address and social security number. The name and address of the Contractor or any Subcontractor, of any tier, performing a part of the Work shall not be marked or obliterated. The Contractor shall inform the District of the location of payroll records, including the street address, city and county and shall, within five (5) working days, provide a notice of a change or location and address. In the event of noncompliance with the requirements of this subparagraph, the Contractor shall have ten (10) days in which to comply, subsequent to receipt of written notice specifying in what respects the Contractor must comply herewith. Should Contractor fail to strictly comply after such 10-day period, the Contractor shall, as a

penalty to the District, forfeit Twenty-Five Dollars (\$25.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from any portion of the Contract Price then or thereafter due the Contractor. The responsibility for compliance with the foregoing provisions shall rest upon the Contractor.

4.21.6. Hours of Work

4.21.6.1. Limits on Hours of Work

Pursuant to Labor Code §1810, eight (8) hours of labor shall constitute a legal day's work. Pursuant to Labor Code §1811, the time of service of any worker employed at any time by the Contractor or by a Subcontractor, of any tier, upon the Work or upon any part of the Work, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as hereafter provided. Notwithstanding the foregoing provisions, Work performed by employees of Contractor or any Subcontractor, of any tier, in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1½) times the basic rate of pay.

4.21.6.2. Penalty for Excess Hours

Pursuant to Labor Code §§1813 and 1815, the Contractor shall pay to the District a penalty of Twenty-five Dollars (\$25.00) for each worker employed in the execution of the Contract by the Contractor or any Subcontractor, of any tier, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and forty (40) hours in any one calendar week, or as otherwise provided by law, in violation of the provisions of the California Labor Code, unless compensation to the worker so employed by the Contractor is not less than one and one-half (1½) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.

4.21.6.3. Contractor Responsibility For Cost of Excess Hours.

Any Work performed by workers necessary to be performed after regular working hours or on Sundays or other holidays shall be performed without adjustment to the Contract Price or any other additional expense to the District.

4.21.7. Audit/Investigation of Compliance with Prevailing Wage Laws

The District shall conduct audits and investigations of the Contractor's and Subcontractors' Certified Payroll Records in fulfillment of the District's obligation as an authorized LCP to enforce compliance with prevailing wage laws. The District shall conduct audits/investigations on a random and as-needed basis. An audit shall include the comparison of submitted Certified Payroll Records to Basic Payroll Records or documents

maintained independent of the Certified Payroll Records, or to records used to gather the information in the Certified Payroll Records. The comparison may also involve other documents which authenticate or corroborate representations made in the Certified Payroll Records. The purpose of any audit or investigation shall be to verify the payment of prevailing wage rates. To ensure that the audit/investigation is fair, the Contractor or Subcontractor shall be provided an opportunity to submit evidence supporting its position. Should the District find that a Contractor or a Subcontractor has violated prevailing wage laws, the District shall refer the matter to the Labor Commissioner for approval of the District recommended forfeiture. The District shall forward its audit/investigation report to the affected Contractor or Subcontractor concurrently with the District's submission of the report to the Labor Commissioner, excepting documents which the District originally received from the Contractor or Subcontractor and which are also expressly referenced in the report. The District recommended forfeiture amount shall be in conformity with the provisions of Labor Code §§1720 et seq. Depending on the ruling of the Labor Commissioner, the audit/investigation may result in a withholding from the Contractor's Contract Payments.

4.21.8. Responsibility for Subcontractors' Payment of Prevailing Wages

Pursuant to Labor Code §1775, the Contractor is responsible for ensuring that all Subcontractors of any tier comply with requirements for payment of prevailing wages. Contractor is responsible for Labor Code violations by Subcontractors of any tier. The agreement executed between the Contractor and each Subcontractor must contain a copy of the provisions of Labor Code §§ 1771, 1775, 1777.5, 1813 and 1815, at a minimum. Contractor shall monitor each Subcontractors' payment of prevailing wage rates. Upon becoming aware of the failure of any Subcontractor of any tier to pay its workers the specified prevailing wage, the Contractor shall diligently take action to halt and rectify the failure, including, without limitation, retaining sufficient funds due to the Subcontractor to cover the underpayment. Before making final payment to any Subcontractor, the Contractor must obtain an affidavit from the Subcontractor, signed under penalty of perjury, which states that the Subcontractor has paid the specified, determined prevailing wage rate to its employees for the Project, as well as any amounts due pursuant to Labor Code §1813. Contractor shall provide copies of such affidavits to the District and provide Contractor's affidavit that it has paid the specified, determined prevailing wage rate to its employees for the Project, as well as any amounts due under Labor Code §1813.

4.21.9. Statement of Employer Payments

Within five (5) calendar days of signing the Contract or Subcontract, as applicable, the Statement of Employer Payments (DSLE Form PW 26 included in Section 00900 of the Specifications) must be completed and submitted to the District by each Contractor and Subcontractor who pays benefits to a third party trust, plan or fund for health and welfare benefits, vacation funds or makes pension contributions. The form must contain, for each worker classification, the fund or trust name, address, administrator, and amount per hour contributed and frequency of contributions. Training fund contributions must also be reported on this form. In February and August of each year during the Project, the Contractor and Subcontractors of any tier must verify changes in wage rates for any trade classifications used on the Project. Thereafter, Contractor and its Subcontractors must submit a new Statement of Employer Payments to the District which reflects any changes

in wages and benefits.

4.21.10. Apprentices

4.21.10.1. Apprenticeship Committee Contract Award Information

Pursuant to Labor Code §1777.5 and Title 8 California Code of Regulations §230, Contractor and Subcontractors of any tier who are not already approved to train by an apprenticeship program sponsor shall, within ten (10) calendar days of signing the Contract or Subcontract, as applicable, but in any event prior to the first day in which the Contractor or Subcontractor has workers employed on the Project, submit the Public Works Contract Award Information form (DAS form 140 included in Section 00900 of the Contract Specifications) to the appropriate local apprenticeship committees whose geographic area of operation include the area of the Project and can supply apprentices to the Project. Contractor and Subcontractors must also submit a copy of the form to the District which shall include, in addition to other information, an estimate of journeymen hours to be performed under the Contract or Subcontract, the number of apprentices to be employed, and the approximate dates the apprentices will be employed.

4.21.10.2. Employment of Apprentices

4.21.10.2.1. Labor Code §1777.5 and Title 8 California Code of Regulations §§2000 et seq. provide detailed requirements for employing apprentices on public works. The responsibility of complying with Section 1777.5 and the regulations lies exclusively with the Contractor.

4.21.10.2.2. Any apprentices employed to perform any of the Work shall be paid the standard wage paid to apprentices under the regulations of the craft or trade for which such apprentice is employed, and such individual shall be employed only for the work of the craft or trade to which such individual is registered.

4.21.10.2.3. Only apprentices, as defined in California Labor Code §3077, who are in training under apprenticeship standards and written apprenticeship agreements under California Labor Code §§3070 et seq. are eligible to be employed for the Work. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which such apprentice is training.

4.21.10.3. Apprenticeship Certificate and Dispatch of Apprentices

When the Contractor or any Subcontractor of any tier in performing any of the Work employs workers in any Apprenticeable Craft or Trade, the Contractor and such Subcontractor shall apply to the Joint Apprenticeship Committee administering the apprenticeship standards of the craft or trade in the area of the site of the Work for a certificate approving the Contractor

or such Subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected, provided, however, that the approval as established by the Joint Apprenticeship Committee or Committees shall be subject to the approval of the Administrator of Apprenticeship. The Joint Apprenticeship Committee or Committees, subsequent to approving the Contractor or Subcontractor, shall arrange for the dispatch of apprentices to the Contractor or such Subcontractor in order to comply with California Labor Code §1777.5. There shall be an affirmative duty upon the Joint Apprenticeship Committee or Committees, administering the apprenticeship standards of the crafts or trades in the area of the site of the Work, to ensure equal employment and affirmative action and apprenticeship for women and minorities. Contractors or Subcontractors shall not be required to submit individual applications for approval to local Joint Apprenticeship Committees provided they are already covered by the local apprenticeship standards. Contractors who are not already approved to train apprentices must request dispatch of required apprentices from one of the applicable Apprentices Committees by giving the program actual notice of at least 48 hours (excluding Saturdays, Sundays and holidays) before the date on which apprentices are required. Contractors who do not receive a sufficient number of apprentices from their initial request must request dispatch of apprentices from at least one other apprenticeship committee if more than one exists in the area of the Project.

4.21.10.4. Ratio of Apprentices to Journeymen

The ratio of Work performed by apprentices to journeymen, who shall be employed in the Work, may be the ratio stipulated in the apprenticeship standards under which the Joint Apprenticeship Committee operates, but in no case shall the ratio be less than one hour of apprentice work for each five hours of labor performed by a journeyman, except as otherwise provided in California Labor Code §1777.5. The minimum ratio for the land surveyor classification shall not be less than one apprentice for each five journeymen. Any ratio shall apply during any day or portion of a day when any journeyman, or the higher standard stipulated by the Joint Apprenticeship Committee, is employed at the site of the Work and shall be computed on the basis of the hours worked during the day by journeymen so employed, except for the land surveyor classification. The Contractor shall employ apprentices for the number of hours computed as above before the completion of the Work. The Contractor shall, however, endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the site of the Work. Where an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Division of Apprenticeship Standards, upon application of a Joint Apprenticeship Committee, may order a minimum ratio of not less than one apprentice for each five journeymen in a craft or trade classification. The Contractor or any Subcontractor covered by this Article and California Labor Code §1777.5, upon the issuance of the approval certificate, or if it has been previously

approved in such craft or trade, shall employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the apprenticeship standards. Upon proper showing by the Contractor that it employs apprentices in such craft or trade in the State of California on all of its contracts on an annual average of not less than one apprentice to each five journeymen, the Division of Apprenticeship Standards may grant a certificate exempting the Contractor from the 1-to-5 ratio as set forth in this Article and California Labor Code §1777.5. This Article shall not apply to contracts of general contractors, or to contracts of specialty contractors not bidding for work through a general or prime contractor, involving less than Thirty Thousand Dollars (\$30,000.00) or twenty (20) working days. The term "Apprenticeable Craft or Trade," as used herein shall mean a craft or trade determined as an Apprenticeable occupation in accordance with rules and regulations prescribed by the Apprenticeship Council.

4.21.10.5. Exemption from Ratios

The Joint Apprenticeship Committee shall have the discretion to grant a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting the Contractor from the 1-to-5 ratio set forth in this Article when it finds that any one of the following conditions are met: (i) unemployment for the previous three-month period in such area exceeds an average of fifteen percent (15%) or; (ii) the number of apprentices in training in such area exceeds a ratio of 1-to-5 in relation to journeymen, or; (iii) the Apprenticeable Craft or Trade is replacing at least one-thirtieth (1/30) of its journeymen annually through apprenticeship training, either on a statewide basis or on a local basis, or; (iv) if assignment of an apprentice to any Work performed under the Contract Documents would create a condition which would jeopardize such apprentice's life or the life, safety or property of fellow employees or the public at large, or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyman. When such exemptions from the 1-to-5 ratio between apprentices and journeymen are granted to an organization which represents contractors in a specific trade on a local or statewide basis, the member contractors will not be required to submit individual applications for approval to local Joint Apprenticeship Committees, provided they are already covered by the local apprenticeship standards.

4.21.10.6. Contributions to Trust Funds

The Contractor or any Subcontractor of any tier who performs any of the Work by employment of journeymen or apprentices in any apprenticeable craft or trade shall contribute to the California Apprenticeship Council in the same amount that the Director determines is the prevailing amount of apprenticeship training contributions in the area of the Project. Contractor or any Subcontractor, of any tier, may take as a credit for payments to the Council any amounts paid by the Contractor or Subcontractor to an approved apprenticeship program that can supply apprentices to the

Project. Contractors who do not contribute to an apprenticeship program must submit their contributions to the California Apprenticeship Council. Training Fund contributions are due and payable on the 15th day of the month for work performed during the preceding month. Training contributions to the California Apprenticeship Council shall be paid by check and shall be accompanied by a Completed Training Fund Contribution form (CAC-2), a copy of which is included in Section 00900 of the Contract Specifications. Contractors who contribute to an apprenticeship program are entitled to a full credit in the amount of those contributions. The Division of Labor Standards Enforcement is authorized to enforce the payment of such contributions to such fund(s) as set forth in California Labor Code §227. Such contributions shall not result in an increase in the Contract Price.

4.21.10.7. Contractor's Compliance

The responsibility of compliance with this Article for all Apprenticeable Trades or Crafts is solely and exclusively that of the Contractor. All decisions of the Joint Apprenticeship Committee(s) under this Article are subject to the provisions of California Labor Code §3081. In the event the Contractor willfully fails to comply with the provisions of this Article and California Labor Code §1777.5, pursuant to California Labor Code §1777.7, the Contractor shall: (i) be denied the right to bid on any public works contract for a period of one (1) year from the date the determination of non-compliance is made by the Administrator of Apprenticeship; and (ii) forfeit, as a civil penalty, Fifty Dollars (\$50.00) for each calendar day of noncompliance. Notwithstanding the provisions of California Labor Code §1727, upon receipt of such determination, the District shall withhold such amount from the Contract Price then due or to become due. Any such determination shall be issued after a full investigation, a fair and impartial hearing, and reasonable notice thereof in accordance with reasonable rules and procedures prescribed by the California Apprenticeship Council. Any funds withheld by the District pursuant to this Article shall be deposited in the General Fund or other similar fund of the District. The interpretation and enforcement of California Labor Code §§1777.5 and 1777.7 shall be in accordance with the rules and procedures of the California Apprenticeship Council.

4.21.11. 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 any services in connection with the Work where the services provided or to be provided requires that such person hold a valid contractors license issued pursuant to California Business and Professions Code §§7000 et seq. and such person does not meet the burden of proof of his/her independent contractor status pursuant to California Labor Code §2750.5. In the event that the Contractor shall employ any person in violation of the foregoing, Contractor shall be subject to the civil penalties under California Labor Code §1021.5 and any other penalty provided by law. In addition to the penalties provided under California Labor

Code §1021.5, Contractor's violation of this Article 4.18.7 or the provisions of California Labor Code §1021.5 shall be deemed an event of Contractor's default under Article 15.1 of these General Conditions. The Contractor shall require any Subcontractor of any tier performing or providing any portion of the Work to adhere to and comply with the foregoing provisions.

4.21.12. District's Enforcement of Violations

The District shall withhold Contract payments when: 1) Contractor submits Inadequate Payroll Records or Contractor has Delinquent Payroll Records; 2) after an investigation, it is established Prevailing Wages have not been paid to all workers on the Project; or 3) Contractor's or Subcontractors' failure to comply with Labor Code requirements concerning employment of apprentices. As set forth in the District's LCP, the District will first obtain approval from the Labor Commissioner of the amounts of forfeitures for violations of Labor Code requirements.

4.22 Assignment of Antitrust Claims

Pursuant to California Public Contract Code §7103.5, the Contractor and its Subcontractor(s), of any tier, hereby offers and agrees to 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.), arising from purchases of goods, services or materials hereunder or any Subcontract. 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. If the District receives, either through judgment or settlement, a monetary recovery in connection with a cause of action assigned under California Public Contract Code §7103.5, the assignor thereof shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the District any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the District as part of the Contract Price, less the expenses incurred by the District in obtaining that portion of the recovery. Upon demand in writing by the assignor, the District shall, within one year from such demand, reassign the cause of action assigned pursuant to this Article if the assignor has been or may have been injured by the violation of law for which the cause of action arose: and (i) the District has not been injured thereby; or (ii) the District declines to file a court action for the cause of action.

ARTICLE 5: SUBCONTRACTORS

5.1 Subcontracts

Any Work performed for the Contractor by a Subcontractor shall be pursuant to a written agreement between the Contractor and such 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. The foregoing notwithstanding, no contractual relationship shall exist, or be 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 for a portion of the Work shall provide that such Subcontract may be assigned to the District if the Contract is terminated by the District pursuant to Article 15.1 hereof, subject to the prior rights of the Surety obligated under a bond relating to the Contract.

Upon request, the Contractor shall provide to the District copies of executed Subcontracts and Purchase Orders, including amendment thereto, to which Contractor is a party within seven (7) days of District's request for same. The Contractor's failure or refusal, for any reason, to provide copies of such Subcontracts or Purchase Orders shall be deemed the Contractor's default of a material term of the Contract Documents.

5.2 Substitution of Listed Subcontractor

5.2.1 Substitution Process

Any request of the Contractor to substitute a listed Subcontractor will be considered only if such request is in strict conformity with this Article 5.2 and California Public Contract Code §4107. All costs and fees incurred by the District in the review and evaluation of a request to substitute a listed Subcontractor shall be borne by the Contractor; such costs and fees may be deducted by the District from the Contract Price then or thereafter due the Contractor.

5.2.2 Responsibilities of Contractor Upon Substitution of Subcontractor

Neither the substitution nor the District's consent to Contractor's substitution of a listed Subcontractor shall relieve Contractor from its obligation to complete the Work within the Contract Time and for the Contract Price. In the event that the District determines that revised or additional Submittals are required of the newly substituted Subcontractor, the District shall promptly notify the Contractor, in writing, of such requirement and the time for submittal. In the event that the revised or additional Submittals are not submitted by Contractor within the time specified, Contractor shall be subject to the per diem assessments for late Submittals as set forth in Article 4.8 of these General Conditions. Any revised or additional Submittals required pursuant to this Article 5.2.2 shall conform with the requirements of Article 4.8 of these General Conditions. Contractor shall reimburse the District for all fees and costs incurred or associated with the processing, review and evaluation of any revised or additional Submittals required pursuant to this Article 5.2.2; the District may deduct such fees and costs from any portion of the Contract Price then or thereafter due the Contractor. In the event that additional or revised Submittals are required pursuant to this Article 5.2.2, such requirement shall not result in an increase to the Contract Time or the Contract Price.

ARTICLE 6: INSURANCE; INDEMNITY; BONDS

6.1 Workers' Compensation Insurance; Employer's Liability Insurance

The Contractor shall purchase and maintain Workers' Compensation Insurance as will protect the Contractor from claims under workers' or workmen's compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. Contractor shall purchase and maintain 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. The Employer's Liability Insurance required of Contractor hereunder may be obtained by Contractor as a separate policy of insurance or as an additional coverage under the Workers' Compensation Insurance required to be obtained and maintained by Contractor hereunder. The limits of liability for the Employer's Liability Insurance required hereunder shall be as set forth in the Special Conditions.

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, occupational sickness or disease or death of the Contractor's employees; (ii) claims for damages because of bodily injury, sickness or disease or death of any person other than the Contractor's employees; (iii) 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; (iv) claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; (v) 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; and (vi) contractual liability insurance applicable to the Contractor's obligations under the Contract Documents. Contractor shall also provide excess or umbrella liability limits for Products and Completed Operations Aggregate for this Project as a Designated Project as set forth in the Special Conditions.

6.3 Builder's Risk "All-Risk" Insurance

The Contractor, during the progress of the Work and until Final Acceptance of the Work by the District upon completion of the entire Contract, shall maintain Builder's Risk "All-Risk" Completed Value Insurance Coverage on all insurable Work included under the Contract Documents which coverage is to provide extended coverage and insurance against vandalism and malicious mischief, perils of fire, sprinkler leakage, civil authority, sonic boom, collapse and flood upon the entire Work which is the subject of the Contract Documents, and including completed Work and Work in progress to the full insurable value thereof. Contractor's Builders Risk Insurance shall include coverage and insurance against the perils of earthquake if so indicated in the Special Conditions. Such insurance shall include the District as an additional named insured, and any other person with an insurable interest designated by the District as an additional named insured. The risk of damage to the Work due to the perils covered by the Builder's Risk "All Risk" Insurance, as well as any other hazard which might result in damage to the Work, is that of the Contractor and the Surety, and no claims for such loss or damage shall be recognized by the District, nor will such loss or damage excuse the complete and satisfactory performance of the Contract by the Contractor.

6.4 Coverage Amounts

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 law, whichever is greater. In the event of any loss or damage covered by a policy of insurance required to be obtained and maintained by the Contractor hereunder, the Contractor shall be solely and exclusively responsible for the payment of the deductible, if any, under such policy of insurance, without adjustment to the Contract Price on account thereof.

6.5 Evidence of Insurance; Subcontractor's Insurance

6.5.1 Certificates of Insurance

With the execution of the Contract, Contractor shall deliver to the District Certificates of Insurance evidencing the insurance coverages required by the Contract Documents.

Failure or refusal of the Contractor to so deliver Certificates of Insurance may be deemed by the District to be a default of a material obligation of the Contractor under the Contract Documents. The Certificates of Insurance and the insurance policies required by the Contract Documents shall contain a provision that coverages afforded under such policies will not be canceled or allowed to 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. Should any policy of insurance be canceled before Final Acceptance of the Work by the District and the Contractor fails to immediately procure replacement insurance as required, the District reserves the right to procure such insurance and to deduct the premium cost thereof and other costs incurred by the District in connection therewith from any sum then or thereafter due the Contractor under the Contract Documents. The Contractor shall, from time to time, furnish the District, when requested, with satisfactory proof of coverage of each type of insurance required by the Contract Documents; failure of the Contractor to comply with the District's request may be deemed by the District to be a default of a material obligation of the Contractor under the Contract Documents.

6.5.2 Subcontractors' Insurance

Contractor shall require that every Subcontractor, of any tier, performing or providing any portion of the Work obtain and maintain the policies of insurance set forth in Articles 6.1 and 6.2 of these General Conditions; the coverages and limits of liability of such policies of insurance to be obtained and maintained by Subcontractors shall be 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, Contractor obtaining and maintaining such policies of insurance. Each of the policies of insurance obtained and maintained by a Subcontractor hereunder shall conform with the requirements of this Article 6. Upon request of the District, Contractor shall promptly deliver to the District Certificates of Insurance evidencing that the Subcontractors have obtained and maintained policies of insurance in conformity with the requirements of this Article 6. Failure or refusal of the Contractor to provide the District with Subcontractors' Certificates of Insurance evidencing the insurance coverages required hereunder is a material default of Contractor hereunder.

6.6 Maintenance of Insurance

Any insurance bearing on the adequacy of performance of Work shall be maintained after the District's Final Acceptance of all of the Work for the full one year correction of Work period and any longer specific guarantee or warranty periods set forth in the Contract Documents. Should such insurance be canceled before the end of any such periods and the Contractor fails to immediately procure replacement insurance as specified, the District reserves the right to procure such insurance and to charge the cost thereof to the Contractor. Nothing contained in these insurance requirements is to be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from its operations or performance of the Work under the Contract Documents, including without limitation the Contractor's obligation to pay Liquidated Damages. In no instance will the District's exercise of its option to occupy and use completed portions of the Work relieve the Contractor of its obligation to maintain insurance required under this Article until the date of Final Acceptance of the Work by the District, or such time thereafter as required by the Contract Documents. The insurer providing any insurance coverage required hereunder shall be to the reasonable satisfaction of the District.

6.7 Contractor's Insurance Primary

All insurance and the coverages thereunder required to be obtained and 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. To the extent that 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 Commercial 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 herein shall be included in the Contract Price. The District shall be endorsed on all policies provided by Contractor, as appropriate, as additional insureds as respects liability arising out of Contractor's or Subcontractors' performance of the terms and conditions of these Contract Documents.

6.8 Indemnity

Unless arising solely out of the active negligence, gross negligence or willful misconduct of the District, the Architect or the Project Manager, the Contractor shall indemnify, defend and hold harmless: (i) the District and its Board of Trustees, officers, employees, agents and representatives (including the District's Inspector); (ii) the Architect and its consultants for the Work and their respective agents and employees; and (iii) the Project Manager and its agents and employees 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 which arise, in whole or in part, from the Work, the Contract Documents or the acts, omissions or other conduct of the Contractor or any 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) damage to property; or (iii) theft or loss of property; and (iv) other losses, liabilities, damages or costs resulting from, in whole or part, any acts, omissions or other conduct of Contractor, any of Contractor's Subcontractors, of any tier, or any other person or entity employed directly or indirectly by Contractor in connection with the Work and their respective agents, officers or employees. If any action or proceeding, whether judicial, administrative, arbitration or otherwise, shall be commenced on account of any claim, demand or liability subject to Contractor's obligations hereunder, and such action or proceeding names the District as a party thereto, the Contractor shall, at its sole cost and expense, defend the District in such action or proceeding with counsel reasonably satisfactory to District. In the event that there shall be any judgment, award, ruling, settlement, or other relief arising out of any such action or proceeding to which the District is bound by, Contractor shall pay, satisfy or otherwise discharge any such judgment, award, ruling, settlement or relief; Contractor shall indemnify and hold harmless the District 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.

6.9 Payment Bond; Performance Bond

Prior to commencement of the Work, the Contractor shall furnish a Performance Bond as security for Contractor's faithful performance of the Contract and a Labor and Material Payment Bond as security for payment of persons or entities performing work, labor or furnishing materials in connection with Contractor's performance of the Work under the Contract Documents. The

amounts of the Performance Bond and the Payment Bond required hereunder shall be one hundred percent (100%) of the Contract Price. Said Labor and Material Payment Bond and Performance Bond shall be in the form and content set forth in the Contract Documents. The failure or refusal of the Contractor to furnish either the Performance Bond or the Labor and Material Payment Bond in strict conformity with this Article 6.9 may be deemed by the District as a default by the Contractor of a material obligation hereunder. Upon request of the Contractor, the District may consider and accept, but is not obligated to do so, multiple sureties on such bonds. The Surety on any bond required under the Contract Documents shall be an Admitted Surety Insurer as that term is defined in California Code of Civil Procedure §995.120.

ARTICLE 7: CONTRACT TIME

7.1 Substantial Completion of the Work Within Contract Time

Unless otherwise expressly provided in the Contract Documents, the Contract Time is the period of time, including authorized adjustments thereto, allotted in the Contract Documents for achieving Substantial Completion of the Work. The date for commencement of the Work is the date established by the Notice to Proceed issued by the District, which shall not be postponed by the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible. The date of Substantial Completion is the date certified by the Architect, the Project Manager and the District's Inspector as such in accordance with the Contract Documents. The Contract Time is as indicated in the Special Conditions.

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. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing and achieving Substantial Completion of the Work. 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 that stage in the progress of the Work when the Work is complete in accordance with the Contract Documents, including but not limited to start-up and testing, so the District can occupy or use the Work for its intended purpose. Substantial Completion shall be determined by the Architect and the District's Inspector upon request by the Contractor in accordance with the Contract Documents. The good faith and reasonable determination of Substantial Completion by the District's Inspector and the Architect shall be controlling and final.

7.2.3 Correction or Completion of the Work After Substantial Completion

Upon achieving Substantial Completion of the Work, the District, the District's Inspector, the Project Manager, the Architect and the Contractor shall jointly inspect the Work and prepare a comprehensive list of items of the Work (punch list) to be corrected or completed by the Contractor. The exclusion of, or failure to include, any item on such list shall not alter or limit the obligation of the Contractor to complete or correct any portion

of the Work in accordance with the Contract Documents. In the event that the Contractor shall fail or refuse, for any reason, to complete all punch list items within the Contract Time, Contractor shall be subject to assessment of Liquidated Damages in accordance with Article 7.4 hereof. If the Contractor fails or refuses to complete all items of the Work within the Contract Time, the District may, in its sole and exclusive discretion and without further notice to Contractor, elect to cause the completion of such items of the Work, 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 at law. If the District elects to complete items of the Work, Contractor shall be responsible for all costs incurred by the District in connection therewith and the District may deduct such costs from the Contract Price then or thereafter due the Contractor; if these costs exceed the remaining Contract Price due to the Contractor, the Contractor and the Performance Bond Surety are liable to District for any such excess costs.

7.2.4 Final Completion

Final Completion is that stage of the Work when all Work has been completed in accordance with the Contract Documents, including without limitation, the performance of all punch list items noted upon Substantial Completion, and the Contract has been otherwise fully performed by the Contractor. Final Completion shall be determined by the Architect and the District's Inspector upon request of the Contractor. The good faith and reasonable determination of Final Completion by the District's Inspector and the Architect shall be controlling and final.

7.2.5 Contractor Responsibility for Multiple Inspections

In the event the Contractor shall request determination of Substantial or Final Completion and it is determined by the District that the Work does not then justify certification of Substantial or Final Completion, as applicable, 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 and the salary of the District's Inspector. The District may deduct such costs from the Contract Price then due or thereafter due to the Contractor.

7.2.6 Final Acceptance

Final Acceptance of the Work shall occur upon approval of the Work by the District's Board of Trustees. Such approval shall be submitted for adoption at the next 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 shall be deemed to be the date upon the District's Board of Trustees approves of the Final Acceptance of the Work.

7.3 Progress Schedule

7.3.1 Submittal of Preliminary Construction Schedule

Within ten (10) days following execution of the Agreement, the Contractor shall prepare and submit to the District, the Project Manager and the Architect a Preliminary Construction Schedule indicating, in graphic and tabular form, the estimated rate of progress and sequence of all Work required under the Contract Documents. The purpose

of the Preliminary Construction Schedule is to assure adequate planning and execution of the Work so that it is completed within the Contract Time and to permit evaluation of the progress of the Work. The Preliminary Construction Schedule shall indicate the dates for commencement and completion of various portions of the Work, including, without limitation, the procurement and fabrication of major items, material and equipment forming a part of, or to be incorporated into, the Work as well as Site construction activities. The Preliminary Construction Schedule shall identify all major (critical) Submittals required, the portion(s) of the Work for which the identified Submittals relate to and the date upon which each Submittal required will be transmitted to the Architect for review (the "Submittal Schedule"). The Contractor shall prepare the Preliminary Construction Schedule using Primavera, Sure Track, or comparable software in Critical Path Method format. If Contractor elects to use software other than Primavera or Sure Track, Contractor shall provide such software to the District at Contractor's expense. These requirements shall not be deemed control over or assumption of construction means, methods or sequences, all of which remain the Contractor's responsibility. Further, these requirements shall not give rise to an increase in the Contract Time or the Contract Price. The Contractor may submit a Preliminary Construction Schedule depicting completion of the Work in a duration shorter than the Contract Time; provided that such Preliminary Construction Schedule shall not be a basis for adjustment to the Contract Price in the event that completion of the Work shall occur after the time depicted therein, nor shall such Preliminary Construction Schedule be the basis for any extension of the Contract Time, the Contractor's entitlement to any extension of the Contract Time shall be based upon the Contract Time and not on any shorter duration which may be depicted in the Contractor's Preliminary Construction Schedule. In the event any of the Construction Schedules required under this Article 7.3 incorporate therein "float" time, such float shall be deemed to belong to and owned by the District. As used herein, "float time" shall be deemed to refer to the time between the earliest start date and the latest start date, or between the earliest finish date and the latest finish date of each activity shown on the Construction Schedule.

7.3.2 Review of Preliminary Construction Schedule

The District, the Project Manager and the Architect shall review the Preliminary Construction Schedule submitted by the Contractor pursuant to Article 7.3.1 above for conformity with the requirements of the Contract Documents. Within fifteen (15) days of the date of receipt of the Preliminary Construction Schedule, such Schedule will be returned to the Contractor with comments to the form or content thereof. Review of the Preliminary Progress Schedule and any comments thereto by the District, the Project Manager and/or the Architect shall not be deemed to be the assumption of construction means, methods or sequences by the District, the Project Manager or the Architect, all of which remain the Contractor's obligations under the Contract Documents.

7.3.3 Preparation and Submittal of Contract Construction Schedule

Within ten (10) days of the District's return of the Preliminary Construction Schedule to the Contractor pursuant to Article 7.3.2 above, the Contractor shall prepare and submit the Cost Loaded Construction Schedule which incorporates therein the comments to the Preliminary Construction Schedule. Upon the Contractor's submittal of such Construction Schedule, the District shall review the same for purposes of determining conformity with

the requirements of the Contract Documents. Within fifteen (15) days of the receipt of the Construction Schedule, the District will approve such Construction Schedule or will return the same to the Contractor with comments to the form or content. In the event there are comments to the form or content thereof, the Contractor, shall within seven (7) days of receipt of such comments, revise and resubmit the Construction Schedule incorporating therein such comments. Upon the District's approval of the form and content of a Construction Schedule, the same shall be deemed the "Approved Construction Schedule." The District's approval of a Construction Schedule shall be for the sole and limited purpose of determining conformity with the requirements of the Contract Documents. By the Approved Construction Schedule, the District shall not be deemed to have exercised control over, or approval of, construction means, methods or sequences, all of which remain the responsibility and obligation of the Contractor in accordance with the terms of the Contract Documents. Further, the Approved Construction Schedule shall not operate to limit or restrict any of Contractor's obligations under the Contract Documents nor relieve the Contractor from the full, faithful and timely performance of such obligations in accordance with the terms of the Contract Documents. The activities, commencement and completion dates of activities, and the sequencing of activities depicted on the Approved Construction Schedule shall not be modified or revised by the Contractor without the prior consent, or direction, of the District. Updates to the Approved Construction Schedule pursuant to Article 7.3.5 below shall not be deemed revisions to the Approved Construction Schedule. In the event that the Approved Construction Schedule shall depict completion of the Work in a duration shorter than the Contract Time, the same shall not be a basis for an adjustment of the Contract Time or the Contract Price in the event that actual completion of the Work shall occur after such the time depicted in such Approved Construction Schedule. In such event, the Contract Price shall not be subject to adjustment on account of any additional costs incurred by the Contractor to complete the Work prior to the Contract Time, as adjusted in accordance with the terms of the Contract Documents. Any adjustment of the Contract Time or the Contract Price shall be based upon the Contract Time set forth in the Contract Documents and not any shorter duration which may depicted in the Approved Construction Schedule.

7.3.4 Revisions to Approved Construction Schedule

In the event that the progress of the Work or the sequencing of the activities of the Work shall materially differ from that indicated in the Approved Construction Schedule, as determined by the District in its reasonable discretion and judgment, the District may direct the Contractor to revise the Approved Construction Schedule; within fifteen (15) days of the District's direction, the Contractor shall prepare and submit a revised Approved Construction Schedule, for review and approval by the District. The Contractor may request consent of the District to revise the Approved Construction Schedule. Any such request shall be considered by the District only if in writing setting forth the Contractor's proposed revision(s) to the Approved Construction Schedule and the reason(s) therefor. The District may consent to, or deny, any such request of the Contractor to revise the Approved Construction Schedule in its reasonable discretion.

