

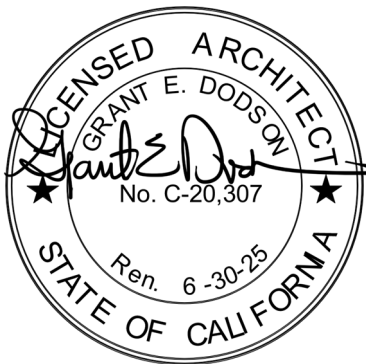
PROJECT MANUAL FOR

MERCED COLLEGE CAREER CENTER EXTERIOR UPGRADES

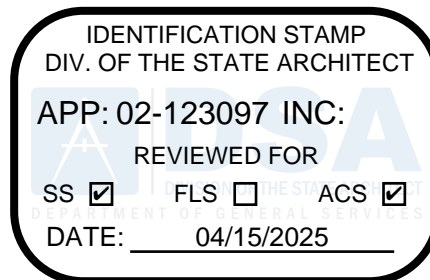
MERCED COMMUNITY COLLEGE
3600 M Street
Merced, California 95348

PREPARED BY:

DARDEN ARCHITECTS, INC.
ARCHITECTURE-PLANNING-INTERIORS
6790 N. WEST AVENUE
FRESNO, CALIFORNIA 93711



Architect's Stamp



END OF SECTION

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PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP

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**MERCED COMMUNITY COLLEGE DISTRICT
 BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES
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NOTICE CALLING FOR BIDS

DISTRICT	MERCED COMMUNITY COLLEGE DISTRICT
PROJECT DESCRIPTION	BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES
PROJECT BUDGET	NA
LATEST TIME/DATE FOR SUBMISSION OF BID PROPOSALS	2:00 P.M. Thursday, May 29, 2025
LOCATION FOR SUBMISSION OF BID PROPOSALS	Merced College, Purchasing Office (Corner University Drive and West Community College Drive) 3600 M Street, Merced, California 95348
LOCATION FOR OBTAINING BID AND CONTRACT DOCUMENTS	https://www.mccd.edu/about-merced-college/divisions/admin-services/purchasing/bids/

NOTICE IS HEREBY GIVEN that the Merced Community College District (District), acting by and through its Board of Trustees, will receive up to, but not later than the above-stated date and time, sealed Bid Proposals for the Contract for the Work generally described as:

BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES

1. Submittal of Bid Proposals. All Bid Proposals must be submitted on forms furnished by the District prior to the last time for submission of Bid Proposals and the District's public opening and reading of Bid Proposals.
2. Bid and Contract Documents. All Bid and Contract Documents are available through Merced College, through the link provided above.
3. Documents Accompanying Bid Proposal. Each Bid Proposal shall be accompanied by: (i) the required Bid Security; (ii) Subcontractors List; (iii) Statement of Qualifications; (iv) Non-Collusion Affidavit; and (v) DIR Registration Verification.
4. Project Budget. The Project Budget for the Work is set forth above. If bidding for the Work includes Alternate Bid Items, the selection of Alternate Bid Items for determination of the lowest priced Bid Proposal will be by priority of Alternate Bid Items, up to but not exceeding the Project Budget. If bidding for the Work does not include Alternate Bid Items, the Project Budget set forth above is for information purposes only.
5. Pre-Bid Inquiries. Bidders may submit pre-bid inquiries or clarification requests. Bidders are solely and exclusively responsible for submitting pre-bid inquiries or clarification requests no later than **2:00 PM SEVEN (7) Calendar days** before the latest date for submittal of Bid Proposals. Pre-bid inquiries or clarification requests shall be submitted to. PurchasingBids@mccd.edu
6. Prevailing Wage Rates. The Contractor and all Subcontractors shall pay not less than the applicable prevailing wage rate for the classification of labor provided by their respective workers to execute the Work. Copies of the prevailing wage rates in the locality where the Work is to be performed, entitled PREVAILING WAGE SCALE are available to any interested party on the INTERNET at http://www.dir.ca.gov/dlsr/statistics_research.html. In addition to compliance with prevailing wage

requirements, the successful Bidder shall comply with all other applicable provisions of the Labor Code, the California Code of Regulations and rulings or determinations of the California Department of Industrial Relations. During the Work and pursuant to Labor Code §1771.4(a)(4), the Department of Industrial Relations shall monitor compliance with prevailing wage rate requirements and enforce the Contractor's prevailing wage rate obligations.

7. Contractors' License Classification. Bidders must possess the following classification(s) of California Contractors License at the time that the Bid Proposal is submitted and at time the Contract for the Work is awarded: **B - General Building**. The Bid Proposal of a Bidder who does not possess a valid and in good standing Contractors' License in the classification(s) set forth above will be rejected for non-responsiveness. Any Bidder not duly and properly licensed is subject to all penalties imposed by law. No payment shall be made for the Work unless and until the Registrar of Contractors verifies to the District that the Bidder awarded the Contract is properly and duly licensed for the Work.
8. Contract Time. Completion of the Work shall be achieved within the time set forth in Contract Documents after the date for commencement of the Work established in the Notice to Proceed issued by the District. Failure to achieve Completion within the Contract Time will result in the assessment of Liquidated Damages as set forth in the Contract.
9. Bid Security. Each Bid Proposal shall be accompanied by Bid Security in an amount equal to TEN PERCENT (10%) of the maximum amount of the Bid Proposal, inclusive of the value of any additive Alternate Bid Item(s). A Bid Proposal not accompanied by Bid Security in the form and in the amount required is non-responsive and will be rejected by the District.
10. Payment Bond; Performance Bond. Prior to commencement of the Work, the Bidder awarded the Contract shall deliver to the District a Payment Bond and a Performance Bond issued by a California Admitted Surety in the form and content included in the Contract Documents in a penal sum equal to One Hundred Percent (100%) of the Contract Price. The Payment Bond and the Performance Bond shall be issued by a California Admitted Surety in the form and content included in the Contract Documents.
11. No Withdrawal of Bid Proposals. Bid Proposals shall not be withdrawn by any Bidder for a period of thirty (30) **days** after the opening of Bid Proposals. During this time, all Bidders shall guarantee prices quoted in their respected Bid Proposals.
12. Return of Executed Agreement. The Bidder awarded the Contract shall execute the Agreement and return the executed Agreement to the District within three (3) **calendar days** from the date of receiving notification that it is the Bidder to whom the Contract has been awarded. If the successful Bidder fails to return the executed Agreement pursuant to the foregoing, 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 Bid Proposal or may call for new bids, in its sole and exclusive discretion.
13. Job-Walk. The District will conduct a **Mandatory Job Walk** on **Wednesday, May 7, 2025**, beginning at **9:00 AM**. Contractors are to meet at Merced College Purchasing Department, for conduct of the Job Walk. If the Job Walk is mandatory, the Bid Proposal submitted by a Bidder whose representative(s) did not attend the entirety of the Mandatory Job Walk will be rejected by the District as being non-responsive. Access to the Job Walk will be available to Bidders for ten (10) minutes after the scheduled start time of the Job Walk; no access to the Job Walk will be permitted thereafter. A Bidder whose representative(s) arrive at the Job Walk location more than ten (10) minutes after the scheduled start of the Job Walk will be denied access and will not be deemed to have attended the Job Walk.

[DISTRICT MAP HYPERLINK](#)
14. Waiver of Irregularities. 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.

15. Award of Contract. The Contract for the Work, if awarded, will be by action of the District's Board of Trustees to the responsible Bidder submitting the lowest priced responsive Bid Proposal. If the Bid Proposal requires Bidders to propose prices for Alternate Bid Items, the District's selection of Alternate Bid Items, if any, for determination of the lowest priced Bid Proposal and for inclusion in the scope of the Contract to be awarded shall be in accordance with the Instructions for Bidders.

Merced Community College District

Advertisement Publications: April 29, 2025 & May 6, 2025

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INSTRUCTIONS FOR BIDDERS

1. Preparation and Submittal of Bid Proposal.
 - 1.1. 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 required in the bid forms; conflicts between a number stated in words and in figures are governed by the words. Partially completed Bid Proposals or Bid Proposals submitted on other than the bid forms included herein are non-responsive and will be rejected. Bid Proposals not conforming to these Instructions for Bidders and the Notice to Contractors Calling for Bids ("Call for Bids") may be deemed non-responsive and rejected.
 - 1.2. 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.
 - 1.3. Date and Time of Bid Proposal Submittal. A Bid Proposal is submitted only if the outer envelope containing the Bid Proposal is marked with the Project title and is received by a District Purchasing Department representative for logging-in at (or before) the latest date and time for submittal of Bid Proposals. The official U.S. time-clock website: <https://www.time.gov/> is controlling and determinative as to the time of the Bidder's submittal of the Bid Proposal. The foregoing notwithstanding, whether or not Bid Proposals are opened exactly at the time fixed in the Call for Bids, no Bid Proposals shall be received or considered by the District after it has commenced the public opening and reading of Bid Proposals; Bid Proposals submitted after such time are non-responsive and will be returned to the Bidder unopened.
2. Bid Security. Each Bid Proposal shall be accompanied by Bid Security in the form of: (i) cash, (ii) a certified or cashier's check made payable to the District or (iii) a Bid Bond, in the form and included with the Contract Documents (the "Bid Security") in at least the amount set forth in the Call for Bids. A Bid Proposal submitted without the required Bid Security is non-responsive and will be rejected. If the Bid Security is in the form of a Bid Bond, the Bidder's Bid Proposal is deemed responsive only if the Bid Bond is in the form and content included herein and the Surety is an Admitted Surety Insurer under Code of Civil Procedure §995.120.
3. Documents Accompanying Bid Proposal; Signatures. The Bid Proposal and all other documents required to be submitted with the Bid Proposal shall be executed by an individual duly authorized to execute the same on behalf of the Bidder; failure of a Bid Proposal to conform to the foregoing will render the Bid Proposal non-responsive and rejected.
4. Bidder and Subcontractors' DIR Registered Contractor Status. Each Bidder must be a DIR Registered Contractor when submitting a Bid Proposal. The Bid Proposal of a Bidder who is not a DIR Registered Contractor when the Bid Proposal is submitted will be rejected for non-responsiveness. All Subcontractors identified in a Bidder's Subcontractors' List must be DIR Registered contractors at the time the Bid Proposal is submitted. The foregoing notwithstanding, a Bid Proposal is not subject to rejection for non-responsiveness for listing Subcontractor the Subcontractors List who is/are not DIR Registered contractor(s) if such Subcontractor(s) complete DIR Registration pursuant to Labor Code §1771.1(c)(1) or (2). Further, a Bid Proposal is not subject to rejection if the Bidder submitting the Bid Proposal lists any Subcontractor(s) who is/are not DIR Registered contractors and such Subcontractor(s) do not become DIR Registered pursuant to Labor Code §1771.1(c)(1) or (2) prior to award of the Contract, the Bidder, if awarded the Contract, must request consent of the District to substitute a DIR Registered Subcontractor for any non-DIR Registered Subcontractor(s) pursuant to Labor Code §1771.1(c)(3) without adjustment of the Contract Price or the Contract Time.
5. Modifications or Withdrawal of Bid Proposal. Changes to the bid forms 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.

After submittal of a Bid Proposal, a Bidder may modify or withdraw its Bid Proposal only by written request actually received by the District prior to the scheduled closing time for the receipt of Bid Proposals and the District's public opening and reading of Bid Proposals; written requests to withdraw or modify a submitted Bid Proposal received by the District after the scheduled closing time for receipt of Bid Proposals shall not be considered by the District, nor effective to withdraw such Bid Proposal.

6. Erasures; Inconsistent or Illegible Bid Proposals. Erasures, interlineations or other corrections to any document submitted with a Bid Proposal shall be suitably authenticated by affixing in the margin immediately opposite such erasure, interlineations 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.
7. Examination of Site and Contract Documents. Each Bidder shall, at its sole cost and expense, inspect the Site and to become fully acquainted with the Contract Documents and conditions affecting the Work. 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, 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 which are not in the form of Bid Addenda duly issued by the District. The submission of a Bid Proposal shall be deemed prima facie evidence of the Bidder's full compliance with the requirements of this section.
8. Agreement and Bonds. The Agreement which the successful Bidder, as Contractor, will be required to execute along with the forms Payment Bond, Performance Bond and other documents and instruments which are required to be furnished are included in the Contract Documents and shall be carefully examined by the Bidder.
9. Interpretation of Drawings, Specifications or Contract Documents. The District will respond to any pre-bid inquiry submitted in accordance with requirements established in the Call for Bids. If in the sole discretion of the District, a response to a pre-bid inquiry affects or potentially affects other Bidders, the Work, the Contract Documents or other requirements, the District will issue addenda. A copy of any such addendum will be delivered by fax, email or mail to each Bidder receiving a set of the Contract Documents. 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.
10. District's Right to Modify Contract Documents. Before the public opening and reading of Bid Proposals, the District may modify the Work, the Contract Documents, or any portion(s) thereof by the issuance of written addenda disseminated to all Bidders who have obtained a copy of the Specifications, Drawings and Contract Documents pursuant to the Call for Bids. If the District issues any addenda during the bidding, the failure of any Bidder to acknowledge such addenda in its Bid Proposal will render the Bid Proposal non-responsive and rejected.
11. Bidders Interested in More Than One Bid Proposal; Non-Collusion Affidavit. No person, firm, corporation or other entity shall submit or be interested in more than one Bid Proposal for the same Work; provided, however, that a person, firm or corporation that has submitted a sub-proposal to a Bidder or who has quoted prices for materials to a Bidder is not disqualified from submitting a sub-proposal, quoting prices to other Bidders or submitting a Bid Proposal for the proposed Work to the District. The form of Non-Collusion Affidavit included in the Contract Documents must be completed

and duly executed on behalf of the Bidder; failure of a Bidder to submit a completed and executed Non-Collusion Affidavit with its Bid Proposal will render the Bid Proposal non-responsive.