7.3.5 Updates to Approved Construction Schedule

The Contractor shall monitor and update the Approved 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 District. Proper and complete updating of the Approved

Construction Schedule shall be a condition precedent to the issuance of progress payments described in Article 8 of these General Conditions. The Contractor shall provide the District with updated Approved Construction Schedules indicating progress achieved and activities commenced or completed within the prior updated Approved Construction Schedule. Updates to the Approved Construction Schedule shall not include any revisions to the activities, commencement and completion dates of activities or the sequencing of activities depicted on the Approved Construction Schedule. Any such revisions to the Approved Construction Schedule shall result in the District's rejection of such update and Contractor shall, within seven (7) days of the District's rejection of such update, submit to the Architect and the Project Manager an Updated Approved Construction Schedule which does not incorporate any such revisions. If requested by the District, the Contractor shall also submit, with its updates to the Approved Construction Schedule, 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. If the progress of the Work is behind the Approved Construction Schedule, the Contractor shall indicate what measures will be taken to place the Work back on schedule. 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 Approved 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.

7.3.6 Contractor Responsibility for Construction Schedule

The Contractor shall be responsible for the preparation, submittal and maintenance of the Construction Schedules required by the Contract Documents, and any failure of the Contractor to do so may be deemed by the District as the Contractor's default in the performance of a material obligation under Contract Documents. Any and all costs or expenses required or incurred to prepare, submit, maintain, and update the Construction Schedules shall be solely that of the Contractor and no such cost or expense shall be charged to the District. 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, maintenance or updating of the Construction Schedules. All schedule submittals shall include electronic diskettes for use by the District in its analysis and approval of the schedule submittal.

7.4 Adjustment of Contract Time

If Substantial Completion or completion of an Interim Milestone 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 or completion of an Interim Milestone is delayed by Excusable Delays, the Contract Time shall be subject to adjustment for such reasonable period of time as determined by the District. Excusable Delays shall not result in any increase in the Contract Price. Excusable Delays refer to unforeseeable and unavoidable casualties or other unforeseen causes beyond the control, and without fault or neglect, of the Contractor, any Subcontractor, Material Supplier or other person directly or indirectly engaged by the Contractor in performance of any portion of the Work. Excusable Delays

include 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, and unanticipated unusually severe weather conditions. Neither the financial resources of the Contractor or any person or entity directly or indirectly engaged by the Contractor in performance of any portion of the Work shall be deemed conditions beyond the control of the Contractor. If an event of 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 relative to the method, manner and time for Contractor's notice and request for adjustment of the Contract Time; (ii) that the event(s) forming the basis for Contractor's request to adjust 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 Contractor in performance of any portion of the Work; and (iii) that the event(s) forming the basis for Contractor's request to adjust the Contract Time directly and adversely impacted the progress of the Work as indicated in the Approved Construction Schedule or the most recent updated Approved Construction Schedule relative to the date(s) of the claimed event(s) of Excusable Delay. The foregoing provisions notwithstanding, 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 and unless the actual number of Rain Days during performance of the Work shall exceed those noted in the Special Conditions and such additional Rain Days shall have directly and adversely impacted the progress of the Work as depicted in the Approved Construction Schedule or the most recent updated Approved Construction Schedule relative to the date(s) of such additional Rain Days.

7.4.2 Compensable Delays

If Substantial Completion of the Work or completion of an Interim Milestone is delayed and such delay is caused by the acts or omissions of the District, the Architect, the Project Manager 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 by Change Order for such reasonable period of time as determined by the Architect, Project Manager and the District. In accordance with 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 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, including without limitation, Articles 9 and 14 of these General Conditions.

7.4.3 Unexcusable Delays

Unexcusable 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 Unexcusable Delays.

7.4.4 Adjustment of Contract Time

7.4.4.1 Procedure for Adjustment of Contract Time

The Contract Time shall be subject to adjustment only in strict conformity with applicable provisions of the Contract Documents. Failure of Contractor to request adjustment(s) of the Contract Time in strict conformity with applicable provisions of the Contract Documents shall be deemed Contractor's waiver of the same.

7.4.4.2 Limitations Upon Adjustment of Contract Time on Account of Delays

Any adjustment of the Contract Time on account of an Excusable Delay or a Compensable Delay shall be limited as set forth herein. If an Excusable Delay and a Compensable Delay occur concurrently, the maximum extension of the Contract Time shall be the number of days from the commencement of the first delay to the cessation of the delay which ends last. If an Unexcusable Delay occurs concurrently with either an Excusable Delay or a Compensable Delay, the maximum extension of the Contract Time shall be the number of days, if any, which the Excusable Delay or the Compensable Delay exceeds the period of time of the Unexcusable Delay. No adjustment of the Contract Time shall be made on account of any Excusable Delays or Compensable Delays unless such delay(s) actually and directly impact Work or Work activities on the critical path of the then current and updated Approved Construction Schedule as of the date on which such delay first occurs. The District shall not be deemed in breach of, or otherwise in default of any obligation hereunder, if the District shall deny any request by the Contractor for an adjustment of the Contract Time for any delay which does not actually and directly impact Work on the then current and updated Approved Construction Schedule.

7.5 Liquidated Damages

7.5.1 Contractor Delays

Should the Contractor neglect, fail or refuse to achieve Substantial Completion of the Work within the Contract Time, as adjusted, or to complete an Interim Milestone or Final Completion in accordance with the times specified or provided for in the Contract Documents, the Contractor agrees to pay to the District the amount of per diem Liquidated Damages set forth in the Special Conditions, not as a penalty but as Liquidated Damages, for every day beyond the Contract Time, as adjusted, Interim Milestone or Final Completion, the Work is achieved. The Liquidated Damages amounts set forth in the Special Conditions are agreed upon by and between the Contractor and the District because of the difficulty of fixing the District's actual damages in the event of delayed completion of the Work. The Contractor and the District specifically agree that said amounts are reasonable estimates of the District's damages in such event, and that such amounts do not constitute a penalty. Liquidated Damages may be deducted from the Contract Price then or thereafter due the Contractor. The Contractor and the Surety shall

be liable to the District for any Liquidated Damages exceeding any amount of the Contract Price then held or retained by the District. In the event that the Contractor shall fail or refuse to correct or complete items of the Work noted upon Substantial Completion and the District elects to exercise its right to cause completion or correction of such items pursuant to Article 7.2.3.2 hereof, the District's assessment of Liquidated Damages pursuant to the foregoing shall be in addition, and not in lieu of, the District's right to charge Contractor with the cost of completing or correcting such items of the Work, as provided for under Article 7.2.3.2.

7.5.2 District Delays

If the Contractor is delayed by the District or anyone employed by it and granted an extension of time, or if the Contractor is delayed and the District is held responsible for such delay, the Contractor and the District agree that it is impractical and infeasible to determine the amount of actual damage suffered by the Contractor as a result of such delay. Such damages include, but are not limited to, extended home and field office overhead, impairment of bonding capacity, lost opportunity, and all other damages or claims, regardless of tier, attributable, or claimed to be attributable to any such delay. Accordingly, in such an instance, it is agreed that the District will pay to the Contractor as fixed and liquidated damages, and not as a penalty, the sum of set forth in the Special Conditions for each calendar day of delay beyond the Contract Time.

7.5.3 Liquidated Damages Reasonable

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.

ARTICLE 8: CONTRACT PRICE

8.1 Contract Price

The Contract Price is the amount stated in the Agreement as such, and subject to any authorized adjustments thereto in accordance with the Contract Documents, is the total amount payable by the District to the Contractor for performance of the Work under the Contract Documents. The District's payment of the Contract Price to the Contractor shall be in accordance with the Contract Documents.

8.2 Cost Breakdown (Schedule of Values)

Within fifteen (15) days of the Cost Loaded Contract Construction Schedule (Article 7.3.3), the Contractor shall furnish a detailed tabular Cost Breakdown of the Contract price consistent with the cost-loaded work activities included in the Approved Construction Schedule. The Cost Breakdown shall be subject to the District's review and approval of the form and content thereof. In the event that the District shall reasonably object to any portion of the Cost Breakdown, within ten (10) days of the District's receipt of the Cost Breakdown, the District shall notify the Contractor, in writing of the District's objection(s) to the Cost Breakdown. Within five (5) days of the date of the District's written objection(s), Contractor shall submit a revised Cost Breakdown to the District for review and approval. The foregoing procedure for the preparation, review and approval of the Cost Breakdown shall continue until the District has approved of the entirety of the Cost Breakdown. Once the Cost Breakdown is approved by the District, the Cost Breakdown shall not be thereafter modified or amended by the Contractor without the prior consent and

approval of the District, which may be granted or withheld in the sole reasonable discretion of the District. Notwithstanding any provision of the Contract Documents to the contrary, payment of the Contractor's overhead, supervision and general conditions costs and profit, as such items are reflected in the Cost Breakdown, shall be made incrementally as included in the activities included in the Approved Construction Schedule.

8.3 Progress Payments

8.3.1 Applications for Progress Payments

During the Contractor's performance of the Work, the Contractor shall submit monthly, on the first working day of each month, to the Project Manager, Applications for Progress Payments, on forms approved by the District, setting forth an itemized estimate of Work completed in the preceding month. Values utilized in the Applications for Progress Payments shall be based upon the proper updating of the Approved Construction Schedule. The Cost Breakdown and/or Approved Cost Loaded Construction Schedule, pursuant to Article 8.2 above, and such values shall be only for determining the basis of Progress payments to the Contractor, and shall not be considered as fixing a basis for adjustments, whether additive or deductive, to the Contract Price.

8.3.2 District's Review of Applications for Progress Payments

In accordance with Public Contract Code §20104.50, upon receipt of an Application for Progress Payment, the Project Manager, the District's Inspector, and the Architect shall review the Application. Such review shall be for the purpose of determining that the Application for Progress Payment is a proper Progress Payment request. For purposes of this Article 8.3.2, an Application for Progress Payment shall be deemed "proper" only if it is submitted on the properly completed form approved by the District, and accompanied by:

- (i) the Application submitted by the Contractor shall be consistent with and accompanied by the updated Approved Construction Schedule;
- (ii) weekly Certified Payrolls of the Contractor and all Subcontractors, of any tier, for laborers performing any portion of the Work for which a Progress Payment is included (if requested);
- (iii) duly completed and executed forms of Conditional Waiver and Release of Rights Upon Progress Payment in accordance with California Civil Code § 3262 of the Contractor, all Subcontractors of any tier, 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 § 3262 of the Contractor, all Subcontractors of any tier, and Material Suppliers covering the Progress Payment received by the Contractor under the prior Application for Progress Payment;
- (v) a current union statement reflecting that the Contractor and any Subcontractor of any tier, are current in the payment of any supplemental fringe benefits required pursuant to any collective bargaining agreement to which the Contractor or any such Subcontractor is a party to or is otherwise bound by (if requested); and
- (vi) a certification by the Contractor that it has maintained the Record Documents

reflecting the actual as-built conditions of the Work performed (such certification is subject to verification by the District's Inspector prior to approval of the Progress Payment).

In accordance with Public Contract Code § 20104.50, an Application for Progress Payment determined by the District not to be a proper Application for Progress Payment shall be returned by the District to the Contractor 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. The District's return of any Application for Progress Payment pursuant to the preceding sentence shall be accompanied by a written document setting forth the reason(s) why the Application for Progress Payment is not proper. Pursuant to the District's Labor Compliance Program, Labor Code §1771.5 and other applicable law, the District shall withhold payments when payroll records are delinquent or inadequate.

8.3.3 Architect and District's Inspector Review of Applications for Progress Payments

Upon receipt of an Application for Progress Payment, the Architect and the District's Inspector shall meet with the Contractor to inspect the completed work and verify the portion of the work completed during the month using the approved Construction Schedule update and the Cost Breakdown. The Application for Progress Payment shall reflect the agreed percentages of work complete that is properly due to the Contractor under the terms of the Contract Documents. The Application submitted by the Contractor shall be consistent with and accompanied by the updated Approved Construction Schedule.

8.3.4 District's Disbursement of Progress Payments

8.3.4.1 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 Application for Progress Payment, there shall be paid, by District, to Contractor a sum equal to ninety percent (95%) of the value of the Work indicated in the Application for Progress Payment as verified and approved by the District's Inspector and the Architect. If an Application for Progress payment is determined not to be proper due to the failure or refusal of the contractor to submit the required documents with the Application for progress payment, or if it is reasonably determined that the Record Documents have not been continuously maintained to reflect the actual as-built conditions of the Work completed in the period for which the Progress Payment is requested, the thirty (30) day period hereunder for the District's timely disbursement of a Progress payment shall be deemed to commence on the date that the District is actually in receipt of a complete and proper Application for Progress payment or verifies the proper updating of the as-built conditions.

8.3.4.2 Untimely Disbursement of Progress Payments

In accordance with Public Contract Code §20104.50, in the event that the District shall fail to make any Progress Payment within thirty (30) days after receipt of an undisputed and properly submitted Application for Progress Payment, the District shall pay the Contractor interest on the undisputed amount of such Application for Progress Payment equal to the legal rate of interest set forth in California Code of

Civil Procedure § 685.010(a). The foregoing notwithstanding, pursuant to the District's Labor Compliance Program, Labor Code §1771.5 and other applicable law, the District shall withhold payments when payroll records are delinquent or inadequate without penalty or payment of interest under Public Contract Code §20104.50.

8.3.4.3 District's Right to Disburse Progress or Final Payments by Joint Checks

The District may, in its sole discretion, issue joint checks to the Contractor and any Subcontractor or Material Supplier providing work, labor, materials, equipment or services for the Project in satisfaction of its obligation to make Progress Payments or the Final Payment due hereunder. District may require Contractor to provide copies of applicable Subcontracts, purchase orders, rental invoices or materials invoices.

8.3.4.4 No Waiver of Defective or Non-Conforming Work

The approval of any Application for Progress Payment or the disbursement of any Progress Payment to the Contractor shall not be deemed nor constitute acceptance of defective Work or Work not in conformity with the Contract Documents.

8.3.5 Progress Payments for Changed Work

The Contractor's Applications for Progress Payment may include requests for payment on account of Changes in the Work which have been properly authorized and approved by the District's Inspector, the Architect and the Board. Except as provided for herein, no other payment shall be made by the District for Changes in the Work.

8.3.6 Materials or Equipment Not Incorporated Into the Work

8.3.6.1 Limitations Upon Payment

Except as expressly provided for herein, no payments shall be made by the District on account of any item of the Work, including without limitation, materials or equipment which has/have not been incorporated into and made a part of the Work.

8.3.6.2 Materials or Equipment Delivered and Stored at the Site

The District may, in its sole and exclusive discretion, make payment for materials or equipment not yet incorporated into the Work if, a request for payment of such materials or equipment is made and if all of the following are complied with: (a) the materials or equipment have been delivered to the Site; (b) adequate arrangements, reasonably satisfactory to the District, have been made by the Contractor to store and protect such materials or equipment at the Site including without limitation, insurance reasonably satisfactory to the District, covering and protecting against the risk of loss, destruction, theft or other damage to such materials or equipment while in storage; and (c) the establishment of procedures reasonably satisfactory to the District by which title to such materials or equipment will be vested in the District upon the District's payment therefor. The Contractor acknowledges that the discretion to make, or not to make, payment for materials or equipment delivered or stored at the site of the Work pursuant to the preceding sentence shall be exercised exclusively by the District; the District's exercise of discretion not to make payment for materials or equipment delivered or stored at the Site, but not yet incorporated into the Work shall not be deemed the District's

default hereunder. In the event that the District shall elect to make payment for materials or equipment delivered and stored at the Site, the costs and expenses incurred to comply with the requirements of (b) and (c) of this Article 8.3.6.2 shall be borne solely and exclusively by the Contractor and no payment shall be made by the District on account of such costs and expenses.

8.3.7 Exclusions From Progress Payments

No payments shall be made by the District for materials or equipment to be incorporated into the Work where such materials or equipment have not been delivered or stored at the Site. The District shall not make any payment on account of any materials or equipment which are in the process of being fabricated or which are in transit to the Site or other storage location. In addition to the District's right to withhold disbursement of any Progress Payment provided for in the Contract Documents, neither the Contractor's Application for Progress Payment shall include, nor shall the District be obligated to disburse any portion of the Contract Price for amounts which the Contractor does not intend to pay any Subcontractor, of any tier, or Material Supplier because of a dispute or any other reason.

8.3.8 Title to Work

The Contractor warrants that title to all Work covered by an Application for Progress Payment will pass to the District no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Progress Payment, all Work for which a Progress Payment has been previously issued and the Contractor has received payment from the District therefor shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, stop notices, security interests or encumbrances in favor of the Contractor, Subcontractors, Material Suppliers or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

8.4 Final Payment

8.4.1 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 and the District's Inspector will promptly make a final inspection of the Work and when the Architect and the District's Inspector find the Work acceptable under the Contract Documents and that the Contract has been fully performed by the Contractor, the Architect and the District's Inspector will thereupon promptly 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 terms of the Contract Documents. The Final Payment shall include the remaining balance of the Contract Price and any retention from Progress Payments previously withheld by the District.

8.4.2 Conditions Precedent to Disbursement of Final Payment

Neither Final Payment nor any remaining Contract Price shall become due until the Contractor submits to the District each and all of the following, the submittal of which are conditions precedent to the District's obligation to disburse the Final Payment: (i) an affidavit or certification by the Contractor that payrolls, bills for materials and other

indebtedness incurred in connection with the Work for which the District or the District's property may or might be responsible or encumbered have been paid or otherwise satisfied; (ii) a certificate evidencing that insurance required by the Contract Documents to remain in force after the Contractor's receipt of Final Payment is currently in effect; (iii) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover any period following Final Payment as required by the Contract Documents; if required (iv) consent of the Surety on the Labor and Material Payment Bond and Performance Bond, to Final Payments if required; (v) 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 §3262, with each of the same stating that there are, or will be, no claims for additional compensation after disbursement of the Final Payment; (vi) Operations and Maintenance manuals and separate warranties provided by any manufacturer or distributor of any materials or equipment incorporated into the Work; (vii) the Record Drawings; (viii) the form of Guarantee included in the Contract Documents duly executed by an authorized representative of the Contractor; (ix) any and all other items or documents required by the Contract Documents to be delivered to the District upon completion of the Work; and (x) if required by the District, such other data establishing payment or satisfaction of obligations such as receipts, releases and waivers of liens, stop notices, claims, security interest or encumbrances arising out of the Contract to the extent and in such form as may be required by the District.

8.4.3 Disbursement of Final Payment

Provided that the District is then in receipt of all documents and other items in Article 8.4.2 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.

8.4.4 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.

8.4.5 Claims Asserted After Final Payment

Any lien, stop notice or other claim filed or asserted after the Contractor's acceptance of the Final Payment by any Subcontractor, of any tier, laborer, Material Supplier or others in connection with or for Work performed under the Contract Documents shall be the sole and exclusive responsibility of the Contractor who further agrees to indemnify, defend and hold harmless the District and its officers, agents, representatives and employees from and against any claims, demands or judgments arising or associated therewith, including without limitation attorneys fees incurred by the District in connection therewith. In the event any lien, stop notice or other claim of any Subcontractor, Laborer, Material Supplier or others performing Work under the Contract Documents remain unsatisfied after Final Payment is made, Contractor shall refund to District all monies that the District may pay

or be compelled to pay in discharging any lien, stop notice or other claim, including, without limitation all costs and reasonable attorneys fees incurred by District in connection therewith.

8.5 Withholding of Payments

The District may withhold any Progress Payment or the Final Payment, in whole or in part, or backcharge the Contractor to the extent it may deem advisable to protect the District on account of: (i) defective Work or Work not in conformity with the requirements of the Contract Documents which is not remedied; (ii) failure of the Contractor to make payments when due Subcontractors or Material Suppliers for materials or labor; (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 Notice Claims filed with the District pursuant to California Civil Code §3179 et seq.; (iv) a 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) inadequate or delinquent payroll records, or violations of requirements to pay prevailing wages, or employment of apprentices; (vii) other claims, penalties and/or forfeitures for which the District is required or authorized to retain funds otherwise due the Contractor; (viii) any amounts due from the Contractor to the District under the terms of the Contract Documents; (ix) the Contractor's failure to perform any of its obligations under the Contract Documents or its default under the Contract Documents or its failure to maintain adequate progress of the Work; or (x) the Contractor's failure to timely provide Certified Payrolls of the Contractor and all Subcontractors, of any tier, in accordance with Articles 8.3.2., 8.4.2. or applicable law. 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 District's Inspector, the 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.

8.6 Payments to Subcontractors

The Contractor shall pay all Subcontractors for and on account of Work of the Contract performed by such Subcontractors in accordance with the terms of their respective subcontracts and as provided for pursuant to California Public Contract Code §10262, the provisions of which are deemed incorporated herein by this reference. In the event of the Contractor's failure to make payment to Subcontractors in conformity with California Public Contract Code §10262, the provisions of California Public Contract Code §10253 shall apply; by this reference, the provisions of California Public Contract Code §10253 are incorporated herein in its entirety, except that the references in said Section 10253 to "the director" shall be deemed to refer to the District.

ARTICLE 9: CHANGES

9.1 Changes in the Work

The District, at any time, by written order, may make Changes within the general scope of the Work under the Contract Documents or issue additional instructions, require additional Work or direct deletion of Work. The Contractor shall not proceed with any Change involving an increase

or decrease in the Contract Price or the Contract Time without prior written authorization from the District. The foregoing notwithstanding, the Contractor shall promptly commence and diligently complete any Change to the Work subject to the District's written authorized issued pursuant to the preceding sentence; the Contractor shall not be relieved or excused from its prompt commencement and diligent completion of any Change subject to the District's written authorization by virtue of the absence or inability of the Contractor and the District to agree upon the extent of any adjustment to the Contract Time or the Contract Price on account of such Change. The issuance of a Change Order pursuant to this Article 9 in connection with any Change authorized by the District under this Article 9.1 shall not be deemed a condition precedent to Contractor's obligation to promptly commence and diligently complete any such Change authorized by the District hereunder. The District's right to make Changes shall not invalidate the Contract nor relieve the Contractor of any liability or other obligations under the Contract Documents. Any requirement of notice of Changes in the scope of Work to the Surety shall be the responsibility of the Contractor. Changes to the Work depicted or described in the Drawings or the Specifications shall be subject to approval by the DSA. The District may make Changes to bring the Work or the Project into compliance with environmental requirements or standards established by state or federal statutes and regulations enacted after award of the Contract.

9.2 Oral Order of Change in the Work

Any oral order, direction, instruction, interpretation, or determination from the District, the District's Inspector or the Architect which in the opinion of the Contractor causes any change to the scope of the Work, or otherwise requires an adjustment to the Contract Price or the Contract Time, shall be treated as a Change only if the Contractor gives the Architect and the District's Inspector written notice within ten (10) days of the order, directions, instructions, interpretation or determination and prior to acting in accordance therewith. Time is of the essence in Contractor's written notice pursuant to the preceding sentence so that the District can promptly investigate and consider alternative measures to address the order, direction, instruction, interpretation or determination giving rise to Contractor's notice. Accordingly, Contractor acknowledges that its failure, for any reason, to give written notice within ten (10) days of such order, direction, instruction, interpretation or determination shall be deemed Contractor's waiver of any right to assert or claim any entitlement to an adjustment of the Contract Time or the Contract Price on account of such order, direction, instruction, interpretation or determination. 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 order, directions, instructions, interpretation or determination that the Contractor regards as a Change. Unless the Contractor acts in strict accordance with this procedure, any such order, direction, instruction, interpretation or determination shall not be treated as a Change and the Contractor hereby waives any claim for any adjustment to the Contract Price or the Contract Time on account thereof.

9.3 Contractor Submittal of Data

Within fifteen (15) days after receipt of a written order directing a Change in the Work or furnishing the written notice regarding any oral order directing a Change in the Work, the Contractor shall submit to the District a detailed written statement setting forth 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 under the Contract Documents.

9.4 Adjustment to Contract Price and Contract Time on Account of Changes to the Work

9.4.1 Adjustment to Contract Price

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:

9.4.1.1 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, 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. The Contractor shall be solely responsible for any additional costs or additional time arising out of, or related in any manner to, its failure to provide the estimate of costs within fifteen (15) days after the receipt of the written request of the District for such estimate.

9.4.1.2 Determination by the District

By the District, whether or not negotiations are initiated pursuant to Article 9.4.1.1 above, based upon actual and necessary costs incurred by the Contractor as determined by the District on the basis of the Contractor's records. In the event that the procedure set forth in this Article 9.4.1.2 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, the Architect and the District's Inspector, 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, the Architect and the District's Inspector of Contractor's objections to the District's determination of the extent of adjustment to the Contract Price shall be deemed Contractor's acceptance of the District's determination and a waiver of any right or basis 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 extent of any adjustment to the Contract Price pursuant to this Article 9.4.1.2,

Contractor shall, pursuant to Article 9.7 below, diligently proceed to perform and complete any such Change.

9.4.1.3 Basis for Adjustment of Contract Price

If Changes in the Work require an adjustment of the Contract Price pursuant to Articles 9.4.1.1 or 9.4.1.2 above, the basis for adjustment of the Contract Price shall be as follows:

9.4.1.3.1 Labor

Contractor shall be compensated for the costs of labor actually and directly utilized in the performance of the Change. Such labor costs shall be limited to field labor for which there is a prevailing wage rate classification. Wage rates for labor shall not exceed the prevailing wage rates in the locality of the Site and shall be the labor classification(s) necessary for the performance of the Change. Use of a labor classification which would increase labor costs associated with any Changes 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.

9.4.1.3.2 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 of materials and equipment may include reasonable costs of transportation from a source closest to the site of the Work and delivery to the Site. If discounts by Material Suppliers are available for materials necessary used in the performance of Changes, they shall be credited to the District. If materials and/or equipment necessarily used in the performance of Changes are obtained from a supplier or source owned in whole or in part by the Contractor, compensation therefore shall not exceed the current wholesale price for such materials or equipment. If, in the reasonable opinion of the District, the costs asserted by the Contractor for materials and/or equipment in connection with any Change is excessive, or if the Contractor fails to provide satisfactory evidence of the actual costs of such materials and/or equipment from its supplier or vendor of the same, the costs of such materials and/or equipment and the District's obligation for payment of the same shall be limited to the then lowest wholesale price at which similar materials and/or equipment are available in the quantities required to perform the Change. The District may elect to furnish materials and/or equipment for changes to the Work, in which event the Contractor shall not be compensated for the costs of furnishing such materials and/or equipment or any mark-up thereon.

9.4.1.3.3 Construction Equipment

Contractor shall be compensated for the actual cost of the necessary and direct use of Construction Equipment in the performance of Changes to the Work. Use of such Construction Equipment in the performance of Changes to Work shall be compensated in

increments of hourly, weekly or monthly rates, whichever shall be the most economical to the District when applied to the scope of the specific change. Rental time for Construction Equipment moved by its own power shall include time required to move such Construction Equipment to the site of the Work from the nearest available rental source of the same. If Construction Equipment is not moved to the Site by its own power, Contractor will be compensated for the loading and transportation costs in lieu of rental time the foregoing notwithstanding, neither moving time or loading and transportation time shall be allowed if the Construction Equipment is used for performance of any portion of the Work other than Changes to the Work. Unless prior approval in writing is obtained by the Contractor from the Architect, the District's Inspector and the District, 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 an allowance or any other compensation for Construction Equipment or tools used in the performance of Changes to the Work where such Construction Equipment or tools have a replacement value of \$1,000.00 or less. Construction Equipment costs claimed by the Contractor in connection with the performance of any Change to the Work shall not exceed rental rates (Blue Book) established by distributors or construction equipment rental agencies in the locality of the Site; any costs asserted which exceed such rental rates shall not be allowed or paid. Unless otherwise specifically approved in writing by the Architect, the District's inspector and the District, the allowable rate for the use of Construction Equipment in connection with the Changes to the Work shall constitute full compensation to the Contractor for the cost of rental, 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 incurred by the Contractor incidental to the use of such Construction Equipment.

9.4.1.3.4 Mark-up on Costs of Changes to the Work

In determining the cost to the District and the extent of increase to the Contract Price resulting from a Change adding to the Work, the allowance for mark-ups on the costs of the Change for all overhead (including home office and field overhead), 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, of any tier, performing any portion of any Change to the Work. If a Change to the Work reduces the Contract Price, the maximum adjustment to the Contract Price shall be the actual cost reduction realized by the reduced or deleted Work multiplied by the percentage set forth in the Special Conditions.

9.4.1.4 Contractor Maintenance of Records

In the event that Contractor shall be directed to perform any Changes to the Work pursuant to Article 9.1 or 9.2, or should the Contractor encounter conditions which the Contractor, pursuant to Article 9.6, believes would obligate the District to adjust the Contract Price and/or the Contract Time, Contractor shall maintain detailed records on a daily basis. 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 the performance of any Change to the Work. In the event that more than one Change to the Work is performed by the Contractor in a calendar day, Contractor shall maintain separate records of labor, Construction Equipment, materials and equipment for each such Change. In the event that any Subcontractor, of any tier, shall provide or perform any portion of any Change to the Work, Contractor shall require that each such Subcontractor maintain records in accordance with this Article. Each daily record maintained hereunder shall be signed by Contractor's Superintendent or Contractor's authorized representative; such signature shall be deemed Contractor's representation and warranty that all information contained therein is true, accurate, complete and relate only to the Change referenced therein. All records maintained by a Subcontractor, of any tier, relating to the costs of a Change to the Work shall be signed by such Subcontractor's authorized representative or Superintendent. All records maintained hereunder shall be subject to inspection, review and/or reproduction by the District, the Architect or the District's Inspector upon request. In the event that Contractor shall fail or refuse, 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 pursuant to this Article, the District's reasonable good faith determination of the extent of adjustment to the Contract Price on account of such Change shall be final, conclusive, dispositive and binding upon Contractor. Contractor's obligation to maintain records hereunder is in addition to, and not in lieu of, any other Contractor obligation under the Contract Documents with respect to Changes to the Work.

9.4.2 Adjustment to Contract Time.

In the event of any Change(s) to the Work pursuant to this Article 9, 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. Such time shall be requested in writing by the Contractor with the Contract price Adjustment Proposal. The time extension request shall be justified by the Contractor by submittal of a CPM analysis accurately portraying the impact of the change on the critical path of the project schedule. Changes performed within available float as indicated in the updated Approved Construction Schedule shall not justify a time extension to the Contract. When agreement is reached between the District and Contractor that a Change shall require an extension of the contract time, the Contractor shall not be subject to Liquidated Damages for such period of time. If completion of the Work is delayed by causes for which the District is responsible and the delay is unreasonable under the circumstances involved, and not within the contemplation of the Contractor and the District at the time of execution of the Agreement, the Contractor shall not be precluded from the recovery of damages arising

therefrom.

9.4.3 Addition or Deletion of Alternate Bid Item(s)

If the Bid for the Work includes proposal(s) for Alternate Bid Item(s), during Contractor's performance of the Work, the District may elect, pursuant to this Article 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 the same 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.

9.5 Change Orders

If the District approves of a Change, a written Change Order prepared 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 be in 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, as well as any adjustments to the Contract Time. 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, without the prior approval of the District which may be granted or withheld in the sole and exclusive discretion of the District, the Contractor shall not modify or amend the form or content of such Change Order, or any portion thereof. The Contractor's attempted or purported modification or amendment of any such Change Order, without the prior approval of the District, shall not be binding upon the District; any such unapproved modification or amendment to such Change Order shall be null, void and unenforceable. Unless otherwise expressly provided for in the Contract Documents or in the Change Order, any Change Order issued hereunder shall be binding upon the District only upon action of the District's Board of Trustees approving and ratifying such Change Order. In the event of any amendment or modification made by the Contractor to a Change Order for which there is no prior approval by the District, in accordance with the provisions of this Article 9.5, unless otherwise expressly stated in its approval and ratification of such Change Order, any action of the Board of Trustees to approve and ratify such Change Order shall be deemed to be limited to the Change Order as prepared by the Architect; such approval and ratification of such Change Order shall not be deemed the District's approval and ratification of any unapproved amendment or modification by the Contractor to such Change Order.

9.6 Contractor Notice of Changes

If the Contractor should claim 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, the Contractor shall notify the District's Project Manager and the 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 same. The District shall consider any such claim of the Contractor only if sufficient supporting documentation is submitted with the Contractor's notice to the District's Project Manager and the Architect. Time is of the essence in Contractor's written notice pursuant to the preceding sentence so that the District can promptly investigate and consider alternative measures to the address such instruction, request, Drawings,

Specifications, action, condition, omission, default or other situation. 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 instruction, request, Drawings, Specifications, action, condition, omission, default or other situation for which the Contractor believes there should an adjustment of the Contract Time or the Contract Price 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 instruction, request, Drawings, Specifications, action, condition, omission, default or other situation. In the event that the District determines that the Contract Price or the Contract Time are subject to adjustment based upon the events, circumstances and supporting documentation submitted with the Contractor's written notice under this Article 9.6, any such adjustment shall be determined in accordance with the provisions of Articles 9.4.1 and 9.4.2.

9.7 Disputed Changes

In the event of any dispute or disagreement between the Contractor and the District or the Architect regarding the characterization of any item as a Change to the Work 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 of such item of the Work, subject to a subsequent resolution of such dispute or disagreement in accordance with the terms of the Contract Documents. The Contractor's failure or refusal to so proceed with such Work may be deemed to be Contractor's default of a material obligation of the Contractor under the Contract Documents.

9.8 Emergencies

In an emergency affecting the safety of life, or of the Work, or of property, the Contractor, without special instruction or prior authorization from the District or the Architect, is permitted to act at its discretion to prevent such threatened loss or injury. Any compensation claimed by the Contractor on account of such emergency work shall be submitted and determined in accordance with this Article 9.

9.9 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. The Project Manager or the District's Inspector may direct the Contractor to perform Changes provided that each such Change does not result in an increase of more than \$500.00 to the Contract Price and no adjustment of the Contract Time. The Contractor shall carry out such orders promptly.

9.10 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 to the Architect and the District's Inspector in the manner and within the time set forth in Articles 9.2 or 9.6 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. The failure of the District to direct or order removal of such Work shall not constitute acceptance or approval of such Work

nor relieve the Contractor from any liability on account thereof.

ARTICLE 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 Project 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 of the Contract Time or the Contract Price in strict conformity with the provisions of the Contract Documents applicable thereto shall be deemed a waiver of the same.

10.2 District's Coordination of Separate Contractors

The District shall provide for coordination of the activities of the District's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the District in reviewing their respective Construction Schedules when directed to do so. The Contractor shall make any revisions to the Approved Construction Schedule for the Work hereunder 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 reasonable opportunity for storage of their materials and equipment and performance of their activities at the Site and shall connect and coordinate the Contractor's Work, construction and operations with theirs as required by the Contract Documents.

10.4 Discrepancies or Defects

If part of the Contractor's Work depends for proper execution or results upon construction or operations by the District or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Project Manager any apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor to so report shall constitute an acknowledgment that the District's or separate contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then discoverable by the Contractor's reasonable diligence.

ARTICLE 11: TESTS AND INSPECTIONS

11.1 Tests; Inspections; Observations

11.1.1 Contractor's Notice

If the Contract Documents, laws, ordinances or any public authority with jurisdiction over

the Work requires the Work, or any portion thereof, to be specially tested, inspected or approved, the Contractor shall give the Project Manger 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 inspection, testing or observation is by authority other than the District, the Contractor shall inform the District's Inspector and the Project Manager not less than two (2) working days prior to the date fixed for such inspection, test or observation. The Contractor shall not cover up any portion of the Work subject to tests, inspections or observations prior to the completion and satisfaction of the requirements of such test, inspection or observation. In the event that any portion of the Work subject to tests, inspection or approval shall be 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 on account thereof.

11.1.2 Cost of Tests and Inspections

Costs for tests and inspection of materials shall be paid by the District as provided for herein. Within twenty (20) days after the establishment of the Approved Construction Schedule pursuant to Article 7.3 hereof, the District shall submit to the Contractor a written list of the portions of the Work subject to special tests or inspections to be paid for by the District along with the number of hours or costs of testing or inspection allocated for each such portion of the Work. Should any act, omission or other conduct of the Contractor, any of its Subcontractors, of any tier, or Material Suppliers cause the number of hours or the costs of such tests or inspections to exceed that set forth in the District's list submitted pursuant to the foregoing, the Contractor shall be solely responsible for all such excess costs and the District may deduct such amount from any portion of the Contract Price then or thereafter due the Contractor. The District will pay for all tests and inspections provided that, in addition to the cost to be paid by the Contractor previously set forth in this Article, the Contractor shall pay for all tests and inspections under any of the following conditions: (i) when such costs are stipulated in the provisions of the Contract Documents to be borne by the Contractor; (ii) when a material is tested or inspected and fails to meet the requirements of the Specifications and/or Drawings; or (iii) when the source of the material is changed after the original test or inspection has been made or approved.

11.1.3 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. All such tests and inspections shall be in conformity with the latest adopted Title 24 of the California Code of Regulations. 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 District's Inspector, the Project Manager or the Architect and not by the Contractor.

11.1.4 Additional Tests, Inspections and Approvals

If the Architect, the Project Manager, the District's Inspector or public authorities having jurisdiction over the Work determine that portions of the Work require additional testing,

inspection or approval, the Project Manager shall 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 Project Manager of when and where tests and inspections are to be made so the District's Inspector and the 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 Architect's services or its consultants in connection therewith. Where required DSA testing of the work identifies a failure rate of ten percent (10%) or greater for any system, scope of work, installation or subtrade that has been specifically targeted, District may, at its sole discretion, order that all such similar systems, installations, scopes of work or subtrade work used in connection with the Project be tested, and the cost to test all such work shall be paid by the Contractor.

11.2 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. If a material is not required to be tested, the Architect, Inspector or the District may require Contractor to furnish a certificate bearing the official and legal signature of the supplier with each delivery of such material, which certificate shall state that the material complies with the Specifications.

11.3 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.

ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

12.1 Inspection of the Work

12.1.1 Access to the Work

All Work and all materials and equipment forming a part of the Work or incorporated into the Work are subject to inspection by the District, the Project Manager, the Architect and the District's Inspector for conformity with the Contract Documents. The Contractor shall, at its cost and without adjustment to the Contract Price or the Contract Time, furnish any facilities necessary for sufficient and safe access to the Work for purposes of inspection by the District, the Project Manager, the Architect, the District's Inspector, DSA or any other public or quasi-public authority with jurisdiction over the Work or any portion thereof.

12.1.2 Limitations Upon Inspections

Inspections, tests, measurements, or other acts of the Architect and the District's Inspector hereunder are for the sole purpose of assisting them in determining that the Work, materials, equipment, progress of the Work, and quantities generally comply and conform with the requirements of the Contract Documents. These acts or functions shall not relieve the Contractor from performing the Work in full compliance with the Contract Documents. No inspection by the Architect or the District's Inspector shall constitute or

imply acceptance of Work inspected. Inspection of the Work hereunder is in addition to, and not in lieu of, any other testing, inspections or approvals of the Work required under the Contract Documents.

12.2 Uncovering of Work

If any portion of the Work is covered contrary to the request of the Architect, the District's Inspector, the Project Manager or the requirements of the Contract Documents, it must be uncovered by the Contractor for observation by such District representative and be replaced by the Contractor without adjustment of the Contract Time or the Contract Price.

12.3 Rejection of Work

Prior to the District's Final Acceptance of the Work, any Work or materials or equipment forming a part of the Work or incorporated into the Work which is defective or not in conformity with the Contract Documents may be rejected by the District, the Project Manager, the Architect or the District's Inspector and the Contractor shall correct such rejected Work without any 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 District's Inspector or even if they failed to observe the defective or non-conforming Work, materials or equipment.

12.4 Correction of Work

The Contractor shall promptly correct any portion of the Work rejected by the District, the Project Manager, the Architect or the District's Inspector for failing to conform to the requirements of the Contract Documents, or which is determined by them to be defective, 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 or Inspector's services and expenses made necessary thereby. The Contractor shall bear all costs of correcting destroyed or damaged construction, whether completed or partially completed, of the District or separate contractors, caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents, or which is defective.

12.5 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.

12.6 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. If the Contractor does not so proceed, the District may remove it and store the salvable materials or equipment at the Contractor's expense. If the Contractor does not pay costs of such removal and storage after written notice, the District may sell such materials or equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by the Contractor, including without limitation compensation for the Architect's and Inspector's services, attorneys fees and other expenses made necessary thereby. If such proceeds of sale do not cover costs which the Contractor should have borne, the Contract Price shall be reduced by the deficiency. If payments of the Contract Price then or thereafter due the Contractor

are not sufficient to cover such amount, the Contractor and the Surety shall promptly pay the difference to the District.

12.7 Acceptance of Defective or Non-Conforming Work

The District may, in its sole and exclusive discretion, elect to accept Work which is defective or which is not in accordance with the requirements of the Contract Documents, instead of requiring its removal and correction, in which case the Contract Price shall be reduced as appropriate and equitable.

ARTICLE 13: WARRANTIES

13.1 Workmanship and Materials

The Contractor warrants to the District that all materials and equipment furnished under the Contract Documents shall be new, of good quality and of the most suitable grade and quality for the purpose intended, unless otherwise specified in the Contract Documents. All Work shall be of good quality, free from faults and defects and in conformity with the requirements of the Contract Documents. If required by 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. Where there is an approved substitution of, or alternative to, material or equipment specified in the Contract Documents, the Contractor warrants to the District that such installation, construction, material, or equipment will equally perform the function and have the quality of the originally specified material or equipment. The Contractor expressly warrants the merchantability, the fitness for use, and quality of all substitute or alternative items in addition to any warranty given by the manufacturer or supplier of such item.

13.2 Warranty Work

If, within one year after the date of Final Acceptance, or such other time frame set forth elsewhere in the Contract Documents, any of the Work is found to be defective or 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 not more than seven (7) days after receipt of a written notice from the District to do so, and to thereafter diligently complete the same. In the event that Contractor shall fail or refuse 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, cause such corrective Work to be performed and completed. In such event, Contractor and Contractor's 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. Nothing contained herein shall be construed to establish a period of limitation with respect to any obligation of the Contractor under the Contract Documents. The obligations of the Contractor hereunder shall be 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 or equipment forming a part of, or incorporated into the Work, or otherwise recognized, prescribed or imposed by law. Neither the District's Final Acceptance, the making of Final Payment, any provision in Contract Documents, nor the use or occupancy of the Work, in whole or in part, by District shall constitute acceptance of Work not in accordance with the Contract Documents 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 provisions of this Article 13 shall survive the Contractor's completion of Work under the Contract Documents, the District's Final Acceptance or the termination of the Contract.

ARTICLE 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 orders a 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 under the Contract Documents; or (ii) that an equitable adjustment is made or denied under another provision of the Contract Documents. 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. In the event of the District's suspension of the Work, the Contract Time shall be equitably adjusted.

ARTICLE 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) if the Contractor refuses or fails to prosecute the Work with diligence as will ensure Substantial Completion of the Work within the Contract Time, or if the Contractor fails to substantially Complete the Work within the Contract Time; (ii) if 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, or if a trustee or receiver is appointed for the Contractor or for any of the Contractor's property on account of the Contractor's insolvency, and the Contractor or its successor in interest does not provide adequate assurance of future performance in accordance with the

Contract Documents within 10 days of receipt of a request for such assurance from the District; (iii) if the Contractor repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment; (iv) if the Contractor repeatedly fails to make prompt payments to any Subcontractor, of any tier, or Material Suppliers or others for labor, materials or equipment; (v) if the Contractor disregards laws, ordinances, rules, codes, regulations, orders applicable to the Work or similar requirements of any public entity having jurisdiction over the Work; (iv) if the Contractor disregards proper directives of the Architect, the District's Inspector or District under the Contract Documents; (vii) if the Contractor performs Work which deviates from the Contract Documents and neglects or refuses to correct such Work; or (viii) if 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 at law.

15.1.2 District's Rights Upon Termination

In the event that 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 plant which may be on the site of the Work, and use the same to the full extent they could be used by the Contractor without liability to the Contractor. In exercising the District's right to prosecute the completion of the Work, the District may also take possession of all materials and equipment stored at the site of the Work or for which the District has paid the Contractor but which are stored elsewhere, and finish the Work as the District deems expedient. In exercising the District's right to prosecute the completion of the Work, the District shall have the right to exercise its sole discretion as to the manner, methods, and reasonableness of the costs of completing the Work and the District shall not be required to obtain the lowest figure for completion of the Work. In the event that the District takes bids for remedial Work or completion of the Work, the Contractor shall not be eligible for the award of such contract(s).

15.1.3 Completion by the Surety

In the event that the Contract is terminated pursuant to this Article 15.1, the District may demand that the Surety take over and complete the Work. The District may require that in so doing, the Surety not utilize the Contractor in performing and completing the Work. Upon the failure or refusal of the Surety to take over and begin completion of the Work within fifteen (15) days after demand therefor, the District may take over the Work and prosecute it to completion as provided for above. Such remedy is in addition to, and not lieu of, other remedies available to District as provided by law or in equity.

15.1.4 Assignment and Assumption of Subcontracts

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 assign the Subcontract or Purchase Order to the District or such other person or entity selected by the District to complete the Work.

15.1.5 Costs of Completion

In the event of termination under this Article 15.1, the Contractor shall not be entitled to 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/or the Surety shall pay the difference to the District.

15.1.6 Contractor Responsibility for Damages

The Contractor and the Surety shall be liable for all damage sustained by the District resulting from, in any manner, the termination of Contract under this Article 15.1, including without limitation, attorneys' fees, and for all costs necessary for repair and completion of the Work over and beyond the Contract Price.

15.1.7 Conversion to Termination for Convenience

In the event 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.

15.1.8 District's Rights Cumulative

In the event 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 law or otherwise under the Contract Documents. Any retention or payment of monies to the Contractor by the District shall not be deemed to release the Contractor or the Surety from any liability hereunder.

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 of the Work 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.

ARTICLE 16: MISCELLANEOUS

16.1 Governing Law

This Contract shall be governed by and interpreted in accordance with the laws of the State of California.

16.2 Successors and Assigns

Except as 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 and 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 law. 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 at law nor shall such an action or failure to act constitute approval of or acquiescence in a breach hereunder, except as may be specifically agreed in writing.

16.4 Severability

In the event any provision of the Contract Documents shall be 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 sublet or assign the Contract, or any portion thereof, or any monies due thereunder, without the express prior written consent and approval of the District, which approval may be withheld in the sole and exclusive discretion of the District. The District's approval to such assignment shall be upon such terms and conditions as determined by the District in its sole and exclusive discretion.

16.6 Independent Contractor Status

In performing its obligations under the Contract Documents, the Contractor is an independent contractor to the District and not an agent or employee of the District.

16.7 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 personal delivery or by 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. In the event of 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. In the event of mailed notices, such notice shall be deemed effective on the third working day after deposit in the mail.

16.8 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, 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.

16.9 Dispute Resolution; Claims Under \$375,000.00

Claims between the District and the Contractor of \$375,000.00 or less shall be resolved in accordance with the procedures established in Part 3, Chapter 1, Article 1.5 of the California Public Contract Code, §§20104 et seq.; provided however that California Public Contract Code §20104.2(a) shall not supersede the requirements of the Contract Documents with respect to the Contractor's notification to the District of such claim or extend the time for the giving of such notice as provided in the Contract Documents. The term "claims" as used herein shall be as defined in California Public Contract Code §20104(b)(2).

16.10 Attorneys Fees

Except as expressly provided for in the Contract Documents, or authorized by law, 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.

16.11 Marginal Headings; Interpretation

The titles of the various Articles of these General Conditions and elsewhere in the Contract Documents are used for convenience of reference only and are not intended to, and shall in no way, enlarge or diminish the rights or obligations of the District or the Contractor and shall have no effect upon the construction or 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.

16.12 Provisions Required by Law Deemed Inserted

Each and every provision of law and clause required by law 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 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

Section 00800

1.01 Contract Time

- A. Substantial Completion of the Work.** The Work shall commence on the Start Date listed on the Notice to Proceed issued by the District to the Contractor and shall be completed (Substantial Completion) within Eighty (80) consecutive calendar days from and after the date stated in the Notice to Proceed (Reference Article 7 of the General Conditions).
- B. Interim Milestone Completion Dates.** Notwithstanding any provision of the Contract Documents to the contrary, Contractor shall sequence and coordinate the work so that portions of the work are completed as required by the Work Segment Plan in accordance with the following interim start and completion dates:
No interim milestones on this project.

1.02 Liquidated Damages

- A. Delayed Substantial Completion of the Work.** Pursuant to Article 7 of the General Conditions, the Contractor shall be subject to the assessment and withholding of Liquidated Damages for failure to achieve Substantial Completion of the Work within the Contract Time as indicated in item 1.01.A, above. Liquidated Damages shall be at the rate of Five Hundred Dollars (\$500) per calendar day until Substantial Completion of the Work is achieved.
- B. Delayed Completion of Interim Milestones.** - N/A
- C. Delayed Final Completion of the Work.** Pursuant to Article 7 of the General Conditions, the Contractor shall be subject to the assessment and withholding of Liquidated Damages for failure to achieve Final Completion of the Work in accordance with the Contract Documents. Liquidated Damages shall be at the rate of Five Hundred Dollars (\$500) per Calendar day until Final Completion of the Work is achieved
- D. Delayed Submittals.** The per day assessment of Liquidated Damages for Contractor's delayed submission of Submittals pursuant to Article 4.8.2.1 of the General Conditions is One Hundred Dollars (\$100) per calendar day per Submittal until the required Submittal is submitted.
- E. Cumulative Assessment of Liquidated Damages.** If the Contractor fails to timely delivery the Submittals, fails to achieve Final Completion of the Work Segments as set forth herein, or fails to achieve Substantial or Final Completion of the Work, the Contractor shall be subject to assessment and withholding of Liquidated Damages in the amounts set forth above for each such portion of the Work which is not timely delivered or completed within the time allocated for each portion of the Work.
- F. Contractor Liquidated Damages.** – N/A

1.03 Insurance

A. Insurance Provided By Contractor. Pursuant to Article 6 of the General Conditions, the Contractor shall provide and maintain the following insurance coverage amounts as set forth below:

1. **Workers Compensation Insurance**
In accordance with limits established by law.
2. **Employers Liability Insurance** \$1,000,000
3. **Commercial General Liability Insurance**
Per Occurrence \$2,000,000
Aggregate \$5,000,000
4. **Automobile Liability Insurance** \$1,000,000
5. **Builders Risk Insurance**
In an amount equal to 110% of the original Contract Price.
6. **Excess Products and Completed Operations** \$2,000,000

B. Insurance Provided by Subcontractors.

Pursuant to Article 6 of the General Conditions, all Subcontractors and Sub-Subcontractors shall provide and maintain the following insurance coverages, with minimum coverage amounts as set forth below:

1. **Workers Compensation Insurance**
In accordance with limits established by law.
2. **Employers Liability Insurance** \$1,000,000
3. **Commercial General Liability Insurance**
Per Occurrence \$1,000,000
Aggregate \$2,000,000
4. **Automobile Liability**
Bodily Injury/Property Damage Per Occurrence \$1,000,000

1.04 Drawings and Specifications.

The number of sets of the Drawings and Specifications, which the District will provide to the awarded Contractor, pursuant to Article 2.1.2 of the General Conditions, is one (1) set of reproducible specifications with plans.

1.05 Number of Contract Documents.

The number of executed copies of the Agreement is two (2); the number of Performance Bonds and Payment Bonds required is one (1).

1.06 Security.

In addition to the security requirements set forth elsewhere in the Contract Documents, the Contractor must adhere to the following:

- A. Locked Door Policy.** No building, room or site gate shall be left unsecured for any period of time when not occupied by the Contractor and/or after the Contractor's daily work hours.

1.07 Working Hours.

The working hours for this Contract shall be 7:00 a.m. to 7:00 p.m. Monday through Friday. Saturday/Sunday work requires written notification to the District.

Work hours are subject to standard construction hours per the Ordinance set by the **City of Oxnard, Ventura and Moorpark, CA**. Contractor is expected to work weekends and holidays, as necessary, to complete the work within the specified time of completion without any additional cost to the District. At the District's request, Contractor shall modify the working hours for the Contract without adjustment of the Contract Time or Contract Price. (Reference General Conditions Article 7.2.1)

1.08 Temporary Electric Power.

Provide temporary electric power as necessary for execution of work. The Contractor will arrange distribution service point for electric power with the College Director of Maintenance. Contractor shall provide meters, necessary wiring, switches, receptacles, etc., and make connections to distribution points. Contractor is to pay all costs for temporary electric power.

1.09 Temporary Lighting.

Provide lighting and outlets in temporary structures and wherever necessary for proper performance and inspection of work. If operations are performed during hours of darkness and whenever District deems natural lighting insufficient, provide adequate floodlights, clusters, and spot illumination, as required to facilitate reading of drawings and specifications. Make arrangements with subcontractors for electric services and lighting as necessary in performance of their work. Contractor is to pay for all temporary lighting.

1.10 Temporary Heat and Ventilation.

1.10.1 Provide heat, fuel and services to protect the work against injury from dampness and cold until final acceptance of all work of the contract.

1.10.2 When the new HVAC system is used for temporary heat and ventilation, comply with air quality requirements of ASHRAE 62, and the following:

- 1) **Temporary Filters for Air Systems:** Provide temporary filters in air conditioning and ventilating systems to prevent dust and fumes from contaminating the new ductwork and equipment. Use commercial viscous-coated throw away filters, or equal, having efficiency of not less than 60 percent.

- 2) At completion, inspect the entire system for dirt and debris. Clean equipment, ducts and plenums that are soiled, at no cost to the District.

1.10.3 Before casework is delivered to the building, for not less than 5 days prior to installing wood finishes, and throughout placing of this finish and other finish operations such as painting and laying of resilient floor covering, sufficient heat to maintain building temperature at 65 degrees F.

1.10.4 Operate HVAC system over a weekend as directed, for not less than 48 hours to purge VOC and other contaminants from the building.

1.11 Temporary Telephone and Fax Service.

Provide maintain and pay for duration of work, for temporary telephone and fax service including installation, maintenance and removal for construction needs.

1.12 Temporary Water Services.

1.12.1 The District will provide and pay for water at existing mains as shown on the drawings. The Contractor shall provide meter and service lines to site. Temporary service lines shall be installed and removed by the Contractor, who shall pay all charges for making the connections, running temporary lines, installing meter, removing same at the completion of the work, and disconnecting the services.

1.12.2 An approved double check valve shall be furnished and installed by the Contractor at the connection to the main.

1.12.3 All relocations required to clear work of others shall be performed when requested by the District. The District reserves the right to make connections to the temporary lines by themselves or by other contractors. In the event the contractor uses the water in a wasteful manner, the Contractor will be billed District's cost for the wasted water.

1.12.4 Drinking water shall be available in the Construction trailer.

1.13 Temporary Gas.

Provide temporary gas service as necessary for execution of work. Contractor shall connect gas service to new meter in an approved manner. Gas used and all other costs including installation, maintenance and removal of temporary meter shall be paid by the Contractor.

1.14 Temporary Sanitary Facilities.

Provide and maintain temporary toilet facilities for duration of operations. Properly proportion number of fixtures for the number of workers employed all in accordance with CAL OSHA requirements. Provide water tight and floored structures. Maintain in a clean and sanitary condition acceptable to District.

1.15 Utility Costs for Subcontractors.

Distribution of temporary utility services to subcontractors shall be Contractor's responsibility.

1.16 Temporary Fire Protection and Safety Requirements.

The Contractor shall take necessary precautions to guard against and eliminate fire hazards and to prevent damage to construction work, building materials, equipment, temporary field offices, storage sheds, and public and private property. The Contractor shall be responsible for providing, maintaining, and enforcing the following conditions and requirements during the entire construction period.

- 1) Fire Inspection: The Contractor's Superintendent shall inspect the entire project at least once each week to make certain that the conditions and requirements are being adhered to.
- 2) Hose: The number of outlets, supply of hose, and proper hose size to protect the construction area shall be determined by the local Fire Marshal and provided by the Contractor.
- 3) Fires: Employees shall not be allowed to start fires with gasoline or kerosene or other highly flammable materials. No open fires shall be allowed.
- 4) Flammable Building Materials: Only a reasonable working supply of flammable building material shall be located inside of, or on the roof of, any storage facility.
- 5) Combustible Waste Materials: Oil-soaked rags, papers, and other highly combustible materials must be stored in closed metal containers at all times, and shall be removed from the site at the close of each day's work and more often where necessary, and placed in metal containers with tight hinged lids.
- 6) Gasoline and other flammable or polluting liquids/materials shall not be poured into sewers, manholes, or traps, but shall be disposed of, together with flammable or waste material subject to spontaneous combustion, in a safe manner meeting all applicable laws and ordinances. Make appropriate arrangements for storing these materials outside of the building.
- 7) Provide and maintain fire extinguishers during construction, conveniently located for proper protection, one fire extinguisher for each 5,000 square feet of floor area or less, but not less than four extinguishers. Fire extinguishers shall be ten-pound ABC type. Extinguishers shall meet approval of Underwriter's Laboratory, and shall be inspected at regular intervals and recharged as necessary.

1.17 Self-Propelled Construction Equipment

All self-propelled construction equipment, except light service trucks, panels, pickups, station wagons, crawler type cranes, power shovels and draglines, whether moving alone or in combination, shall be equipped with a reverse signal alarm (hub-cap type).

~~1.18. Temporary Offices (Construction Trailers) - NA.~~

~~1.18.1 Prior to starting work, provide and maintain for duration of operations, separate~~

temporary office facilities as required for Contractor's administration; likewise, all necessary sheds and facilities for proper storage of tools, materials, and equipment employed in performance of work.

1.18.2 The office shall be conveniently located in area as directed by the District, substantially and neatly constructed, weather-tight, well lighted, and neatly painted inside and out. The office shall be heated and cooled. It shall have doors, which are separately keyed, and two or more windows on opposite sides.

~~**1.19 Temporary Office (Contractor's Trailer) NA.**~~

~~**1.19.1** Prior to starting work, provide and maintain for duration of operations, temporary office facilities as required for Contractor's administration; likewise, all necessary sheds and facilities for proper storage of tools, materials, and equipment employed in performance of work.~~

~~**1.19.2** The office shall be a separate structure. The location of the office trailer will be determined at the time of mobilization to be acceptable to the District. The office structure shall be substantially and neatly constructed, weather-tight, well lighted, and neatly painted inside and out. The office shall be heated and cooled. It shall have doors that are separately keyed and two or more windows on opposite sides.~~

~~**1.19.3** The facilities for Contractor's use shall be not less than described herein. The facilities shall be of suitable size to accommodate the office, and shall be furnished with whatever facilities the Contractor needs.~~

~~**1.19.4** Costs of the field office and utilities, including cleaning service not less than once per week, shall be borne by the Contractor.~~

1.20 Temporary Scaffolding, Stairs, and Hoists.

Provide and maintain for duration of work, in accordance with CAL-OSHA and applicable laws and ordinances, all required temporary standing scaffolding, and temporary stairs, ladders, ramps, runways and hoists for use of all trades, unless otherwise specified in Contract Documents.

1.21 Temporary Guards, Barricades, and Lights.

1.21.1 Provide construction canopies, barricades, fences, guards, railings, lights, and warning signs necessary and required by law, and take necessary precautions required to avoid injury or damage to any and all persons and property.

1.21.2 Provide and maintain protective fences and barricades as shown on drawings and as Contractor may deem necessary to protect construction yard, storage areas and work in place, subject to approval as to type and appearance. Hog wire fencing is not acceptable. Remove all temporary fences and barricades upon project completion.

1.22 Protection of Work and Facilities.

1.22.1 Protect all adjacent property, roads, streets, curbs, shrubbery, lawns, erosion control materials and planting during construction operations. All damaged material shall be replaced and/or repaired at the expense of the Contractor.

1.22.2 Upon completion deliver the entire work to the District in proper, whole and unblemished condition. Work outside of the immediate construction site shall be restored to a whole and unblemished condition immediately upon completion of that portion of the work.

- 1) Parts of work in place that are subject to injury, because of operations being carried on adjacent thereto, shall be covered, boarded up, or substantially enclosed with adequate protection.
- 2) The Contractor shall be responsible for preventing the overloading of any part of the facilities beyond their safe calculated carrying capacity by the placing of materials and/or equipment, tools, machinery, or any other items thereon.
- 3) The District may provide such watchman services deemed necessary to protect the District's interest, but any protection so provided by the District shall not relieve the Contractor of the responsibility for the safety and condition of the work and material until the completion and acceptance thereof. The Contractor shall employ such watchman services as he may deem necessary to properly protect and safeguard the work and material.

1.23 Special Controls.

1.23.1 Use of Powder-Driven Fasteners: The use of powder set (cartridge type) anchors or lugs for attaching of any work is strictly prohibited on this project unless approved in writing by the District.

1.23.2 Use of Explosives: Blasting will not be permitted unless approved in writing by the District.

1.23.3 Dust Control: Throughout the entire Contract period, effectively dust-palliate the working area, roads, and storage areas constructed under this Contract and involved portions of the site, except during such periods that other contractors may be performing work of separate contracts in these areas. Such application shall consist of intermittent watering and sprinkling of such frequency as will satisfactorily allay the dust during all hours that work is being performed. At no time shall water be allowed to pond or puddle. Ponds and puddles shall be removed immediately and steps taken to remove or dry the mud resulting from the ponds or puddles.

1.24 Water Control.

Surface or subsurface water or other fluid shall not be permitted to accumulate in excavations or under the structures. Should such conditions develop or be encountered, the water or other fluid shall be controlled and suitably disposed of by means of temporary pumps, piping, drainage lines and ditches, dams or other methods approved by the District.

1.25. Project Identification.

Provide and maintain one sign only on the property at location as directed by the Construction Manager (CM). Signboard shall contain information and be of size as detailed on the drawings. Small direction signs may be installed if specifically approved

by the CM. Signs by subcontractors and material suppliers will not be permitted.

1.26 Contractor Vehicles on Campus.

Contractor's vehicles shall be restricted to access routes established by the District. Parking of Contractor's employees' vehicles will be limited to areas as established by the District, not necessarily adjacent to the site.

1.27 Removal of Temporary Construction.

Remove temporary office facilities, toilets, storage sheds, fences, and other construction of temporary nature from site as soon as progress of work permits. Recondition and restore portions of site occupied by same to a condition acceptable to District.

1.28 Use of Facilities.

The Contractor and subcontractor shall not, during hours of construction or at times when they are on site to perform work under the contract, use any of the campus facilities, including but not limited to, the restrooms, phones and roadways and the like without prior permission of the campus M & O Director.

1.29 Damages.

The Contractor shall be responsible to report and repair, at no additional cost to the District, any damage to College property caused by Contractor, Contractor's employees, Subcontractors, material suppliers, or any other persons or entities, which are onsite as a result of the Contract and work there under. Contractor shall notify the District Project Manager in writing within four (4) hours of the occurrence, and provide a description of the damage and the exact location. The Contractor shall immediately contact the M&O Director, the Project Manager and IOR, and immediately repair the damage using materials of equal or superior grade to that which was damaged. No backfilling or covering up of damage or repairs shall be performed by the Contractor until such time as the District representative has inspected the work and provided the Contractor with written approval to cover the work.

1.30 Waste Management.

Contractor shall not use the campus dumpsters, or dispose of waste or any other items, on Campus.

1.31 State and College Regulations

The Contractor and his Subcontractors shall comply with all District, City, County and State regulations regarding noise, dust, smoke, fire and safety rules, and shall keep the site and surrounding areas clean and free of debris.

1.32 Drawings and Plans.

The terms "drawings" and "plans" are used interchangeable in the Contract Documents and have the same meaning.

1.33 Approval for Commencement of Work.

The Contractor shall obtain approval from the Director of Maintenance & Operations, before commencing work in any existing occupied area, or before working on existing piping, wiring, or equipment. The Contractor shall indicate the particular area where work will be in progress and the length of time any existing system will be out of service. This

work is to be scheduled in such a manner so as not to disrupt present operations, where possible. If new construction requires interruption of present operations, the Contractor shall obtain approval from the parties named above, after providing them with specific information regarding areas, dates, hours of the day, and number of hours any interruption is expected to take place. All interruption of services shall be approved by the District, in writing, prior to such interruptions and at the sole discretion of the District. The Contractor shall perform such work on weekends, after regular working hours, or in incremental blocks of time as directed by the District, at no additional cost to the contract price. Work performed as herein described shall not be a basis for an extension to the contract time for completion of all work.

1.34 Verify Existing Conditions.

The Contractor shall verify, identify and locate all utilities (above and below grade, visible and concealed), and all conditions and dimensions of the Work as described in the Contract Documents, prior to starting construction. All Subcontractors shall verify at the Site all conditions and measurements related to their work.

1.35 Scaling Dimensions from Drawings.

In no case shall working dimensions be scaled from plans, sections, or details from the Working Drawings. If no dimension is shown, the Contractor shall request in writing that the District provide clarification and dimensions.

1.36 Similar Conditions.

The intent is to provide a fully functional finished product, complete in every respect. Where a specific detail is not shown, the construction shall be similar to that indicated or noted for similar conditions and as necessary for a complete installation. References of notes and details to specific conditions and locations shall not limit their applicability. Materials for similar use shall be of the same type and manufacturer, unless otherwise indicated or specified as different. Any deviation must be approved in writing, by the District, prior to incorporation into the work.

1.37 Handicap Access Regulations.

The Contractor and all Subcontractors shall comply with Title 24, Disabled Access Regulations and ADA, Americans with Disabilities Act Regulations, whether or not specifically indicated on the Contract Documents. Where existing paths of travel are interrupted due to construction, barrier-free paths of travel shall be maintained by the Contractor, without adjustment to Contract Price or Contract Time.

1.38 Items marked "N.I.C." (Not in Contract).

Items marked N.I.C. in the Drawings are not part of the Work. In most instances, they are included for coordination under this Contract of the Work with concurrent or future work outside this contract. However, the Contractor shall review all items marked N.I.C. and provide the District notice and deadline dates of when the items are needed onsite for coordination and incorporation into the project. Failure by the Contractor to give notice to the District and to provide such notice in sufficient time so as to allow District to select, order and receive the items shall not be the basis for delay claims, time extensions, or increased cost to the contract price.

1.39 Coordination for all Trades.

The Contractor shall be responsible for the proper location and size of openings for all trades, and shall coordinate all construction as indicated by the Contract Documents, including Shop Drawings reviewed by the District.

1.40 Items Not Identified in Construction Documents.

Any conditions or installations not identified in the Contract Documents and affecting the Work to be performed shall be brought to the attention of the District in order that cost and responsibility for any added work may be determined before work is undertaken. The Contractor's notice to the District of such installations or conditions shall be in writing. Pending receipt of written direction from the District, the Contractor shall not disturb or perform construction operations in any area affected by such installations or conditions.

1.41 Vehicular Access and Parking.

Construction, which might affect existing College vehicular access and parking, shall be scheduled during non-school hours. The Contractor shall immediately vacate any area if Contractor's operations or activities curtail vehicular access to the campus or to parking. Fire Department vehicular access to and around the construction area shall be maintained at all times by the Contractor clear of obstruction. Contractor shall provide keys to all gates to local Fire Department and District representatives for gate access.

1.42 Right of Access.

The District, or its representative(s), shall be able at all times to enter the construction site and observe the work. They shall have the right to reject defective materials and workmanship and to require appropriate corrections at the Contractor's expense. The Contractor shall not be relieved of any responsibility under this contract to provide materials and equipment in accordance with the Contract Documents for failure by the District representatives to discover, or otherwise bring to the attention of the Contractor, any deficiencies with the work.

1.43 Restoration of Existing Conditions.

The Contractor shall restore all landscaping, paving, and grading to the original condition at all areas adjoining the construction sites. Prior to performing any work on the project, the Contractor shall, at his sole expense, locate and mark the locations of all components of the irrigation systems which will, or may be, affected by or interfere with work under the contract. The Contractor shall meet with the Facilities Planning & Construction Office/Director of Maintenance & Operations Office to develop a plan and schedule to expose and rework the irrigation system as necessary to maintain continuous uninterrupted functioning of the irrigation system. In the event that irrigation lines, sprinklers, control wiring or the like are damaged, the Contractor shall notify the District Project Manager/Director of Maintenance & Operations Office representative within one (1) hour, and within four (4) hours of the occurrence provide a written description of the damage and its exact location. The Contractor shall immediately repair the damage using materials of equal or superior grade to that which was damaged. No backfilling or covering up of damage or repair shall be performed by the Contractor until such time as the Facilities Planning & Construction Office/Director of Maintenance & Operations Office representative has inspected the work and provided the Contractor with written approval to cover the work.

1.44 Municipal Laws and Regulations.

The Contractor shall have full knowledge of, and at no additional cost to the contract comply with, all laws and regulations including, but not limited to, limitations on noise, hours of operation, hauling routes or limits on weight of equipment traveling on adjacent streets, and any other limitations which might affect the Contractor's work and operations.