12. Award of Contract.

- 12.1. 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.
- 12.2. Award to Lowest Responsive Responsible Bidder. The award of the Contract, if made by the District through action of its Board of Trustees, will be to the responsible Bidder submitting the lowest responsive Bid Proposal on the basis of the Base Bid Proposal and Alternate Bid Items selected in accordance with these Instructions.
- 12.3. Selection of Alternate Bid Items. Additive Alternate Bid Items ("ALT"), if any, will be accepted by the District in the order of priority established by the District, with the highest prioritized ALT being ALT 1. The Contract for the Work will be awarded to the Bidder submitting the lowest priced responsive Bid Proposal for the Base Bid scope and the maximum number of ALTs up to but not exceeding the Project Budget set forth in the Call for Bids. In the following example, Bidder B proposes \$19,000 for the Base Bid plus ALTs 1-3, Bidder A proposes \$20,000 and Bidder C proposes for the Base Bid plus ALTs 1-3. Pricing for the Base Bid and ALT 4 to any Bidder exceeds the Project Budget. Hence: Bidder B submitted the lowest priced proposal for the Base Bid and the maximum number of ALTs within the Project Budget.

Project Budget: \$19,000 (EXAMPLE)							
BID PRICING					BASE BID + ALTS		
	BIDDER A	BIDDER B	BIDDER C		BIDDER A	BIDDER B	BIDDER C
Base Bid	\$5,000	\$5,500	\$4,800		\$5,000	\$5,500	\$4,800
ALT 1	\$8,000	\$7,500	\$7,800		\$13,000	\$13,000	\$12,600
ALT 2	\$1,000	\$1,000	\$1,200		\$14,000	\$14,000	\$13,800
ALT 3	\$6,000	\$5,000	\$7,000		\$20,000	\$19,000	\$20,800
ALT 4	\$150	\$120	\$200		\$20,150	\$19,150	\$21,000

- 12.4. Alternate Bid Items Not Included in Award of Contract. Bidders are referred to the provisions of the Contract Documents permitting the District, during performance of the Work, to add or delete from the scope of the Work any or all of the Alternate Bid Items with the cost or credit of the same being the amount(s) set forth by in the Alternate Bid Items Bid on the Proposal.
- 12.5. Responsive Bid Proposal. A responsive Bid Proposal shall mean a Bid Proposal which conforms, in all material respects, to requirements of the Bid and Contract Documents.
- 12.6. Responsible Bidder. Determination of the responsibility of Bidders is based on the following evaluation criteria.
- 12.6.1. Bidder Capacity. Factors affecting the Bidder's capacity to perform and complete the Work will be assessed, including: (i) Bidder's access to labor, materials and other resources necessary to complete the Work; (ii) Bidder's ability to complete the Work within the time established for completion of the Work, or portions thereof; and (iii) Bidder's ability to complete warranty obligations.
- 12.6.2. Bidder Character, Integrity. Factors reflecting the character and integrity of the Bidder, including: (i) other public agency finding/determination, within the past five (5) years, that the Bidder is not responsible; (ii) currently debarred from bidding public works projects or

debarment from bidding within past five (5) years; and (iii) false claims liability within the past five (5) years under local, state or federal laws.

12.6.3. Bidder Financial Capability. Factors considered include: (i) sufficiency of the Bidder's financial resources; (ii) whether the Bidder is current in payment of debts and performance of other financial obligations; and (iii) bankruptcy or insolvency proceedings have been instituted within the past five (5) years.

12.6.4. Bidder Prior Performance. The Bidder's prior performance on prior public works contracts, including without limitation: (i) cost overruns; (ii) compliance with general conditions and other contractual requirements, including schedule development, schedule updates and coordination of labor, material/equipment procurements and subcontractors; (iii) completion within allocated time; (iv) submittal of unsubstantiated, unsupported or excessive cost proposals, claims or contract adjustment requests; (iv) completion of a project by a surety; (vi) owner's exercise of default remedies; and (vii) finding or determination by any public agency that the Bidder is not a responsible bidder.

12.6.5. Safety. Factors include: (i) findings of serious or willful safety violations of safety laws, regulations or requirements by any local, state or federal agency within the past five (5) years; (ii) adequacy and implementation of safety plans, programs for on-site and off-site construction and construction related activities; and (iii) Workers Compensation Insurance EMR rating exceeding 1.25.

13. Subcontractors.

13.1. 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. The failure of any Bid Proposal to include all information required by the Subcontractors List will result in rejection of the Bid Proposal for non-responsiveness.

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

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

14. 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 execute and deliver to the District the form of Workers Compensation Certification included in the Contract Documents concurrently with such Bidder's delivery of the executed Agreement to the District.

15. Bid Security Return. The Bid Security of the Bidders submitting the three lowest priced Bid Proposals, 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 of such other Bidders will be returned to them.

16. 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 will not be waived by the District or its Board of Trustees. The required California Contractors' License classification(s) for the Work is set forth in the Call for Bids.
17. Non-Discriminatory Practices. It is the policy of the District that there be no discrimination against any prospective or active employee engaged in the Work because of race, color, ancestry, national origin, religious creed, sex, age, marital status or other legally protected classification. All Bidders agree to comply with the District's non-discrimination policy and all applicable Federal and California anti-discrimination laws including but not limited to the California Fair Employment & Housing Act beginning with California Government Code §§ 12940 et seq. and California Labor Code § 1735. In addition, all Bidders agree to require like compliance by any Subcontractor employed by them on the Work of the Contract.
18. Bidder's Qualifications. Each Bidder shall submit with its Bid Proposal the form of Statement of Bidder's Qualifications, which is included within the Contract Documents. All information required by Statement of Bidder's Qualifications shall be completely and fully provided. Any Bid Proposal not accompanied by the Statement of Bidder's Qualifications completed with all information required and bearing the signature of the Bidder's duly authorized representative under penalty of perjury will render the Bid Proposal non-responsive and rejected. If the District determines that any information provided by a Bidder in the Statement of Bidder's Qualifications is false or misleading, or is incomplete so as to be false or misleading, the District may reject the Bid Proposal submitted by such Bidder as being non-responsive.
19. Job-Walk. The District will conduct a Job-Walk at the time(s) and place(s) designated in the Call for Bids. The District may, in its sole and exclusive discretion, elect to conduct one or more Job-Walk(s) in addition to that set forth in the Call for Bids, in which event the District shall notify all Bidders who have theretofore 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-Walk(s), indicate whether Bidders' attendance at such additional Job-Walk(s) is/are mandatory. If attendance at the Job Walk is indicated in the Call for Bids as being mandatory, the failure of any Bidder to have its authorized representative present at the entirety of the Job-Walk will render the Bid Proposal of such Bidder to be non-responsive. 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 render the Bid Proposal of such Bidder to be non-responsive. The District will reject the Bid Proposal of a Bidder who obtains the Bid and Contract Documents after the date of the Mandatory Job-Walks set forth in the Call for Bids unless a Job-Walk is requested by such Bidder and a Job-Walk is conducted by the District in accordance with the following provisions. The District may, in its sole and exclusive discretion, conduct such requested Job-Walk taking into consideration factors such as the time remaining prior to the scheduled opening of Bid Proposals. Any such requested Job Walk will be conducted only upon the requesting Bidder's agreement to reimburse the District for the actual and/or reasonable costs for the District's staff and its agents and representatives in arranging for and conducting such additional Job-Walk.

20. Public Records. Bid Proposals and other documents responding to the Call for Bids become the exclusive property of the District upon submittal to the District. At such time as the District issues the Notice of Intent to award the Contract pursuant to these Instructions for Bidders, all Bid Proposals and other documents submitted in response to the Call for Bids become a matter of public record and shall be thereupon be considered public records, except for information contained in such Bid Proposals deemed to be Trade Secrets (as defined in California Civil Code § 3426.1) and information provided in response to the Statement of Qualifications. 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 other similar notations, may result in, or 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. If the District is required to defend or otherwise respond to any action or proceeding wherein request is made for the disclosure of the contents of any portion of a Bid Proposal deemed exempt from disclosure hereunder, the Bidder submitting the materials sought by such action or proceeding agrees to defend, indemnify and hold harmless the District in any action or proceeding from and against any liability, including without limitation attorneys' fees arising therefrom. The party submitting materials sought by any other party shall be solely responsible for the cost and defense in any action or proceeding seeking to compel disclosure of such materials; the District's sole involvement in any such action shall be that of a stakeholder, retaining the requested materials until otherwise ordered by a court of competent jurisdiction.
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 the Drug Free Workplace Certificate and in California Government Code §§8350 et seq. Failure of the successful Bidder to comply with the measures outlined in the Drug Free Workplace Certificate and in California Government Code §§ 8350 et seq. 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.
22. 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.
23. Bid Protest.
 - 23.1. Submittal of 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 all of the following are complied with: (i) the bid protest is in writing; (ii) the bid protest is filed and received by the District's Vice-President, Administrative Services not more than five (5) calendar days following the date of issuance of the District's Notice of Intent to Award the Contract; and (iii) the written bid protest sets forth, in detail, all grounds for the bid protest, including without limitation all facts, supporting documentation, legal authorities and argument in support of the grounds for the bid protest; any matters not set forth in the written bid protest shall be deemed waived. All factual contentions must be supported by competent, admissible and creditable evidence. Any bid protest not conforming to the foregoing shall be rejected by the District as invalid.

- 23.2. District Review and Disposition of Bid Protest. Provided that a bid protest is filed in strict conformity with the foregoing, the District's Vice-President, Administrative Services or such individual(s) as may be designated by him/her (Designee), shall review and evaluate the basis of the bid protest. The District's Vice-President, Administrative Services or Designee shall provide the Bidder submitting the bid protest with a written statement concurring with or denying the bid protest (Bid Protest Response). The Bid Protest Response is deemed the final action of the District and not subject to appeal or reconsideration by any other employee or officer of the District or the Board of Trustees of the District. The issuance of the Bid Protest Response by the District's Vice-President, Administrative Services or the Designee is an express condition 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. If 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.

[END OF SECTION]

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BID PROPOSAL**Project: BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES**

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

1. Bid Proposal.

1.1 Bid Proposal Amount. The undersigned Bidder proposes and agrees to perform the Contract including, without limitation, providing and furnishing any and all of the labor, materials, tools, equipment and services necessary to perform all obligations under the Contract Documents and to complete the Work required for the sum of _____ Dollars (\$_____).

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

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

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

2. Documents Accompanying Bid Proposal. The Bidder has submitted with this Bid Proposal the following: (i) Bid Security; (ii) Subcontractors List; (iii) Statement of Qualifications; (iv) Non-Collusion Affidavit; and (v) DIR Registration Verification. 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.

3. Award of Contract. Concurrently with delivery of the executed Agreement to the District, the Bidder awarded the Contract shall deliver to the District: (i) Certificates of Insurance evidencing

all insurance coverages required under the Contract Documents; (ii) Performance Bond; (iii) Labor and Material Payment Bond; (ii) Certificate of Workers' Compensation Insurance; and (iv) Drug-Free Workplace Certificate. Failure of the Bidder awarded the Contract to strictly comply with the preceding may result in the District's rescinding award of the Contract and/or forfeiture of the Bidder's Bid Security.

4. Bidder Certifications. The Bidder certifies the following to the District:

4.1 Contractor License. The Bidder certifies that: (i) it possesses a valid and in good standing Contractors' License, in the necessary class(es), for performing the Work as set for in the Call for Bids; (ii) that such license shall be in full force and effect throughout the duration of the performance of the Work; and (ii) that all Subcontractors providing or performing any portion of the Work are properly licensed to perform their respective portions of the Work at the time of submitting this Bid Proposal and at all times during their performance of the Work.

4.2 DIR Registration. The Bidder certifies to the District that the Bidder is a DIR Registered contractor and that during the Work, the Bidder will verify that all subcontractors, of any tier performing any portion of the Work are DIR Registered contractors. All Work will be performed and completed by DIR Registered contractors.

5. Agreement to Bidding Requirements and Attorneys' Fees. The undersigned Bidder acknowledges and confirms its receipt, review and agreement with, the contractual requirements set forth in this Bid Proposal and the Contract Documents. By executing this Bid Proposal hereinbelow, the Bidder expressly acknowledges and agrees that if the Bidder institutes any legal or equitable proceedings in connection with this Bid Proposal and the District is named as a party thereto, the prevailing party(ies) shall recover from the other party(ies), as costs, all attorneys' fees and costs incurred in connection with any such proceeding, including any appeal arising therefrom. This provision shall constitute a binding attorneys' fee agreement in accordance with and pursuant to California Civil Code §1717 which shall be enforceable against the Bidder and the District. This attorneys fee provision shall be solely limited to legal or equitable proceedings arising out of a bid protest or the bidding process and shall not extend to or have any force and effect on the Contract for the Work or to modify the terms of the Contract Documents for the Work.

6. 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.

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

 (Typed or Printed Name)

Title:

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SUBCONTRACTORS LIST

Project ("the Work")	BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES
Bidder Name	_____
Bidder's Representative Signature	_____ (Signature) _____ (Typed or Printed Name)

Licensed Name of Subcontractor	Trade or Portion of Work	Address of Office, Mill or Shop	Subcontractor CSLB License No.	DIR Registration No.

DUPLICATE THIS PAGE AS NECESSARY FOR LISTING ADDITIONAL SUBCONTRACTORS

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

I am the _____ of _____ ("Bidder")
(Title/Position) (Bidder Name)
 submitting the accompanying Bid Proposal for the Work described as:

BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES

1. The Bidder is currently registered as a contractor with the Department of Industrial Relations ("DIR").
2. The Bidder's DIR Registration Number is: _____. The expiration date of the Bidder's DIR Registration is June 30, 20_____.
3. If the expiration date of the Bidder's DIR Registration will occur prior to expiration of the Contract Time for the Work and the Bidder is awarded the Contract for the Work, prior to the Bidder's DIR Registration expiration, the Bidder will take all measures necessary to renew the Bidder's DIR Registration so that there is no lapse in the Bidder's DIR Registration.
4. The Bidder, if awarded the Contract for the Work will remain a DIR registered contractor for the entire duration of the Work.
5. The Bidder has independently verified that each Subcontractor identified in the Subcontractors List is currently a DIR registered contractor.
6. The Bidder's solicitation of subcontractor bids included notice to prospective subcontractors that: (i) all sub-tier subcontractors must be DIR registered contractors at all times during performance of the Work; and (ii) prospective subcontractors may only solicit sub-bids from and contract with lower-tier subcontractors who are DIR registered contractors.
7. If any of the statements herein are false or omit material facts rendering a statement to be false or misleading, the Bidder's Bid Proposal is subject to rejection for non-responsiveness.
8. I have personal first hand-knowledge of all of the foregoing.

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

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

(Signature)

(Name, typed or printed)

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STATEMENT OF QUALIFICATIONS

1. Bidder Information.

1.1. Contact Information

Mailing Address	<div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black;"></div>
Physical Location (if different from mailing address)	<div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black;"></div>
Telephone/Fax	<div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black;"></div>

1.2. Bidder Contacts.

Name	<div style="border-bottom: 1px solid black;"></div>
Contact Information	<div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black;"></div>

1.3. California Contractors' License.

License Number(s)	<div style="border-bottom: 1px solid black;"></div>
License Classification(s)	<div style="border-bottom: 1px solid black;"></div>
Responsible Managing Employee; Responsible Managing Officer	<div style="border-bottom: 1px solid black;"></div>
Expiration Date(s)	<div style="border-bottom: 1px solid black;"></div>

1.4. Bidder Form of Entity.

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Corporation
<input type="checkbox"/> General Partnership
<input type="checkbox"/> Limited Partnership
<input type="checkbox"/> Limited Liability Company | <input type="checkbox"/> Limited Liability Partnership
<input type="checkbox"/> Joint Venture
<input type="checkbox"/> Sole Proprietorship |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|

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2. Revenue. Complete the following for the Applicant's construction operations; if any portion of the revenue disclosed is generated by non-construction operations or activities, the Applicant must identify the portion of revenue attributed to construction operations and generally describe business activities of the Applicant that generates non-construction operations related revenue.

Calendar Year/ Fiscal Year	Annual Gross Revenue	Average Dollar Value of all Contracts	Dollar Value of Largest Contract
Choose an item.			
Choose an item.			
Choose an item.			

3. References.

DSA Project Inspectors			
Firm Name	Address	Telephone No.	Contact Name
Owners (K-12 school districts or community colleges preferred)			
Owner Name	Address	Telephone No.	Contact Name
Architects (K-12 or Community College Projects)			
Architect Firm Name & Architect Firm Contact Name	Address	Telephone No.	Contact Name

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4. Insurance.

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

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5. Essential Requirements. A Bidder will not be deemed qualified if the answer to any of the following questions results in a "not qualified" response and the Bid Proposal submitted by such a Bidder will be rejected for non-responsiveness.
- 5.1. Bidder possesses a valid and currently in good standing California Contractors' license for the Classification(s) of Contractors' License required by the Call for Bids.
☐ Yes ☐ No (Not Qualified)
- 5.2. Bidder is currently a DIR Registered contractor.
☐ Yes ☐ No (Not Qualified)
- 5.3. Bidder has a current commercial general liability insurance policy with coverage limits which are equal to or greater than minimum coverage limits set forth in the Special Conditions.
☐ Yes ☐ No (Not Qualified)
- 5.4. Bidder has a current workers' compensation insurance policy as required by the Labor Code or is legally self-insured pursuant to Labor Code §3700.
☐ Yes ☐ No (Not Qualified)
☐ Bidder is exempt from this requirement, because it has no employees
- 5.5. The Bidder ineligible or debarred from submitting Bid Proposals for public works projects or public works contracts pursuant Labor Code §1777.1 or Labor Code §1777.7.
☐ Yes (Not Qualified) ☐ No
- 5.6. A public agency, within the past five (5) years conducted proceedings that resulted in a finding that the Bidder, or any predecessor to the Bidder, is not a "responsible" bidder for a public works project or a public works contract.
☐ Yes (Not Qualified) ☐ No
- 5.7. During the last five (5) years, the Bidder or any predecessor to the Bidder, or any of the equity owners of the Bidder has been convicted of a federal or state crime involving fraud, theft, or any other act of dishonesty?
☐ Yes (Not Qualified) ☐ No
- 5.8. During the past five (5) years a Surety has completed any project or the Bidder's obligations under a construction contract.
☐ Yes (Not Qualified) ☐ No
- 5.9. During the past five (5) years the Bidder has been declared in default under any construction contract to which the Bidder was a party.
☐ Yes (Not Qualified) ☐ No
- 5.10. The Bidder's Worker's Compensation Insurance average Experience Modification Rating ("EMR") rating over the past five (5) years is more than 1.25.
☐ Yes (Not Qualified) ☐ No
- 5.11. The Bidder's Workers Compensation Insurance EMR for the current policy term is more than 1.25.
☐ Yes (Not Qualified) ☐ No
6. Accuracy and Authority. The undersigned is duly authorized to execute this Statement of Qualifications under penalty of perjury on behalf of the above-identified Bidder. The undersigned warrants and represents that he/she has personal knowledge of each of the responses to this Statement of Qualifications and/or that he/she has conducted all necessary and appropriate inquiries to determine the truth, completeness and accuracy of responses to this Statement of Qualifications. The undersigned declares and certifies that the responses to this Statement of Qualifications are complete and accurate; there are no omissions of material fact or information that render any response to be false or misleading and there are no misstatements of fact in any of the responses. The above-identified Bidder acknowledges and agrees that if the District determines that any response herein is false or

misleading or contains misstatements of fact so as to be false or misleading, the Bidder's Bid Proposal may be rejected by the District for non-responsiveness.

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

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

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

Title: _____
(Typed or Printed Name)

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NON-COLLUSION AFFIDAVIT**STATE OF CALIFORNIA****COUNTY OF _____**

I, _____, being first duly sworn, deposes and says that I am
(Typed or Printed Name)

the _____ of _____, the party submitting
(Title) (Bidder Name)

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

1. The Bid Proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization or corporation.

2. The Bid Proposal is genuine and not collusive or sham.

3. The Bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any other bidder or anyone else to put in sham bid, or to refrain from bidding.

4. The Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price, or that of any other bidder, or to fix any overhead, profit or cost element of the bid price or that of any other bidder, or to secure any advantage against the public body awarding the contract or of anyone interested in the proposed contract.

5. All statements contained in the Bid Proposal and related documents are true.

6. The bidder has not, directly or indirectly, submitted the bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any person, corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

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

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

Signature

Name Printed or Typed

(_____) _____
(Area Code and Telephone Number)

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CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

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

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

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

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

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

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

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

(Contractor Name)

By: _____
(Signature)

(Typed or printed name)

DRUG-FREE WORKPLACE CERTIFICATION

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

(Contractor Name)

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

1. I am aware of the provisions and requirements of California Government Code §§8350 et seq., the Drug Free Workplace Act of 1990.
2. I am authorized to certify, and do certify, on behalf of Contractor that a drug free workplace will be provided by Contractor by doing all of the following:
 - 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:
 - i. The dangers of drug abuse in the workplace;
 - ii. Contractor's policy of maintaining a drug-free workplace;
 - iii. The availability of drug counseling, rehabilitation and employee-assistance programs; and
 - iv. 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.
 - D. Contractor agrees to fulfill and discharge all of Contractor's obligations under the terms and requirements of California Government Code §8355 by, inter alia, publishing a statement notifying employees concerning: (i) the prohibition of any controlled substance in the workplace, (ii) establishing a drug-free awareness program, and (iii) requiring that each employee engaged in the performance of the Work of the Contract be given a copy of the statement required by California Government Code §8355(a) and requiring that the employee agree to abide by the terms of that statement.

3. Contractor and I understand that if the District determines that Contractor has either: (i) made a false certification herein, or (ii) violated this certification by failing to carry out and to implement the requirements of California Government Code §§8355, the Contract awarded herein is subject to termination, suspension of payments, or both. Contractor and I further understand that, should Contractor violate the terms of the Drug-Free Workplace Act of 1990, Contractor may be subject to debarment in accordance with the provisions of California Government Code §§8350, et seq.
4. 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

1. (City and State)

_____, 20____.

(Signature)

(Printed or Typed Name)

AGREEMENT

THIS AGREEMENT is entered into [Click here to enter a date.](#) in the City of Merced, County of Merced, State of California, by and between **MERCED COMMUNITY COLLEGE DISTRICT**, a California Community College District hereinafter "District" and _____ ("Contractor").

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

The Work. Within the Contract Time and for the Contract Price, subject to adjustments thereto pursuant to the Contract Documents, the Contractor shall perform and provide all necessary labor, materials, tools, equipment, utilities, services and transportation to complete in a workmanlike manner all of the Work required in connection with the work of improvement commonly referred to as:

BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES

- 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.
- Contract Time. The Work shall be commenced on the date stated in the District's Notice to Proceed; the Contractor shall achieve Completion of the Work within the Contract Time set forth in the Contract Documents.
- Contract Price. The District shall pay the Contractor as full consideration for the Contractor's full, complete and faithful performance of the Contractor's obligations under the Contract Documents, subject to adjustments of the Contract Price in accordance with the Contract Documents, the Contract Price of _____ **Dollars (\$_____)**. The District's payment of the Contract Price shall be in accordance with the Contract Documents. The Contract Price is based upon the Contractor's Base Bid Proposal and the following Alternate Bid Items, if any: _____.
- Liquidated Damages. If the Contractor fails to achieve Completion of the Work within the Contract Time, including adjustments thereto authorized by the Contract Documents, the Contractor shall be subject to assessment of Liquidated Damages in accordance with the Contract Documents. Failure of the Contractor to complete Punchlist items noted upon Completion within the time established to complete the Punchlist items will result in the District's assessment of Liquidated Damages in accordance with the Contract Documents.
- The Contract Documents. The documents forming a part of the Contract Documents consist of the following, all of which are component parts of the Contract Documents.

Section	Description	Section	Description
00 01 10	Table of Contents	00 61 10	Bid Bond
00 11 13	Notice Calling for Bids	00 61 13	Performance Bond
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6. Authority to Execute. The individual(s) executing this Agreement on behalf of the Contractor is/are duly and fully authorized to execute this Agreement on behalf of Contractor and to bind the Contractor to each and every term, condition and covenant of the Contract Documents.

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

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

District
Merced Community College District

By: _____

Title: _____

Contractor
[Contractor Name]

By: _____

Title: _____

BID BOND

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

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Principal has submitted the accompanying Bid Proposal to the Obligee for the Work commonly described as **BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES**

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

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

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

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

[CONTINUED NEXT PAGE]

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

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

(Bidder/Principal Name)	
By:	_____
	(Signature)

	(Typed or Printed Name)
Title:	_____
(Attach Notary Public Acknowledgement of Principal's Signature)	

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

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

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

(Contact Name)	

(Street Address)	

(City, State & Zip Code)	
(_____) _____	(_____) _____
Telephone	Fax

(Email address)	

PERFORMANCE BOND

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

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Trustees has awarded to the Principal a Contract for the Work described as **BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES**

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

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

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

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

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

[CONTINUED NEXT PAGE]

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

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

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

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

_____ (Contractor-Principal Name)
By: _____ (Signature)
_____ (Typed or Printed Name)
Title: _____
(Attach Notary Public Acknowledgement of Principal's Signature)

_____ (Surety Name)
By: _____ (Signature of Attorney-In-Fact for Surety)
_____ (Typed or Printed Name of Attorney-In-Fact)
(Attach: (i) Attorney-In-Fact Certification; (ii) Notary Public Acknowledgment of Authorizing Signature on Attorney-Fact Certification; and (iii) Notary Public Acknowledgement of Attorney-In-Fact's Signature.)

Contact name, address, telephone number and email address for notices to the Surety	
_____ (Contact Name)	
_____ (Street Address)	
_____ (City, State & Zip Code)	
(_____) _____ Telephone	(_____) _____ Fax
_____ (Email address)	

LABOR AND MATERIAL PAYMENT BOND

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

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Trustees has awarded to the Principal a Contract for the Work described as **BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES**

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

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

NOW THEREFORE, if the Principal shall promptly, fully and faithfully make payment: (i) to any Claimant for all labor, materials or services used or reasonably required for use in the performance of the Work; (ii) of amounts due under the Unemployment Insurance Code for work or labor performed under the Contract; and (iii) of amounts required to be deducted, withheld and paid to the Employment Development Department from wages of the employees of the Principal and its Subcontractors under Section 13020 of the Unemployment Insurance Code with respect to work and labor under the Contract then this obligation shall be void; otherwise, it shall be, and remain, in full force and effect.

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

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

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

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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 agent or representative.

<p>_____</p> <p align="center">(Contractor-Principal Name)</p> <p>By: _____</p> <p align="center">(Signature)</p> <p>_____</p> <p align="center">(Typed or Printed Name)</p> <p>Title: _____</p> <p>(Attach Notary Public Acknowledgement of Principal's Signature)</p>

<p>_____</p> <p align="center">(Surety Name)</p> <p>By: _____</p> <p align="center">(Signature of Attorney-In-Fact for Surety)</p> <p>_____</p> <p align="center">(Typed or Printed Name of Attorney-In-Fact)</p> <p>(Attach: (i) Attorney-In-Fact Certification; (ii) Notary Public Acknowledgment of Authorizing Signature on Attorney-Fact Certification; and (iii) Notary Public Acknowledgement of Attorney-In-Fact's Signature)</p>

<p align="center">Contact name, address, telephone number and email address for notices to the Surety</p> <p>_____</p> <p>(Contact Name)</p> <p>_____</p> <p>(Street Address)</p> <p>_____</p> <p>(City, State & Zip Code)</p> <p>(_____) _____ (_____) _____</p> <p>Telephone Fax</p> <p>_____</p> <p>(Email address)</p>

**VERIFICATION OF CERTIFIED PAYROLL RECORDS SUBMITTAL
TO LABOR COMMISSIONER**

I am the _____ for _____ in
(Superintendent/Project Manager) (Contractor)
connection with **BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES**

1. This Verification is submitted to Merced Community College District concurrently with the Contractor's submittal of an Application for Progress Payment to the District, identified as Application For Progress Payment No. _____ ("the Pay Application").
2. The Pay Application requests the District's disbursement of a Progress Payment for the value of Work performed between _____, 20__ and _____, 20__.
3. The Contractor has submitted Certified Payroll Records ("CPR") to the Labor Commissioner for all employees of the Contractor engaged in performance of Work subject to prevailing wage rate requirements for the period of time covered by the Pay Application.
4. All Subcontractors who are entitled to any portion of payment to be disbursed pursuant to the Pay Application have submitted their CPRs to the Labor Commissioner for all of their employees performing Work subject to prevailing wage rate requirements for the period of time covered by the Pay Application.
5. I have reviewed the Contractor's CPRs submitted to the Labor Commissioner. The CPRs submitted to the Labor Commissioner by the Contractor are complete and accurate for the period of time covered by the Pay Application.
6. I have reviewed the Subcontractors' CPRs submitted to the Labor Commissioner. The CPRs submitted to the Labor Commissioner by the Subcontractors are complete and accurate for the period of time covered by the Pay Application.