1.45. Weekend Hours.

The contract time is expressed in calendar days. The Contractor may perform work, with prior notification as per Article 1.07 of the Special Conditions, on weekends or holidays, at his discretion. Should it be necessary for inspectors, District personnel, consultants, or Project Manager to visit the work site on weekends or holidays, additional cost, if any, shall be reimbursed to the District by the Contractor. The District, at its sole discretion, may direct certain portions of the work to be performed after hours, or on weekends or holidays, in order to minimize interruption to the academic operations of the College. The Contractor shall reflect in his Progress Schedule all work, which may impact academic operations, and at Contractor's sole expense, and as directed by the District, perform all work at times convenient to the District.

1.46 Testing and Inspection Costs.

1.46.1 All costs for testing and inspection shall be paid by the District. However, the Contractor shall be responsible for all costs incurred for re-testing that may be required due to failed tests. Upon receipt from the Contractor of a Progress Schedule in accordance with the Contract Documents, the District shall provide a copy of the Progress Schedule to the Testing Laboratory and obtain from them a cost to perform all necessary inspections for the project based on the timeframes set forth in the Progress Schedule. The Contractor shall reimburse the District for quantities, which exceed the scheduled amounts of time.

1.46.2 If the Contractor uses a fabricator or supplier subject to DSA inspection or documentation from beyond a 100 mile radius of the Project Site, costs above and beyond those for the same inspections and documentation were it to occur within a 100 mile radius of the Project Site, including, but not limited to, out of state tests and inspections, per diem, travel, or the like, will be paid by the District and the District shall be reimbursed by the Contractor upon submittal by the District to the Contractor of the costs incurred.

1.47 Needless Requests for Information.

Any needless Request for Information (RFI) will be billed to the Contractor by the A/E team at the additional service rate contained in their respective contracts. A needless RFI is any request for which an answer is in the plans or specifications, or Contract related correspondence, prior to the date of the RFI. Needless punch list visits will be billed in the same way.

1.48 E-mail Address.

All parties shall have an Email address and be responsible for all correspondence distributed via E-Mail. No Exceptions!

1.49 Service Charges.

Electrical, water, telephone, and other utility charges will be billed to the contract at the same rate paid by the Ventura County Community College District (VCCCD).

1.50 Material Substitutions.

Any and all material specification substitutions must be submitted to the District for approval no later than seven (7) days prior to the bid due date. Any substitutions submittal after that date will not be accepted or reviewed.

1.51 Electronic Schedule Files.

Pursuant to the requirements of the General Conditions under Article 7, the Contractor shall provide copies of project schedules submitted to the District on paper, including but not limited to, weekly, semi-monthly & monthly schedule updates, on compact discs, in the proper file format to function in the scheduling program provided by the Contractor to the District as required under Article 7 of the General Conditions.

1.52 Changes to the Work for Contractor Convenience.

Any changes to the Work resulting from a request by the Contractor to deviate from the approved Contract Documents or as a result of the Contractor not following the Contract Documents that requires additional architectural or engineering services, including but not limited to document submittal to the Division of State Architects (DSA), will be billed to the Contractor by the A/E team at the additional service rate contained in their respective contracts.

1.53 Mark-ups on Changes to the Work.

In the event of Changes to the Work, the mark-up for all general conditions, costs, overhead (including home and field office overhead), profit and bond, shall not exceed **Twenty Percent (20%)** of the direct actual costs of the performance of an additive Change, as determined in accordance with the provisions of Article 9.4 of the General Conditions. However, in the event that Contractor self-performs the entirety of the Change, the mark-up for all general conditions, costs, overhead (including home and field office overhead), profit and bond, shall not exceed **Fifteen Percent (15%)** of the direct actual costs of the performance of an additive Change, as determined in accordance with the provisions of Article 9.4 of the General Conditions. In addition, the mark-up shall include the actual, direct cost of the bond for such Change, not to exceed **Two Percent (2%)** of the direct, actual costs of the performance of the Change.

The foregoing limitation or mark-up shall apply regardless of the number of subcontractors, of any tier, performing any portion of such additive Change to the Work. In the event that the Work of such additive Change is performed in part by a subcontractor, Contractor agrees to allocate at least Ten Percent (10%) to such subcontractor, with no more than Five Percent (5%) to be allocated to the Contractor. In the event the Change is deductive, the District shall receive a credit equal to the value of the direct actual costs of the Work of the deductive Change plus **Zero (0%)** of such direct actual costs for all general conditions, overhead (including home and field office overhead), profit and bond.

1.54 Allowances.

The following allowances are in addition to the scope of the Work as defined in the Contract Documents and the Contractor shall add all Allowances to complete the work and shall include the total Allowances amount in the Bid Proposal Lump Sum Amount (Refer to Bid Proposal, Section 00210).

List of Allowances

| Item | Description | Amount (\$) |
|-------------------------|---------------------------------------|--------------------|
| 1 | No Allowance included in this project | <i>[ENTER</i> |
| | | <i>AMOUNTS]</i> |
| Total Allowances | | |

The District may utilize the above allowances up to the total amount during the course of construction by issuing a Work Order(s) to the Contractor. A deductive Change Order will be issued at the completion of the Work to return the entire balance of the unused allowances to the District, without application of any mark-up.

Upon incorporation of the Work described in each Work Order, the Contractor will be paid out of the Allowance fund as a line Item included in the Contractors payment application.

1.55 Inclement Weather Days.

Pursuant to Article 7.4.1 of the General Conditions, the number of Working Rain Days (including inclement weather) for this Contract is Thirty Five (35) days.

1.56 District’s Project Manager.

The District’s Project Manager at Ventura College is:

Orlando De Leon, Ventura College Director of Maintenance & Operations,
4900 Loma Vista Rd., Ventura, CA 93003, Phone: 805-289-6235.
E-Mail: odeleon@vcccd.edu

[End Of Section]

TECHNICAL SPECIFICATIONS

Section 01000

1.01 GENERAL INFORMATION

A. Job Walk

All bidders are required to attend the job walk to be eligible to bid on this project.

B. Discrepancies

Where there are discrepancies between the General Conditions of the Ventura County Community College District and the Technical Specifications and Drawings, the General Conditions of the District shall take precedence.

C. Alternative Materials

The use of a manufacturer, product brand name or make in the specifications is not intended to restrict bidders. The specifications establish the character or quality of the article desired. Alternative materials or goods on which other proposals are submitted must, in all cases, be equal or exceed in every detail to the item specified. Bid must clearly state the brand, make or model number. Alternative goods and materials are subject to review and must be approved prior to the date listed on the bid specifications. The District, for inspection and specification testing, may require samples of bid items. Samples furnished must be free of expense to the District. Samples furnished must also be identical in all respects to the products specified in the bid. Samples, if not destroyed by tests and if requested, will be returned at the bidder's expense. All goods furnished under this contract shall be newly manufactured goods. Used or reconditioned goods are prohibited, unless otherwise specified.

D. Questions Concerning Technical Specifications

Technical specifications continue on the following pages. All questions regarding this bid and or specifications should be directed to the Purchasing Department of the District. Questions should be addressed by e-mail to the Purchasing Specialist handling this bid. Questions must be submitted by e-mail no later than **Tuesday, October 27, 2020**.

E. Technical Specifications & Plan Drawings

The technical specifications and the plan drawings continue on the following pages and are considered a part of this bid package:

VENTURA COLLEGE APPLIED SCIENCE LAB – HAAS EQUIPMENT

for VENTURA COUNTY COMMUNITY COLLEGE DISTRICT
4667 TELEGRAPH RD • VENTURA, CALIFORNIA 93003

PROJECT MANUAL

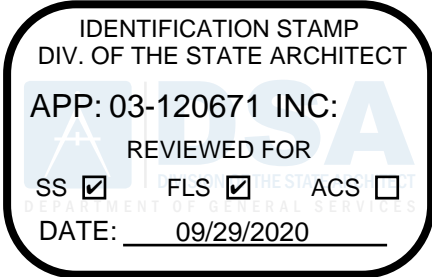
23 APRIL 2020 • KBZ JOB NO. 20015

Owner: VENTURA COUNTY COMMUNITY COLLEGE DISTRICT
761 E Daly Dr • Camarillo, CA 93010 • Phone (805) 652-5500



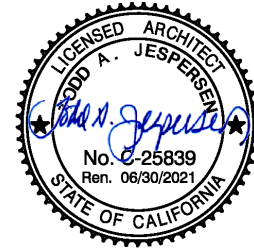
Architect: KRUGER BENSEN ZIEMER ARCHITECTS, INC.
199 Figueroa St • Suite 100A • Ventura, CA 93001
Phone (805) 650-1033 • www.kbzarch.com

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SPECIFICATION MANUAL
for the construction of:
**Ventura County Community College District
HAAS EQUIPMENT**
Ventura College Applied Science Lab

KRUGER BENSEN ZIEMER ARCHITECTS, INC.
199 Figueroa St, Suite 100A, Ventura, CA 93001



Todd A Jespersen
Principal Architect

C-25839
License No.

Stamp

ORION STRUCTURAL GROUP, INC.
223 E Thousand Oaks Blvd #304, Thousand Oaks, CA 91360



Will Lambert
Structural Engineer

5430
License No.

Stamp

AE GROUP MECHANICAL ENGINEERING, INC.
838 E Front Street, Ventura, CA 93001



Hugh McTernan
Mechanical Engineer

M-30626
License No.

Stamp

LUCCI & ASSOCIATES INC.
3251 Corte Malpaso #511, Camarillo, CA 93012



Ken Lucci
Principal Architect

E-8340
License No.

Stamp

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PROJECT MANUAL
for
VENTURA COLLEGE
APPLIED SCIENCE LAB - HAAS EQUIPMENT
4667 Telegraph Rd
Ventura, CA 93003

OWNER: BOARD OF TRUSTEES
Ventura County Community College District
761 E Daily Dr, Suite 200
Camarillo, CA 93010
(805) 652-5500

ARCHITECT: KRUGER BENSEN ZIEMER ARCHITECTS, INC.
199 Figueroa St, Suite 100A
Ventura, CA 93001
(805) 650-1033

STRUCTURAL ENGINEER: ORION STRUCTURAL GROUP, INC.
223 E Thousand Oaks Blvd, #304
Thousand Oaks, CA 91360
(805) 390-9242

MECHANICAL ENGINEER: AE GROUP MECHANICAL ENGINEERING, INC.
838 E Front St
Ventura, CA 93001
(805) 390-9242

ELECTRICAL ENGINEER: LUCCI & ASSOCIATES, INC.
3251 Corte Malpaso, #511
Camarillo, CA 93012
(805) 389-6520

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SCHEDULE OF DRAWINGS

GENERAL

1. G-001 TITLE SHEET
2. G-002 PARTIAL CAMPUS PLAN

MECHANICAL

3. M1 MECHANICAL NOTES & SCHEDULE
4. M2 MECHANICAL PLANS
5. M3 MECHANICAL ENLARGED PLANS
6. M4 MECHANICAL ROOF PLAN
7. M5 MECHANICAL DETAILS

ELECTRICAL

8. E100 GENERAL NOTES, ABBREVIATIONS, SYMBOLS
9. E200 ELECTRICAL SINGLE LINE & PANEL SCHEDULE
10. E401 FIRST FLOOR POWER PLAN
11. E405 ENLARGE AREA - HAAS EQUIPMENT POWER PLAN
12. E410 ENLARGED ROOM PLANS
13. E415 TRAY LAYOUT DETAIL
14. E420 POWER PLAN
15. E421 ROOF ELECTRICAL PLAN
16. E450 INTERIOR ELEVATION ROOM 120
17. E600 BUS DUCT & PLUG IN DETAILS
18. E601 ROOF ELECTRICAL CONDUIT SUPPORT INFO

TOTAL NUMBER OF SHEETS: 18

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Title Page
 Signature Page
 Directory
 Schedule of Drawings
 Project Manual Table of Contents

TECHNICAL SPECIFICATIONS

Division 1 – General Conditions

| | |
|---------|--|
| 01 1000 | Summary |
| 01 2500 | Substitution Procedures |
| 01 2600 | Contract Modification Procedures |
| 01 2900 | Payment Procedures |
| 01 3100 | Project Management and Coordination |
| 01 3200 | Construction Progress Documentation |
| 01 3233 | Photographic Documentation |
| 01 3300 | Submittal Procedures |
| 01 3516 | Alteration Project Procedures |
| 01 4000 | Quality Requirements |
| 01 4200 | References |
| 01 5000 | Temporary Facilities and Controls |
| 01 6000 | Product Requirements |
| 01 7300 | Execution |
| 01 7409 | Construction Waste Management and Disposal |
| 01 7700 | Closeout Procedures |
| 01 7823 | Operation and Maintenance Data |
| 01 7839 | Project Record Documents |
| 01 7900 | Demonstration and Training |

Division 2 – Existing Conditions

| | |
|---------|----------------------|
| 02 4119 | Selective Demolition |
|---------|----------------------|

Division 3 – Concrete

Not Used

Division 4 – Masonry

Not Used

Division 5 – Metals

Not Used

Division 6 – Wood and Plastic

Not Used

Division 7 – Thermal and Moisture Protection

| | |
|---------|----------------|
| 07 9200 | Joint Sealants |
|---------|----------------|

Division 8 – Doors and Windows

Not Used

Division 9 – Finishes

Not Used

Division 10 – Specialties

Not Used

Division 11 – Equipment

Not Used

Divisions 12 –21

Not Used

Division 22 – Plumbing

| | |
|---------|---|
| 22 0500 | Common Work Results for Plumbing |
| 22 0510 | Plumbing Piping |
| 22 0523 | General Duty Valves for Plumbing Piping |
| 22 4000 | Plumbing Equipment |

Division 23 – Heating, Ventilating, and Air Conditioning (HVAC)

| | |
|---------|--|
| 23 3113 | Ductwork |
| 23 3416 | Centrifugal HVAC Fans |
| 23 3713 | Diffusers, Registers, Grilles, and Louvers |

Division 24-25

Not Used

Division 26 - Electrical

| | |
|---------|--|
| 26 0000 | General Provisions |
| 26 0030 | Tests and Identification |
| 26 0050 | Basic Electrical Materials and Methods |
| 26 0060 | Minor Electrical Demolition for Remodeling |
| 26 0111 | Conduits |
| 26 0120 | Conductors |
| 26 0130 | Electrical Boxes |
| 26 0140 | Wiring Devices |
| 26 0142 | Nameplates and Warning Signs |
| 26 0190 | Support Devices |
| 26 2501 | I-Line Busway |

Divisions 27-30

Not Used

Division 31 – Earthwork

Not Used

Division 32 – Exterior Improvements

Not Used

Division 33 – Utilities

Not Used

END OF TABLE OF CONTENTS

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SECTION 01 1000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Contractor's use of site and premises.
4. Coordination with occupants.
5. Work restrictions.
6. Specification and Drawing conventions.

B. Related Requirements:

1. Section 01 5000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
2. Section 01 7300 "Execution" for coordination of Owner-installed products.

1.2 DEFINITIONS

- A. Work Package: A group of specifications, drawings, and schedules prepared by the design team to describe a portion of the Project Work for pricing, permitting, and construction.

1.3 PROJECT INFORMATION

A. Project Identification: Ventura College Applied Science Lab – Haas Equipment.

1. Project Location: 4667 Telegraph Rd, Ventura, CA 93003.

B. Owner: Ventura County Community College District.

1. Owner's Representative: Orlando De Leon, Ventura College Director of Facilities, Operations & Management.

C. Architect: Kruger Bensen Ziemer Architects Inc.

1. Architect's Representative: Todd Jespersen.

D. Architect's Consultants: Architect has retained the following design professionals, who have prepared designated portions of the Contract Documents:

1. Structural Engineering: Orion Structural Group, Inc.
 - a. Structural Engineering Representative: Will Lambert.
2. Mechanical Engineering: AE Group Mechanical Engineering, Inc.
 - a. Mechanical Representative: Hugh McTernan.
3. Electrical Engineering: Lucci & Associates, Inc.
 - a. Electrical Engineering Representative: Ken Lucci.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:
 1. INSTALLATION OF (N) ELECTRICAL BUS DUCT ON (E) OVERHEAD STRUCTURE; INSTALLATION OF NEW AIR COMPRESSOR AND RELATED OUTLET PIPING; INSTALLATION OF NEW ROOFTOP EXHAUST FAN AND MAKE-UP AIR LOUVER (NEW ROOF PENETRATIONS). and other Work indicated in the Contract Documents.
- B. Type of Contract:
 1. Project will be constructed under a single prime contract.

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Restricted Use of Site: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Limits on Use of Site: Limit use of Project site to Work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 1. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

- D. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.6 COORDINATION WITH OCCUPANTS

- A. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
 - 2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.
- B. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.
 - 1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
 - 2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
 - 3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
 - 4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.7 WORK RESTRICTIONS

- A. Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work to between 7:00 a.m. to 7:00 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.
 - 1. Weekend Hours: By prior arrangement only in writing.

2. Early Morning Hours: By prior arrangement only in writing.
 3. Hours for Utility Shutdowns: By prior arrangement only in writing.
 4. Hours for Core Drilling and other noisy activity: By prior arrangement only in writing.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:
1. Notify Owner not less than three days in advance of proposed utility interruptions.
 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, Dust, and Odors: Coordinate operations that may result in high levels of noise and vibration, dust, odors, or other disruption to Owner occupancy with Owner.
1. Notify Owner not less than three days in advance of proposed disruptive operations.
 2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Smoking and Controlled Substance Restrictions: Use of tobacco products, e-cigarettes and similar vaping devices, alcoholic beverages, and other controlled substances on Owner's property is not permitted.
- F. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- G. Employee Screening: Comply with Owner's requirements for fingerprinting, drug, and background screening of Contractor personnel working on Project site.
1. Maintain list of approved screened personnel with Owner's representative.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
 3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
 4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

- B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.
- C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings and published as part of the U.S. National CAD Standard.
 - 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 1000

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SECTION 01 2500 - SUBSTITUTION PROCEDURES**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Document 002600 "Procurement Substitution Procedures" for requirements for substitution requests prior to award of Contract.
 - 2. Section 01 2100 "Allowances" for products selected under an allowance.
 - 3. Section 01 6000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required to meet other Project requirements but may offer advantage to Contractor or Owner.

1.3 ACTION SUBMITTALS

- A. Substitution Requests: Submit documentation identifying product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use form acceptable to Architect.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.

- c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 QUALITY ASSURANCE

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

1.5 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.6 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

- 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

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

- B. Substitutions for Convenience: Not allowed unless otherwise indicated.

- C. Substitutions for Convenience: Architect will consider requests for substitution if received within 30 days after the Notice to Award. Requests received after that time may be considered or rejected at discretion of Architect.

- 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

- a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
- b. Requested substitution does not require extensive revisions to the Contract Documents.
- c. Requested substitution is consistent with the Contract Documents and will produce indicated results.

- d. Substitution request is fully documented and properly submitted.
- e. Requested substitution will not adversely affect Contractor's construction schedule.
- f. Requested substitution has received necessary approvals of authorities having jurisdiction.
- g. Requested substitution is compatible with other portions of the Work.
- h. Requested substitution has been coordinated with other portions of the Work.
- i. Requested substitution provides specified warranty.
- j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2500

SECTION 01 2600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Section 01 2500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.
 - 2. Section 01 3100 "Project Management and Coordination" for requirements for forms for contract modifications provided as part of web-based Project management software.

1.2 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710.

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 7 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use forms acceptable to Architect.

- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Section 01 2500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 7. Proposal Request Form: Use form acceptable to Architect.

1.4 ADMINISTRATIVE CHANGE ORDERS

- A. Allowance Adjustment: See Section 01 2100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2600

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SECTION 01 2900 - PAYMENT PROCEDURES**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 01 2100 "Allowances" for procedural requirements governing the handling and processing of allowances.
 - 2. Section 01 2600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 3. Section 01 3200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.2 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.3 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Division.
 - 1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Owner's name.
 - c. Owner's Project number.
 - d. Name of Architect.
 - e. Architect's Project number.

- f. Contractor's name and address.
 - g. Date of submittal.
2. Arrange schedule of values consistent with format of AIA Document G703.
3. Arrange the schedule of values in tabular form, with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent. Round dollar amounts to whole dollars, with total equal to Contract Sum.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site.
6. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
7. Overhead Costs, Proportional Distribution: Include total cost and proportionate share of general overhead and profit for each line item.
8. Temporary Facilities: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
9. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
10. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments, as certified by Architect and paid for by Owner.
- B. Payment Application Times: The date for each progress payment is indicated in the Owner/Contractor Agreement. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Application for Payment to Architect by the twenty-eighth of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 - 1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.
- D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
 - 1. Other Application for Payment forms proposed by the Contractor may be acceptable to Architect and Owner. Submit forms for approval with initial submittal of schedule of values.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 - 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 - 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 - 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- F. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 - 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
 - 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 - 3. Provide summary documentation for stored materials indicating the following:

- a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- G. Transmittal: Submit three signed original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
 5. Products list (preliminary if not final).
 6. Submittal schedule (preliminary if not final).
 7. List of Contractor's staff assignments.
 8. List of Contractor's principal consultants.
 9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 10. Initial progress report.
 11. Report of preconstruction conference.
 12. Certificates of insurance and insurance policies.
 13. Performance and payment bonds.

- J. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 - a. Complete administrative actions, submittals, and Work preceding this application, as described in Section 01 7700 "Closeout Procedures."
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- K. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Certification of completion of final punch list items.
 3. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 4. Updated final statement, accounting for final changes to the Contract Sum.
 5. AIA Document G706.
 6. AIA Document G706A.
 7. Evidence that claims have been settled.
 8. Final liquidated damages settlement statement.
 9. Proof that taxes, fees, and similar obligations are paid.
 10. Waivers and releases.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2900

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SECTION 01 3100 - PROJECT MANAGEMENT AND COORDINATION**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes administrative provisions for coordinating construction operations on Project, including, but not limited to, the following:
1. General coordination procedures.
 2. Coordination drawings.
 3. RFIs.
 4. Digital project management procedures.
 5. Project meetings.
- B. Related Requirements:
1. Section 01 3200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 2. Section 01 7300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 3. Section 01 7700 "Closeout Procedures" for coordinating closeout of the Contract.

1.2 DEFINITIONS

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

1.3 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
 2. Number and title of related Specification Section(s) covered by subcontract.
 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses, cellular telephone numbers, and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Post copies of list in school site office and in temporary field office. Keep list current at all times.

1.4 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.
 1. Schedule construction operations in sequence required to obtain the best results, where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.

1.5 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.

2. Coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
 2. Owner name.
 3. Owner's Project number.
 4. Name of Architect.
 5. Architect's Project number.
 6. Date.
 7. Name of Contractor.
 8. RFI number, numbered sequentially.
 9. RFI subject.
 10. Specification Section number and title and related paragraphs, as appropriate.
 11. Drawing number and detail references, as appropriate.
 12. Field dimensions and conditions, as appropriate.
 13. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 14. Contractor's signature.
 15. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: AIA Document G716 or software-generated form with substantially the same content as indicated above, acceptable to Architect.
1. Attachments shall be electronic files in PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Architect's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 01 2600 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 5 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number, including RFIs that were returned without action or withdrawn.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's response was received.
 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.

1.6 DIGITAL PROJECT MANAGEMENT PROCEDURES

- A. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:
1. Assemble complete submittal package into a single indexed file, incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

1.7 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times a minimum of 10 working days prior to meeting.

2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.
- B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Responsibilities and personnel assignments.
 - b. Tentative construction schedule.
 - c. Critical work sequencing and long lead items.
 - d. Designation of key personnel and their duties.
 - e. Lines of communications.
 - f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for RFIs.
 - h. Procedures for testing and inspecting.
 - i. Procedures for processing Applications for Payment.
 - j. Distribution of the Contract Documents.
 - k. Submittal procedures.
 - l. Preparation of Record Documents.
 - m. Use of the premises and existing buildings.
 - n. Work restrictions.
 - o. Working hours.
 - p. Owner's occupancy requirements.
 - q. Responsibility for temporary facilities and controls.
 - r. Procedures for disruptions and shutdowns.
 - s. Construction waste management and recycling.
 - t. Parking availability.
 - u. Office, work, and storage areas.
 - v. Equipment deliveries and priorities.
 - w. First aid.
 - x. Security.
 - y. Progress cleaning.
 3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 14 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
 2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of Record Documents.
 - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Submittal of written warranties.
 - d. Requirements for preparing operations and maintenance data.
 - e. Requirements for demonstration and training.
 - f. Preparation of Contractor's punch list.
 - g. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - h. Submittal procedures.
 - i. Owner's partial occupancy requirements.
 - j. Installation of Owner's furniture, fixtures, and equipment.
 - k. Responsibility for removing temporary facilities and controls.
 4. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- D. Progress Meetings: Conduct progress meetings at weekly intervals.
1. Coordinate dates of meetings with preparation of payment requests.
 2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:

- 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site use.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of Proposal Requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
- a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3100

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SECTION 01 3200 - CONSTRUCTION PROGRESS DOCUMENTATION**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Startup construction schedule.
 - 2. Contractor's Construction Schedule.
 - 3. Construction schedule updating reports.
 - 4. Daily construction reports.
 - 5. Material location reports.
 - 6. Site condition reports.
 - 7. Unusual event reports.

- B. Related Requirements:
 - 1. Section 01 4000 "Quality Requirements" for schedule of tests and inspections.
 - 2. Section 01 2900 "Payment Procedures" for schedule of values and requirements for use of cost-loaded schedule for Applications for Payment.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.

- B. Resource Loading: The allocation of manpower and equipment necessary for completing an activity as scheduled.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. PDF file.

- B. Startup construction schedule.

- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- D. Construction Schedule Updating Reports: Submit with Applications for Payment.
- E. Daily Construction Reports: Submit at weekly intervals.
- F. Material Location Reports: Submit at weekly intervals.
- G. Site Condition Reports: Submit at time of discovery of differing conditions.
- H. Unusual Event Reports: Submit at time of unusual event.
- I. Qualification Data: For scheduling consultant.

1.4 COORDINATION

- A. Coordinate Contractor's Construction Schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities, and schedule them in proper sequence.

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
- B. Time Frame: Extend schedule from date established for the Notice of Award to date of Final Completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
 - 2. Temporary Facilities: Indicate start and completion dates for the following as applicable:
 - a. Securing of approvals and permits required for performance of the Work.
 - b. Temporary facilities.
 - c. Construction of mock-ups, prototypes and samples.

- d. Owner interfaces and furnishing of items.
 - e. Interfaces with Separate Contracts.
 - f. Regulatory agency approvals.
 - g. Punch list.
3. Procurement Activities: Include procurement process activities for the following long lead-time items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 4. Submittal Review Time: Include review and resubmittal times indicated in Section 01 3300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
 5. Startup and Testing Time: Include no fewer than 7 days for startup and testing.
 6. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
 7. Punch List and Final Completion: Include not more than 10 days for completion of punch list items and Final Completion.
- D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 2. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Section 01 1000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
 3. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use-of-premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
- E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.
- F. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
1. Unresolved issues.
 2. Unanswered Requests for Information.
 3. Rejected or unreturned submittals.

4. Notations on returned submittals.
 5. Pending modifications affecting the Work and the Contract Time.
- G. Contractor's Construction Schedule Updating: At weekly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one business day before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate Final Completion percentage for each activity.
- H. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.
- I. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

1.6 GANTT-CHART SCHEDULE REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for the Notice of Award.
1. Base schedule on the startup construction schedule and additional information received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1.7 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. Equipment at Project site.
 5. Material deliveries.
 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 7. Testing and inspection.
 8. Accidents.
 9. Meetings and significant decisions.
 10. Unusual events.
 11. Stoppages, delays, shortages, and losses.
 12. Meter readings and similar recordings.
 13. Emergency procedures.
 14. Orders and requests of authorities having jurisdiction.
 15. Change Orders received and implemented.
 16. Construction Change Directives received and implemented.
 17. Services connected and disconnected.
 18. Equipment or system tests and startups.
 19. Partial completions and occupancies.
 20. Substantial Completions authorized.
- B. Material Location Reports: At weekly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:
1. Material stored prior to previous report and remaining in storage.
 2. Material stored prior to previous report and since removed from storage and installed.
 3. Material stored following previous report and remaining in storage.
- C. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.
- D. Unusual Event Reports: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, responses by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.
1. Submit unusual event reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3200

SECTION 01 3233 - PHOTOGRAPHIC DOCUMENTATION**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
 - 2. Concealed Work photographs.
 - 3. Periodic construction photographs.
 - 4. Final Completion construction photographs.

- B. Related Requirements:
 - 1. Section 01 7700 "Closeout Procedures" for submitting photographic documentation as Project Record Documents at Project closeout.
 - 2. Section 01 7900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.
 - 3. Section 02 4119 "Selective Demolition" for photographic documentation before selective demolition operations commence.

1.2 INFORMATIONAL SUBMITTALS

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.

- B. Digital Photographs: Submit image files within three days of taking photographs.
 - 1. Submit photos on USB thumb-drive. Include copy of key plan indicating each photograph's location and direction.
 - 2. Identification: Provide the following information with each image description in file metadata tag:
 - a. Name of Project.
 - b. Name and contact information for photographer.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Date photograph was taken.
 - f. Description of location, vantage point, and direction.
 - g. Unique sequential identifier keyed to accompanying key plan.

1.3 FORMATS AND MEDIA

- A. Digital Photographs: Provide color images in JPG format, produced by a digital camera with minimum sensor size of 10 megapixels, and at an image resolution of not less than 3200 by 2400 pixels. Use flash in low light levels or backlit conditions.
- B. Digital Images: Submit digital media as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
- C. Metadata: Record accurate date and time and GPS location data from camera.
- D. File Names: Name media files with date and sequential numbering suffix.

1.4 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs with maximum depth of field and in focus.
 - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Preconstruction Photographs: Before commencement of the Work, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect.
 - 1. Flag excavation areas before taking construction photographs.
 - 2. Take 20 photographs to show existing conditions adjacent to property before starting the Work.
 - 3. Take 20 photographs of existing buildings either on or adjoining property, to accurately record physical conditions at start of construction.
 - 4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.
- C. Concealed Work Photographs: Before proceeding with installing work that will conceal other work, take photographs sufficient in number, with annotated descriptions, to record nature and location of concealed Work, including, but not limited to, the following:
 - 1. Underground utilities.
 - 2. Underslab services.
 - 3. Piping.
 - 4. Electrical conduit.
 - 5. Waterproofing and weather-resistant barriers.
- D. Periodic Construction Photographs: Take 20 photographs weekly. Select vantage points to show status of construction and progress since last photographs were taken.

- E. Final Completion Construction Photographs: Take 20 photographs after date of Substantial Completion for submission as Project Record Documents. Architect will inform photographer of desired vantage points.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3233

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SECTION 01 3300 - SUBMITTAL PROCEDURES**PART 1 - GENERAL****1.1 SUMMARY****A. Section Includes:**

1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

B. Related Requirements:

1. Section 01 2900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Section 01 3100 "Project Management and Coordination" for submitting the subcontract list.
3. Section 01 3200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
4. Section 01 3233 "Photographic Documentation" for submitting preconstruction photographs, periodic construction photographs, and Final Completion construction photographs.
5. Section 01 4000 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
6. Section 01 7700 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
7. Section 01 7823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
8. Section 01 7839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
9. Section 01 7900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.3 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
1. Project name.
 2. Date.
 3. Name of Architect.
 4. Name of Construction Manager.
 5. Name of Contractor.
 6. Name of firm or entity that prepared submittal.
 7. Names of subcontractor, manufacturer, and supplier.
 8. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier and alphanumeric suffix for resubmittals.
 9. Category and type of submittal.
 10. Submittal purpose and description.
 11. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
 12. Drawing number and detail references, as appropriate.
 13. Indication of full or partial submittal.
 14. Location(s) where product is to be installed, as appropriate.
 15. Other necessary identification.
 16. Remarks.
 17. Signature of transmitter.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.4 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Email: Prepare submittals as PDF package and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
 - a. Architect will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.

- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections, so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 10 days for review of each resubmittal.
 4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 14 days for initial review of each submittal.
 5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 10 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
 - a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block, and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.5 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 - 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 - 5. Submit Product Data before Shop Drawings, and before or concurrently with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 - 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.

- f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
- C. Samples: Submit Samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.
 1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package.
 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
 3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics and identification information for record.
 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units, showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned.

- 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
 2. Installer Certificates: Submit written statements on manufacturer's letterhead, certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead, certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 4. Material Certificates: Submit written statements on manufacturer's letterhead, certifying that material complies with requirements in the Contract Documents.
 5. Product Certificates: Submit written statements on manufacturer's letterhead, certifying that product complies with requirements in the Contract Documents.
 6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of AWS B2.1/B2.1M on AWS forms. Include names of firms and personnel certified.
- H. Test and Research Reports:

1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for substrate preparation and primers required.
2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.

1.6 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
 1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

1.7 ARCHITECT'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required, and return.
 - 1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect will discard submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 3300

SECTION 01 3516 - ALTERATION PROJECT PROCEDURES**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes special procedures for alteration work.

1.2 DEFINITIONS

- A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.
- B. Consolidate: To strengthen loose or deteriorated materials in place.
- C. Design Reference Sample: A sample that represents the Architect's prebid selection of work to be matched; it may be existing work or work specially produced for the Project.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.
- F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.
- G. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.
- H. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.
- I. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.
- J. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.
- K. Retain: To keep existing items that are not to be removed or dismantled.
- L. Strip: To remove existing finish down to base material unless otherwise indicated.

1.3 COORDINATION

- A. Pedestrian and Vehicular Circulation: Coordinate alteration work with circulation patterns within Project building(s) and site. Some work is near circulation patterns and adjacent to restricted areas. Circulation patterns cannot be closed off entirely and in places can be only temporarily redirected around small areas of work. Access to restricted areas may not be obstructed. Plan and execute the Work accordingly.

1.4 MATERIALS OWNERSHIP

- A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.
 - 1. Carefully dismantle and salvage each item or object in a manner to prevent damage and protect it from damage, then promptly deliver it to Owner where directed at Project site.

1.5 INFORMATIONAL SUBMITTALS

- A. Preconstruction Documentation: Show preexisting conditions of adjoining construction and site improvements that are to remain, including finish surfaces, that might be misconstrued as damage caused by Contractor's alteration work operations.