I declare under penalty of perjury under California law that the foregoing is true and correct. I executed this Certification on the ____ day of _____, 20__ at _____

(City) and State)

By: _____

(Typed or Printed Name)

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**CONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT
(Civil Code §8132)**

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

Identifying Information

Name of Claimant	
Name of Customer	
Job Location	
Owner	
Through Date	

Conditional Waiver and Release

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

Maker of Check	
Amount of Check	
Check Payable To	

Exceptions

This document does not affect any of the following:

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

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

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**UNCONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT
(Civil Code §8134)**

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

Identifying Information

Name of Claimant	
Name of Customer	
Job Location	
Owner	
Through Date	

Unconditional Waiver and Release

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

Exceptions

This document does not affect any of the following:

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

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

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**CONDITIONAL WAIVER AND RELEASE
ON FINAL PAYMENT
(Civil Code §8136)**

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

Identifying Information

Name of Claimant	
Name of Customer	
Job Location	
Owner	
Through Date	

Conditional Waiver and Release

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

Maker of Check	
Amount of Check	
Check Payable To	

Exceptions

This document does not affect any of the following:

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

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

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**UNCONDITIONAL WAIVER AND RELEASE
ON FINAL PAYMENT
(Civil Code §8138)**

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

Identifying Information

Name of Claimant	
Name of Customer	
Job Location	

Unconditional Waiver and Release

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

Exceptions

This document does not affect the following:

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

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

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Contractor Guarantee**District:** Merced Community College District**Project Name:** BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES**Contractor Name:** _____

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

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

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

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

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

Dated: _____

By: _____
(Signature)_____
(Typewritten or Handwritten Name)_____
(Title)

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CONTRACTOR CERTIFICATION OF SUBCONTRACTOR CLAIM

TO: MERCED COMMUNITY COLLEGE DISTRICT ("DISTRICT")

RE: **BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES (Project)**
 YYYY (Contractor)
 ZZZZ (Subcontractor)
 Subcontractor Claim

This Contractor Certification of Subcontractor Claim is submitted by YYYY relating to **BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES** to the District on behalf of ZZZZ.

1. I am the _____ of the Contractor in connection with the above-described Project.
2. The Subcontractor has submitted the accompanying Subcontractor Claim to the Contractor for presentation to the District pursuant to Public Contract Code §9204.
3. I have personally reviewed the entirety of the Subcontractor Claim and all substantiating documentation in support of the Subcontractor Claim.
4. The Subcontractor Claim is made by the Subcontractor in good faith.
5. The Subcontractor Claim is supported by reasonable documentation establishing entitlement to the relief requested and District liability therefor.
6. The Subcontractor Claim does not incorporate any request constituting a False Claim under applicable law, including the California False Claim Act (Government Code §12650 et. seq.).
7. I am authorized: (i) to execute this Certification on behalf of the Contractor; and (ii) to submit this Certification and the accompanying Subcontractor Claim to the District.
8. I have personal first-hand knowledge of all of the foregoing.

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

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

(Signature)

(Print Name)

(Title)

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GENERAL CONDITIONS
BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES



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 - 4.2.1 Contractor Investigation.
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 - 4.2.3 Subsurface Conditions.
- 4.3 Supervision and Construction Procedures.
 - 4.3.1 Supervision of the Work.
 - 4.3.2 Responsibility for the Work.
 - 4.3.3 Surveys.

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| <ul style="list-style-type: none"> 4.3.4 Construction Utilities. 4.3.5 Existing Utilities; Removal, Relocation and Protection. 4.3.6 Conferences and Meetings. <ul style="list-style-type: none"> 4.3.6.1 Pre-Construction Conference. 4.3.6.2 Progress Meetings. 4.3.6.3 Special Meetings. 4.3.6.4 Minutes of Meetings. 4.4 Labor and Materials. <ul style="list-style-type: none"> 4.4.1 Payment for Labor, Materials and Services. 4.4.2 Employee Discipline. 4.4.3 Compliance with Immigration Reform and Control Act of 1986. 4.4.4 Contractor's Supervisory Personnel. 4.4.5 Prohibition on Harassment. <ul style="list-style-type: none"> 4.4.5.1 District's Policy Prohibiting Harassment. 4.4.5.2 Contractor's Adoption of Anti-Harassment Policy. 4.4.5.3 Prohibition on Harassment at the Site. 4.5 Taxes. 4.6 Permits, Fees and Notices; Compliance With Laws. <ul style="list-style-type: none"> 4.6.1 Payment of Permits, Fees. 4.6.2 Compliance With Laws. 4.6.3 Notice of Variation From Laws. 4.7 Submittals. <ul style="list-style-type: none"> 4.7.1 Purpose of Submittals. 4.7.2 Contractor's Submittals. <ul style="list-style-type: none"> 4.7.2.1 Prompt Submittals. 4.7.2.2 Approval of Subcontractor Submittals. 4.7.2.3 Verification of Submittal Information. 4.7.2.4 Information Included in Submittals. 4.7.2.5 Contractor Responsibility for Deviations. 4.7.2.6 No Performance of Work Without Architect Review. 4.7.3 Architect Review of Submittals. 4.7.4 Deferred Approval Items. 4.8 Materials and Equipment. <ul style="list-style-type: none"> 4.8.1 Specified Materials, Equipment. 4.8.2 Approval of Substitutions or Alternatives. 4.8.3 Placement of Material and Equipment Orders. 4.8.4 District's Right to Place Orders for Materials and/or Equipment. 4.8.5 Contractor and Subcontractor | <ul style="list-style-type: none"> Communication. 4.9 Safety. <ul style="list-style-type: none"> 4.9.1 Safety Programs. 4.9.2 Contractor Safety Plan. 4.9.3 Safety Precautions. 4.9.4 Safety Signs, Barricades. 4.9.5 Safety Notices. 4.9.6 Safety Coordinator. 4.9.7 Emergencies. 4.9.8 Hazardous Materials. <ul style="list-style-type: none"> 4.9.8.1 General. 4.9.8.2 Prohibition on Use of Asbestos Construction Building Materials ("ACBMs"). 4.9.8.3 Disposal of Hazardous Materials. 4.10 Maintenance of Documents. <ul style="list-style-type: none"> 4.10.1 Documents at Site. 4.10.2 Maintenance of Record Drawings. 4.11 Use of Site. 4.12 Clean-Up. 4.13 Access to the Work. 4.14 Facilities and Information for the District's Inspector. <ul style="list-style-type: none"> 4.14.1 Information to District's Inspector. 4.14.2 Facilities for District's Inspector. 4.15 Patents and Royalties. 4.16 Cutting and Patching. 4.17 Encountering of Hazardous Materials. 4.18 Wage Rates; Employment of Labor. <ul style="list-style-type: none"> 4.18.1 Determination of Prevailing Rates. 4.18.2 Payment of Prevailing Rates. 4.18.3 Prevailing Rate Penalty. 4.18.4 Certified Payroll Records. <ul style="list-style-type: none"> 4.18.4.1 Maintenance of Certified Payroll Records. 4.18.4.2 Submittal of Certified Payroll Records to Labor Commissioner. 4.18.4.3 Inspection of Certified Payroll Records. 4.18.5 Hours of Work. <ul style="list-style-type: none"> 4.18.5.1 Limits on Hours of Work. 4.18.5.2 Penalty for Excess Hours. 4.18.5.3 Contractor Responsibility. 4.18.6 Apprentices. <ul style="list-style-type: none"> 4.18.6.1 Employment of Apprentices. 4.18.6.2 Apprenticeship Certificate. 4.18.6.3 Ratio of Apprentices to Journeymen. 4.18.6.4 Exemption From Ratios. 4.18.6.5 Contributions to Trust |
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Funds.

- 4.18.6.6 Contractor's Compliance.
- 4.18.7 Employment of Independent Contractors.
- 4.19 Assignment of Antitrust Claims.
- 4.20 Limitations Upon Site Activities.
- 4.21 Progress Reports; DSA Verified Reports.
 - 4.21.1 DSA Verified Reports: Contractor Actions.
 - 4.21.2 District Withholdings From Final Payment.
 - 4.21.3 Progress Reports.

ARTICLE 5: SUBCONTRACTORS

- 5.1 Subcontracts.
- 5.2 Subcontractor DIR Contractor Registration
 - 5.2.1 No Subcontractor Performance of Work Without DIR Registration.
 - 5.2.2 Contractor Obligation to Verify Subcontractor DIR Registration Status
 - 5.2.3 Contractor Obligation to Request Substitution of Listed Subcontractor Who Is Not DIR Registered Contractor
- 5.3 Substitution of Listed Subcontractor.
 - 5.3.1 Substitution Process.
 - 5.3.2 Responsibilities of Contractor Upon Substitution of Subcontractor.
- 5.4 Subcontractors' Work.

ARTICLE 6: INSURANCE; INDEMNITY; BONDS

- 6.1 Workers' Compensation Insurance; Employer's Liability Insurance.
- 6.2 Commercial General Liability and Property Insurance.
- 6.3 Builder's Risk "All-Risk" Insurance.
- 6.4 Insurance Requirements
 - 6.4.1 Coverage Limits
 - 6.4.2 Deductibles.
 - 6.4.3 No Modification or Cancellation Without Prior Notice to District.
 - 6.4.4 District Additional Insured.
 - 6.4.5 Certifications of Insurance.
- 6.5 Subcontractor's Insurance.
- 6.6 Maintenance of Insurance.
- 6.7 Contractor's Insurance Primary.
- 6.8 Indemnity.
- 6.9 Payment Bond; Performance Bond.

ARTICLE 7: CONTRACT TIME

- 7.1 Completion of the Work Within Contract

Time.

- 7.2 Progress and Completion of the Work.
 - 7.2.1 Time of Essence.
 - 7.2.2 Correction and Completion of Project Work per bid documents, plans and specifications Prior to One Hundred Percent Completion.
 - 7.2.2.1 Punchlist.
 - 7.2.2.2 Time for Completing Punchlist Items.
 - 7.2.3 One Hundred Percent Completion.
 - 7.2.4 Contractor Responsibility for Multiple Inspections.
 - 7.2.5 Final Acceptance
- 7.3 Construction Schedule.
 - 7.3.1 Submittal of Preliminary Construction Schedule.
 - 7.3.2 Review of Preliminary Construction Schedule.
 - 7.3.3 Preparation and Submittal of Contract Construction Schedule.
 - 7.3.4 Revisions to Approved Construction Schedule.
 - 7.3.5 Updates to Approved Construction Schedule.
 - 7.3.6 Contractor Responsibility for Construction Schedule.
- 7.4 Adjustment of Contract Time.
 - 7.4.1 Excusable Delays.
 - 7.4.2 Compensable Delays.
 - 7.4.3 Unexcusable Delays.
 - 7.4.4 Adjustment of Contract Time.
 - 7.4.4.1 Procedure for Adjustment of Contract Time.
 - 7.4.4.2 Limitations Upon Adjustment of Contract Time on Account of Delays.
- 7.5 Liquidated Damages.

ARTICLE 8: CONTRACT PRICE

- 8.1 Contract Price.
- 8.2 Cost Breakdown.
- 8.3 Progress Payments.
 - 8.3.1 Applications for Progress Payments.
 - 8.3.2 Payment Application Review for Determination of Proper Payment Application.
 - 8.3.3 Verification of Work Completed.
 - 8.3.4 District's Disbursement of Progress Payments.
 - 8.3.4.1 Timely Disbursement of Progress Payments.

- 8.3.4.2 Untimely Disbursement of Progress Payments.
- 8.3.4.3 District's Right to Disburse Payments by Joint Checks.
- 8.3.4.4 No Waiver of Defective or Non-Conforming Work.
- 8.3.5 Progress Payments for Changed Work.
- 8.3.6 Materials or Equipment Not Incorporated Into the Work.
 - 8.3.6.1 Limitations Upon Payment.
 - 8.3.6.2 Materials or Equipment Delivered and Stored at the Site.
 - 8.3.6.3 Materials or Equipment Not Delivered or Stored at the Site.
- 8.3.7 Exclusions From Progress Payments.
- 8.3.8 Title to Work.
- 8.3.9 Substitute Security for Retention.
- 8.4 Final Payment.
 - 8.4.1 Application for Final Payment.
 - 8.4.2 Conditions Precedent to Disbursement of Final Payment.
 - 8.4.3 Disbursement of Final Payment.
 - 8.4.4 Waiver of Claims.
 - 8.4.5 Claims Asserted After Final Payment.
- 8.5 Withholding of Payments.
- 8.6 Payments to Subcontractors.
- 8.7 Computerized Job Cost Reporting System.
 - 8.7.1 Job Cost Reporting.
 - 8.7.2 Job Cost Reporting System Requirements.
 - 8.7.3 Job Cost System Information.