1.6 QUALITY ASSURANCE

- A. Specialist Qualifications: An experienced firm regularly engaged in specialty work similar in nature, materials, design, and extent to alteration work as specified in each Section and that has completed a minimum of five recent projects with a record of successful in-service performance that demonstrates the firm's qualifications to perform this work.
 - 1. Field Supervisor Qualifications: Full-time supervisors experienced in specialty work similar in nature, material, design, and extent to that indicated for this Project. Supervisors shall be on-site when specialty work begins and during its progress. Supervisors shall not be changed during Project except for causes beyond the control of the specialist firm.
- B. Title X Requirement: Each firm conducting activities that disturb painted surfaces shall be a "Lead-Safe Certified Firm" according to 40 CFR 745, Subpart E, and use only workers that are trained in lead-safe work practices.
- C. Safety and Health Standard: Comply with ANSI/ASSE A10.6.

1.7 STORAGE AND HANDLING OF SALVAGED MATERIALS

- A. Salvaged Materials:

1. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.
2. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area on-site.
5. Protect items from damage during transport and storage.

B. Salvaged Materials for Reinstallation:

1. Repair and clean items for reuse as indicated.
2. Pack or crate items after cleaning and repairing; cushion against damage during handling. Label contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.

C. Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in the vicinity is complete.

D. Storage: Catalog and store items within a weathertight enclosure where they are protected from moisture, weather, condensation, and freezing temperatures.

1. Identify each item for reinstallation with a nonpermanent mark to document its original location. Indicate original locations on plans, elevations, sections, or photographs by annotating the identifying marks.
2. Secure stored materials to protect from theft.
3. Control humidity so that it does not exceed 85 percent. Maintain temperatures 5 deg F or more above the dew point.

1.8 FIELD CONDITIONS

A. Survey of Existing Conditions: Record existing conditions that affect the Work by use of preconstruction photographs.

1. Comply with requirements specified in Section 01 3233 "Photographic Documentation."

B. Discrepancies: Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work.
 - 1. Use only proven protection methods, appropriate to each area and surface being protected.
 - 2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
 - 3. Erect temporary barriers to form and maintain fire-egress routes.
 - 4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during alteration work.
 - 5. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
 - 6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
 - 7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
- B. Temporary Protection of Materials to Remain:
 - 1. Protect existing materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
 - 2. Do not attach temporary protection to existing surfaces except as indicated as part of the alteration work program.
- C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.
- D. Utility and Communications Services:
 - 1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations.
 - 2. Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for alteration work.
 - 3. Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.
- E. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.

1. Prevent solids such as adhesive or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from alteration work.
2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

F. Existing Roofing: Prior to the start of work in an area, install roofing protection.

3.2 PROTECTION DURING APPLICATION OF CHEMICALS

- A. Protect motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.
- B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in alteration work program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.
- C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.
- D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.
- E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.3 GENERAL ALTERATION WORK

- A. Have specialty work performed only by qualified specialists.
- B. Ensure that supervisory personnel are present when work begins and during its progress.
- C. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation photographs. Comply with requirements in Section 01 3233 "Photographic Documentation."
- D. Perform surveys of Project site as the Work progresses to detect hazards resulting from alterations.
- E. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.
 1. Do not proceed with the work in question until directed by Architect.

END OF SECTION 01 3516

SECTION 01 4000 - QUALITY REQUIREMENTS**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.2 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced," unless otherwise further described, means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
 - 1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).
- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria. Unless otherwise indicated, copies of reports of tests or inspections performed for other than the Project do not meet this definition.

- E. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source (e.g., plant, mill, factory, or shop).
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" shall have the same meaning as the term "testing agency."
- H. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work, to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- I. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work, to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect.

1.3 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements is specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, inform the Architect regarding the conflict and obtain clarification prior to proceeding with the Work. Refer conflicting requirements that are different, but apparently equal, to Architect for clarification before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Contractor's quality-control personnel.
- B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.

2. Entity responsible for performing tests and inspections.
 3. Description of test and inspection.
 4. Identification of applicable standards.
 5. Identification of test and inspection methods.
 6. Number of tests and inspections required.
 7. Time schedule or time span for tests and inspections.
 8. Requirements for obtaining samples.
 9. Unique characteristics of each quality-control service.
- D. Reports: Prepare and submit certified written reports and documents as specified.
- E. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.5 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
 2. Project title and number.
 3. Name, address, telephone number, and email address of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Record of temperature and weather conditions at time of sample-taking and testing and inspection.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and re-inspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address of technical representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.

5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement of whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, telephone number, and email address of factory-authorized service representative making report.
 2. Statement that equipment complies with requirements.
 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 4. Statement of whether conditions, products, and installation will affect warranty.
 5. Other required items indicated in individual Specification Sections.

1.6 QUALITY ASSURANCE

- A. Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged in the activities indicated.
1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- F. Testing and Inspecting Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented in accordance with ASTM E329, and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

- G. **Manufacturer's Technical Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- H. **Factory-Authorized Service Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to inspect, demonstrate, repair, and perform service on installations of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. **Preconstruction Testing:** Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following Contractor's responsibilities, including the following:
 - 1. Provide test specimens representative of proposed products and construction.
 - 2. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - 3. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - 4. Build site-assembled test assemblies, using installers who will perform same tasks for Project.
 - 5. Build laboratory mockups at testing facility, using personnel, products, and methods of construction indicated for the completed Work.
 - 6. When testing is complete, remove test specimens and test assemblies; do not reuse products on Project.
 - 7. **Testing Agency Responsibilities:** Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections, and state in each report whether tested and inspected Work complies with or deviates from the Contract Documents.

1.7 QUALITY CONTROL

- A. **Owner Responsibilities:** Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
 - 2. Costs for retesting and re-inspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. **Contractor Responsibilities:** Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 2. Engage a qualified testing agency to perform quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections, and state in each report whether tested and inspected Work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform duties of Contractor.
- E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01 3300 "Submittal Procedures."
- F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

- G. Contractor's Associated Requirements and Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 6. Security and protection for samples and for testing and inspection equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.8 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures, and reviewing the completeness and adequacy of those procedures to perform the Work.
 2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
 4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
 5. Interpreting tests and inspections, and stating in each report whether tested and inspected Work complies with or deviates from the Contract Documents.
 6. Retesting and re-inspecting corrected Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's and authorities' having jurisdiction reference during normal working hours.
 - 1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspection, sample-taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 01 7300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 4000

SECTION 01 4200 - REFERENCES**PART 1 - GENERAL****1.1 DEFINITIONS**

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Abbreviations and acronyms not included in this list shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States." The information in this list is subject to change and is believed to be accurate as of the date of the Contract Documents.
1. AABC - Associated Air Balance Council; www.aabc.com.
 2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
 3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
 4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
 5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
 6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
 7. ABMA - American Boiler Manufacturers Association; www.abma.com.
 8. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org.
 9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
 10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
 11. AF&PA - American Forest & Paper Association; www.afandpa.org.
 12. AGA - American Gas Association; www.aga.org.
 13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
 14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
 15. AI - Asphalt Institute; www.asphaltinstitute.org.
 16. AIA - American Institute of Architects (The); www.aia.org.
 17. AISC - American Institute of Steel Construction; www.aisc.org.
 18. AISI - American Iron and Steel Institute; www.steel.org.
 19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
 20. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
 21. ANSI - American National Standards Institute; www.ansi.org.
 22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
 23. APA - APA - The Engineered Wood Association; www.apawood.org.

24. APA - Architectural Precast Association; www.archprecast.org.
25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Safety Engineers (The); www.asse.org.
34. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
35. ASTM - ASTM International; www.astm.org.
36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
37. AWEA - American Wind Energy Association; www.awea.org.
38. AWI - Architectural Woodwork Institute; www.awinet.org.
39. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
40. AWPA - American Wood Protection Association; www.awpa.com.
41. AWS - American Welding Society; www.aws.org.
42. AWWA - American Water Works Association; www.awwa.org.
43. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
44. BIA - Brick Industry Association (The); www.gobrick.com.
45. BICSI - BICSI, Inc.; www.bicsi.org.
46. CDA - Copper Development Association; www.copper.org.
47. CE - Conformite Europeenne; <http://ec.europa.eu/growth/single-market/ce-marking/>.
48. CEA - Canadian Electricity Association; www.electricity.ca.
49. CEA - Consumer Electronics Association; www.ce.org.
50. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
51. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
52. CGA - Compressed Gas Association; www.cganet.com.
53. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
54. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
55. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
56. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
57. CPA - Composite Panel Association; www.pbmdf.com.
58. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
59. CRRC - Cool Roof Rating Council; www.coolroofs.org.
60. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
61. CSA - CSA Group; www.csagroup.com.
62. CSA - CSA International; www.csa-international.org.
63. CSI - Construction Specifications Institute (The); www.csinet.org.
64. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
65. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
66. CWC - Composite Wood Council; (See CPA).
67. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.

68. DHI - Door and Hardware Institute; www.dhi.org.
69. ECA - Electronic Components Association; (See ECIA).
70. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
71. ECIA - Electronic Components Industry Association; www.eciaonline.org.
72. EIA - Electronic Industries Alliance; (See TIA).
73. EIMA - EIFS Industry Members Association; www.eima.com.
74. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
75. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org.
76. ESTA - Entertainment Services and Technology Association; (See PLASA).
77. ETL - Intertek (See Intertek); www.intertek.com.
78. EVO - Efficiency Valuation Organization; www.evo-world.org.
79. FCI - Fluid Controls Institute; www.fluidcontrolsintstitute.org.
80. FM Approvals - FM Approvals LLC; www.fmglobal.com.
81. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
82. FSA - Fluid Sealing Association; www.fluidsealing.com.
83. FSC - Forest Stewardship Council U.S.; www.fscus.org.
84. GA - Gypsum Association; www.gypsum.org.
85. GANA - Glass Association of North America; www.glasswebsite.com.
86. GS - Green Seal; www.greenseal.org.
87. HI - Hydraulic Institute; www.pumps.org.
88. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
89. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
90. HPVA - Hardwood Plywood & Veneer Association; www.hpva.org.
91. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
92. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
93. IAS - International Accreditation Service; www.iasonline.org.
94. ICBO - International Conference of Building Officials; (See ICC).
95. ICC - International Code Council; www.iccsafe.org.
96. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
97. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
98. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
99. IEC - International Electrotechnical Commission; www.iec.ch.
100. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
101. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
102. IESNA - Illuminating Engineering Society of North America; (See IES).
103. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
104. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
105. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.okstate.edu.
106. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
107. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
108. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
109. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
110. ISO - International Organization for Standardization; www.iso.org.

111. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
112. ITU - International Telecommunication Union; www.itu.int/home.
113. LMA - Laminating Materials Association; (See CPA).
114. LPI - Lightning Protection Institute; www.lightning.org.
115. MBMA - Metal Building Manufacturers Association; www.mbma.com.
116. MCA - Metal Construction Association; www.metalconstruction.org.
117. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
118. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
119. MHIA - Material Handling Industry of America; www.mhia.org.
120. MIA - Marble Institute of America; www.marble-institute.com.
121. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
122. MPI - Master Painters Institute; www.paintinfo.com.
123. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.
124. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
125. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
126. NADCA - National Air Duct Cleaners Association; www.nadca.com.
127. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
128. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
129. NBI - New Buildings Institute; www.newbuildings.org.
130. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
131. NCMA - National Concrete Masonry Association; www.ncma.org.
132. NEBB - National Environmental Balancing Bureau; www.nebb.org.
133. NECA - National Electrical Contractors Association; www.necanet.org.
134. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
135. NEMA - National Electrical Manufacturers Association; www.nema.org.
136. NETA - InterNational Electrical Testing Association; www.netaworld.org.
137. NFHS - National Federation of State High School Associations; www.nfhs.org.
138. NFPA - National Fire Protection Association; www.nfpa.org.
139. NFPA - NFPA International; (See NFPA).
140. NFRC - National Fenestration Rating Council; www.nfrc.org.
141. NHLA - National Hardwood Lumber Association; www.nhla.com.
142. NLGA - National Lumber Grades Authority; www.nlga.org.
143. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
144. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
145. NRCA - National Roofing Contractors Association; www.nrca.net.
146. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
147. NSF - NSF International; www.nsf.org.
148. NSPE - National Society of Professional Engineers; www.nspe.org.
149. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
150. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
151. NWFA - National Wood Flooring Association; www.nwfa.org.
152. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
153. PDI - Plumbing & Drainage Institute; www.pdionline.org.
154. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
155. RFCI - Resilient Floor Covering Institute; www.rfci.com.

156. RIS - Redwood Inspection Service; www.redwoodinspection.com.
157. SAE - SAE International; www.sae.org.
158. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
159. SDI - Steel Deck Institute; www.sdi.org.
160. SDI - Steel Door Institute; www.steeldoor.org.
161. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.
162. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
163. SIA - Security Industry Association; www.siaonline.org.
164. SJI - Steel Joist Institute; www.steeljoist.org.
165. SMA - Screen Manufacturers Association; www.smainfo.org.
166. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
167. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
168. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
169. SPIB - Southern Pine Inspection Bureau; www.spib.org.
170. SPRI - Single Ply Roofing Industry; www.spri.org.
171. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
172. SSINA - Specialty Steel Industry of North America; www.ssina.com.
173. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
174. STI - Steel Tank Institute; www.steeltank.com.
175. SWI - Steel Window Institute; www.steelwindows.com.
176. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
177. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
178. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
179. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
180. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
181. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance.
182. TMS - The Masonry Society; www.masonrysociety.org.
183. TPI - Truss Plate Institute; www.tpinst.org.
184. TPI - Turfgrass Producers International; www.turfgrasssod.org.
185. TRI - Tile Roofing Institute; www.tilerroofing.org.
186. UL - Underwriters Laboratories Inc.; www.ul.com.
187. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
188. USAV - USA Volleyball; www.usavolleyball.org.
189. USGBC - U.S. Green Building Council; www.usgbc.org.
190. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
191. WA - Wallcoverings Association; www.wallcoverings.org.
192. WASTEC - Waste Equipment Technology Association; www.wastec.org.
193. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
194. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
195. WDMA - Window & Door Manufacturers Association; www.wdma.com.
196. WI - Woodwork Institute; www.wicnet.org.
197. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
198. WWPA - Western Wood Products Association; www.wwpa.org.

- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.
1. DIN - Deutsches Institut für Normung e.V.; www.din.de.
 2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
 3. ICC - International Code Council; www.iccsafe.org.
 4. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.
- D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.
1. COE - Army Corps of Engineers; www.usace.army.mil.
 2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
 3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
 4. DOD - Department of Defense; www.quicksearch.dla.mil.
 5. DOE - Department of Energy; www.energy.gov.
 6. EPA - Environmental Protection Agency; www.epa.gov.
 7. FAA - Federal Aviation Administration; www.faa.gov.
 8. FG - Federal Government Publications; www.gpo.gov/fdsys.
 9. GSA - General Services Administration; www.gsa.gov.
 10. HUD - Department of Housing and Urban Development; www.hud.gov.
 11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.
 12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
 13. SD - Department of State; www.state.gov.
 14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
 15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
 16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
 17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
 18. USP - U.S. Pharmacopeial Convention; www.usp.org.
 19. USPS - United States Postal Service; www.usps.com.
- E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.gpo.gov/fdsys.
 2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.

3. DSCC - Defense Supply Center Columbus; (See FS).
 4. FED-STD - Federal Standard; (See FS).
 5. FS - Federal Specification; Available from DLA Document Services; www.quicksearch.dla.mil.
 - a. Available from Defense Standardization Program; www.dsp.dla.mil.
 - b. Available from General Services Administration; www.gsa.gov.
 - c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org.
 6. MILSPEC - Military Specification and Standards; (See DOD).
 7. USAB - United States Access Board; www.access-board.gov.
 8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).
- F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; www.bearhfti.ca.gov.
 2. CBC; California Building Code, California Title 24, Part 2
 3. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; www.calregs.com.
 4. CDHS; California Department of Health Services; (See CDPH).
 5. CDPH; California Department of Public Health; Indoor Air Quality Program; www.cal-iaq.org.
 6. CPUC; California Public Utilities Commission; www.cpuc.ca.gov.
 7. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.
 8. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; www.txforestservation.tamu.edu.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 4200

SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 01 1000 "Summary" for work restrictions and limitations on utility interruptions.

1.2 USE CHARGES

- A. Installation, removal, and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.3 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.
- B. Implementation and Termination Schedule: Within 15 days of date established for commencement of the Work, submit schedule indicating implementation and termination dates of each temporary utility.
- C. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.
- D. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

- E. Noise and Vibration Control Plan: Identify construction activities that may impact the occupancy and use of existing spaces within the building or adjacent existing buildings, whether occupied by others, or occupied by the Owner. Include the following:
 - 1. Methods used to meet the goals and requirements of the Owner.
 - 2. Concrete cutting method(s) to be used.
 - 3. Location of construction devices on the site.
 - 4. Show compliance with the use and maintenance of quieted construction devices for the duration of the Project.
 - 5. Indicate activities that may disturb building occupants and that are planned to be performed during non-standard working hours as coordinated with the Owner.
 - 6. Indicate locations of sensitive areas or other areas requiring special attention as identified by Owner. Indicate means for complying with Owner's requirements.

1.4 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- C. Accessible Temporary Egress: Comply with applicable provisions in CBC Chapter 11A.

1.5 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch-thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch-OD corner and pull posts, with 1-5/8-inch-OD top and bottom rails. Provide galvanized-steel bases for supporting posts.
- B. Fencing Windscreen Privacy Screen: Polyester fabric scrim with grommets for attachment to chain-link fence, sized to height of fence, in color selected by Architect from manufacturer's standard colors.
- C. Dust-Control Adhesive-Surface Walk-Off Mats: Provide mats, minimum 36 by 60 inches.

2.2 TEMPORARY FACILITIES

- A. Field Offices: Not required for this project.
- B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
 - 1. Store combustible materials apart from building.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

3.2 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
 - 1. Locate facilities to limit site disturbance as specified in Section 01 1000 "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

- 1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.
- C. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
 - 1. Use of Permanent Toilets: Use of Owner's existing or new toilet facilities is not permitted.
- E. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
- F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.4 SUPPORT FACILITIES INSTALLATION

- A. Comply with the following:
 - 1. Provide construction for temporary field offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible in accordance with ASTM E136. Comply with NFPA 241.
 - 2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain, including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.
- D. Storage and Staging: Use designated areas of Project site for storage and staging needs.
- E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
 - 1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.

- F. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
 - 1. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
 - a. Provide temporary, directional signs for construction personnel and visitors.
 - 2. Maintain and touch up signs, so they are legible at all times.
- G. Waste Disposal Facilities: Comply with requirements specified in Section 01 7419 "Construction Waste Management and Disposal."
- H. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
 - 1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
 - 1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
 - 1. Comply with work restrictions specified in Section 01 1000 "Summary."
- C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
 - 1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant-protection zones.
 - 2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
 - 3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
 - 4. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

- D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- E. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- F. Site Enclosure Fence: Prior to commencing earthwork, furnish and install site enclosure fence in a manner that will prevent people from easily entering site except by entrance gates.
 - 1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
 - 2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.
- G. Security Enclosure and Lockup: Lock entrances at end of each workday.
- H. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- I. Temporary Egress: Provide temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction. Provide signage directing occupants to temporary egress.
- J. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
 - 1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.
- K. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
 - 1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
 - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition in accordance with requirements of authorities having jurisdiction.
 - 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
 - 4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign, stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 - 2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 01 7700 "Closeout Procedures."

END OF SECTION 01 5000

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SECTION 01 6000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 01 1000 "Summary" for Contractor requirements related to Owner-furnished products.
 - 2. Section 01 2300 "Alternates" for products selected under an alternate.
 - 3. Section 01 2500 "Substitution Procedures" for requests for substitutions.
 - 4. Section 01 4200 "References" for applicable industry standards for products specified.
 - 5. Section 01770 "Closeout Procedures" for submitting warranties.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
 - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in Part 2 "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.

1. Evaluation of Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification. Manufacturer's published attributes and characteristics of basis-of-design product also establish salient characteristics of products for purposes of evaluating comparable products.
- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.
- D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
 1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
 2. Data indicating compliance with the requirements specified in Part 2 "Comparable Products" Article.
- E. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 01 3300 "Submittal Procedures."
- F. Substitution: Refer to Section 01 2500 "Substitution Procedures" for definition and limitations on substitutions.

1.3 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
 1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.
 2. Equipment Nameplates: Provide a permanent nameplate on each item of service- or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:

- a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.
3. See individual identification Sections in Divisions 21, 22, 23, and 26 for additional equipment identification requirements.

1.4 COORDINATION

- A. Modify or adjust affected work as necessary to integrate work of approved comparable products and approved substitutions.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. 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.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and that products are undamaged and properly protected.

C. Storage:

1. Provide a secure location and enclosure at Project site for storage of materials and equipment.
2. Store products to allow for inspection and measurement of quantity or counting of units.
3. Store materials in a manner that will not endanger Project structure.
4. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and with adequate protection from wind.
5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.

7. Protect stored products from damage and liquids from freezing.
8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 1. Manufacturer's Warranty: Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of the Owner or endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of the Owner or endorsed by manufacturer to Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included in the Project Manual, prepare a written document, using indicated form properly executed.
 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 01 7700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.

5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
 - a. Submit additional documentation required by Architect in order to establish equivalency of proposed products. Unless otherwise indicated, evaluation of "or equal" product status is by the Architect, whose determination is final.

B. Product Selection Procedures:

1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole product may be indicated by the phrase "Subject to compliance with requirements, provide the following."
2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole manufacturer/source may be indicated by the phrase "Subject to compliance with requirements, provide products by the following."
3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
 - a. Limited list of products may be indicated by the phrase "Subject to compliance with requirements, provide one of the following."
4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed or an unnamed product that complies with requirements.
 - a. Non-limited list of products is indicated by the phrase "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following."
 - b. Provision of an unnamed product is not considered a substitution, if the product complies with requirements.
5. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.

- a. Limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, provide products by one of the following."
6. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed or a product by an unnamed manufacturer that complies with requirements.
 - a. Non-limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following."
 - b. Provision of products of an unnamed manufacturer is not considered a substitution, if the product complies with requirements.
7. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section 01 2500 "Substitution Procedures" for substitutions for convenience.
- C. Visual Matching Specification: Where Specifications require the phrase "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 01 2500 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or a similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with the following requirements:
 1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.

2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes, such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects, with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.
- B. Architect's Action on Comparable Products Submittal: If necessary, Architect will request additional information or documentation for evaluation, as specified in Section 01 3300 "Submittal Procedures."
1. Form of Approval of Submittal: As specified in Section 01 3300 "Submittal Procedures."
 2. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Two-Step Process: Approval by the Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.
- D. Submittal Requirements, Single-Step Process: When acceptable to Architect, incorporate specified submittal requirements of individual Specification Section in combined submittal for comparable products. Approval by the Architect of Contractor's request for use of comparable product and of individual submittal requirements will also satisfy other submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 6000

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SECTION 01 7300 - EXECUTION**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Coordination of Owner's portion of the Work.
 - 6. Coordination of Owner-installed products.
 - 7. Progress cleaning.
 - 8. Starting and adjusting.
 - 9. Protection of installed construction.

- B. Related Requirements:
 - 1. Section 01 1000 "Summary" for coordination of Owner-furnished products, Owner-performed work, and limits on use of Project site.
 - 2. Section 01 3300 "Submittal Procedures" for submitting surveys.
 - 3. Section 01 7700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.
 - 4. Section 02 4119 "Selective Demolition" for demolition and removal of selected portions of the building.

1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.

- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.3 INFORMATIONAL SUBMITTALS

- A. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.4 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
1. Structural Elements: When cutting and patching structural elements, or when encountering the need for cutting and patching of elements whose structural function is not known, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
 - a. Cutting or Patching of structural elements not shown in the approved drawings require AOR, SEOR, and DSA approval.
 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
 - a. Primary operational systems and equipment.
 - b. Fire separation assemblies.
 - c. Air or smoke barriers.
 - d. Fire-suppression systems.
 - e. Plumbing piping systems.
 - f. Mechanical systems piping and ducts.
 - g. Control systems.
 - h. Communication systems.
 - i. Fire-detection and -alarm systems.
 - j. Electrical wiring systems.
 - k. Operating systems of special construction.
 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
 - a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Sprayed fire-resistive material.
 - d. Equipment supports.
 - e. Piping, ductwork, vessels, and equipment.
 - f. Noise- and vibration-control elements and systems.
 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner

that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

- B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Comply with requirements specified in other Sections.
 - 1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials. Use materials that are not considered hazardous.
- C. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
 - 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - 1. Description of the Work, including Specification Section number and paragraph, and Drawing sheet number and detail, where applicable.
 - 2. List of detrimental conditions, including substrates.
 - 3. List of unacceptable installation tolerances.
 - 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect in accordance with requirements in Section 01 3100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Architect promptly.
- B. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

3.4 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb, and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces, unless otherwise indicated on Drawings.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure satisfactory results as judged by Architect. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer for submittal to DSA as Construction Change Directive (form DSA-140) for review and approval.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 2. Allow for building movement, including thermal expansion and contraction.
 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.
 - J. Repair or remove and replace damaged, defective, or nonconforming Work.
 1. Comply with Section 01 7700 "Closeout Procedures" for repairing or removing and replacing defective Work.

3.5 CUTTING AND PATCHING

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of Work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements in Section 01 1000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or

adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Architect. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 2. Exposed Finishes: 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.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.6 COORDINATION OF OWNER'S PORTION OF THE WORK

- A. Site Access: Provide access to Project site for Owner's construction personnel and Owner's separate contractors.
 1. Provide temporary facilities required for Owner-furnished, Contractor-installed and Owner-furnished, Owner-installed products.
 2. Refer to Section 01 1000 "Summary" for other requirements for Owner-furnished, Contractor-installed and Owner-furnished, Owner-installed products
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel and Owner's separate contractors.
 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.

3.7 PROGRESS CLEANING

- A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.
 1. Remove liquid spills promptly.
 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials

specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 01 7419 "Construction Waste Management and Disposal."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: Comply with qualification requirements in Section 01 4000 "Quality Requirements."

3.9 PROTECTION AND REPAIR OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.

- C. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- D. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 01 7300

SECTION 01 7419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL**PART 1 - GENERAL****1.1 SUMMARY**

A. Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and construction waste.
2. Recycling nonhazardous demolition and construction waste.
3. Disposing of nonhazardous demolition and construction waste.

1.2 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Use Form CWM-7 for construction waste and Form CWM-8 for demolition waste. Include the following information:
1. Material category.
 2. Generation point of waste.
 3. Total quantity of waste in tons.
 4. Quantity of waste salvaged, both estimated and actual in tons.
 5. Quantity of waste recycled, both estimated and actual in tons.
 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 RECYCLING RECEIVERS AND PROCESSORS

- A. Subject to compliance with requirements, available recycling receivers and processors include, but are not limited to, the following:
1. See attached "Construction & Demolition Debris Recyclers, Haulers & Facilities" as published by Ventura County.

2.2 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling of 75 percent by weight of total nonhazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 - 1. Comply with operation, termination, and removal requirements in Section 01 5000 "Temporary Facilities and Controls."
- B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
- C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged and recycled.
 - 2. Comply with Section 01 5000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

- A. Comply with requirements in Section 02 4119 "Selective Demolition" for salvaging demolition waste.
- B. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 - 3. Store items in a secure area until installation.
 - 4. Protect items from damage during transport and storage.
 - 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

- C. Salvaged Items for Sale and Donation: Not permitted on Project site.
- D. Salvaged Items for Owner's Use: Salvage items for Owner's use and handle as follows:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area on-site.
 - 5. Protect items from damage during transport and storage.
- E. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.
- F. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.
- G. Plumbing Fixtures: Separate by type and size.
- H. Lighting Fixtures: Separate lamps by type and protect from breakage.
- I. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
 - 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
 - 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

3.4 RECYCLING DEMOLITION WASTE

- A. Asphalt Paving: Break up and transport paving to asphalt-recycling facility.
- B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
- C. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
 1. Clean and stack undamaged, whole masonry units on wood pallets.
- D. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- E. Metals: Separate metals by type.
 1. Structural Steel: Stack members according to size, type of member, and length.
 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- F. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.
- G. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.
- H. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.
- I. Metal Suspension System: Separate metal members, including trim and other metals from acoustical panels and tile, and sort with other metals.
- J. Carpet: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.
 1. Store clean, dry carpet in a closed container or trailer provided by carpet reclamation agency or carpet recycler.
- K. Carpet Tile: Remove debris, trash, and adhesive.
 1. Stack tile on pallet and store clean, dry carpet in a closed container or trailer provided by carpet reclamation agency or carpet recycler.

- L. Piping: Reduce piping to straight lengths and store by material and size. Separate supports, hangers, valves, sprinklers, and other components by material and size.
- M. Conduit: Reduce conduit to straight lengths and store by material and size.
- N. Lamps: Separate lamps by type and store according to requirements in 40 CFR 273.

3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

C. Paint: Seal containers and store by type.

3.6 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

3.7 ATTACHMENTS

- A. Form CWM-1 for construction waste identification.
- B. Form CWM-2 for demolition waste identification.

- C. Form CWM-7 for construction waste reduction progress report.
- D. Form CWM-8 for demolition waste reduction progress report.

END OF SECTION 01 7419 (*recycler list and forms follow*)

Construction & Demolition Debris

Recyclers, Haulers & Facilities in Ventura County (3/2/17)

Deconstruction: It's Really Just Construction in Reverse!

Deconstruction is a term broadly used to refer to the systematic dismantling and removal of valuable materials from buildings, as the value of wood, metals and other resources continues to climb, along with disposal costs in many areas, deconstruction-rather than demolition-has quickly grown in popularity.

Particularly with structures that contain valuable, reusable materials, such as old lumber, deconstruction is actually "construction in reverse." Crews begin the project on the roof removing shingles and work their way down to the floor.

Deconstruction companies have found that the value of the recovered materials, together with avoided disposal costs, can more than pay for the extra time deconstruction takes.

Concrete, Asphalt, Rock, Brick, Dirt and Sand

| Recycler | Material Accepted | Conditions | Services/Fees |
|--|---|--|--|
| Cemex 9035 Roseland Avenue Moorpark, 805/529-1535 | Concrete & Asphalt | None | Call for fees |
| Granite Construction 999 Mission Rock Rd., Ventura 805/933-3388 | Concrete & Asphalt | Clean concrete Rebar OK if cut flush | Call for fees |
| Los Robles Greens Golf Course 299 S. Moorpark., Thousand Oaks 805/494-9125 | Sand & Fill Dirt | No beach sand Clean sand & dirt only | FREE |
| M Maintenance Construction Clean-up Oxnard, 805/485-1267 | Concrete, concrete block, asphalt | Sorts mixed loads at construction site | Pickup service Hourly & per load rates |
| Mountain View Golf Course 16799 S. Mountain Rd., Santa Paula 818/665-5640 | Sand & Fill Dirt | No beach sand Clean sand & dirt only | FREE |
| PW Gillibrand Co. 5810 Bennett Road Simi Valley, 805/520-8720x2411 | Concrete, asphalt, concrete block | No rebar or dirt | Call for fees |
| River Ridge Golf Course 2501 N. Ventura Rd., Oxnard 805/701-4372 | Sand | Clean sand only | FREE |
| Santa Paula Materials 1224 E. Santa Clara St., Santa Paula 805/525-6858 | Concrete, Asphalt, Brick, Dirt, Soil & Rock | None | Call for fees |
| Saticoy Regional Golf Course 1025 S. Wells Rd., Ventura 647-6678 | Sand & Fill Dirt | No beach sand Clean sand & dirt only | FREE |
| Simi Hills Golf Course 5031 Alamo, Simi Valley 578-2352 | Sand | Clean sand only | FREE |
| Simi Valley Landfill 2801 Madera Rd., Simi Valley 579-7267 | Concrete, asphalt, dirt, brick | None | Call for fees |
| State Ready Mix 3127 W. L.A. Ave., Simi Valley 647-2817 | Concrete & Asphalt | Accepts only the material listed | Call for fees |
| Tapo Rock & Sand 5141 Tapo Canyon Rd., Simi Valley 805/526-2899 | Concrete, concrete block, dirt, rock & clean sand | Prices double if rebar or wire are in the concrete; No colored concrete or red brick | Fee depends on type of material & size of truck |
| Vulcan 6029 Vineyard Avenue Oxnard, 529-2301 | Concrete 2x2x2 or less, asphalt & toilets | Call first; Dump trucks preferred; Rebar OK if cut flush | Call for fees |

This list may be incomplete. Please consult your Yellow Pages. All rates are subject to change.