ARTICLE 9: CHANGES

- 9.1 Changes in the Work.
- 9.2 Construction Change Directive.
- 9.3 Oral Order of Change in the Work.
- 9.4 Contractor Submittal of Data.
- 9.5 Adjustment to Contract Price and Contract Time on Account of Changes to the Work.
 - 9.5.1 Adjustment to Contract Price.
 - 9.5.1.1 Mutual Agreement.
 - 9.5.1.2 Determination by the District.
 - 9.5.1.3 Basis for Adjustment of Contract Price.

- 9.5.1.3.1 Labor.
- 9.5.1.3.2 Materials and Equipment.
- 9.5.1.3.3 Construction Equipment.
- 9.5.1.3.4 Mark-up on Costs of Changes to the Work.
- 9.5.1.4 Contractor Maintenance of Records.
- 9.5.2 Adjustment to Contract Time.
- 9.5.3 Addition or Deletion of Alternate Bid Item(s).
- 9.6 Change Orders.
- 9.7 Contractor Notice of Changes.
- 9.8 Disputed Changes.
- 9.9 Emergencies.
- 9.10 Minor Changes in the Work.
- 9.11 Unauthorized Changes.

ARTICLE 10: SEPARATE CONTRACTORS

- 10.1 District's Right to Award Separate Contracts.
- 10.2 District's Coordination of Separate Contractors.
- 10.3 Mutual Responsibility.
- 10.4 Discrepancies or Defects.

ARTICLE 11: TESTS AND INSPECTIONS

- 11.1 Tests; Inspections; Observations.
 - 11.1.1 Contractor's Notice.
 - 11.1.2 Cost of Tests and Inspections.
 - 11.1.3 Testing/Inspection Laboratory.
 - 11.1.4 Additional Tests, Inspections and Approvals.
- 11.2 Delivery of Certificates.
- 11.3 Timeliness of Tests, Inspections and Approvals.

ARTICLE 12: UNCOVERING AND CORRECTION OF WORK

- 12.1 Inspection of the Work.
 - 12.1.1 Access to the Work.
 - 12.1.2 Limitations Upon Inspections.
- 12.2 Uncovering of Work.
- 12.3 Rejection of Work.
- 12.4 Correction of Work.
- 12.5 Removal of Non-Conforming or Defective Work.
- 12.6 Failure of Contractor to Correct Work.
- 12.7 Acceptance of Defective or Non-Conforming Work.

ARTICLE 13: WARRANTIES

- 13.1 Workmanship and Materials.
- 13.2 Warranty Work.
- 13.3 Guarantee.
- 13.4 Survival of Warranties; Surety Obligations.

ARTICLE 14: SUSPENSION OF WORK

- 14.1 District's Right to Suspend Work.
- 14.2 Adjustments to Contract Price and Contract Time.

ARTICLE 15: TERMINATION

- 15.1 Termination for Cause.
 - 15.1.1 District's Right to Terminate.
 - 15.1.2 District's Rights Upon Termination.
 - 15.1.3 Completion by the Surety.
 - 15.1.4 Assignment and Assumption of Subcontracts.
 - 15.1.5 Costs of Completion.
 - 15.1.6 Contractor Responsibility for Damages.
 - 15.1.7 Conversion to Termination for Convenience.
 - 15.1.8 District's Rights Cumulative.
- 15.2 Termination for Convenience of the District.

ARTICLE 16: MISCELLANEOUS

- 16.1 Governing Law.
- 16.2 Marginal Headings; Interpretation.
- 16.3 Successors and Assigns.
- 16.4 Cumulative Rights and Remedies; No Waiver.
- 16.5 Severability.
- 16.6 No Assignment by Contractor.
- 16.7 Gender and Number.
- 16.8 Independent Contractor Status.
- 16.9 Notices.
- 16.10 Disputes; Continuation of Work.
- 16.11 Dispute/Claims Resolution.
 - 16.11.1 Public Contract Code §9204 Claims Resolution Procedures.
 - 16.11.1.1 Claim Defined.
 - 16.11.1.2 Claim Documentation.
 - 16.11.1.3 District Claim Review Statement.
 - 16.11.1.4 Meet and Confer.
 - 16.11.1.4.1 Meet and Confer Demand.
 - 16.11.1.4.2 Meet and Confer Statement.
 - 16.11.1.5 Non-Binding Mediation

- 16.11.1.5.1 Contractor Initiation.
- 16.11.1.5.2 Mediator Selection.
- 16.11.1.5.3 Mediation Procedures.
- 16.11.1.5.4 Mediation Costs.
- 16.11.1.5.5 Post-Mediation Disputed Claims.
- 16.11.1.5.6 Waiver.
- 16.11.2 Payment of Undisputed Claims.
- 16.11.3 Subcontractor Claims.
 - 16.11.3.1 Subcontractor Claim Submittal.
 - 16.11.3.2 Contractor Certification of Subcontractor Claim.
 - 16.11.3.3 District Review of Subcontractor Claim.
 - 16.11.3.4 Disputed Subcontractor Claims.
- 16.11.4 Government Code Claim Requirements.
- 16.11.5 Section 20104.4 Dispute Resolution Procedures; Claims Less Than \$375,000.
 - 16.11.5.1 Binding Arbitration of Claims Exceeding \$375,000
 - 16.11.5.1.1 JAMS Arbitration.
 - 16.11.5.2 Demand for Arbitration.
 - 16.11.5.3 Discovery.
 - 16.11.5.4 Arbitration Award.
 - 16.11.5.5 Arbitration Fees and Expenses.
 - 16.11.5.6 Limitation on Arbitrator.
- 16.11.6 Inapplicability to Bid Bond.
- 16.12 Limitation on Special/Consequential Damages.
- 16.13 Capitalized Terms.
- 16.14 Attorneys' Fees.
- 16.15 Provisions Required by Law Deemed Inserted.
- 16.16 Days.
- 16.17 Entire Agreement.

GENERAL CONDITIONS

ARTICLE 1: DEFINITIONS

- 1.1 District. The "District" refers to **Merced Community College District** and unless otherwise stated, includes the District's authorized representatives, including the Project Manager, if a Project Manager is designated, the District's Board of Trustees and the District's officers, employees, agents and representatives.
- 1.2 Contractor. The Contractor is the person or entity identified as such in the Agreement; references to "Contractor" include the Contractor's authorized representative.
- 1.3 Architect. The Architect is the person or entity identified as such in the Agreement; references to the "Architect" include, as required by context of usage, the Architect's employees and authorized representative(s) and the Architect's Consultants and their employees and authorized representative(s).
- 1.4 The 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.
- 1.5 The 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.
- 1.6 Surety. The Surety is the person or entity that executes, as surety, the Contractor's Labor and Material Payment Bond and/or Performance Bond.
- 1.7 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. References to "Subcontractor" herein include all subcontractors of any tier.
- 1.8 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.
- 1.9 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 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.
- 1.10 Special Conditions; Supplemental Conditions. Special Conditions and/or Supplemental Conditions, if any are special or supplemental provisions, not otherwise provided for in the Agreement or the General Conditions.
- 1.11 Contract Documents. The Contract Documents consist of the Agreement between the District and the Contractor, Conditions of the Contract (whether General, Special, Supplemental 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.

1.12 Intent and Correlation of Contract Documents.

1.12.1 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.

1.12.2 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.

1.12.3 Conflict in Contract Documents. Conflicts, inconsistencies or ambiguities in the Contract Documents shall be resolved by the Architect in accordance with Article 3.1.9 of the General Conditions; where conflicts or inconsistencies arise between the Drawings and the Specifications, in resolving such conflicts or inconsistencies, the Architect will be governed generally by the following standards: the Drawings are intended to describe matters relating to placement, type, quantity and the like; the Specifications are intended to describe matters relating to quality, materials, compositions, manufacturers and the like. If conflicts exist between portions of the Contract Documents regarding the quality of any item, product, equipment or materials, unless otherwise directed or authorized by the District, the Contractor shall provide the item, product, equipment or material of the highest or more stringent quality.

1.13 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, Material Supplier, or others 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, Subcontractors or Material Suppliers are collectively referred to as "Submittals".

1.14 Division of State Architect ("DSA"). DSA is the California Division of the State Architect including without limitation DSA's Office of Construction Services, Office of Design Services and the Office of Regulatory 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.

1.15 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.

1.16 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 Architect. The term “typical” as used in the Drawings shall require the installation or furnishing of such item(s) of the Work designated as “typical” in all other areas similarly marked as “typical”; Work in such other areas shall conform to that shown as “typical” or as reasonably inferable therefrom.

- 1.17 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.
- 1.18 Record Drawings. The Record Drawings are a set of the Drawings 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 Drawings 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.
- 1.19 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. In the event that a Project Manager is not designated in the Special Conditions, the District reserves the right to designate a Project Manager at any time during Contractor’s performance of the Work. The District reserves the right to remove or replace the Project Manager during Contractor’s performance of the Work. The designation of a Project Manager, if one has not been designated in the Special Conditions, or 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.
- 1.20 Construction Equipment. Construction Equipment is equipment utilized for the performance of any portion of the Work, but which is not incorporated into the Work.
- 1.21 Site. The Site is the physical area designated in the Contract Documents for Contractor’s performance, construction and installation of the Work.
- 1.22 Field Clarifications. A written or graphic document consisting of supplementary details, instructions or information issued on behalf of the District which clarifies or supplements the Contract Documents and which becomes a part of the Contract Documents upon issuance. Field Clarifications do not constitute an adjustment of the Contract Time or the Contract Price, unless a Change Order relating to a Field Clarification is authorized and issued under the Contract Documents.
- 1.23 Defective or Non-Conforming Work. Defective or Non-Conforming Work is any Work which is unsatisfactory, faulty or deficient by: (i) not conforming to the requirements of the Contract Documents; (ii) not conforming to the standards of workmanship of the applicable trade or industry; (iii) not being in compliance with the requirements of any inspection, reference, standard, test, or approval required by the Contract Documents; or (iv) damage occurring prior to Final Completion of all of the Work.
- 1.24 Delivery. Delivery used in conjunction with any equipment, materials or other items to be incorporated into the Work shall mean the unloading and storage in a protected condition at the Site pending incorporation into the Work.
- 1.25 Notice to Proceed. The Notice to Proceed is the written notice issued by or on behalf of the District to the Contractor authorizing the Contractor to proceed with commencement of the Work and which establishes the date for commencement of the Contract Time.
- 1.26 Progress Reports; Verified Reports. Progress Reports, if required, are written reports prepared by the Contractor and periodically submitted to the District in the form and content as required

by the Contract Documents. Verified Reports are periodic written reports prepared by the Contractor and submitted to the DSA; Verified Reports shall be in such form and content as required by the applicable provisions of Title 24 of the California Code of Regulations. A material obligation of the Contractor is the preparation of complete and accurate Progress Reports, if required, and Verified Reports as well as the timely submission of the same.

- 1.27 Laws. Laws refer to all laws, ordinances, codes, rules and/or regulations promulgated by any governmental or quasi-governmental agency with jurisdiction over any portion of the Work and which apply to any portion of the Work, including those in effect as of the execution of the Agreement, amendments thereto and subsequently enacted Laws that take effect during the performance of the Work. No adjustment of the Contract Time or the Contract Price shall be allowed for the Contractor's compliance with the Laws.
- 1.28 Construction Change Directive. A Construction Change Directive is a written instrument issued by or on behalf of the District to the Contractor directing a Change to the Work prior to the Contractor and District reaching full agreement on an adjustment of the Contract Time and/or Contract Price on account of such Change. A material obligation of the Contractor is timely performance of Work noted in a Construction Change Directive.

ARTICLE 2: DISTRICT

2.1 Information Required of District

2.1.1 Surveys; Site Information. Information, if any, concerning physical characteristics of the Site, including without limitation, surveys, soils reports, and utility locations, to be provided by the District are set forth in the Contract Documents. Information not provided by the District or necessary information in addition to that 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 Permits, Licenses, Approvals. Except as otherwise provided in the Contract Documents, the District shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities which relate to the Work of the Contractor under the Contract Documents. If permits, licenses, approvals or similar approvals relating to the Work, or the installation/construction thereof are designated as the responsibility of the Contractor under the Contract Documents, the Contractor shall obtain the same without adjustment of the Contract Price or the Contract Time.

2.1.3 Drawings and Specifications. Except as otherwise provided for in the Contract Documents, the District shall furnish the Contractor, free of charge, the number of copies of the Drawings and the Specifications as set forth in the Special Conditions. All of the Drawings and the Specifications provided by the District to the Contractor remain the property of the District; the Contractor shall not use the Drawings or the Specifications in connection with any other work of improvement other than the Work.

2.1.4 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. If 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 existing improvements, the conditions and/or existing improvements depicted in the Contract Documents are as they are believed to exist. The Contractor shall bear the risk of any variations

between conditions or existing improvements depicted in the Contract Documents and those conditions or existing improvements actually encountered in the performance of the Work. The existence of any variations between conditions or existing improvements depicted in the Contract Documents and those actually encountered in the performance of the Work shall not result in any District liability therefor, nor shall any such variations result in an adjustment of the Contract Time or the Contract Price.

2.2 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: (i) waive or limit the exercise of any other right or remedy of the District under the Contract Documents or the Laws; or (ii) result in adjustment of the Contract Time or Contract Price.

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: (i) the District has obtained the consent of, or is otherwise authorized by, public authorities with jurisdiction thereof, to so occupy or use such portion of the Work and (ii) the District and the Contractor have accepted, in writing, the responsibilities assigned to each of them for security, maintenance, utilities, damage to the Work, insurance, 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 in (ii) 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. Repairs, replacements or other corrective action noted in such inspection shall be promptly performed and completed by the Contractor so that the portion of the Work to be occupied or used by the District is in conformity with the requirements of the Contract Documents and the District's occupancy or use thereof is not impaired. The District's use or occupancy of the Work or portions thereof 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. The District's partial occupancy or use of the Work or any portion thereof, shall not constitute the District's acceptance of the Work which is defective or non-conforming.

2.4 District's Inspector.

2.4.1 Authority of District's Inspector. In addition to the authority and rights of the District's Inspector as provided for elsewhere in the Contract Documents and/or the Laws, all of the Work shall be performed under the observation of the District's Inspector. The foregoing notwithstanding, the Contractor shall not perform any Work deviating from the Contract Documents solely on the basis of direction by the District's Inspector; such deviations shall be deemed defective or non-conforming Work subject to correction or replacement at the sole cost of the Contractor and without adjustment of the Contract Time. The performance of the duties of the District's Inspector shall not relieve or limit the Contractor's performance of its obligations under the Contract Documents.

2.4.2 Limitations on District's Inspector. The does not have authority to interpret the Contract Documents or to modify the Work depicted in the Contract Documents. The District's Inspector has no authority relative to the content or scope of the Contractor's safety plan/program. The Contractor shall not perform any Work deviating from the Contract Documents solely on the basis of direction by the District's Inspector; such deviations shall be deemed Defective or Non-Conforming Work subject to correction or replacement at the sole cost of the Contractor and without adjustment of the Contract Time.

2.4.3 Contractor Access for District's Inspector. The Contractor shall provide the District's Inspector with access to all parts of the Work at any time, wherever located and whether partially or completely fabricated, manufactured, furnished or installed.

2.4.4 Contractor and District Responsibilities for Costs and Fees of District's Inspector. The District is responsible only for payment of the fees of the District's Inspector for standard eight (8) hour work day Mondays through Fridays, excepting holiday days ("District's Inspector Standard Workdays"). Unless the District directs the Contractor to perform Work exceeding the District's Inspector Standard Workdays, for any Work performed by the Contractor outside the District's Inspector Standard Workdays, the Contractor shall be responsible for payment of District's Inspector fees for District's Inspector services relating to such Work. All services provided by the District's Inspector exceeding an eight (8) hour workday Mondays through Fridays and/or the first eight (8) hours on Saturdays shall be at one and one-half (1½) times the District's Inspector's basic hourly rate. All hours of service provided by the District's Inspector in excess of eight (8) hours on Saturdays, and all hours of service provided by the District's Inspector on holiday days or on Sundays are at two (2) times the District's Inspector's basic hourly rate. Fees for services provided by the District's Inspector beyond the District's Inspector Standard Workdays set forth above are the sole responsibility of the Contractor; the District may deduct such fees from the Contract Price then or thereafter due the Contractor.

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. The Architect will advise and consult with the District, the Project Manager, if any, and the District's Inspector with respect to the administration of the Contract and the Work. The Architect is authorized to act on behalf of the District to the extent provided for in the Contract Documents; and shall have the responsibilities and authority established by the Laws.

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 is not 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 Review of Applications for Payment. Pursuant to Article 8 hereof, the Architect will

review the Contractor's Payment Applications and for Final Payment, evaluate the extent of Work performed and verify to the District 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, for implementation of the intent of the Contract Documents, the Architect is authorized to require additional inspections or testing of the Work, 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 modify requirements of the Contract Documents or any obligation of the Contractor under the Contract Documents.

3.1.6 Submittals.

3.1.6.1 Architect's Review. The Architect will review and approve or take other appropriate action upon Submittals for the limited purpose of checking for general conformance with information given and the design concept expressed in the Contract Documents. Review of Submittals is not 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. The Architect's review of the Contractor's Submittals shall not: (i) modify or limit the Contractor's obligations under the Contract Documents; (ii) requirements of the Contract Documents relating to the Work; (iii) approval of safety measures, programs or precautions; or (iv) construction means, methods, techniques, sequences or procedures. The Architect's acceptance of a specific item in a Submittal shall not indicate approval of an assembly of which the item is a component with the Submittal(s) required and relating to such assembly have been reviewed by the Architect.

3.1.6.2 Time for Architect's Review. The Architect's review of Submittals will be conducted promptly so as not to delay or hinder the progress of the Work or the activities of the Contractor, the District or the District's separate contractors while allowing sufficient time, in the Architect's reasonable professional judgment, to permit adequate review of Submittals. The foregoing notwithstanding, the Architect's review and return of Submittals will conform with the time limits and other conditions, if any, set forth in the Specifications or the Submittal Schedule if the Submittal Schedule is required by other provisions of the Contract Documents.

3.1.7 Issuance of Construction Change Directive. The Architect is authorized to issue Construction Change Directives.

3.1.8 Changes to the Work; Change Orders. The Architect will prepare Change Orders, and may authorize minor Changes in the Work which do not result in adjustment of the Contract Time or the Contract Price.

3.1.9 Completion. In conjunction with the District, District's Inspector, Project Manager, if any, and the Contractor, the Architect will conduct observations of the Work to determine the date(s) of Completion and Final Completion. If the District does not designate a Project Manager for the Work, the Architect shall: (i) be authorized to enforce the Contractor's close-out obligations; and (ii) receive from the Contractor and the records, written warranties and related close-out materials assembled by the Contractor in accordance with the Contract Documents.

3.1.10 Interpretation of Contract Documents. The Architect will interpret and decide matters concerning the requirements of the Contract Documents on written request of either the District or the Contractor. The Architect's response to such requests will be made with reasonable promptness and within the time limits agreed upon, if any. If no agreement is reached establishing the time for the Architect's review and response to requests under this Article 3.1.10, the Architect shall be afforded a fifteen (15) day period after receipt of such request to review and respond thereto. Interpretations and decisions of the Architect will: (i) be consistent

with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions; (ii) endeavor to secure faithful performance by both the District and the Contractor; (iii) not show partiality to either the District or Contractor; and (iv) not result in liability 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.

3.1.11 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"), Contractor shall timely notify the Architect, in writing, of the Conditions encountered and to request information from the Architect necessary to address and resolve any such Conditions before proceeding with any portion of the Work affected or which may be affected by such Conditions. If the Contractor fails to timely notify the Architect 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. In requesting information of the Architect to address and resolve any Conditions the Contractor shall act with promptness in submitting any such written request so as to allow the Architect a reasonable period of time to review, evaluate and respond to any such request, taking into account the then current status of the progress and completion of the Work and the actual or potential impact of any such Conditions upon the completion of the Work within the Contract Time. The Contract Time shall not be subject to adjustment in the event that the Contractor shall fail to timely request information from the Architect. The Architect's responses to any such Contractor request for information shall conform to the standards and time frame set forth in Article 3.1.10 of these General Conditions. The foregoing provisions notwithstanding, if the Architect reasonably determines that any of Contractor's request(s) for information: (i) does not reflect adequate or competent supervision or coordination by the Contractor or any Subcontractor; (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. In responding to any of Contractor's request(s) for information, the Architect shall, in the response, indicate if the Architect has made the determination pursuant to the preceding sentence and, if so, the costs to be borne by the Contractor for the processing, review, evaluation and response to the request for information. Thereafter, the District is authorized to deduct such costs from any portion of the Contract Price then or thereafter due the Contractor.

3.2 Communications; Architect's Role. All communications regarding the Work, the performance thereof or the Contract Documents shall be in writing; verbal communications shall be reduced to writing. If the District does not designate a Project Manager for the Work, communications between the Contractor and the District shall be through the Architect. Communications between separate contractors, if any, shall be through the Architect.

3.3 Termination of Architect; Substitute Architect. In case of termination of employment of the Architect, the District shall appoint a substitute architect whose status under the Contract Documents shall be that of the Architect.

3.4 Project Manager. If a Project Manager is designated for the Work, the Project Manager shall be a representative of the District until Final Completion is achieved and Final Payment is due the Contractor. The Project Manager is authorized to act on behalf of the District and in connection with the Work as set forth in the Contract Documents, including without limitation: (i) review of the Contractor's Construction Schedule and updates thereto; (ii) review of the Contractor's Applications for

Payment and verification of the amount due the Contractor under an Application for Payment; (iii) conducting the Pre-Construction Meeting, Progress Meetings and/or Special Meetings and maintaining minutes thereof; and (iv) enforcement of the Contractor's obligations under the Contract Documents, including the Contractor's close-out obligations.

ARTICLE 4: THE CONTRACTOR

4.1 Contractor Review of Contract Documents.

4.1.1 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 Architect 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 notice to the Architect of the same, the Contractor shall assume full responsibility for such performance and shall bear all costs for correction of the same without adjustment of the Contract Price.

4.1.2 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 with information provided in the Contract Documents. Errors, inconsistencies or omissions discovered shall be immediately reported to the Architect along with request for clarification or direction.

4.1.3 Dimensions; Layouts and Field Engineering. Unless otherwise expressly provided, dimensions indicated in the Drawings are intended for reference only. The Drawings are intended to be diagrammatic and schematic in nature; the Contractor is solely responsible for dimensioning and coordinating the Work of the Contract Documents. All field engineering required for laying out the Work and 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 the an engineer duly registered under the laws of the State of California in the engineering discipline for such portion of the Work.

4.1.4 Work in Accordance With Contract Documents. The Contractor shall perform all of the Work in strict conformity with the Contract Documents, the Laws and Architect accepted Submittals.

4.2 Site Investigation; Subsurface Conditions.

4.2.1 Contractor Investigation. The Contractor is 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 Contract Documents.

4.2.2 Subsurface Data. By executing the Agreement, the Contractor acknowledges that it has examined the boring data and other 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 are neither guaranteed or warranted by the District to be complete and accurate. The Contractor shall examine all boring and other 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.

4.2.3 Subsurface Conditions. If the Work 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 Supervision and Construction Procedures.

4.3.1 Supervision of the Work. During progress of the work, the Contractor/Superintendent shall be on site to 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.

4.3.2 Responsibility for the Work. The Contractor is 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 is not relieved from its 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, or by tests, inspections or approvals required or performed by persons other than the Contractor.

4.3.3 Surveys. The Contractor shall prepare or cause to be prepared all detailed surveys necessary for performance of the Work, including without limitation, slope stakes, points, lines and elevations. The Contractor is responsible for the establishment, location, maintenance and preservation of benchmarks, reference points and stakes for the Work without adjustment of the Contract Price. The Contractor is solely responsible for all loss or costs resulting from the loss, destruction, disturbance or damage of benchmarks, reference points or stakes.

4.3.4 Construction Utilities. The District will furnish and pay the costs of utility services for the Work as set forth in the Special Conditions; all other utilities necessary to complete the Work and the Contractor's obligations hereunder shall be obtained by the Contractor without adjustment of the Contract Price or the Contract Time. The Contractor shall furnish and install necessary or appropriate temporary distributions of utilities, including utilities furnished by the District. 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, relocations and removal of temporary distributions thereof, shall be borne by the Contractor and included in the Contract Price.

4.3.5 Existing Utilities: Removal, Relocation and Protection. In accordance with California Government Code §4215, the District assumes 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 owner of the utility to provide for removal or relocation of such utility facilities. The foregoing notwithstanding, the District is not required to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities 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, the District's inspector, the Architect, the Project Manager and the utility owner. If utility facilities are owned by a public utility, the public utility shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price.

4.3.6 Conferences and Meetings. A material obligation of the Contractor under the Contract Documents is the attendance by the Contractor's supervisory personnel for the Work and the Contractor's management personnel as required by the Contract Documents or as requested by the District. The Contractor's personnel participating in conferences and meetings relating to the Work shall be authorized to act on behalf of the Contractor and to bind the Contractor. The Contractor is solely responsible for arranging for the attendance by Subcontractors, Material Suppliers at meetings and conferences relating to the Work as necessary, appropriate or as requested by the District.

4.3.6.1 Pre-Construction Conference. The Contractor's representatives (and representatives of Subcontractors as requested by the District) shall attend a Pre-Construction Conference at such time and place as designated by the District. The Pre-Construction Conference will address items such as the Contractor's access to the Site, review of construction procedures and requirements and other matters pertaining generally to construction of the Work.

4.3.6.2 Progress Meetings. Progress meetings will be conducted on regular intervals (weekly unless otherwise expressly indicated elsewhere in the Contract Documents). The Contractor's representatives and representatives of Subcontractors (as requested by the District) shall attend Progress Meetings. Progress Meetings will be chaired by the Architect or the Project Manager and will generally include as agenda items: Site safety, field issues, coordination of Work, construction progress and impacts to timely completion, if any. The purposes of the Progress Meetings include: a formal and regular forum for discussion of the status and progress of the Work by all Project participants, a review of progress or resolution of previously raised issues and action items assigned to

the Project participants, and reviews of the Construction Schedule and Submittals.

4.3.6.3 Special Meetings. As deemed necessary or appropriate by the District, Special Meetings will be conducted with the participation of the Contractor, Subcontractors and other Project participants as requested by the District.

4.3.6.4 Minutes of Meetings. Following conclusion of the Pre-Construction Conference, Progress Meetings and Special Meetings, the Architect or the Project Manager will prepare and distribute minutes reflecting the items addressed and actions taken at a meeting or conference. Unless the Contractor notifies the Architect or the Project Manager in writing of objections or corrections to minutes prepared hereunder within five (5) days of the date of distribution of the minutes, the minutes as distributed shall constitute the official record of the meeting or conference. No objections or corrections of any Subcontractor or Material Supplier shall be submitted directly to the Architect or the Project Manager; such objections or corrections shall be submitted to the Architect and the Project Manager through the Contractor. If the Contractor timely interposes objections or notes corrections, the resolution of such matters shall be addressed at the next scheduled Progress Meeting.

4.4 Labor and Materials.

4.4.1 Payment for Labor, Materials and Services. Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, Construction Equipment and machinery, water, heat, utilities, transportation, 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.

4.4.2 Employee Discipline. The Contractor shall enforce strict discipline and good order among the Contractor's employees, the employees of any Subcontractor or Sub-subcontractor, and all other persons performing any part of the Work at the Site. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. The Contractor shall dismiss from its employ and direct any Subcontractor or Sub-subcontractor to dismiss from their employment 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.

4.4.3 Compliance with Immigration Reform and Control Act of 1986. The Contractor 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. (the "IRCA"); the Contractor shall also require Subcontractors and any other person or entity employing labor in connection with any of the Work to so similarly comply with the IRCA. The foregoing includes without limitation, verification that individuals engaged in any Work are legally entitled to do so.