Brush, Wood, Lumber and Pallets

| Recycler | Materials Accepted | Conditions | Services/Fees |
|--|---|---|---|
| Agromin Organics 6859 Arnold Rd., Oxnard 805/485-9200 M-F 7-4:30 & Sat 7-3 | Green waste, Tree logs, wood, pallets, fences, sawdust | Clean untreated wood only No Hazardous Waste No palm or succulents | Call for fees |
| Agromin Organics Call for directions Santa Paula, 805/485-9200 | Brush, grass, leaves, wood, lumber, pallets, wood chips | Landscapers only – no exceptions; Need to show proof of owning a landscaping business | Call for fees |
| Alco Pallet Recycling 852 Richmond Ave., Oxnard, 805/385-0095 | Pallets | None | Call for more information |
| Calabasas Landfill 5300 Lost Hills Rd., Calabasas, 818/889-0363 | Clean brush, grass clippings, leaves, tree trimmings, etc. | Accepts material from limited area - call first; no liquids or e-waste | Call for fees |
| Furia Transport 730 Mountain View Oxnard, 805/240-7898 | Pallets | 40' x 48' only | Pickup service for 500 or more pallets |
| M Maintenance Construction Clean –up Oxnard, 805/485-1267 | Lumber, brush, pallets | Sorts mixed loads at construction sites | Pickup service. Hourly & per load rates. Rate depends on material |
| Ojai Valley Organics 146 Old Baldwin Rd., Ojai 805/640-9194 M-F 7:30-4:30 & Sat 7:30-12 | Brush, grass, leaves, wood lumber, pallets, wood chips, tree trimmings | No stumps, root, yucca, palm fronds, ice plant, banana trees or bamboo | Call for fees |
| Oxnard Pallets 531 Buena Vista Ave., Oxnard, 805/487-8458 | Plastic & wood pallets drop off available for recycling | 48' x 40' preferred | Pays for 48 x 40; call for pickup information |
| Peach Hills Soils 6101 East Los Angeles Avenue Somis, CA 93066 805/529-6164 | Brush, grass, leaves, wood lumber & tree trimmings | No palm fronds, succulents, or hazardous waste | Call for fees |
| Santa Clara Organics Hwy 126 4 miles E. of Fillmore 805/524-2751 M-F 7-5 & Sat. 7-12 | Green Waste, tree logs, root balls, wood pallets, fences, sawdust | No palm fronds, succulents, or hazardous waste | Call for fees |
| Simi Valley Landfill 2801 Madera Rd., Simi Valley, 805/579-7267 M-S 7-4 & 3 rd Sun. 10-4 | Brush, grass, leaves, wood lumber, pallets, wood chips, tree trimmings | No stumps, roots, yucca, palm fronds, ice plant, banana trees or bamboo | Call for fees |

Metal Recycling

| Recycler | Materials Accepted | Conditions | Services/Fees |
|---|---|---|-----------------------|
| Camarillo Recycling, Inc. 849 Via Alondra Camarillo, 805/987-0226 | Aluminum, brass, copper, & stainless steel | No steel or tin Call for information | Payment for materials |
| JB Metals Mobile location Oxnard, 805/486-5607 | Aluminum, brass, copper & steel | No tin Call for information | Payment for materials |
| SA Recycling 1441 Mountain View Oxnard, 805/483-0512 | All metals | Call for information | Payment for materials |
| Simi Valley Recycling Center 400 W. Los Angeles Ave., Simi Valley, 805/527-4033 Tu-Sat 9-3 | All metals | Maximum length 6ft. Call for information | Payment for materials |
| Standard Industries 1905 Lirio Ave. Saticoy, 805/643-6669 | All metals & mixed Recyclables accepted | Drop off & pickup service Call for information | Payment for materials |

Transfer & Disposal Facilities

| Facilities | Refuse Rates (Subject to Change) |
|--|---|
| *Del Norte Regional Recycling & Transfer Station 111 S. Del Norte Avenue Oxnard, 805/385-8060 | Call for fees |
| *Gold Coast Recycling & Transfer Station 5275 Colt Street Ventura, 805/642-9236 | Call for fees |
| Toland Road 3500 N. Toland Rd., Santa Paula, 805/658-3500 <i>Only accepts waste generated in cities of Santa Paula, Fillmore & the unincorporated areas of Santa Clara Valley. All other waste must arrive in transfer trucks.</i> | Call for fees |
| *Simi Valley Landfill 2801 Madera Rd., Simi Valley, 805/579-7267 | Call for fees |
| Chiquita Canyon Landfill 29201 Henry Mayo Dr., Valencia, 661/257-3655 | Call for fees |
| Calabasas Landfill 5300 Lost Hills Rd., Agoura, 818/889-0363 | Call for fees |

* **“Recyclables-rich” loads of mixed construction/demolition debris accepted and sorted for recycling. Receipts, required for C & D documentation, are available by request only.**

Reuse/Salvage/Deconstruction

If a project involves demolition or remodeling, builders are urged to salvage as much reusable material from the job as possible. One-day, advertised “demolition auctions” are one way of reducing disposal costs and ensuring that valuable resources are reused or use one of the services or organizations listed below.

| Material | Organization/Company | Additional Information |
|-----------------------------------|---|---|
| Salvage materials from demolition | All Contractors, Inc. 805/523-9071 4287 Ventavo Dr., Moorpark | Demolition & deconstruction company |
| Building materials of all kinds | Habitat for Humanity’s ReStore 1850 Eastman Ave. Oxnard, 805/981-2268 1293-A East L.A. Ave. Simi Valley, 805/520-7717 | Call first; may provide free pick-up. Sells home improvement & construction materials. Mon-Sat 9-5 |

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| FORM CWM-1: CONSTRUCTION WASTE IDENTIFICATION | | | | | | | |
|--|-------------------------|---|---------------------------|--|----------------------------|----------------------------------|--------------------------------|
| MATERIAL CATEGORY | GENERATION POINT | EST. QUANTITY OF MATERIALS RECEIVED* (A) | EST. WASTE - % (B) | TOTAL EST. QUANTITY OF WASTE* (C = A x B) | EST. VOLUME CY (CM) | EST. WEIGHT TONS (TONNES) | REMARKS AND ASSUMPTIONS |
| Packaging: Cardboard | | | | | | | |
| Packaging: Boxes | | | | | | | |
| Packaging: Plastic Sheet or Film | | | | | | | |
| Packaging: Polystyrene | | | | | | | |
| Packaging: Pallets or Skids | | | | | | | |
| Packaging: Crates | | | | | | | |
| Packaging: Paint Cans | | | | | | | |
| Packaging: Plastic Pails | | | | | | | |
| Site-Clearing Waste | | | | | | | |
| Masonry or CMU | | | | | | | |
| Lumber: Cut-Offs | | | | | | | |
| Lumber: Warped Pieces | | | | | | | |
| Plywood or OSB (scraps) | | | | | | | |
| Wood Forms | | | | | | | |
| Wood Waste Chutes | | | | | | | |
| Wood Trim (cut-offs) | | | | | | | |
| Metals | | | | | | | |
| Insulation | | | | | | | |
| Roofing | | | | | | | |
| Joint Sealant Tubes | | | | | | | |
| Gypsum Board (scraps) | | | | | | | |
| Carpet and Pad (scraps) | | | | | | | |
| Piping | | | | | | | |
| Electrical Conduit | | | | | | | |
| Other: | | | | | | | |

* Insert units of measure.

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FORM CWM-2: DEMOLITION WASTE IDENTIFICATION

| MATERIAL DESCRIPTION | EST. QUANTITY | EST. VOLUME CY (CM) | EST. WEIGHT TONS (TONNES) | REMARKS AND ASSUMPTIONS |
|-----------------------------|---------------|------------------------|------------------------------|-------------------------|
| Asphaltic Concrete Paving | | | | |
| Concrete | | | | |
| Brick | | | | |
| CMU | | | | |
| Lumber | | | | |
| Plywood and OSB | | | | |
| Wood Paneling | | | | |
| Wood Trim | | | | |
| Miscellaneous Metals | | | | |
| Structural Steel | | | | |
| Rough Hardware | | | | |
| Insulation | | | | |
| Roofing | | | | |
| Doors and Frames | | | | |
| Door Hardware | | | | |
| Windows | | | | |
| Glazing | | | | |
| Acoustical Tile | | | | |
| Carpet | | | | |
| Carpet Pad | | | | |
| Demountable Partitions | | | | |
| Equipment | | | | |
| Cabinets | | | | |
| Plumbing Fixtures | | | | |
| Piping | | | | |
| Piping Supports and Hangers | | | | |
| Valves | | | | |
| Sprinklers | | | | |
| Mechanical Equipment | | | | |
| Electrical Conduit | | | | |
| Copper Wiring | | | | |
| Light Fixtures | | | | |
| Lamps | | | | |
| Lighting Ballasts | | | | |
| Electrical Devices | | | | |
| Switchgear and Panelboards | | | | |
| Transformers | | | | |
| Other: | | | | |

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FORM CWM-7: CONSTRUCTION WASTE REDUCTION PROGRESS REPORT

| MATERIAL CATEGORY | GENERATION POINT | TOTAL QUANTITY OF WASTE TONS (TONNES) (A) | QUANTITY OF WASTE SALVAGED | | QUANTITY OF WASTE RECYCLED | | TOTAL QUANTITY OF WASTE RECOVERED TONS (TONNES) (D = B + C) | TOTAL QUANTITY OF WASTE RECOVERED % (D / A x 100) |
|----------------------------------|------------------|---|----------------------------|--------------------------|----------------------------|--------------------------|---|---|
| | | | ESTIMATED TONS (TONNES) | ACTUAL TONS (TONNES) (B) | ESTIMATED TONS (TONNES) | ACTUAL TONS (TONNES) (C) | | |
| Packaging: Cardboard | | | | | | | | |
| Packaging: Boxes | | | | | | | | |
| Packaging: Plastic Sheet or Film | | | | | | | | |
| Packaging: Polystyrene | | | | | | | | |
| Packaging: Pallets or Skids | | | | | | | | |
| Packaging: Crates | | | | | | | | |
| Packaging: Paint Cans | | | | | | | | |
| Packaging: Plastic Pails | | | | | | | | |
| Site-Clearing Waste | | | | | | | | |
| Masonry or CMU | | | | | | | | |
| Lumber: Cut-Offs | | | | | | | | |
| Lumber: Warped Pieces | | | | | | | | |
| Plywood or OSB (scraps) | | | | | | | | |
| Wood Forms | | | | | | | | |
| Wood Waste Chutes | | | | | | | | |
| Wood Trim (cut-offs) | | | | | | | | |
| Metals | | | | | | | | |
| Insulation | | | | | | | | |
| Roofing | | | | | | | | |
| Joint Sealant Tubes | | | | | | | | |
| Gypsum Board (scraps) | | | | | | | | |
| Carpet and Pad (scraps) | | | | | | | | |
| Piping | | | | | | | | |
| Electrical Conduit | | | | | | | | |
| Other: | | | | | | | | |

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FORM CWM-8: DEMOLITION WASTE REDUCTION PROGRESS REPORT

| MATERIAL CATEGORY | GENERATION POINT | TOTAL QUANTITY OF WASTE TONS (TONNES) (A) | QUANTITY OF WASTE SALVAGED | | QUANTITY OF WASTE RECYCLED | | TOTAL QUANTITY OF WASTE RECOVERED TONS (TONNES) (D = B + C) | TOTAL QUANTITY OF WASTE RECOVERED % (D / A x 100) |
|----------------------------|------------------|---|----------------------------|--------------------------|----------------------------|--------------------------|---|---|
| | | | ESTIMATED TONS (TONNES) | ACTUAL TONS (TONNES) (B) | ESTIMATED TONS (TONNES) | ACTUAL TONS (TONNES) (C) | | |
| Asphaltic Concrete Paving | | | | | | | | |
| Concrete | | | | | | | | |
| Brick | | | | | | | | |
| CMU | | | | | | | | |
| Lumber | | | | | | | | |
| Plywood and OSB | | | | | | | | |
| Wood Paneling | | | | | | | | |
| Wood Trim | | | | | | | | |
| Miscellaneous Metals | | | | | | | | |
| Structural Steel | | | | | | | | |
| Rough Hardware | | | | | | | | |
| Insulation | | | | | | | | |
| Roofing | | | | | | | | |
| Doors and Frames | | | | | | | | |
| Door Hardware | | | | | | | | |
| Windows | | | | | | | | |
| Glazing | | | | | | | | |
| Acoustical Tile | | | | | | | | |
| Carpet | | | | | | | | |
| Carpet Pad | | | | | | | | |
| Demountable Partitions | | | | | | | | |
| Equipment | | | | | | | | |
| Cabinets | | | | | | | | |
| Plumbing Fixtures | | | | | | | | |
| Piping | | | | | | | | |
| Supports and Hangers | | | | | | | | |
| Valves | | | | | | | | |
| Sprinklers | | | | | | | | |
| Mechanical Equipment | | | | | | | | |
| Electrical Conduit | | | | | | | | |
| Copper Wiring | | | | | | | | |
| Light Fixtures | | | | | | | | |
| Lamps | | | | | | | | |
| Lighting Ballasts | | | | | | | | |
| Electrical Devices | | | | | | | | |
| Switchgear and Panelboards | | | | | | | | |
| Transformers | | | | | | | | |

| | | | | | | | | |
|--------|--|--|--|--|--|--|--|--|
| Other: | | | | | | | | |
|--------|--|--|--|--|--|--|--|--|

SECTION 01 7700 - CLOSEOUT PROCEDURES**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.

- B. Related Requirements:
 - 1. Section 01 2900 "Payment Procedures" for requirements for Applications for Payment for Substantial Completion and Final Completion.
 - 2. Section 01 3233 "Photographic Documentation" for submitting Final Completion construction photographic documentation.
 - 3. Section 01 7823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
 - 4. Section 01 7839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 5. Section 01 7900 "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

1.2 DEFINITIONS

- A. List of Incomplete Items: Contractor-prepared list of items to be completed or corrected, prepared for the Architect's use prior to Architect's inspection, to determine if the Work is substantially complete.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest-control inspection.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items required by other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Owner's signature for receipt of submittals.
 - 5. Submit testing, adjusting, and balancing records.
 - 6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
 2. Advise Owner's personnel of changeover in security provisions.
 3. Complete startup and testing of systems and equipment.
 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 01 7900 "Demonstration and Training."
 6. Advise Owner of changeover in utility services.
 7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 9. Complete final cleaning requirements.
 10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.7 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:
1. Submit a final Application for Payment in accordance with Section 01 2900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit pest-control final inspection report.
 5. Submit Final Completion photographic documentation.

- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 - 1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order, starting with exterior areas first, listed by room or space number.
 - 2. Organize items applying to each space by major element, including categories for ceilings, individual walls, floors, equipment, and building systems.
 - 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Page number.
 - 4. Submit list of incomplete items in either of the following formats:
 - a. MS Excel Electronic File: Architect will return annotated file.
 - b. PDF Electronic File: Architect will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

- D. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
 - 1. Submit on digital media acceptable to Architect.
- E. Warranties in Paper Form:
 - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- F. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
 - 1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

- a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - f. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - g. Clean flooring, removing debris, dirt, and staining; clean according to manufacturer's recommendations.
 - h. Vacuum and mop concrete.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - o. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
 - p. Clean strainers.
 - q. Leave Project clean and ready for occupancy.
- C. Pest Control: Comply with pest control requirements in Section 01 5000 "Temporary Facilities and Controls." Prepare written report.
- D. Construction Waste Disposal: Comply with waste-disposal requirements in Section 01 7419 "Construction Waste Management and Disposal."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations required by Section 01 7300 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION 01 7700

SECTION 01 7823 - OPERATION AND MAINTENANCE DATA**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Emergency manuals.
 - 3. Systems and equipment operation manuals.
 - 4. Systems and equipment maintenance manuals.
 - 5. Product maintenance manuals.
- B. Related Requirements:
 - 1. Section 01 3300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.2 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.3 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect will comment on whether content of operation and maintenance submittals is acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operation and maintenance manuals in the following format:
 - 1. Submit on digital media acceptable to Architect. Enable reviewer comments on draft submittals.

- C. Initial Manual Submittal: Submit draft copy of each manual at least 14 days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 5 days before commencing demonstration and training. Architect will return copy with comments.
 - 1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual prior to commencing demonstration and training.
- E. Comply with Section 01 7700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.4 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
 - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 - 2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

1.5 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name and contact information for Contractor.

6. Name and contact information for Construction Manager.
 7. Name and contact information for Architect.
 8. Name and contact information for Commissioning Authority.
 9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 10. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.6 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY MANUAL

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals. List items and their location to facilitate ready access to desired information. Include the following:
1. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
 2. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
 3. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

1.7 EMERGENCY MANUALS

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
 2. Emergency instructions.
 3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
1. Fire.
 2. Flood.
 3. Gas leak.
 4. Water leak.
 5. Power failure.
 6. Water outage.
 7. System, subsystem, or equipment failure.
 8. Chemical release or spill.
- D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- E. Emergency Procedures: Include the following, as applicable:
1. Instructions on stopping.
 2. Shutdown instructions for each type of emergency.
 3. Operating instructions for conditions outside normal operating limits.
 4. Required sequences for electric or electronic systems.
 5. Special operating instructions and procedures.

1.8 SYSTEMS AND EQUIPMENT OPERATION MANUALS

- A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.
1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 2. Performance and design criteria if Contractor has delegated design responsibility.
 3. Operating standards.

4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

C. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

D. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.9 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.
- C. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 3. Identification and nomenclature of parts and components.
 4. List of items recommended to be stocked as spare parts.
- E. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
 2. Troubleshooting guide.
 3. Precautions against improper maintenance.
 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
 6. Demonstration and training video recording, if available.
- F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.
- J. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
1. Do not use original project record documents as part of maintenance manuals.
- 1.10 PRODUCT MAINTENANCE MANUALS
- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Product Information: Include the following, as applicable:
1. Product name and model number.
 2. Manufacturer's name.
 3. Color, pattern, and texture.
 4. Material and chemical composition.
 5. Reordering information for specially manufactured products.

E. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 7823

SECTION 01 7839 - PROJECT RECORD DOCUMENTS**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record specifications.
 - 3. Record Product Data.
 - 4. Miscellaneous record submittals.
- B. Related Requirements:
 - 1. Section 01 7700 "Closeout Procedures" for general closeout procedures.
 - 2. Section 01 7823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.2 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit one paper-copy set(s) of marked-up record prints.
 - 2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit PDF electronic files of scanned Record Prints and one set of file prints.
- B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and Contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.
 - 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

- D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.
- E. Reports: Submit written report weekly indicating items incorporated into Project Record Documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

1.3 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 - 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 - 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 - 4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Format: Annotated PDF electronic file with comment function enabled.
 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

1.4 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.
- B. Format: Submit record specifications as annotated PDF electronic file.

1.5 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.

- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.
- C. Format: Submit Record Product Data as annotated PDF electronic file.
 - 1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

1.6 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as PDF electronic file.
 - 1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

1.7 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 7839

SECTION 01 7900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Instruction in operation and maintenance of systems, subsystems, and equipment.
 - 2. Demonstration and training video recordings.

1.2 INFORMATIONAL SUBMITTALS

- A. Attendance Record: For each training module, submit list of participants and length of instruction time.

1.3 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 01 4000 "Quality Requirements," experienced in operation and maintenance procedures and training.

1.4 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data have been reviewed and approved by Architect.

1.5 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 - 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Systems and equipment operation manuals.
 - c. Systems and equipment maintenance manuals.
 - d. Product maintenance manuals.
 - e. Project Record Documents.
 - f. Identification systems.
 - g. Warranties and bonds.
 - h. Maintenance service agreements and similar continuing commitments.
 - 3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
 - 4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.

- e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
- a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
- a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
8. Repairs: Include the following:
- a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

1.6 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 01 7823 "Operation and Maintenance Data."

- B. Set up instructional equipment at instruction location.

1.7 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
 - 1. Architect will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
 - 2. Owner will furnish an instructor to describe Owner's operational philosophy.
 - 3. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with Owner, through Architect, with at least 7 days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 01 7900

SECTION 02 4119 - SELECTIVE DEMOLITION**PART 1 - GENERAL****1.1 SUMMARY****A. Section Includes:**

1. Demolition and removal of selected portions of building or structure.

B. Related Requirements:

1. Section 01 1000 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
2. Section 01 7300 "Execution" for cutting and patching procedures.
3. Section 01 3516 "Alteration Project Procedures" for general protection and work procedures for alteration projects.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse or storage.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician.
- B. Schedule of Selective Demolition Activities: Indicate the following:
 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 3. Coordination for shutoff, capping, and continuation of utility services.
 4. Use of elevator and stairs.
 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Pre-demolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations. Comply with Section 01 3233 "Photographic Documentation." Submit before Work begins.

1.5 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

1.6 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: Present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
 1. Hazardous material remediation is specified elsewhere in the Contract Documents.
 2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.
 3. Owner will provide material safety data sheets for suspected hazardous materials that are known to be present in buildings and structures to be selectively demolished because of building operations or processes performed there.

- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.7 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

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

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
 - 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
- D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.
- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.

1. Comply with requirements specified in Section 01 3233 "Photographic Documentation."
2. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
 - f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

3.3 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.

3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 01 5000 "Temporary Facilities and Controls."
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
1. Strengthen or add new supports when required during progress of selective demolition.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain fire watch during and for at least two hours after flame-cutting operations.
 6. Maintain adequate ventilation when using cutting torches.
 7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 10. Dispose of demolished items and materials promptly. Comply with requirements in Section 01 7419 "Construction Waste Management and Disposal."

- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area on-site.
 - 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
 - 1. Clean and repair items to functional condition adequate for intended reuse.
 - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 - 3. Protect items from damage during transport and storage.
 - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.
- B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.
- C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.
- D. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings."

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and recycle or dispose of them according to Section 01 7419 "Construction Waste Management and Disposal."
 - 1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
4. Comply with requirements specified in Section 01 7419 "Construction Waste Management and Disposal."

B. Burning: Do not burn demolished materials.

3.7 CLEANING

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

END OF SECTION 02 4119

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SECTION 07 9200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Polyurethane joint sealants.
2. Latex joint sealants.

1.2 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product.

1.3 FIELD CONDITIONS

A. 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.
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.4 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

B. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:

1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
2. Disintegration of joint substrates from 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 JOINT SEALANTS, 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 joint-sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: Match adjacent surface.

2.2 POLYURETHANE JOINT SEALANTS

- A. Polyurethane, S, NS, 35, NT: Single-component, nonsag, nontraffic-use, plus 35 percent and minus 35 percent movement capability, urethane joint sealant; ASTM C920, Type S, Grade NS, Class 35, Use T, NT.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide Sika Corporation; Joint Sealants; Sika 1A or an equal product.

2.3 LATEX JOINT SEALANTS

- A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C834, Type OP, Grade NF.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide Sherwin-Williams Company (The); 850A Siliconized Acrylic Latex Caulk or a comparable product by one of the following:
 - a. May National Associates, Inc.; a subsidiary of Sika Corporation.
 - b. Pecora Corporation.

2.4 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Adfast.
 - b. Alcot Plastics Ltd.
 - c. BASF Corporation.

d. Construction Foam Products; a division of Nomaco, Inc.

- B. Cylindrical Sealant Backings: ASTM C1330, Type C (closed-cell material with a surface skin) or Type B (bicellular material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. 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. Provide self-adhesive tape where applicable.

2.5 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 to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 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 performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 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 joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing

optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:

- a. Concrete.
 - b. Masonry.
 - c. Unglazed surfaces of ceramic tile.
 - d. Exterior insulation and finish systems.
3. Remove laitance and form-release agents from concrete.
 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
 - c. Porcelain enamel.
 - d. Glazed surfaces of ceramic tile.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by 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 or primer 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.

3.3 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 in ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position 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 backs of joints.
- E. Install sealants using proven techniques that 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 in 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 in subparagraphs 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 sealant from surfaces adjacent to joints.
 - 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 profile per Figure 8A in ASTM C1193 unless otherwise indicated.

3.4 CLEANING

- A. Clean off excess sealant 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.

3.5 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 Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 1. Joint Sealant: Polyurethane, nonstaining, S, NS, 35, T/NT.
 - 2. Joint-Sealant Color: Match adjacent surface
- B. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces not subject to significant movement.
 - 1. Joint Sealant: Acrylic latex.

2. Joint-Sealant Color: Match adjacent surface

END OF SECTION 07 9200

SECTION 22 0500 - COMMON WORK RESULTS FOR PLUMBING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Basic Mechanical Requirements specifically applicable to Division 22 Sections, in addition to the general requirements.
- B. Plumbing work includes the following: furnish and install all plumbing fixtures, piping and valves shown on the plumbing and architectural drawings described in these specifications. In connection with this work, contractor shall also furnish and install all necessary work, devices, hardware and systems required to make said systems properly and safely operable, including, but not limited to, support hardware, valves and piping, flashing, cutting and patching.

1.2 WORK SEQUENCE

- A. Install work in phases to accommodate Owner's construction requirements. Refer to Architectural and Plumbing Drawings for the construction details and coordinate the work of this division with that of other divisions. Order the work of this division so that progress will harmonize with that of other divisions and all work will proceed expeditiously. During the construction period, coordinate plumbing schedule and operations with General Contractor and any other related subcontractor.
- B. Coordinate related work and modify surrounding work as required.

1.3 SUBMITTALS

- A. Submit on the following:
 - 1. All pipe, fittings, valves, hangers and supports, labels, fixtures, adhesives sealants, and equipment that is planned to be installed on this project.
- B. Proposed Products List: Include Products specified in the following Sections:
 - 1. Division 22 - Plumbing.
 - 2. Project Drawings.
- C. Submit product data grouped to include complete submittals of related systems, products, and accessories in a single submittal bound in a three ring binder with table of contents and section tabs. Submittals shall clearly identify electrical characteristics, options provided, color, model number and equipment tag as indicated on the drawings.
- D. Equipment and materials shall be ordered only after satisfactory review by Architect and Engineer.
- E. The following statement applies to all items reviewed: "Checking is only for general conformance with the design concept of the project and general compliance with the

information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed at the job site; fabrication processes and techniques of construction; coordination of his work with that of other trades; and the satisfactory performance of his work."

- F. Maintain a complete set of the most current reviewed submittal and shop drawings on site during construction.
- G. The first submittal shall be comprehensive and complete. Partial submittals will be returned without review.

1.4 REGULATORY REQUIREMENTS

- A. Conform to 2019 California Building Code.
- B. Fire Protection: Conform to 2019 California Fire Code, and California State Fire Marshall Regulations, Title 19, Public Safety.
- C. Plumbing: Conform to 2019 California Plumbing Code.
- D. Mechanical: Conform to 2019 California Mechanical Code.
- E. Electrical: Conform to 2019 California Electrical Code.
- F. Obtain approved inspections from authority having jurisdiction.
- G. Conflicts: Where conflict or variation exists amongst Codes, the most stringent shall govern.

1.5 PROJECT / SITE CONDITIONS

- A. Install work in locations shown on drawings, unless prevented by project conditions.
- B. Prepare drawings showing proposed rearrangement of work to meet project conditions, including changes to work specified in other Sections. Obtain permission of Owner before proceeding.
- C. Piping Locations: Piping locations shown are diagrammatic only. Contractor shall verify locations of all lateral stubs, offsets, etc. required in the field. The actual locations of lines, cleanouts and connections may vary provided that complete systems are installed in compliance with codes.
- D. Construction Observation: In addition to the requirement for obtaining inspections by the local jurisdiction, Contractor shall notify Engineer and commissioning agent at appropriate times during the construction process so that they can visit site to become generally familiar with the progress and quality of Contractor's work and to determine if the work is proceeding in general accord with the contract documents.
- E. Scaling of Drawings: In no case shall working dimensions be scaled from plans, sections, or details from the working drawings. If no dimension is shown on the

architectural drawings, the prime Contractor shall request in writing that the Architect or the Engineer provide clarification or the specific dimension.

1.6 QUALITY ASSURANCE

- A. Qualification of Manufacturer: Products used in work shall be produced by manufacturers regularly engaged in the manufacture of similar items.
- B. Qualification of Installer: Use adequate number of skilled workmen, thoroughly trained and experienced in the necessary crafts, and completely familiar with the specified requirements contained in the plans and specifications.
- C. Applicable equipment and materials to be listed by Underwriters' Laboratories and manufactured in accordance with ASME, AWWA, or ANSI standards. Power-using equipment shall meet the California energy efficiency standards as defined in the current Title 24 requirements.

1.7 DRAWINGS AND SPECIFICATIONS

- A. Drawings and specifications are intended to complement each other. Where a conflict exists between the requirements of the drawings and/or specifications, the contractor shall immediately and before commencing work, request clarification from Engineer.
- B. The Engineer shall interpret the drawings and the specifications, and the Engineer's decision as to the true intent and meaning thereof and the quality, quantity, and the sufficiency of the materials and workmanship furnished there under shall be accepted as final and conclusive.
- C. In case of conflicts not clarified prior to bidding deadline, use the most costly alternative (better quality, greater quantity, or larger size) in preparing the Bid. A clarification will be issued to the successful Bidder as soon as feasible after the Award, and if appropriate a deductive change order will be issued.
- D. All provisions shall be deemed mandatory except as expressly indicated as optional by the word "may" or "option".
- E. Examine and compare the contract drawings and specifications with the drawings and specifications of other trades. Report any discrepancies to the architect. Install and coordinate the work in cooperation with the other trades.

1.8 DEFINITIONS

- A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe chases, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspace, and tunnels.
- B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.
- C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

- D. Concealed, Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in chases.
- E. Concealed, Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.

PART 2 - PRODUCTS

2.1 PRODUCTS

- A. Maintain uniformity of manufacturer for equipment used in similar applications and sizes.
- B. Provide products and materials that are new, clean, free from defects, damage, and corrosion.
- C. Provide name/data plates on major components with manufacturer's name, model number, serial number, date of manufacturer, capacity data, and electrical characteristics permanently attached in a conspicuous location on the equipment.
- D. Protect materials stored at site and installed from damage. Verify dimensions of equipment and fixtures prior to ordering. Install all equipment per the manufacturer's instructions for installing, connecting, and adjusting. A copy of the instructions shall be kept at the equipment during installation and provided to the engineer at his/her request.

PART 3 - EXECUTION

3.0 INSTALLATION

- A. **Install all equipment per DSA approved drawings and the manufacturer's instructions for installing, connecting, and adjusting. A copy of the instructions shall be kept at the equipment during installation and provided to the engineer at his/her request.**
- B. Adjust pipes to accommodate the work to prevent interferences.
 - 1. Right-of-Way: Lines which pitch have the right-of-way over those which do not pitch. Lines whose elevations cannot change have right-of-way over lines whose elevations can be changed.
 - 2. Provide offsets, transitions, and changes in directions of pipes as required to maintain proper head room and pitch on sloping lines. Provide drains, etc., as required. It is the intent of this paragraph that all cost associated with compliance be borne by the contractor.
 - 3. All equipment shall be firmly anchored to building structural elements.

END OF SECTION 22 0500

SECTION 22 0510 - PLUMBING PIPING**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings, notes, and general provisions of the Contract, including General and Supplemental Conditions and Division 01 specification sections, apply to this section.

1.2 SUMMARY**A. Section Includes:**

1. Pipe and fittings for domestic water.
2. Escutcheons.
3. Supply tubes.
4. Pipe and fittings for natural gas.
5. Pipe and fittings for waste.

1.3 REFERENCES

- A. ANSI B31.9 - Building Service Piping.
- B. ASME B16.3 - Malleable Iron Threaded Fittings.
- C. ASME B16.22 - Wrought Copper and Bronze Solder-Joint Pressure Fittings.
- D. ASTM A47 - Ferritic Malleable Iron Castings.
- E. ASTM A53 - Pipe, Steel, Black and Hot-Dipped Zinc Coated, Welded and Seamless.
- F. ASTM A74 - Cast Iron Soil Pipe and Fittings.
- G. ASTM A120 - Pipe, Steel, Black and Hot-Dipped Zinc Coated (Galvanized), Welded and Seamless, for Ordinary Uses.
- H. ASTM B32 - Solder Metal.
- I. ASTM B88 - Seamless Copper Water Tube.
- J. ASTM C564 - Rubber Gaskets for Cast Iron Soil Pipe and Fittings.
- K. ASTM D1785 - Poly Vinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80, and 120.
- L. ASTM D2241 - Poly Vinyl Chloride (PVC) Plastic Pipe (SDR-PR).
- M. ASTM D2466 - Poly Vinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 40.
- N. ASTM D2564 - Solvent Cements for Poly Vinyl Chloride (PVC) Plastic Pipe and Fittings.

- O. ASTM D2855 - Making Solvent-Cemented Joints with Poly Vinyl Chloride (PVC) Pipe and Fittings.
- P. ASTM D3034 - Poly Vinyl Chloride (PVC) Plastic Sewer Pipe SDR-35.
- Q. CISPI 301 - Cast Iron Soil Pipe and Fittings for Hubless Cast Iron Sanitary Systems.
- R. CISPI 310 - Joints for Hubless Cast Iron Sanitary Systems.
- S. ASTM D2513 - SDR11.5 Polyethylene Gas Pipe.
- T. ASTM D1784 – Low Extractable Polyvinyl Chloride for filtered water.

1.4 SUBMITTALS

- A. Product Data: For the following products:
 - 1. Piping and fittings.
 - 2. Escutcheons.
- B. Project Record Documents
 - 1. Submit the following:
 - 2. Record actual locations of valves and piping.
- C. Operation and Maintenance Data
 - 1. Submit the following:
 - 2. Maintenance Data: Include installation instructions, spare parts lists, exploded assembly views.

1.5 REGULATORY REQUIREMENTS

- A. Perform Work in accordance with 2019 California Plumbing Code.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of the general requirements.
- B. Accept valves on site in shipping containers with labeling in place. Inspect for damage.
- C. Provide temporary protective coating on cast iron and steel valves.
- D. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
- E. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not install underground piping when bedding is wet or frozen.

PART 2 - PRODUCTS

2.1 COMPRESSED AIR, RELIEF, AND DRAIN PIPING

- A. Hard Copper Tube: ASTM B88, Type L tube, drawn temper.
 - 1. Wrought-copper solder-joint fittings: ASME B16.22, wrought-copper pressure fittings with non-lead bearing solder.
 - 2. Bronze Flanges: ASME B16.24, class 150, with solder-joint ends.
 - 3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces, and solder-joint or threaded ends.
 - 4. US Manufactured

2.2 OIL WATER SEPERATOR

- 1. Manufacturer
 - A. Poly sep model PSG 7

2.3 PRESSURE RELEIF VALVE

- 1. Manufacturer
 - A. Spence Model 031DDA-150PSI

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Review existing conditions at site.

3.2 PREPARATION

- A. Ream pipe and tube ends. Remove burrs.
- B. Remove scale and dirt, on inside and outside, before assembly.
- C. Prepare piping connections to equipment with flanges or unions.

3.3 INSTALLATION

- A. Install in accordance with Manufacturer's instructions.
- B. Provide non-conducting dielectric connections wherever jointing dissimilar metals.
- C. Route piping in orderly manner and maintain gradient.
- D. Install piping to conserve building space and not interfere with use of space.

- E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- G. Provide clearance for installation of insulation and access to valves and fittings.
- H. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
- J. Prepare pipe, fittings, supports, and accessories not pre-finished, ready for finish painting.
- L.. Test all piping per 2019 California Plumbing Code Requirements and district standards.
- K. Provide 22 ga. sheet metal flashing and make water-tight any roof penetrations.

END OF SECTION 22 0510

SECTION 22 0523 - GENERAL-DUTY VALVES FOR PLUMBING PIPING

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. Natural gas shut off valve.
- B. Related Sections:
 - 1. Division 22 plumbing piping Sections for specialty valves applicable to those Sections only.
 - 2. Division 22 Section "Identification for Plumbing Piping and Equipment" for valve tags and schedules.
 - 3. Division 22 Section " Supports and Anchors for Plumbing Pipes and Equipment" for pipe and valve anchorage to wall.

1.3 DEFINITIONS

- A. CWP: Cold working pressure.
- B. EPDM: Ethylene propylene copolymer rubber.
- C. NBR: Acrylonitrile-butadiene, Buna-N, or nitrile rubber.
- D. NRS: Nonrising stem.
- E. RS: Rising stem.
- F. SWP: Steam working pressure.