4.4.4 Contractor's Supervisory Personnel. Prior to start of Work at the Site, the Contractor shall submit to the District, Architect and Project Manager, a written statement of the qualifications of the Contractor's proposed Superintendent and Project Manager for the Work. Acceptance of the Contractor's proposed Superintendent and Project Manager is subject to establishing their: (i) skills, experience and other capabilities to supervise, coordinate and manage the Work; (ii) fluent verbal and written English language capabilities; (iii) competency in reading, comprehending and understanding drawings, specifications and other technical construction-related materials; and (iv) recent experience of in completing construction projects similar to the Work within the budget and time established for such other construction projects. Upon acceptance of the Contractor's Superintendent or Project Manager by the District, the Contractor shall not change such personnel without prior consent of the District, unless such personnel: (i) are unsatisfactory to the Contractor and ceases to be employed by the Contractor for the Work; or (ii) is determined by the District to be unfit, incompetent or incapable of

performing functions and responsibilities assigned.

4.4.5 Prohibition on Harassment.

4.4.5.1 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, veteran status or other legally protected classification. 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.

4.4.5.2 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 4.4.4.

4.4.5.3 Prohibition on Harassment at the Site. Contractor shall not permit any person, whether employed by Contractor, a 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 4.4.4.2 above. Any person, performing or providing Work on or about the Site engaging 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. If 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, 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 4.4.4.3; 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.

- 4.5 Taxes. The Contractor shall pay, without adjustment of the Contract Price, all sales, consumer, use and other taxes for the Work or portions thereof provided by the Contractor under the Contract Documents.

4.6 Permits, Fees and Notices; Compliance With Laws.

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

4.6.2 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.

4.6.3 Notice of Variation From Laws. If the Contractor knows, or has reason to believe, that any portion of the Contract Documents are at variance with applicable laws, statutes, ordinances, building codes, regulations or rules, the Contractor shall promptly notify the Architect and the District's Inspector, 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 Architect and the District's Inspector, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs arising or associated therefrom, including without limitation, the removal, replacement or correction of the same.

4.7 Submittals.

4.7.1 Purpose of Submittals. Submittals are not Contract Documents. Submittals are for the purpose of demonstrating, 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.

4.7.2 Contractor's Submittals.

4.7.2.1 Prompt Submittals. The Contractor shall review, approve and submit to the Architect or such other person or entity designated by the District or the Contract Documents, the number of copies of Submittals required by the Contract Documents. All Submittals required by the Contract Documents shall be prepared, assembled and submitted by the Contractor within the time frames set forth in the Submittal Schedule incorporated and made a part of the Approved Construction Schedule. Contractor's submission of Submittals in conformity with the Submittal Schedule is a material obligation of the Contractor. If the Contractor fails or refuses to deliver Submittals in accordance with the Submittal Schedule, the Contractor shall be subject to per diem assessments in the amount set forth in the Special Conditions for each day of delayed submission for any Submittal beyond the date set forth in the Submittal Schedule for Contractor's submission of such Submittal. Contractor and the District acknowledge and agree that the per diem assessment for delayed submission of Submittals set forth in the Special Conditions represents a reasonable estimate of costs and expenses the District will incur as a result of delayed submission of Submittals and that the same is not a penalty. Notwithstanding Contractor's submission of all required Submittals in accordance with the Submittal Schedule, in the event that the District or the Architect reasonably determines that all or any portion of such Submittals fail to comply with the requirements of Articles 4.7.2.2, 4.7.2.3 and 4.7.2.4 of these General Conditions and/or

such Submittals are not otherwise complete and accurate so as to require re-submission, Contractor shall bear all costs associated with the review and approval of resubmitted Submittals, including without limitation Architect's fees incurred in connection therewith; provided that such costs are in addition to, and not in lieu of, Liquidated Damages imposed under this Article 4.7.2.1 for Contractor's delayed submission of Submittals. If Liquidated Damages are assessed for the Contractor's delayed submission of Submittals or if the Contractor is assessed Architect fees to review incomplete or inaccurate Submittals, the District may deduct the same from any portion the Contract Price then or thereafter due the Contractor. Submittals not required by the Contract Documents or which do not otherwise conform to the requirements of 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 timely submit of any Submittal.

4.7.2.2 Approval of Subcontractor Submittals. All Submittals prepared by Subcontractors, 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 to the Contract Time or the Contract Price.

4.7.2.3 Verification of Submittal Information. By approving and submission of 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.

4.7.2.4 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 by the Contract Documents for the Architect's review, evaluation and acceptance of the Contractor's Submittals.

4.7.2.5 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 review 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 Architect 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 review thereof.

4.7.2.6 No Performance of Work Without Architect Review. The Contractor shall perform no portion of the Work requiring the Architect's review of Submittals until the Architect has completed its review and returned the Submittal to the Contractor indicating "No Exception Taken" to 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 processed. Such Work shall be in accordance with the final action taken by the Architect in review of Submittals and other applicable portions of the Contract Documents.

4.7.3 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

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

in the Contract Documents. If the Architect returns a Submittal as rejected or requiring correction(s) with 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 accordance with the Architect's direction. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Architect 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. The following notations or notations of a similar nature noted on a reviewed Submittal will require the Contractor action noted below.

4.7.4 Deferred Approval Items. If any portion of the Work is designated in the Contract Documents as a "Deferred Approval" item, Contractor shall be solely and exclusively responsible for: (i) the design, engineering and specifying the materials/equipment forming any part of the Deferred Approval Item; (ii) integrating and/or coordinating the Deferred Approval Item with other portions of the Work; (iii) 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; and (iv) timely obtaining DSA approval thereof.

4.8 Materials and Equipment.

4.8.1 Specified Materials, Equipment. 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.

4.8.2 Approval of Substitutions or Alternatives. The Contractor may propose to furnish alternatives or substitutes for a particular item specified in the Contract Documents, provided that: (i) such proposed substitution or alternative complies with the requirements of the Specifications relating to substitutions of specified items; (ii) the Contractor certifies to the Architect and District that the quality, performance capability and functionality (including visual and/or aesthetic effect) of the proposed alternative or substitute meet or exceed the quality, performance capability and functionality of the item or process specified; and (iii) demonstrate to the reasonable satisfaction of the Architect and 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 calculations engineering, construction, dimension, visual, aesthetic and performance data to the Architect to permit its proper evaluation of the proposed substitution or alternative. If requested by the Architect, Contractor shall promptly furnish any additional information or data regarding a proposed substitution or alternative which the Architect deems reasonably necessary for the evaluation of the proposed substitution or alternative. The Contractor shall not provide, furnish or install any substitution or alternative without the Architect's review and final action on the proposed substitution or alternative; any alternative or substitution installed or incorporated into the Work without first

obtaining the Architect's review and final action of the same shall be subject to removal pursuant to Article 12 hereof. The Architect's decision evaluating the Contractor's proposed substitutions or alternatives shall be final. Neither the Contract Time nor the Contract Price shall be increased on account of any substitution or alternative proposed by the Contractor and which is accepted by the Architect; provided, however, that in the event a substitution or alternative accepted by the Architect and purchase, fabrication and/or installation or such accepted substitution or alternative shall be less expensive than the originally specified item, the Contract Price shall be reduced by the actual cost savings realized by the Contractor's furnishing and/or installation of such approved substitution or alternative. The Contractor shall be solely responsible for all costs and fees incurred by the District to review a proposed substitution or alternative, including without limitation fees of the Architect, and/or governmental agencies to review and/or approve any proposed substitution or alternative. The Contractor shall be solely responsible for any increase in the cost of any accepted substitution or alternative or any Work affected by such alternative or substitution. The foregoing notwithstanding, all requests for the Architect's review and approval of any proposed substitution or alternative and all engineering, construction, dimension and performance data substantiating the equivalency of the proposed substitution or alternative shall be submitted by Contractor not later than thirty-five (35) days following the date of the District's award of the Contract to Contractor by action of the District's Board of Trustees; any request for approval of proposed alternatives or substitutions submitted thereafter may be rejected summarily. The foregoing process and time limits shall apply to any proposed substitution or alternative regardless of whether the substitute or alternate item is to be provided, furnished or installed by Contractor, any Subcontractor, any Sub-Subcontractor, Material Supplier or Manufacturer.

4.8.3 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 similarly place orders for all materials and/or equipment to be furnished by any such Subcontractor in a prompt and timely manner so that delivery of the same shall be made without delay or interruption to the timely completion of the Work. Upon request of the District, Project Manager or the Architect, 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.

4.8.4 District's Right to Place Orders for Materials and/or Equipment. Notwithstanding any other provision of the Contract Documents, if the Contractor shall, upon request of the District, Project Manager or the Architect, fails or refuses, for any reason, 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 any orders for materials and/or equipment have not been placed in a manner so that such materials and/or equipment will be delivered 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 the right to place orders for materials and/or equipment pursuant to the foregoing, the District's conduct shall not be deemed to be an exercise, by the District, of any control over the means, methods, techniques, sequences or procedures for completion of the Work, all of which remain the responsibility and obligation of the Contractor. Notwithstanding the right of the District to place orders for materials and/or equipment pursuant to the foregoing, the election of the District to exercise, or not to exercise, such right shall not relieve the Contractor 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.

4.8.5 Contractor and Subcontractor Communication. All written communications between the Contractor and any Subcontractor, Material Supplier or others directly or indirectly engaged by the Contractor to perform or provide any portion of the Work shall be available to the District, the Project Manager and the Architect for review, inspection and reproduction as may be requested from time to time. The foregoing is a material obligation of the Contractor hereunder.

4.9 Safety.

4.9.1 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's safety program shall include all actions and programs necessary for compliance with California or federally statutorily mandated workplace safety programs, including without limitation, compliance with the California Drug Free Workplace Act of 1990 (California Government Code §§8350 et seq.). Without limiting or relieving the Contractor of its obligations hereunder, the Contractor shall require that its Subcontractors similarly initiate and maintain all appropriate or required safety programs.

4.9.2 Contractor Safety Plan. Prior to commencement of Work at the Site, the Contractor shall submit to the District and the Project Manager, if any, the Contractor's Safety Plan for the Work for review and acceptance by the District. Acceptance by the District is subject to the Safety Plan conforming to requirements of the Laws, conditions at or about the Site and the nature of the Work. The Contractor shall modify its Safety Plan as necessary to obtain the District's acceptance thereof. Notwithstanding the District's acceptance of the Contractor's Safety Plan, the Contractor shall remain solely responsible for implementing the Safety Plan and implementing measures as necessary to maintain safety of persons and property at and about the Site. The District's acceptance of the Contractor's Safety Plan shall not limit, restrict or otherwise modify the Contractor's obligations relating to safety at or about the Site in accordance with the Contract Documents and the Laws.

4.9.3 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 Subcontractors; and (iii) other property or items at the Site, or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement.

4.9.4 Safety Signs, Barricades. 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, barricades, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

4.9.5 Safety Notices. The Contractor shall give or post all safety notices required by the Laws and comply with the Laws bearing on safety of persons or property or their protection from damage, injury or loss.

4.9.6 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 Project Manager, District's Inspector and the Architect.

4.9.7 Emergencies. In an emergency affecting safety of persons or property, the Contractor

shall act, to prevent threatened damage, injury or loss.

4.9.8 Hazardous Materials.

4.9.8.1 General. If 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 applicable thereto and shall exercise all necessary safety precautions relating to the use, storage or disposal thereof.

4.9.8.2 Prohibition on Use of Asbestos Construction 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. In the event that 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 Architect and the District's Inspector 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. If the Contractor fails or refuses, for any reason, to commence the removal and replacement of any material or product containing ACBMs forming a part of, or incorporated into the Work, within ten (10) days of the date of the District's written notice to the Contractor 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, including without limitation fees and costs of consultants and attorneys, incurred by the District in connection with such removal and replacement shall be the responsibility of the Contractor and the Surety.

4.9.8.3 Disposal of Hazardous Materials. Contractor shall be solely and exclusively responsible for the disposal of any Hazardous Materials on or about the Site. The Contractor's obligations hereunder shall include without limitation, the transportation and disposal of any Hazardous Materials in strict conformity with the Laws.

4.10 Maintenance of Documents.

4.10.1.1 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) Record Drawings; (v) Material Safety Data Sheets ("MSDS") accompanying any materials, equipment or products delivered or stored at the Site or incorporated into the Work; and (vi) 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 shall be assembled and transmitted to the Architect for delivery to the District.

4.10.1.2 Maintenance of Record Drawings. During its performance of the Work, the Contractor shall maintain Record Drawings consisting of a set of the Drawings which are marked to indicate all field changes made to adapt the Work depicted in the Drawings to field conditions, changes resulting from Change Orders and all concealed or buried installations, including without limitation, piping, conduit and utility services. All buried or concealed items of Work shall be completely and accurately marked and located on the Record Drawings. The Record Drawings shall be clean and all changes, corrections and dimensions shall be marked in a neat and legible manner in a contrasting color. Record Drawings relating to the Structural, Mechanical, Electrical and Plumbing portions of the Work shall indicate without limitation, circuiting, wiring sizes, equipment/member sizing and shall depict the entirety of the as built conditions of such portions of the Work. The Record Drawings shall be continuously maintained by the Contractor during the performance of the Work. At any time during the Contractor's performance of the Work, upon the request of the District, the District's Inspector or the Architect, the Contractor shall make the Record Drawings maintained here under available for the District's review and inspection. The District's review and inspection of the Record Drawings during the Contractor's performance of the Work shall be only for the purpose of generally verifying that Contractor is continuously maintaining the Record Drawings in a complete and accurate manner; any such inspection or review shall not be deemed to be the District's approval or verification of the completeness or accuracy thereof. The failure or refusal of the Contractor to continuously maintain complete and accurate Record Drawings or to make available the Record Drawings for inspection and review by the District may be deemed by the District to be Contractor's default of a material obligation hereunder. Without waiving, restricting or limiting any other right or remedy of the District for the Contractor's failure or refusal to continuously maintain the Record Drawings, the District may, upon reasonably determining that the Contractor has not, or is not, continuously maintaining the Record Drawings in a complete and accurate manner, take appropriate action to cause the continuous maintenance of complete and accurate Record Drawings, in which event all fees and costs incurred or associated with such action shall be charged to the Contractor and the District may deduct the amount of such fees and costs from any portion of the Contract Price then or thereafter due the Contractor. In accordance with Article 8.4.2 of these General Conditions, prior to receipt of the Final Payment, Contractor shall deliver the Record Drawings to the Architect.