1.4 SUBMITTALS

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

1.5 QUALITY ASSURANCE

- A. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.
- B. ASME Compliance:
 - 1. ASME B16.10 and ASME B16.34 for ferrous valve dimensions and design criteria.
 - 2. ASME B31.1 for power piping valves.
 - 3. ASME B31.9 for building services piping valves.
- C. NSF Compliance: NSF 61 for valve materials for potable-water service.

- A. Prepare valves for shipping as follows:
 - 1. Protect internal parts against rust and corrosion.
 - 2. Protect threads, flange faces, grooves, and weld ends.
 - 3. Set ball and plug valves open to minimize exposure of functional surfaces.
- B. Use the following precautions during storage:
 - 1. Maintain valve end protection.
 - 2. Store valves indoors and maintain at higher than ambient dew point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR VALVES

- A. Refer to valve schedule articles for applications of valves.
- B. Valve Pressure and Temperature Ratings: Not less than indicated and as required for system pressures and temperatures.
- C. Valve Sizes: Same as upstream piping unless otherwise indicated.
- D. Valve-End Connections:
 - 1. Threaded: With threads according to ASME B1.20.1.

2.2 COMPRESSED AIR VALVES

- A. Manufacturer:
 - 1. Manufacturers: subject to compliance with requirements, provide products by the following:
 - a. NIBCO – Sizes through 2“.
 - b. APOLLO
 - b. Full port ball valve with soldered ends.
 - 2. Rated for compressed air 150 PSI.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.
- B. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations.
- C. Do not attempt to repair defective valves; replace with new valves.

3.2 VALVE INSTALLATION

- A. Install valves with unions or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.
- B. Locate valves for easy access and provide separate support where necessary.
- C. Install valves in horizontal piping with stem at or above center of pipe.
- D. Install valves in position to allow full stem movement.
- E. Locate Valves to not interfere with access.

3.3 ADJUSTING

- A. Adjust or replace valve packing after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves if persistent leaking occurs.

END OF SECTION 22 0523

SECTION 22 40 00 - PLUMBING EQUIPMENT**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 the following plumbing fixtures, equipment, and related components:
 - 1. Air Compressor
 - 2. Air Dryer
- B. Related requirements:
 - 1. Division 01 Section "Indoor Air Quality (IAQ) Management".
 - 2. Division 10 Section "Toilet Compartments".

1.3 SUBMITTALS

- A. Product Data: For each type of plumbing fixture indicated. Include selected fixture and trim, fittings, accessories, appliances, appurtenances, equipment, and supports. Indicate materials and finishes, dimensions, construction details, and flow-control rates.
- B. Operation and Maintenance Data: For plumbing fixtures to include in emergency, operation, and maintenance manuals.
- C. Warranty: Special warranty specified in this Section.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in 2019 CEC, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

PART 2 - PRODUCTS**2.21 AIR COMPRESSOR**

- A. Manufacturer
 - 1. Ingersoll Rand Model R7.5i-x115.
- B. 80 gallon receiver. 36.7 CFM @ 115 PSIG, automatic condensate drain system (110V), oil water separator, vertically stacked components, 3 in 1 heat exchanger, Integral controller, 10 HP TEFC motor, continuous duty, rotary screw compressor, integral air dryer.

2.22 Air Dryer

- A. Integral to air compressor.

PART 3 EXECUTION

PLUMBING EQUIPMENT

April 23, 2020

2.1 INSTALLATION

- A. Provide separate air compressor and air dryer drain piping to floor sink.
- B. Install per manufacturer's installation instructions.

2.2 CONNECTIONS

- A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Ground equipment according to Division 26 Section.
- C. Connect wiring according to Division 26.

END OF SECTION 22 40 00

SECTION 233113 DUCTWORK**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Single-wall ducting

1.3 SUBMITTALS

- A. Product Data: For each type of the following products:
 - 1. Ductwork materials.

1.4 QUALITY ASSURANCE

- A. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1-2016, Section 5 - "Systems and Equipment" and Section 7 - "Construction and System Start-Up."
- B. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1-2016, Section 6.4.4 - "HVAC System Construction and Insulation."

PART 2 - PRODUCTS**2.1 A. Manufacturer**

- 1. Casco Flex Ducting

2.2 Rigid Sheet Metal for Plenums and final connection to fan

- 1. 22 ga galvanized sheet metal per SMACNA Duct Construction Manual

PART 3 - EXECUTION**3.1 DUCT INSTALLATION**

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of duct system.
- B. Install ducts according to SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated.
- C. Install ducts with fewest possible joints.

- D. Install factory fittings for changes in direction.
- E. Protect duct interiors from moisture, construction debris and dust, and other foreign materials.

3.2 HANGER AND SUPPORT INSTALLATION

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 4, "Hangers and Supports."

END OF SECTION 233113

SECTION 23 34 16 - CENTRIFUGAL HVAC FANS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Exhaust Fan .

1.2 REFERENCES

- A. AFBMA 9 - Load Ratings and Fatigue Life for Ball Bearings.
- B. AFBMA 11 - Load Ratings and Fatigue Life for Roller Bearings.
- C. AMCA 99 - Standards Handbook.
- D. AMCA 210 - Laboratory Methods of Testing Fans for Rating Purposes
- E. AMCA 300 - Test Code for Sound Rating Air Moving Devices.
- F. AMCA 301 - Method of Calculating Fan Sound Ratings from Laboratory Test Data.
- G. NEMA MG1 - Motors and Generators.
- H. NFPA 70 - National Electrical Code.
- I. SMACNA - HVAC Duct Construction Standards - Metal and Flexible.

1.4 SUBMITTALS

- A. Product Data: Provide data on centrifugal fans and accessories including fan curves with specified operating point clearly plotted, sound power levels for both fan inlet and outlet at rated capacity, and electrical characteristics and connection requirements.
- B. Manufacturer's Installation Instructions.

1.5 OPERATION AND MAINTENANCE DATA

- A. Maintenance Data: Include instructions for lubrication, motor and drive replacement, spare parts list, and wiring diagrams.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Division 1.
- B. Protect motors, shafts, and bearings from weather and construction dust.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Do not operate fans for any purpose until ductwork is clean, filters in place, bearings lubricated, and fan has been test run under observation.

1.8 EXTRA MATERIALS

- A. Furnish under provisions of Division 1.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. See equipment schedule on plans.

2.2 GENERAL

- A. Performance Ratings: Conform to AMCA 210 and bear the AMCA Certified Rating Seal.
- B. Sound Ratings: AMCA 301, tested to AMCA 300, and bear AMCA Certified Sound Rating Seal.
- C. Fabrication: Conform to AMCA 99.
- D. Performance Base: Sea level conditions.
- E. Temperature Limit: Maximum 600 degrees F (315 degrees C).
- F. Static and Dynamic Balance: Eliminate vibration or noise transmission to occupied areas.

2.3 FANS

- A. Manufacturer
 - 1. Greenheck
 - 2. Cook

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install in accordance with Manufacturer's instructions.
- B. Install flexible connections specified in Section 233300 between fan inlet and discharge ductwork. Ensure metal bands of connectors are parallel with minimum one inch (25 mm) flex between ductwork and fan while running.

END OF SECTION 23 34 16

SECTION 233713 DIFFUSERS, REGISTERS, GRILLES, AND LOUVERS**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY**A. Section Includes:**

- 1. Penthouses.
- 2. Transfer Grille.

B. Related Sections:

- 1. Division 23 Section "Air Duct Accessories" for volume-control dampers not integral to diffusers, registers, and grilles.

1.3 SUBMITTALS**A. Product Data:** For each type of product indicated, include the following:

- 1. Data Sheet: Indicate materials of construction, finish, and mounting details; and performance data including throw and drop, static-pressure drop, and noise ratings.
- 2. Custom Kynar color to match roof.

PART 2 - PRODUCTS – SEE SCHEDULE ON PLANS**PART 3 - EXECUTION****3.1 EXAMINATION**

- A. Examine areas where diffusers, registers, and grilles are to be installed for compliance with requirements for installation tolerances and other conditions affecting performance of equipment.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install diffusers, registers, and grilles level and plumb. Provide four support wires at grille in ceiling grid.
- B. Secure penthouse to structure.

END OF SECTION 233713

SECTION 26 0000 – GENERAL PROVISIONS

PART 1 - GENERAL

- A. The general contract provisions apply to this section and take precedent over this section in case of conflict.

1.1 GENERAL PROVISIONS

- A. This division supplements the applicable requirements of other divisions.

1.2 DEFINITIONS

- A. For the purposes of Division 26000, the following definitions apply:
 - 1. Provide: Furnish and install.
 - 2. Indicated: As shown on the drawings or specified herein.
 - 3. Circuit Designation: Panel designation and circuit number, i.e., LA-13.
 - 4. Approved equal: Approved by the engineer of record as equal in his sole determination.

1.3 SCOPE OF WORK

- A. The Specifications for Work of Division 26000 include, but are not limited to the following sections:

- 26 0000–General Provisions
- 26 0030–Tests and Identification
- 26 0050–Basic Electrical Materials and Methods
- 26 0060–Minor Electrical Demolition for Remodeling
- 26 0111–Conduits
- 26 0120–Conductors
- 26 0130–Electrical Boxes
- 26 0140–Wiring Devices
- 26 0142–Nameplates and Warning Signs
- 26 0190–Support Devices
- 26 2501–Low-Voltage Busways

- B. Work Included: All labor, materials, appliances, tools, equipment, facilities, transportation and services necessary for and incidental to performing all operations in connection with furnishing, delivery and installation of the work of this division, complete, as shown on the drawings and/or specified herein. Work includes, but is not necessarily limited to the following:

- 1. Examine all divisions for related work required to be included as work under this division.
- 2. General provisions for electrical work.

3. Site observation including existing conditions
- C. Related Work Specified Elsewhere but included in the scope of work:
 1. Surveying
 2. Sitework
- D. Work Not In Contract (N.I.C.):
 1. Telephone instruments.
- E. Coordination
 1. The following supplements are additional General Requirements pertaining to work of this Division. Provisions of Division 1 - General Requirements shall remain in effect.
 - a. Coordinate work of various sections of contract specifications.

1.4 REFERENCE STANDARDS

- A. American National Standards Institute (ANSI).
- B. Association of Edison Illuminating Companies (AEIC).
- C. Electrical Testing Laboratories (ETL).
- D. Illuminating Engineering Society (IES).
- E. Institute of Electrical and Electronic Engineers (IEEE).
- F. Insulated Cable Engineers Association (ICEA).
- G. National Electrical Manufacturers Association (NEMA).
- H. National Fire Protection Association (NFPA).
- I. Underwriters Laboratories, Inc. (UL).
- J. California State Fire Marshal (CSFM).
- K. California Energy Commission (CEC) Title 24.

1.5 QUALITY ASSURANCE

- A. Regulations: All the electrical equipment and materials, including their installations, shall conform to the following applicable latest codes and standards:

1. California Electric Code, Latest Adopted Edition (CEC), 2019 unless a more current version has been adopted.
 2. Local and State Fire Marshal.
 3. Occupational Safety and Health Act (OSHA).
 4. Requirements of the Serving Utility Company.
 5. Local Codes and Ordinances.
 6. Requirements of the Office of the California State Architect (OSA).
 7. California Administrative Code, Title 8, Chapter 4, Industrial Safety Orders.
 8. California Administrative Code, Title 24.
 9. DSA Codes and Regulations.
- B. Variances: In instances where two or more codes are at variance, the most restrictive requirement shall apply. In instances where plans and specifications are at variance or conflict the most restrictive requirement shall apply. Contractor shall be responsible for all his associated work and materials and also the work and materials of related or affected trades.
- C. Contractor's Expense: Obtain and pay for all required bonds, insurance, licenses, and pay for all taxes, fees and utility charges required for the electrical work.
- D. Testing and Adjustment:
1. Perform all necessary tests required to ascertain that the electrical system has been properly installed, that the power supply to each item of equipment is correct, and that the system is free of grounds, ground faults, and open circuits, that all motors are rotating in the proper directions, and such other tests and adjustments as may be required for the proper completion and operation of the electrical system. Contractor shall provide a copy of all test reports to prove these tests have been performed.
 2. If, during the course of testing, it is found that system imbalance is in excess of 20%, rearrange single-pole branch circuit in lighting and receptacle panels to bring system balance to within 20% on all phases. Record all such changes on the typewritten panelboard schedule and submit a summary of changes to the Engineer on the record drawings.

1.6 SUBMITTALS

- A. Procedure: In accord with the Submittal Section.
- B. Shop drawings: Detailed shop drawings for the following equipment:
1. Lighting Control equipment
 2. Panelboards
 3. Pull boxes
- C. Product data: Detailed manufacturer's data for:
1. Conductors.

2. Cables.
3. Conduits
4. Circuit Breakers
5. Panelboards
6. Pull boxes
7. Light Fixtures, poles

D. Test results for the following:

1. Grounding systems.
2. Conductors

E. Include sufficient information to indicate complete compliance with Contract Documents. Include illustrations, catalog cuts, installation instructions, drawings, and certifications. On each sheet show manufacturer's name or trademark.

F. Operating, maintenance, and instruction data for:

1. None.

G. Instruction materials:

1. Provide at the time of personnel instruction period three bound copies of instruction manuals for the systems as listed in Subparagraph 1.04.A.4.f.
2. Include the following (minimum) information in each copy of instruction manual:
 - a. Manufacturers' names and addresses including phone numbers.
 - b. Serial numbers of items furnished.
 - c. Catalog cuts, exploded views and brochures, complete with technical and performance data for all equipment, marked to indicate actual items furnished and intended use.
 - d. Recommended spare parts.

1.7 OWNER'S PERSONNEL INSTRUCTIONS

- A. Prior to completion of the contract, and at the Owner's convenience, instruct verbally and demonstrate to the Owner's personnel, the operation of the systems as listed under operating, maintenance, and instructional data for lighting control.

1.8 CLEANING

- A. Clean exterior surfaces and interiors of equipment and remove all dirt, cement, plaster and other debris. Protect interior of equipment from dirt during construction and clean thoroughly before energizing.

- B. Clean out cracks, corners and surfaces on equipment to be painted. Remove grease and oil spots so that paint may be applied without further preparation.
- 1.9 PROJECT RECORD DOCUMENTS - Prepare the following and submit to the engineer before final acceptance:
- A. Mark Project Record Documents daily to indicate all changes made in the field.
 - 1. In addition to general requirements of Project Record Drawings, indicate on drawings, changes of equipment locations and ratings, trip sizes, and settings on circuit breakers, alterations in raceway runs and sizes, changes in wire sizes, circuit designations, installation details, one-line diagrams, control diagrams and schedules.
 - B. Use green to indicate deletions and red to indicate additions.
 - 1. Use the same symbols and follow the same drafting procedures used on the Contract Drawings.
 - C. Locate dimensionally off of contract drawings all underground conduit stubbed-out for future use, underground feeder conduits, and feeder pull box locations using building lines by indicating on the Project Record Drawings.
 - D. At the completion of underground conduit installation provide underground conduit record documents to owner's representative in ACAD 2020.
 - E. Two copies, in binder form, of all test results as required by these specifications.
 - F. Two copies of local and/or state code enforcing authorities final inspection certificates.
 - G. Two copies, in binder form, of electrical equipment cut sheets, manufacturer's installation instructions, warranty certificates, and product literature for all products utilized on project.
- 1.10 SERVICE INTERRUPTIONS AND UTILITY
- A. Coordinate with the Owner the interruption of services necessary to accomplish the work.
 - B. Electrical contractor shall supply temporary power for all trades.
- 1.11 MINIMUM SPECIFICATION REQUIREMENTS (ALL WORK OF DIVISION 260000)
- A. As a minimum Specification requirement, all materials and methods shall comply with applicable governing codes.
- 1.12 PENETRATION SEALING

- A. Seal penetration through exterior walls and fire rated walls, floors, ceilings, and roofs with 3M Firestopping materials of fire rating capacity rated per CBC, UBC and prevailing building code requirements.

1.13 PLACING EQUIPMENT IN SERVICE

- A. Do not energize or place electrical equipment in service until all interested parties have been duly notified and are present or have waived their rights to be present. Where equipment to be placed in service involves service or connection from another contractor of the owner, notify the owner in writing when the equipment will be ready for final testing/connection and schedule to the owner's satisfaction of this service connection. Notify the owner two weeks in advance of the date the various items of equipment will be complete.
- B. Contractor shall laser focus all lighting fixtures per lighting design photometric(s) (provided by EOR).
- C. Contractor shall provide programmed "scenes" per owners requirements during final acceptance & training.

1.14 OWNER-FURNISHED ITEMS

- A. NONE

1.15 ELECTRIC ITEM LOCATION

- A. Electrical drawings are generally diagrammatic. Verify equipment sizes with shop drawings and manufacturers' data and coordinate location layout with other trades. Notify owner and engineer of any changes of location requirements prior to installation and obtain engineer's written acceptance for all changes/revisions.

1.16 DEMOLITION

- A. Scope: Provide and perform demolition, preparatory and miscellaneous work as indicated and specified, complete.
- B. Principle Items of Work:
 - 1. Demolition and removal of existing electrical conduit, wiring and equipment required to complete the project.
 - 2. Preparation of the existing site to receive or connect the new work.
 - 3. Miscellaneous demolition, cutting, alteration, and repair work in and around the existing building necessary for the completion of the entire project.
 - 4. Disconnecting and reconnection of electrical equipment as required by the construction modifications.
 - 5. Verify existing conduits to be used for a portion of this installation.

- C. Existing Conditions: Make a detailed survey of the existing conditions pertaining to the work. Check the locations of all existing structures, equipment and wiring (branch circuiting and controls). Provide at bid time any exclusions for existing conditions work.
- D. Salvage and Disposal: All removed material other than items to be reused shall be returned to the owner or disposed of in accordance with instructions from the owner's representative. Disposal shall be done in accordance with EPA and governing body requirements and regulations. Contractor shall pay all fees and charges for disposal.

1.17 ELECTRICAL WORKMANSHIP REQUIREMENTS

- A. It is required that all electrical construction of this Contract be performed by journeyman electricians. All journeyman electricians shall have a minimum of 4 years of apprenticeship training and hold a valid Certificate of Completion from an apprenticeship training course approved by the State of California Department of Industrial Relations, Division of Apprenticeship Standards. This is intended to mean that a person who does not hold a valid Certificate of Completion from an apprenticeship training course approved by the State of California Department of Industrial Relations, Division of Apprenticeship Standards will not be permitted to do electrical work of any kind that involves new construction, nor make repairs, alterations, additions, or changes of any kind to any existing system of electrical wiring, apparatus, equipment, light, heat, or power.
- B. Contractor may employ electrical helpers or apprentices on any job of electrical construction, new or existing, when the work of such helpers or apprentices is performed under direct and constant personal supervision of a journeyman electrician holding a valid Certificate of Completion from an apprenticeship training course approved by the State of California Department of Industrial Relations, Division of Apprenticeship Standards.
 - 1. Each journeyman electrician will be permitted to be responsible for quality of workmanship for a maximum of eight helpers or apprentices during any same time period, provided the nature of work is such that good supervision can be maintained and quality of workmanship achieved is the best, as expected by Owner and as implied by the latest edition of the California Electrical Code (National Electrical Code with State of California amendments).
 - 2. Before each journeyman electrician commences work, deliver to Owner at project site a photocopy of journeyman's valid Certificate of Completion from an apprenticeship training course approved by the State of California Department of Industrial Relations, Division of Apprenticeship Standards.
- C. All electrical systems shall be installed in a neat and workmanlike manner per National Electrical Code requirements and ANSI approved NEIS National Electrical Installation Standards.

1.18 DESIGN CHANGES AFTER AWARD OF BID

- A. When a change in the quantity or size of conductors is made, the conduit size will

remain in accordance with that indicated in the original contract drawings rather than the drawing symbol conduit table. When code permits, provide conductor insulation 'THWN' where required to maintain conduit fill conformance with the National Electrical Code.

1.19 MATERIAL AND EQUIPMENT SUBSTITUTION

- A. Where two or more trade names or manufacturers are mentioned, selection shall be made from the group listed for use in the base bid. The order in which names are listed is not intended to be any indication of preference.
- B. Where a single manufacturer, product or trade name is stated, that manufacturer, product or trade name shall be used in the base bid. The use of other manufacturers, products or trade names will be considered by the engineer of record (unless that product is indicated for no substitution) only if submitted as alternate items at the time of bidding, with evidence of equality and a statement of net price difference as compared to the specified item. After approval by the engineer of record, the architect and owner reserve the right to review such submittals and to determine the acceptability for use.
- C. Equipment other than that specified will be accepted only when written approval is given by the engineer of record and architect, in accordance with Division 1.
- D. The contractor shall be held responsible for all physical changes in piping, equipment, etc. resulting from equipment substitution and likewise bear any increased cost of other trades in making said substitution. Approval by the architect of equipment other than that specified does not relieve this contractor of this responsibility.

1.20 REQUESTS FOR INFORMATION

- A. The contractor shall submit all requests for information (RFI's) typewritten.

1.21 MEASUREMENT AND PAYMENT

- A. Measurement and payment for electrical work/items and miscellaneous removals will be made as the contract lump sum price bid and shall include full compensation for all labor and equipment required to complete the Work. Provide the lump sum price and unit price in the space provided on Bid Sheets.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 26 0030 – TESTS AND IDENTIFICATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Tests and identification.

1.2 SUBMITTALS

- A. In accord with Section 260000.
- B. All test values.

1.3 DEFINITION

- A. Circuit designation: This term is construed to mean panel designation and circuit number; i.e., LA-13.

1.4 TESTS AND ADJUSTMENTS

- A. Prior to energizing, test all systems. Test to ensure systems are:
 - 1. Free from short circuits and grounds.
 - 2. Free from mechanical and electrical defects.
- B. Ground systems:
 - 1. Visual and mechanical inspection: Verify ground system is in compliance with Drawings and Specifications.
 - 2. Electrical tests:
 - a. Perform fall-of-potential test or alternative in accord with IEEE 81 on the main ground electrode or system.
 - b. Perform point-to-point tests to determine resistance between main ground system and all major electrical equipment frames, system neutral, and/or derived neutral points.
 - 3. Test values:
 - a. Resistance between main ground electrode and ground shall be no greater than 10 ohms. Additional rods shall be installed and bonded to grounding system and driven to a depth of 50 ft. or refusal, whichever comes first.
 - b. Investigate point-to-point resistance values which exceed 0.5 ohm.

- c. Record all test values and provide certified copies to Owner.

1.5 LABELING AND IDENTIFICATION

- A. Provide engraved plastic nameplates on all electrical distribution equipment shown on single-line diagram, and on control panels, dimmer panels, terminal cabinets, and separately mounted circuit breakers, disconnects, and starters.
- B. Provide equipment and circuit designation on nameplates with minimum letter and plate sizes as indicated.
- C. Provide engraved plastic nameplates with 1/4 in. minimum height letters indicating:
 1. Circuit designation at branch overcurrent devices in distribution panelboards, switchboards, and motor control centers.
 2. Circuit designation of panel, equipment-controlled or device-controlled on disconnect switches and on circuit breakers, starters, and controls which are individually enclosed.
 3. Voltage rating and circuit designation of all outlets larger than 120V, 20A rating and more than 2 poles.
 4. Designation of control and terminal cabinets including CUTC, as indicated.
 5. Designation of each contactor and relay in control cabinets.
 6. Designate area controlled for each dimmer in dimmer cabinet or rack.
 7. Circuit designation at all ground fault detectors and ground fault test receptacles.
 8. Equipment designation on front of switchboards, distribution panelboards, branch circuit panelboards, and load centers.
- D. Secure nameplates with at least two rivets. Cementing and adhesive installation is not acceptable.
- E. Provide two copies of a typewritten directory for each branch circuit panelboard, showing each circuit and its use. Attach one copy to panelboard door and deliver the other copy to Owner.
- F. Provide caution label on branch circuit panelboards with integral control compartments. Caution label shall be red with white letters reading "CAUTION, EXTERNAL CONTROL VOLTAGE CIRCUIT WITHIN THIS PANEL."
- G. Conductor identification:
 1. Feeders: Identify with the corresponding circuit designation at over-current device and load ends, at all splices, and in pull boxes.
 2. Branch circuits: Identify with corresponding circuit designation at overcurrent device and at all splices.
 3. Control wires: Identify with indicated number and or letter designation at all terminal points and connections, including manufacturer pre-wired control sections and cabinets.

4. Alarm and detection wires: Identify with indicated wire and mnemonics numbers at all connections, terminal points, and coiled conductors within cabinets for future termination by Owner.
5. For identification of conductors, use heat shrinkable white marking sleeves such as Brady Permasleeve with type written identification.

END OF SECTION 26 0030

SECTION 26 0050 – BASIC ELECTRICAL MATERIALS & METHODS

PART 1 - GENERAL

- 1.1 DESCRIPTION: Division 1 applies to this Section. This Section contains general requirements for the Sections in Division 26.
- A. Related Work Not in Division 26: Refer to individual Division 26 Sections.
- 1.2 QUALITY ASSURANCE:
- A. Codes: Entire installation shall comply with requirements of authorities having jurisdiction.
- B. Permits: Contractor shall pay for all permits required by work under this Division.
- C. Inspections: Contractor shall arrange for all inspections and correct non-complying installations.
- 1.3 SUBMITTALS: Refer to Division 1 for procedures.
- A. Material and Equipment: Prior to start of work, 6 copies of a list of all materials and equipment covered by Division 26 shall be submitted for approval. Contractor shall allow ample time for checking and processing and shall assume responsibility for delays incurred due to rejected items. No installation of material concerned shall be made until such written approval has been obtained. Approval of materials and equipment shall in no way obviate compliance with the Contract Documents. Each item proposed shall be referenced to the applicable Section, Page, and Paragraph of Division 26. For each item proposed, give name of manufacturer, trade name, catalog data, and performance data.
- B. Equipment Layout Drawings: Submit "Equipment Layout Drawings" for each equipment room or area containing equipment items furnished under this Division. Layout Drawings shall consist of plan view of room, to scale, showing projected outlines of all equipment, complete with dotted line indication of all required clearances including all those needed for removal or service. Location of all conduit and pull boxes shall be indicated.
- C. Service Manuals: Refer to Submittal Section. Indexed Service Manuals shall be submitted which shall include test reports, service instructions, and renewal parts lists of all equipment.
1. Submission and Information: Service Manuals shall be submitted for approval at least 30 days before final inspection. The following information together with any pertinent data, shall be included in Service Manual:
- a. Renewal part numbers of all replaceable items.
 - b. Manufacturer's cuts and rating data.
 - c. Serial numbers of all principal pieces of equipment.

- d. Supplier's name, address, and phone number.
 - e. Final settings for all breakers, relays, and control devices (See Section 26032).
2. Copies: Four (4) copies of approved Service Manual shall be delivered on or before date required.
- D. Record Drawings: Prepare and submit in accordance with requirements. Contractor shall make notations, neat and legible, daily as the work proceeds. Drawings shall be available for inspection at all times and kept at the job site. All buried conduit and/or indicated future connections outside any building shall be located both by depth and by accurate measurement from a permanently established landmark such as a building or structure.
- E. Seismic Calculation: Refer to Article 3.01 herein.
- F. Spare Parts: Conform to the Submittal Section. Deliver following spare parts to Owner and obtain receipts. Submit at same time as Operating Instructions:
- 1. Spare fuses; 1 set for each combination fuse breaker.
 - 2. Spare pilot light lamps of each type used on project, in quantity of 10%, but not less than 2%.
 - 3. Overload heater elements; 2 sets for each size used on project.
- G. Special Tools: If any part of the equipment furnished under Division 26 requires a special tool for assembly, adjustment, resetting, or maintenance thereof and such tool is not readily available on the commercial tool market, it shall be furnished with the equipment as a standard accessory and delivered to the Owner.
- H. Maintenance Paint: One (1) can of touch-up paint shall be delivered to Owner for each different color factory finish which is to be the final finished surfaces of the product.
- 1.4 DRAWINGS:
- A. Diagrammatic Drawings: For purposes of clarity and legibility, drawings are essentially diagrammatic although size and location of equipment is drawn to scale wherever possible, Contractor shall make use of data in all the Contract Documents and verify information at building site.
- B. Routing of Conduit and Piping: The drawings indicate required size and termination of conduits and raceways. It is not intent to indicate all necessary offsets and it shall be the responsibility under this Division to install conduit in such a manner as to conform to structure, avoid obstructions, preserve headroom, keep openings and passageways clear, and make all equipment requiring inspection, maintenance and repair accessible without extra cost to the Owner.
- C. Coordination with Other Trades: Check with other Divisions of the Specifications so that no interference shall occur and in order that elevations may be established for the work. Installed

work which interferes with the work of other trades shall be removed and rerouted at the discretion of the Architect.

1.5 DAMAGE AND REPAIRS:

- A. Emergency Repairs: Owner reserves the right to make temporary repairs as necessary to keep equipment in operating condition without voiding Contractor's warranty or relieving Contractor of his responsibility during warranty period.
- B. Responsibility for Damage: Contractor shall be responsible for damage to grounds, buildings, or equipment due to work furnished or installed under this Division 26.

1.6 PROTECTION, CARE, AND CLEANING:

- A. Protection: Provide adequate protection for finished parts of materials and equipment against physical damage from any cause during progress of work and until final completion. Sensitive electrical equipment shall not be installed until major construction is completed.
- B. Care: During entire construction, properly cap all lines and equipment to prevent entrance of sand and dirt. Protect equipment against moisture, plaster, cement, paint or work of other trades by covering with polyethylene sheets.
- C. Cleaning: After installation is completed, clean all systems as follows in addition to requirements specified:
 - 1. Field Painted Items: Clean exterior of conduits, raceways, piping and equipment exposed in completed structure; removing all rust, plaster, cement and dirt by wire brushing. Remove grease oil and similar materials by wiping with clean rags and suitable solvents.
 - 2. Factory Finished Items: Remove grease and oil on all factory finished items such as cabinets and controllers, and leave surfaces clean and polished.
- D. Connection: Prior to energizing, check all electrical connection hardware and torque where necessary.

PART 2 - PRODUCTS

- 2.1 PRODUCTS: Products and materials shall be as specified in the pertinent Sections of Division 26.
- 2.2 MATERIALS AND EQUIPMENT: Wherever possible, all materials and equipment used in installation of this work shall be of same manufacturer throughout for each class of material or equipment. Materials shall be new and bear UL label, wherever subject to such approval. Comply with ANSI, IEEE and NEMA standards, where applicable.

PART 3 - EXECUTION

- 3.1 SEISMIC REQUIREMENTS: Electrical equipment for emergency systems shall be braced to withstand the lateral forces that result from earthquakes. Under Work of Division 26, submit seismic calculations stamped and signed by a registered California structural engineer confirming size, number, and location of required anchoring hardware. Electrical equipment vendors shall furnish weights together with dimensions and the center of gravity location for all emergency electrical equipment for this purpose.
- 3.2 GENERAL LATERAL BRACING REQUIREMENTS: As shown on Drawings. Additional bracing requirements shall conform to specific requirements shown on Drawings or in other Sections of Division 26. Anchorages for equipment subject to thermal expansion and movement shall conform to manufacturer's recommendation and intent of general bracing requirements. When general and specific bracing requirements enumerated above are in conflict with referenced standards, the most stringent requirements shall govern.
- 3.3 EXCAVATION AND BACKFILL: Perform all excavation and back fill required to install Work of Division 26, both inside and outside. Perform all excavation and backfilling in accordance with Division 2.
- A. Excavation: Bury conduits outside building to a depth of not less than 24" (or as required by Code) below finish grade, unless noted otherwise.
 - B. Backfilling: Do not backfill until after final inspection and approval of conduit installation by all legally constituted authorities and recording of the buried items on the Record Drawings.
- 3.4 CUTTING AND PATCHING:
- A. Cutting of Existing Structural Work: Holes in existing slabs and concrete walls shall be cored to the minimum size required. The Contractor shall submit Drawings showing dimensioned sizes and locations for all such holes to Architect for approval before cutting. Where required for conduit installation, slabs on grade shall be saw-cut to minimum required width; submit cutting Drawings to the Architect for approval before cutting.
 - B. Patching: Holes or chases shall be patched to match adjacent surfaces.
- 3.5 CONCRETE WORK: Concrete construction required for the Work of Division 26 shall be provided under the Work of Division 26.
- 3.6 PAINTING: Finish painting of electrical equipment will be as specified in Division 9, unless equipment is herein specified to be furnished with factory applied finish coats. Equipment to be field painted shall be furnished with a factory applied prime coat.

- A. Touch-Up: If factory finish on any equipment furnished under Division 26 is damaged in shipment or during construction of building, the equipment shall be refinished by Contractor to satisfaction of Architect.
 - B. Concealed Equipment: 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 asphaltum before installation.
- 3.7 OPERATING INSTRUCTIONS: Contractor to provide services of an experienced Engineer to instruct Owner in operation of entire installation. Instructional period shall be during normal work day hours. This instruction period may be simultaneous with compliance tests.
- 3.8 COMPLIANCE TESTS: Conduct such tests of all portions of installation as may be necessary to ensure full compliance with the Drawings and Specifications. Tests shall be made in the presence of the Owner. Costs of test shall be borne by Contractor and Contractor shall provide all instruments, equipment, labor and materials to complete all the tests. Tests may be required on any item between installation of Work and the end of 1 year warranty period. Should these tests develop any defective materials, poor workmanship or variance with requirements of Specifications, Contractor shall make any changes necessary and remedy any defects at his expense.
- A. All Feeders: Measure and record as follows:
 - 1. 600 volt conductors shall be tested with 500 volt megger to ground on each phase. megger to be on test for one minute before any readings are taken. The minimum values on all feeders shall be 100,000 OHMS.
 - 2. Copies of the certified test readings shall be transmitted to Owner.
- 3.9 SYSTEM ACCEPTANCE:
- A. Final Review: The Contractor shall request a final review prior to system acceptance after:
 - 1. Completion of installation of all systems required under the Contract Documents.
 - 2. Submission and acceptance of operating and maintenance data.
 - 3. Completion of identification program.
 - B. Acceptance: Is contingent on:
 - 1. Completion of final review and correction of all deficiencies.
 - 2. Satisfactory completion of acceptance tests demonstrating compliance with all performance and technical requirements of Contract Documents.
 - 3. Satisfactory completion of training program and submission of manuals and Drawings required by Contract Documents.

- 3.10 PRELIMINARY OPERATION: The Owner reserves the right to operate portions of the electrical system on a preliminary basis without voiding the warranty or relieving the Contractor of his responsibilities.

- 3.11 CLEAN-UP: Conform to the Submittal Section. Upon completion and at other times during progress or Work, when required, remove all surplus materials, rubbish, and debris resulting from Work of Division 26.

END OF SECTION 26 0050

SECTION 26 0060 – MINOR ELECTRICAL DEMOLITION FOR REMODELING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Electrical demolition.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Materials and equipment for patching and extending work: As specified in individual Sections.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify field measurements and circuiting arrangements are as shown on Drawings.
- B. Verify that abandoned wiring and equipment serve only abandoned facilities.
- C. Demolition Drawings are based on casual field observation and existing record documents. Report discrepancies to Owner and Architect/Engineer before disturbing existing installation.
- D. Beginning of demolition means installer accepts existing conditions.

3.2 PREPARATION

- A. Disconnect and make safe all electrical systems in walls, floors, and ceilings scheduled for removal.
- B. Coordinate utility service outages with Owner's representative.
- C. Provide temporary wiring and connections to maintain required existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.
- D. Existing Electrical Service: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Obtain permission from Owner at least 72 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area when outage affects business operation.

- E. Existing Fire Alarm System: Maintain existing system in service until new system is accepted. Disable system only to make switchovers and connections. Notify Owner and local fire service at least 72 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area.
- F. Existing Telephone System: Maintain existing system in service until new system is complete and ready for service and new system is accepted. Disable system only to make switchovers and connections. Notify Owner and Telephone Utility Company at least 72 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area.
- G. Existing Security System: Maintain existing system in service until new system is complete and ready for service and new system is accepted. Disable system only to make switchovers and connections. Obtain permission from the Owner and security company at least 72 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area.

3.3 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

- A. Demolish and extend existing electrical work under provisions of this Section.
- B. Remove, relocate, and extend existing installations to accommodate new construction.
- C. Remove abandoned wiring to source of supply and re-label devices as spares.
- D. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.
- E. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets which are not removed.
- F. Disconnect and remove abandoned panelboards and distribution equipment.
- G. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.
- H. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers, and other accessories.
- I. Disconnect and remove abandoned conduit.
- J. Repair adjacent construction and finishes damaged during demolition and extension work.
- K. Maintain access to existing electrical installations which remain active. Modify installation or provide access panel as appropriate.

- L. Extend existing installations using materials and methods compatible with existing electrical installations, and in compliance with new project specifications.
- M. Modify existing as-built drawings to note changes.

3.4 CLEANING AND REPAIR

- A. Clean and repair existing materials and equipment which remain or are to be reused.
- B. Panelboards: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide typed circuit directory showing revised circuiting arrangement.

3.5 INSTALLATION

- A. Install relocated materials and as required by this section and Owner's representative.

END OF SECTION 26 0060

SECTION 26 0111 – CONDUITS**PART 1 - GENERAL**

- A. The general provisions apply to this section.

1.1 WORK INCLUDED

- A. Conduits; including:
 - 1. Rigid steel conduit.
 - 2. Intermediate metal conduit (IMC).
 - 3. Electrical metallic tubing (EMT).
 - 4. NOT USED
 - 5. Polyvinyl chloride conduit (PVC).
 - 6. Flexible metal conduit.
 - 7. Liquid-tight flexible metal conduit.

1.2 DEFINITION

- A. Conduit: This term shall be construed to mean conduit and conduit fittings; and tubing and tubing fittings.
- B. Amphitheater coordination: Section 013150 for theatrical & AV systems.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Support material: Section 260190.

PART 2 - PRODUCTS**2.1 MATERIAL AND FABRICATION - ALL MATERIALS SHALL BE MANUFACTURED IN THE USA.**

- A. Rigid Steel Conduit: Hot-dipped galvanized or sherardized including the threads, manufactured in accordance with ANSI C80.1 and UL6.
 - 1. Threaded, hot-dipped galvanized or sherardized fittings manufactured in accordance with ANSI C80.4.
- B. Intermediate Metal Conduit: Hot-dipped galvanized including the threads, manufactured in accordance with UL 1242.
- C. Electrical Metallic Tubing: Manufactured in accordance with ANSI C80.3 and UL 797.

1. Provide compression fittings in walls, ceiling spaces or exposed construction areas.
 2. Provide compression (water tight) fittings in damp areas or areas exposed to weather.
- D. NOT USED
- E. Polyvinyl Chloride Conduit: Schedule 40 and Schedule 80, manufactured in accordance with ANSI C33.91, UL 651, and Nema TC-2.
1. Cemented type fittings of the same manufacturer as the conduit.
- F. Polyvinyl Chloride Conduit: Type EB, heavy wall, manufactured in accordance with ANSI C33.91, UL651, and Nema TC-8.
- G. Cemented fittings of the same manufacturer as the conduit.
- H. Flexible Metal Conduit: Hot-dipped galvanized steel, manufacturer in accordance with UL 1.
1. Squeeze type, malleable iron, cadmium plated, straight and angle connectors for all sizes and twist-in connectors for 1/2-inch and 3/4-inch flexible metal conduit.
- I. Liquid-Tight Flexible Conduit: Hot-dipped galvanized with liquid-tight vinyl jacket.
1. Liquid-tight fittings.

PART 3 - EXECUTION

3.1 USE

- A. EMT is not allowed on this project.
- B. Rigid steel, IMC, or rigid aluminum conduit in areas where exposed conduit could be subject to physical damage or where conduit is exposed and conductor phase to ground voltage exceeds 300 volts.
- C. Rigid aluminum conduit is not allowed on this project.
- D. PVC Conduit:
1. Schedule 40 or 80 for runs below grade in direct contact with earth.
 2. Schedule 40 or 80 in concrete floors, walls or roofs.
 3. Schedule 80 for all sweeps.
- E. All exterior risers shall be PVC coated RGS with bushings.
- F. In concrete or below grade use conduit not smaller than 1 inch. Maximum size in concrete slab: 1 inch. Run larger sizes under slab.

- G. Use long sweep elbows with minimum radius 10 times nominal conduit diameter.

3.2 INSTALLATION

- A. Provide conduit support and bracing in accordance with the latest published SMACNA guidelines.
- B. Perform excavating, trenching, backfilling, and compacting as specified in Division 2.
- C. Minimum cover for runs below finished grade outside buildings: 24 inches except where noted or required by the serving utility. Minimum cover for conduit in concrete floors, walls or roof: 1/3 thickness of slab. Minimum cover under building slabs is 12-inches.
- D. Minimum separation from uninsulated hot water pipes, steam pipes, heater flues or vents: 6 inches.
- E. Avoid running conduit directly under water lines.
- F. Protect inside of conduit from dirt and rubbish during construction by capping all openings with plastic caps intended for the purpose.
- G. Provide conduit bodies for exposed conduit runs at junctions, bends or offsets where required. Do not use elbows or bends around outside corners of beams, walls or equipment. Make conduit body covers accessible.
- H. Make conduit field cuts square with saw and ream out to full size. Shoulder conduits in couplings.
- J. Make conduit projections from covered areas to areas exposed to the weather watertight by proper flashing. Extend flashing a minimum of 6 inches in all directions from conduit.
- K. Where conduit is to remain empty, install polypropylene or nylon pull-line 3/16" minimum diameter from end to end with tag at each end designating opposite terminations.
- L. Run conduit parallel and at right angle to building lines, when visible in finished construction.
- M. Cap conduits indicated to be stubbed-out underground using glued-on PVC caps intended for this purpose.
- N. Install a coupling flush with the floor on all conduits stubbed up through floors on grade.
- O. Make no bends with a radius less than 12 times the diameter of the cable it contains nor more than 90 degrees. Make field bends with tools designed for conduit bending. Heating of metallic conduit to facilitate bending is not permitted.
- P. Where conduit installed in concrete or masonry extends across building construction joints, provide expansion fittings as manufactured by O.Z.; Crouse-Hinds; Appleton; or equal, with approved ground straps and clamps.
- Q. Concrete Wall or Slab Penetrations: All core drilling, sleeves, blockouts or other penetrations must be approved by the Structural Engineer prior to installation.

1. Space sleeves and core drills to insure a minimum dimension of 3 times the nominal trade diameter of the largest adjacent conduit between sleeves or core drills.
 2. Use blockouts for concentrations of conduits in a confined area.
- R. Do not penetrate walls with flexible conduit where subject to physical damage. Use recessed box with extension ring for transition from interior to exterior of wall.
- S. All homeruns shown shall be run to the panel indicated independently of all other homeruns. Provide pull points so as not to exceed total bends of 360 degrees between them unless otherwise indicated.
- T. At switchboards, manholes and floor standing distribution panelboards, provide insulated throat bushings or bell ends on all non-metallic conduit entries and bushings on all metallic conduit entries.
- U. Provide bushings on all conduit terminations sized 1" and larger.
- V. Provide weatherproof boxes and connectors for all exposed parking structure raceways and boxes.
- W. Provide bell ends on all conduits into pullboxes and manholes, seal all conduits after conductors are pulled.
- X. Cap all unused conduits with end cap. Do not tape.
- Y. Provide conduit racking for all trench conduit systems.
- Z. Provide 2 sack concrete slurry mix for all trench backfill.
- AA. Provide minimum of 9" of asphalt in cut asphalt areas and "tack" all "cut" areas.
- BB. Provide all low voltage cable (fire alarm, AV, Control, ETC.) in conduit, unless plenum rated cabling is used for communications or non-plenum (where applicable) com cable on j-hooks.

END OF SECTION 26 0111

SECTION 26 0120 – CONDUCTORS**PART 1 - GENERAL****1.1 WORK INCLUDED**

- A. Conductors; for power, lighting, sound, communication and control, including conductors for general wiring, flexible cords and cables, and ground conductors.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Submittals: Section 260000.

PART 2 - PRODUCTS**2.1 MATERIAL AND FABRICATION**

- A. Conductors for General Wiring: Thermoplastic insulated rated for 600V manufactured in accordance with UL 83.
 - 1. Provide 3/4 hard drawn copper conductors. Provide solid conductor for #12 AWG and smaller. Provide stranded conductors for #10 AWG and larger.
- B. Conductor Connectors for General Wiring:
 - 1. Sizes No. 14 to No. 8: Splice with insulated spring wire connectors.
 - a. Ideal No. 451, 455 and 453.
 - b. Minnesota Mining: Types Y, R, G, and B.
 - c. Buchanan No. B1, B2 and B4.
 - 2. Size No. 6 or Larger, Copper: Splice and terminate with compression or pressure type connectors and terminal lugs.
- C. Provide connector sealing packs for all area lighting and exterior box splices which require complete protection from dampness and water.
 - 1. Scotchlok No.'s 3576, 3577 and 3578, by 3M Company.

PART 3 - EXECUTION**3.1 USE**

- A. Conductors for General Wiring:
 - 1. Minimum 90 degrees C temperature rated insulation on conductors, except use minimum 90 degrees C temperature rated insulation on conductors in conduits exposed on roof, or where required due to ambient temperature.
 - 2. Stranded conductors at motors, audio video and other applications where subject to vibration.
 - 3. Minimum size conductors for power and lighting #12 AWG, except where noted.
 - 4. Minimum size conductors for control circuits #14 AWG stranded with THHN/THWN insulation.
- B. Use flexible cords and cables for connection of special equipment as indicated. Length not to exceed 72 inches.
- C. Ground Conductors:
 - 1. Provide an insulated green ground conductor for all branch circuit wiring where indicated.
 - 2. Bare copper conductor may be used.
 - a. Install ground conductors in all non-metallic conduits as required by code. Install ground conductors in all motor branch circuits and all feeders. Where ground conductor size is not indicated, provide size as required for an equipment ground conductor by the National Electrical Code.
 - b. Install ground conductors in all flexible metal conduits.
- D. Install XHHW – 2, 90°C copper conductors for all underground installations unless noted otherwise on the plans.
- E. Install for all dimmers, stranded THHN/THWN – 2 copper 90°C conductors with dedicated neutrals.

3.2 INSPECTION

- A. Check conduit system for damage and loose connections, replace damaged sections.
- B. Check for caps at conduit openings. Make sure that inside of conduit is free of dirt and moisture.
- C. Pull mandrel, one size smaller than the conduit, through entire length of all underground conduits prior to conductor installation.

3.3 INSTALLATION

- A. Conductors for General Wiring:
 - 1. Color code conductors insulation as follows:

| CONDUCTOR | SYSTEM 208Y/120 | VOLTAGE 480Y/277 |
|-----------|-----------------|------------------|
| Phase A | Black | Brown |
| Phase B | Red | Orange |
| Phase C | Blue | Yellow |

2. For conductors #6 AWG or larger, permanent plastic colored tape may be used to mark conductor in lieu of coded insulation. Tape shall cover not less than 2 inches of conductor insulation within enclosure.
 - a. Provide color tape on each end and at all terminal points and splices on wire enclosed in conduit.
 - b. Provide color tape every 3 feet on wire not enclosed in a listed wireway.
 3. When pulling conductors, do not exceed manufacturer's recommended values.
 4. Use polypropylene or nylon ropes for pulling conductors.
- B. Insulate splices with plastic electrical tape: Scotch No. 33+, Tomic No. 1T, or equal.
- C. Terminate all control wires with terminal lugs on terminal boards not designed with pressure plates. If splices are needed, use same procedure, installing a terminal board in a junction box for protection.
- D. All splices or connections shall be compression type Thomas & Betts or Burndy, no split bolt connections are allowed.

3.4 IDENTIFICATION

- A. Feeders: Identify with the corresponding circuit designation at over-current device and load ends, at all splices and in pull boxes.
- B. Branch Circuits: Identify with the corresponding circuit designation at the over-current device and at all splices and devices.
- C. Control Wires: Identify with the indicated number and/or letter designation at all terminal points and connections.
- D. Alarm and Detection Wires: Identify with the indicated wire and zone numbers at all connections, terminal points, and coiled conductors within cabinets.
- E. Conductors Terminated By Others: Indicate location of opposite end of conductor, i.e., Pull Box-Room 101.
- F. For identification of conductors, use heat shrinkable white marking sleeves such as Brady Permasleeve with type written identification.
- G. Circuit designation is construed to mean panel designation and circuit number, i.e., LA-13.

END OF SECTION 26 0120

SECTION 26 0130 – ELECTRICAL BOXES**PART 1 - GENERAL****1.1 WORK INCLUDED**

- A. Boxes; including:
 - 1. Outlet boxes.
 - 2. Pull and junction boxes.
 - 3. Cabinets.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Submittals: Section 260000.
- B. Support Material: Section 260190.

PART 2 - PRODUCTS**2.1 MATERIAL AND FABRICATION**

- A. Outlet Boxes:
 - 1. Pressed Steel Boxes: Knockout type, hot-dipped or electro-plate galvanized.
 - 2. Cast Iron Boxes: Hot-dipped or electro-plate galvanized with threaded hubs.
 - 3. Cast Iron Conduit Bodies: Hot-dipped or electro-plate galvanized with threaded hubs.
 - 4. Cast copper free aluminum conduit bodies with threaded hubs.
 - 5. Covers for Pressed Steel Boxes: Hot dipped or electro-plate galvanized.
 - 6. Outlet boxes manufactured in accordance with UL 514.
- B. Pull and Junction Boxes:
 - 1. Sheet steel, hot-dipped or electro-plate galvanized, or prime coated and a final coat of manufacturer's standard enamel or lacquer finish. Manufactured in accordance with UL 50.
 - a. Where exposed to weather, provide raintight hubs for conduits entering the boxes, top and sides only.
 - 2. Pre-Cast Concrete Pull Boxes: As manufactured by Jensen Pre-Cast or Utility Vault and shown on drawings.

PART 3 - EXECUTION

3.1 USE

A. Outlet Boxes:

1. FDD cast iron or cast aluminum device boxes and conduit bodies with metal covers for exposed conduit installation. Provide gasket for covers in wet areas.

B. Pull and Junction Boxes:

1. Use sheet steel boxes NEMA Type 1 for indoor and NEMA Type 3R for outdoor installation, except as follows.
2. Use pre-cast concrete boxes for boxes flush in finish grade where requiring a nominal capacity greater than 144 cubic inches, where located in vehicular traffic areas, or where indicated.

3.2 INSTALLATION

A. Provide 3/8" fixture studs in wall bracket and ceiling boxes.

B. Provide covers suitable for the fixtures or devices used.

C. Make outlet box covers flush with finished surfaces.

D. Close unused open knockouts with knockout seals.

E. Provide 1" deep plaster rings on recessed outlet boxes installed in areas where concrete will be exposed after construction is complete.

F. Where boxes are concealed in exposed concrete unit masonry, use square cornered types or boxes fitted with rings of sufficient depth for the box to be recessed completely within cavity of block or tile. Install box to insure that ring fits an opening sawed out of the masonry, so that no mortar is required to fill between ring and construction.

G. Provide a 6" base of compacted crushed rock under pre-cast concrete pull boxes.

H. Adjust floor boxes so they are level with top of finished floors.

I. Provide pull boxes and junction boxes in all branch circuit and feeder runs as indicated. Do not provide pull boxes unless they are indicated or required by the Electrical Code.

3.3 IDENTIFICATION

A. Junction Boxes: Use permanent black marker, 2" high lettering, and on each cover plate indicate the power source and circuits contained within that junction box.

END OF SECTION 26 0130

SECTION 26 0140 – WIRING DEVICES

PART 1 - GENERAL

1.1 SECTION INCLUDES:

- A. Wiring devices.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Identification: Section 260030.
- B. Boxes: Section 260130.

1.3 SUBMITTALS

- A. In accord with Section 260010.

1.4 DEFINITION

- A. Wiring devices: This term includes all wall switches, pushbuttons, receptacles, and plates used for general purpose installation.

PART 2 - PRODUCTS

2.1 MATERIAL AND FABRICATION

- A. Receptacles:
 - 1. Weatherproof, 20A – 120 VAC rated, NEMA 5-20R receptacle with terminal screws to take up to No. 10 AWG conductors:

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Per manufacturers recommendation

END OF SECTION 26 0140

SECTION 26 0142 – NAMEPLATES AND WARNING SIGNS

PART 1 - GENERAL

NOT USED

PART 2 - PRODUCTS

2.1 NAMEPLATES

- A. Nameplate shall be plastic laminate with 3/4" high letters in white on black background screwed onto equipment designations shall clearly state:
1. Equipment Enclosure Nameplates.
 - a. Manufacturer's nameplate including equipment design rating of current, voltage, KVA, HP, bus bracing rating, or as applicable.
 - b. Equipment nameplate designating system usage and purpose, system nominal voltage, equipment rating for KVA, amperes, HP and RPM as applicable. Designation data per drawings or to be supplied with shop drawings approval.
 2. Device nameplates: Device usage, purpose, or circuit number; manufacturer and electrical characteristic ratings including the following:
 - a. Circuit Breakers: Voltage, continuous current, maximum interrupting current and trip current.
 - b. Switches: Voltage, continuous current, horsepower or maximum current switching. If fused, include nameplate stating "Fuses must be replaced with current limiting type of identical characteristics."
 - c. Controllers: Voltage, current, horsepower and trip setting of motor running over current protection.

2.2 WARNING SIGNS

- A. Warning signs shall be minimum 18 gauge steel, white porcelain enamel finish with red lettering. Lettering to read "DANGER - HIGH VOLTAGE" in 1" letters. Warning signs to be included on door or immediately above door of all electrical equipment rooms, vaults or closets containing equipment rooms, vaults or closets containing equipment energized above 150 volts to ground, except where such spaces are accessible from public areas.

2.3 WARNING SIGN DESIGNATION

- A. Warning designation in 1" red letters shall be painted by stencil or pre-printed adhesive on each pull box, cabinet or 1-foot length of exposed conduit stating "DANGER" and giving voltage of enclosed conductors such as "DANGER - 480 VOLTS", for all systems over 150 volts to ground.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Nameplates shall be mounted by self-tapping or threaded screws and bolts or by rivets.
- B. Signs shall be permanently mounted with cadmium plated steel screws or nickel-plated brass bolts.

END OF SECTION 26 0142

SECTION 26 0190 – SUPPORT DEVICES

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Support devices for conduit, boxes, lighting fixtures and equipment.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Hangers, Straps and Beam Clamps:

1. Efcor.
2. Raco, Inc.
3. Steel City.
4. O.Z./Gedney Co.
5. Caddy Fastening System by ERICO Products Inc.

- B. Channels and Fittings:

1. Kindorf.
2. Unistrut Corp.

- C. Anchors:

1. Acherman-Johnson Corp.
2. Phillips Drill Co.
3. Rawl Products Co.

2.2 MATERIAL AND FABRICATION

- A. Hangers: Steel cadmium plated.

- B. Straps: One-hole and two-hole malleable iron, hot-dipped galvanized or steel, cadmium or zinc plated.

- C. Beam Clamps: Malleable iron, hot-dipped galvanized or cadmium plated.

- D. Channels and Fittings:

1. Channels: Hot-dipped galvanized.
2. Fittings: Galvanized.

- E. Anchors: Self drilling and expansion bolt types. No wood or fiber plugs or concrete nails are acceptable.

PART 3 - EXECUTION

3.1 USE

- A. Use one-hole or two-hole straps for single conduit runs on walls or ceilings.
- B. Use hangers with solid steel rods for hanging single conduits.
- C. Use formed channel trapezes for groups of two or more conduits.
- D. To fasten boxes and supports to:
 - 1. Wood: Use wood screws or screw type nails of equal holding power.
 - 2. Brick and Concrete: Use bolts and expansion shields.
 - 3. Hollow Masonry Units: Use toggle bolts.
- E. Support sheet metal boxes from building structure directly or by bar hangers.
- F. Do not penetrate reinforced concrete beams with fastenings more than 1-1/2" or reinforced concrete joints with more than 3/4" fastenings to prevent contact with reinforcing steel.

END OF SECTION 26 0190

SECTION 26 2501 – LOW-VOLTAGE BUSWAYS**PART 1 - GENERAL****1.1 SECTION INCLUDES**

- A. Feeder busway.
- B. Plug-in busway.
- C. Plug-in units for plug-in busway.

1.2 RELATED REQUIREMENTS

- A. Section 26 0190 – Support Devices.

1.3 REFERENCE STANDARDS

- A. IEC 60529 - Degrees of Protection Provided by Enclosures (IP Code); International Electrotechnical Commission; 2001-02.
- B. ISO 9001 - Quality Management Systems-Requirements; International Standards Organization; 2008.
- C. NECA 1 - Standard for Good Workmanship in Electrical Construction; National Electrical Contractors Association; 2010.
- D. NECA 408 - Standard for Installing and Maintaining Busways; National Electrical Contractors Association; 2009.
- E. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2008.
- F. NEMA BU 1.1 - General Instructions for Handling, Installation, Operation, and Maintenance of Busway Rated 600 Volts or Less; National Electrical Manufacturers Association; 2010.
- G. NEMA KS 1 - Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum); National Electrical Manufacturers Association; 2001 (R2006).
- H. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- I. UL 489 - Molded-Case Circuit Breakers, Molded-Case Switches and Circuit Breaker Enclosures; Current Edition, Including All Revisions.

- J. UL 857 - Busways; Current Edition, Including All Revisions.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Coordinate the arrangement of busway with structural members, ductwork, piping, equipment and other potential conflicts installed under other sections or by others. Coordinate the work with other trades to avoid installation of obstructions within busway required clearances.
2. Coordinate arrangement of busway with the dimensions and clearance requirements of the actual equipment to be installed.
3. Coordinate the work with placement of supports, anchors, etc. required for mounting.
4. Verify with manufacturer that conductor terminations are suitable for use with the conductors to be installed.
5. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

- B. Preinstallation Meeting: Convene one week prior to performing field measurements for busway fabrication drawings; require attendance of all affected installers. Review proposed routing, sequence of installation, and protection requirements for installed busway.

C. Utility Interconnection:

1. Not applicable

1.5 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for busway system components and accessories. Include dimensions, weight, materials, fabrication details, finishes, and service condition requirements.

- C. Information on measurements and calculations for resistance, reactance, impedance, and voltage drop are included in NEMA BU1.2, available from IHS Standards Store or as a free electronic download at www.nema.org.

- D. Shop Drawings: Include dimensioned plan views and sections indicating proposed busway routing, required clearances, and locations and details of supports, fittings, building element penetrations, and equipment connections. Indicate voltage and current ratings, short circuit current ratings, configurations, and installed features and accessories.

1. Clearly indicate whether proposed short circuit current ratings are fully rated or, where acceptable, series rated systems.
- E. Field Quality Control Test Reports.
- F. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.
- G. Project Record Documents: Record actual routing of busway.
 1. Include actual installed locations of plug-in units.
- H. Maintenance Data: Include information on replacement parts and recommended maintenance procedures and intervals.
- I. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 1. Provide one set of spare fuses for each size disconnect.
 2. Hook Stick(s) for Plug-In Units: Two with length as required for suitable operation of plug-in unit handle from floor or working platform.

1.6 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.
- C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum five years documented experience.
- D. Edit according to project requirements.
- E. Installer Qualifications: Company with minimum of five years of experience with busway systems of similar size, type, and complexity.
- F. Products:
 1. Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.
 2. Manufactured in a facility certified as complying with ISO 9001.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store busway in accordance with manufacturer's instructions, NECA 408, and NEMA BU1.1.
- B. Store products indoors in a clean, dry space having a uniform temperature to prevent condensation (including outdoor busway, which is not weatherproof until completely and properly installed). Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.
- C. Handle products carefully to avoid damage to internal components, enclosure, and finish.

1.8 FIELD CONDITIONS

- A. Maintain field conditions within required service conditions during and after installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: Schneider Electric; Square D Products [I-Line/I-Line II Busway]: www.schneider-electric.us.

2.2 BUSWAY SYSTEM

- A. Provide new busway system consisting of all required components, fittings, devices, supports, accessories, etc. as necessary for a complete operating system.
- B. Note that NEMA's previous standard for busways, NEMA BU1, is no longer available from NEMA, which instead references UL 857 as equivalent.
- C. Description: Prefabricated sectionalized enclosed bus assemblies and associated fittings and devices; listed and labeled as complying with UL 857.
- D. Busway General Requirements:
 - 1. Busway Type: Totally enclosed, non-ventilated; suitable for installation in any mounting orientation the busway is designed for (e.g. horizontal flatwise, horizontal edgewise, vertical) without derating.
 - 2. Temperature Rise: Not exceeding 55 degrees C, when operating at continuous rated current in an ambient temperature of 104 degrees F (40 degrees C).
 - 3. Bus bars and stabs to be suitably plated at all electrical contact points.
 - 4. Bus bar Insulation: NEMA Class B, rated 266 degrees F (130 degrees C); vendor certified polyester film or epoxy powder coated materials.

5. Housing: Constructed with code gage steel and aluminum to reduce hysteresis and eddy current losses, with suitable protective finish of ANSI 49 gray polyester paint.
6. Joints: Single-bolt type, with high strength steel bolts and conical washers to maintain proper pressure over a large contact surface area:
 - a. Use torque-indicating bolts with visual indication that proper torque has been applied; requires only a standard long handle wrench for proper activation.
 - b. Bolts to be at ground potential to allow adjustment without requiring de-energizing of busway.
 - c. Designed such that tightening of joints only requires access to one side of busway.
 - d. Allows for length adjustment of plus/minus 0.125 inch (3.2 mm).
 - e. For busway rated 800 A and above, joint connection assemblies to be
7. Voltage Drop:
 - a. Voltage drop specified is based on the busway operating at full rated current and at stabilized operating temperature in 86 degrees F (30 degrees C) ambient.
 - b. Do not exceed 3.1 volts per 100 feet (30.48 m) for three phase, line-to-line voltage drop at 40 percent power factor concentrated load.
 - c. Do not exceed 4.0 volts per 100 feet (30.48 m) for line-to-line voltage drop at the load power factor that produces maximum voltage drop in the busway.

E. Service Conditions:

1. Provide busway system and associated components suitable for operation under the following service conditions without derating:
 - a. Altitude: Less than 6,600 feet (2,000 m).
 - b. Ambient Temperature:
 - 1) Busway Lengths and Fittings: Between -22 degrees F (-30 degrees C) and 104 degrees F (40 degrees C).
 - 2) Circuit Breaker Plug-In Units: Between 32 degrees F (0 degrees C) and 104 degrees F (40 degrees C).
 - 3) Fusible Switch Plug-In Units: Between -22 degrees F (-30 degrees C) and 104 degrees F (40 degrees C).

F. Short Circuit Current Rating:

1. Provide busway system and associated components with listed short circuit current rating

2.3 PLUG-IN BUSWAY

A. General Requirements:

1. Provide hinged cover for each plug-in opening.

2. All plug-in openings to be usable simultaneously.
 3. Each phase position of a plug-in opening to be individually insulated.
 4. Plug-in opening and bus bars capable of being inspected prior to the installation of the plug-in unit.
 5. Provide means for mechanical support and alignment of plug-in units.
 6. Protection Rating: Standard NEMA 250 Type 1
 7. Approved for hanger spacing of up to 10 feet (3048 mm) for horizontally mounted runs and up to 16 feet (4877 mm) for vertically mounted runs.
- B. Plug-In Busway I-Line - Basis of Design: Schneider Electric; Square D Products; I-Line/I-Line II Plug-In Busway; www.schneider-electric.us.
1. Voltage: 120/208 V 3PH, 4W
 2. Ampere Rating: 225 A
 3. Configuration:
 - a. 3 phase, 4-wire (100 percent capacity neutral), with 50 percent capacity integral housing ground.
 4. Bus Bar Material:
 - a. Copper or aluminum.
 5. Plug-In Opening Spacing: 24 inches (610 mm) nominal between openings; 10 openings (5 per side) for standard straight lengths of 10 feet (3 m).

2.4 PLUG-IN UNITS FOR PLUG-IN BUSWAY

- A. Fusible Switch Plug-In Units:
1. Description: Quick-make, quick-break enclosed switch complying with NEMA KS 1 where applicable.
 2. Provide hook stick operable handle with means for locking in the OFF position. Handle to always remain in control of the switching mechanism.
 3. Provide safety interlock to prevent opening the cover with the unit in the ON position with capability of overriding interlock for testing purposes.
 4. Provide mechanical interlock for plug-in units up to 250 A to prevent installation or removal with the unit in the ON position.
 5. Horsepower Rating: Suitable for connected load.
 6. Minimum Short Circuit Ratings:
 - a. Switches Protected by Class R Fuses: 100,000 rms symmetrical amperes.
 7. Provide with switch blade contact position that is visible when the cover is open.
 8. Fuse Clips: As required to accept fuses indicated.

- a. Where NEMA Class R fuses are installed, provide rejection feature to prevent installation of fuses other than Class R.
9. Conductor Terminations: Suitable for use with the conductors to be installed.
 10. Provide insulated, groundable 100 percent capacity solid neutral assembly where a neutral connection is required a suitable lug for terminating each neutral conductor.
 11. Provide solidly bonded equipment ground bus with suitable lug for terminating equipment grounding conductor.
 12. Conductor Terminations:
 - a. Provide mechanical lugs for switch ratings less than 200 amperes
 - b. Provide compression lugs for switch ratings 200 amperes and above
 - c. Lug Material: Aluminum, suitable for terminating aluminum or copper conductors

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that field measurements are as shown on drawings.
- B. Verify that the ratings of busway system components are consistent with the indicated requirements.
- C. Verify that mounting surfaces are ready to receive busway and associated supports.
- D. Verify that conditions are satisfactory for installation prior to starting work.

3.2 PREPARATION

- A. Perform insulation resistance testing on individual current-carrying busway system components prior to installation in accordance with NECA 408 and NEMA BU1.1.

3.3 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install busway in accordance with NECA 1 (general workmanship), NECA 408, and NEMA BU1.1.
- C. Unless otherwise indicated, arrange busway to be parallel or perpendicular to building lines.
- D. Arrange busway to provide required clearances and maintenance access.
- E. Install busway plumb and level, with sections aligned and with horizontal runs at the proper elevation.

- F. Unless otherwise indicated, orient horizontal plug-in busway with plug-in openings on sides to permit practical use of all plug-in openings.
- G. Maintain proper phase sequence throughout busway system, accounting for phase transitions where applicable.
- H. Provide suitable expansion fittings where busway is subject to movement, including but not limited to:
 - 1. Where busway crosses structural joints intended for expansion.
 - 2. Long straight busway runs in accordance with manufacturer's instructions.
- I. Provide end closures at unconnected ends of busway runs.
- J. Busway Support:
 - 1. Use manufacturer's recommended hangers and supports, located at intervals complying with NFPA 70 and manufacturer's requirements. Provide required support and attachment components per DSA requirements where not furnished by busway manufacturer.
 - 2. Use suitable spring hangers for vertical riser applications where busway penetrates and is supported by building floors.
 - 3. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
 - 4. Provide sway bracing as indicated or as required to keep busway runs straight and prevent rotation and movement, accounting for unbalanced weight distribution of plug-in units where applicable.
- K. Penetrations:
 - 1. Provide suitable flanges where busway penetrates building elements. Use weatherproof flanges for exterior wall or roof penetrations. Seal roof penetrations as indicated or as required to preserve integrity of roofing system and maintain roof warranty.
- L. Outdoor Feeder Busway: Arrange busway to prevent water infiltration through drain holes from rain or snow. Seal joints in accordance with manufacturers instructions and remove drain hole plugs.
- M. Plug-In Units:
 - 1. Install plug-in units on plug-in busway in accordance with manufacturer's instructions. Provide independent supports where recommended by manufacturer.
 - 2. Provide fuses for fusible switch plug-in units as indicated or as required by equipment manufacturer's recommendations.
 - 3. Unless otherwise indicated, final connections from plug-in units to loads to be provided by Contractor

3.4 FIELD QUALITY CONTROL

- A. Electrically isolate busway system before energizing and perform insulation resistance testing in accordance with NECA 408 and NEMA BU1.1.

3.5 ADJUSTING

- A. Adjust tightness of mechanical and electrical connections to manufacturer's recommended torque settings.
- B. Adjust supports as required to minimize strain on busway and associated components.

3.6 CLEANING

- A. Clean dirt and debris from busway enclosure and components in accordance with manufacturer's instructions. Do not use compressed air or a blower in order to prevent debris infiltration. Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

3.7 CLOSEOUT ACTIVITIES

- A. Training: Train Owner's personnel on operation, adjustment, and maintenance of system.
 - 1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
 - 2. Provide minimum of four hours of training.
 - 3. Instructor: Manufacturer's authorized representative
 - 4. Location: at project site

3.8 PROTECTION

- A. Protect busway system from subsequent construction operations.

END OF SECTION 26 2501