4.11 Use of Site. The Contractor shall confine operations at the Site to areas permitted by the Laws, 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.

4.12 Clean-Up. The Contractor shall at all times keep the Site and all adjoining areas free from the accumulation of any waste material or rubbish caused or generated by performance of the Work. Without limiting the generality of the foregoing, Contractor shall maintain the Site in a "rake-clean" standard on a daily basis. If the Work includes painting and/or the installation of floor covering, before any painting operations or the installation of any flooring covering, the area and adjoining areas of the Site where paint is to be applied or floor covering is to be installed shall be in a "broom-clean" condition. Prior to completion of the Work, Contractor shall remove from the Site all rubbish, waste materials, excess excavated materials, tools, Construction Equipment, machinery, surplus materials 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 by the Contractor in a neat and broom clean condition satisfactory to District. The District's Inspector or Project Manager shall be 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.

4.13 Access to the Work. The Contractor shall provide DSA, the District, the Project Manager, the District's Inspector and the Architect access to the Work, whether in place, preparation and progress and wherever located.

4.14 Facilities and Information for the District's Inspector.

4.14.1 Information to 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.

4.14.2 Facilities for District's Inspector. Facilities, services or other items to be provided by the Contractor for use by the District's Inspector, if any, shall be as set forth in the Temporary Facilities and Controls Specification Section. If the Contractor fails or refuses to provide and such facilities, services or other items designated the District may furnish such facilities, services or other item, with the costs, fees or expenses incurred to furnish the same being deducted from the Contract Price.

4.15 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.

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

4.17 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 containment, removal, abatement or handling of such Hazardous Materials, the Contractor shall immediately stop the Work in the affected area, but shall diligently proceed with the Work in all other unaffected areas. Upon encountering such Hazardous Materials, the Contractor shall immediately notify the District's Inspector and the Architect, in writing, of such condition. The Contractor shall proceed with the Work in such affected area only after such Hazardous Materials have been rendered harmless, contained, removed or abated. If such Hazardous Materials are encountered, the Contractor shall be entitled to an adjustment of the Contract Time to the extent that the Work is stopped and Completion of the Work is affected thereby. In no event shall there be an adjustment to the Contract Price solely on account of the Contractor encountering such Hazardous Materials.

4.18 Wage Rates; Employment of Labor.

4.18.1 Determination of Prevailing Rates. Pursuant to the provisions of Division 2, Part 7, Chapter 1, Article 2 of the California Labor Code at §§1770 et seq., the District has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the prevailing rate for holiday and overtime work in the locality in which the Work is to be performed. 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 as provided in California Labor Code §1773.8, 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.

4.18.2 Payment of Prevailing Rates. There shall be paid each worker of the engaged in the Work, not less than the general prevailing wage rate for the classification of Work performed, regardless of any contractual relationship which may be alleged to exist between the Contractor or any Subcontractor and such worker.

4.18.3 Prevailing Rate Penalty. The Contractor shall, as a penalty, forfeit not more than Two Hundred Dollars (\$200.00) to the District for each calendar day or portion thereof, for each worker paid less than the prevailing rates 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 amount of the penalty for failure to pay applicable prevailing wage rates shall be determined and assessed in accordance with the standards established pursuant to Labor Code §1775(a)(2). The amount of the penalty shall be determined based on consideration of both of the following: (i) whether the failure of the Contractor or Subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the Contractor or Subcontractor; and (ii) whether the Contractor or Subcontractor has a prior record of failing to meet its prevailing wage obligations. The penalty may not be less than forty dollars (\$40) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, unless the failure of the Contractor or Subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the contractor or subcontractor. The penalty may not be less than eighty dollars (\$80) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Contractor or Subcontractor has been assessed penalties within the previous three years for failing to meet its prevailing wage obligations on a separate contract, unless those penalties were subsequently withdrawn or overturned. The penalty may not be less than one hundred twenty dollars (\$120) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Labor Commissioner determines that the violation was willful, as defined in subdivision (c) of Section 1777.1. When the penalty amount due hereunder is collected from the Contractor or Subcontractor, any outstanding wage claim under Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 against that Contractor or Subcontractor shall be satisfied before applying that amount to the penalty imposed on that Contractor or Subcontractor hereunder. 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.

4.18.4 Certified Payroll Records.

4.18.4.1 Maintenance of Certified Payroll Records. Pursuant to California Labor Code §1776, the Contractor and each Subcontractor, of any tier, shall keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each person employed for the Work.

4.18.4.2 Submittal of Certified Payroll Records to Labor Commissioner. The Contractor and each Subcontractor shall submit their respective Certified Payroll Records to the Labor Commissioner on forms, in the manner and within the times prescribed by the Labor Commissioner.

4.18.4.3 Inspection of Certified Payroll Records. The Certified Payroll Records of

the Contractor and Subcontractors shall be 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 Certified Payroll Records have not been provided, 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 Certified 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 Certified 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 Article 4.18.4, 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 noncompliance still be evident after such 10-day period, the Contractor shall, as a penalty to the District, forfeit One Hundred Dollars (\$100.00) 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 Contractor is solely responsible for compliance with the foregoing provisions.

4.18.5 Hours of Work.

4.18.5.1 Limits on Hours of Work. Pursuant to California Labor Code §1810, eight (8) hours of labor shall constitute a legal day's work. Pursuant to California 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 (12) times the basic rate of pay.

4.18.5.2 Penalty for Excess Hours. The Contractor shall pay to the District a penalty of Twenty-five Dollars (\$25.00) for each worker employed on the Work 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, 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 (12) times the basic rate of pay for all hours

worked in excess of eight (8) hours per day.

4.18.5.3 Contractor Responsibility. 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.

4.18.6 Apprentices.

4.18.6.1 Employment of Apprentices. 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. 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.

4.18.6.2 Apprenticeship Certificate. 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. The Contractor and Subcontractors shall submit contract award information to the applicable Joint Apprenticeship Committee which shall include an estimate of journeyman hours to be performed under the Contract, the number of apprentices to be employed, and the approximate dates the apprentices will be employed. 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.

4.18.6.3 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.

4.18.6.4 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.

4.18.6.5 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 and who is not contributing to a fund or funds to administer and conduct the apprenticeship program in any such craft or trade in the area of the site of the Work, to which fund or funds other contractors in the area of the site of the Work are contributing, shall contribute to the fund or funds in each craft or trade in which it employs journeymen or apprentices in the same amount or upon the same basis and in the same manner as the other contractors do, but where the trust fund administrators are unable to accept such funds, contractors not signatory to the trust agreement shall pay a like amount to the California Apprenticeship Council. 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.

4.18.6.6 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.

4.18.7 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 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 Subcontractors performing or providing any portion of the Work to adhere to and comply with the foregoing provisions.

4.19 Assignment of Antitrust Claims. Pursuant to California Government Code §4551, 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 Government Code §§4550 et seq., 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.

4.20 Limitations Upon Site Activities. Except in the circumstances of an emergency, no construction activities shall be permitted at or about the Site except during the District's hours and days set forth in the Special Conditions. Work performed outside of the hours and days noted in the Special Conditions will not result in adjustment of the Contract Time or the Contract Price; unless

Work outside of the hours and days noted in the Special Conditions is expressly authorized by the District.

4.21 Progress Reports: DSA Verified Reports.

4.21.1 DSA Verified Reports: Contractor Actions. A material obligation of the Contractor is the completion by the Contractor of all actions and activities which by the Contract Documents or by the Laws are the responsibility of the Contractor relating to DSA reporting requirements pursuant to Education Code §81141 (including amendments thereto) and issuance of DSA's Certificate of Compliance for the Project pursuant to Education Code §81147 (including amendments thereto) upon completion of the Work. The foregoing shall include without limitation, the timely preparation, completion and filing of Verified Reports during Project construction and the filing of the Final Verified Report with DSA within ten (10) days of the determination of Final Completion. Concurrently with submittal to DSA, the Contractor shall provide the District, District's Inspector, Architect and Construction Manager with copies of all Verified Reports completed by the Contractor and submitted to DSA.

4.21.2 District Withholdings From Final Payment. The completion and filing of the Final Verified Report with DSA by the Contractor is an express condition precedent to the District's disbursement of the Final Payment. If the Contractor fails to prepare and file the Final Verified Report with DSA within ten (10) days of the determination of Final Completion, the District may in the sole and exclusive discretion of the District retain and withhold an amount not to exceed ten percent (10%) of the Final Payment from disbursement to the Contractor as damages for the failure of the Contractor to have timely and completely discharged its obligations hereunder. The Contractor acknowledges and agrees that the foregoing withholdings by the District is a reasonable estimate of the damages and other losses the District will sustain due to the failure of the Contractor to have timely and fully discharged its obligations hereunder.

4.21.3 Progress Reports. Progress Reports shall be completed by the Contractor for each day of construction activities at the Site and submitted to the District or Project Manager not later than 9:00 A.M. of the ensuing business day.

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, including without limitation, the policies of insurance required under Article 6 of these General Conditions and obligates the Subcontractor to assume toward the Contractor all the obligations and responsibilities of the Contractor which by the Contract Documents the Contractor assumes toward the District and the Architect. 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 hereof, subject to the prior rights of the Surety if the District terminates the Contract for the Contractor's default. The Contractor shall provide to the District copies of all executed Subcontracts and Purchase Orders to which Contractor is a party within thirty (30) days after Contractor's execution of the Agreement. During performance of the Work, the Contractor shall, from time to time, as and when requested by the District, the Architect or the Project Manager provide the District with copies of any and all Subcontracts or Purchase Orders relating to the Work and all modifications thereto. The Contractor's failure or refusal, for any reason, to provide copies of such Subcontracts or Purchase Orders in accordance with the two preceding sentences is Contractor's default of a material term of the Contract Documents.

5.2 Subcontractor DIR Contractor Registration.

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

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

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

5.3 Substitution of Listed Subcontractor.

5.3.1 Substitution Process. Request of the Contractor to substitute a listed Subcontractor will be considered only if in strict conformity with this Article 5.2 and California Public Contract Code §4107. All costs incurred by the District, including without limitation, costs of the District's Inspector, the Architect, the Project Manager or attorneys' fees in the review and evaluation of a request to substitute a listed Subcontractor shall be borne by the Contractor; such costs may be deducted by the District from the Contract Price then or thereafter due the Contractor.

5.3.2 Responsibilities of Contractor Upon Substitution of Subcontractor. The District's consent to Contractor's substitution of a listed Subcontractor shall not relieve Contractor from its obligation to complete the Work within the Contract Time and for the Contract Price. The substitution of a listed Subcontractor shall not, under any circumstance, result in, or give rise to any to any increase of the Contract Price or the Contract Time on account of such substitution. If the District consents to substitution of a listed Subcontractor, the Architect shall determine the extent to which, if any, revised or additional Submittals will be required of the newly substituted Subcontractor ("Substituted Subcontractor"). If the Architect determines that revised or additional Submittals are required of a Substituted Subcontractor, the Architect shall promptly notify the Contractor, in writing, of such requirement. In such event, revised or additional Submittals shall be submitted to Architect not later than thirty (30) days following the date of the Architect's written notice to the Contractor pursuant to the foregoing sentence; provided that if in the reasonable and good faith judgment of the Architect, the progress of the Work or completion of the Work requires submission of additional or revised Submittals by a Substituted Subcontractor in less than thirty (30) days, the Architect shall so state in its written notice to the Contractor. If the revised or additional Submittals are not submitted by Contractor within thirty (30) days, or such earlier time as determined by the Architect pursuant to the preceding sentence, following the Architect's written notice of the requirement for revised or additional Submittals, Contractor shall be subject to the per diem assessments for late Submittals as set forth in Article 4.7.2.1 of these General Conditions. Any revised or additional Submittals required pursuant to this Article 5.3.2 shall conform to the requirements of Article 4.7 of these General Conditions. Contractor shall reimburse the District for all fees and costs, including without limitation fees of the Architect, the District's administrative costs and DSA fees, incurred or associated with the processing, review and evaluation of any revised or additional Submittals required pursuant to this Article 5.3.2; 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 5.3.2, such requirement shall not result in an increase to the Contract Time or the Contract Price.

- 5.4 Subcontractors' Work. Whenever the Work of a Subcontractor is dependent upon the Work of the Contractor or another Subcontractor, the Contractor shall require the Subcontractor to: (i) coordinate its Work with the dependent Work; (ii) provide necessary dependent data and requirements; (iii) supply and/or install items to build into the dependent Work of others; (iv) make appropriate provisions for dependent Work of others; (v) carefully examine and understand the portions of the Contract Documents (including Drawings, Specifications and Field Clarifications) and Submittals relating to the dependent Work; and (vi) examine the existing dependent Work and verify that the dependent Work is in proper condition for the Subcontractor's Work. If the dependent Work is not in a proper condition, the Subcontractor shall notify the Contractor in writing and not proceed with the Subcontractor's Work until the dependent Work has been corrected or replaced and is in a proper condition for the Subcontractor's Work.

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. The Contractor shall purchase and maintain Commercial General Liability, including coverage for the types of claims set forth below which may arise out of or result from Contractor's performance of the Work: (i) claims for damages because of bodily injury, sickness or disease or death of any person other than the Contractor's employees; (ii) claims for damages insured by usual personal injury liability coverage; (iii) claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; (iv) claims for damages because of bodily injury, death of a person or property damages arising out of ownership, maintenance or use of a motor vehicle; (v) contractual liability insurance applicable to the Contractor's obligations under the Contract Documents; (vi) Completed Operations; and (vii) Contractor's Pollution Liability.
- 6.3 Builder's Risk "All-Risk" Insurance. The Contractor, during the progress of the Work and until Final Acceptance of all Work by the District, 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 Insurance Requirements.

6.4.1 Coverage Limits. Minimum coverage limits for each policy of insurance required of the Contractor hereunder are set forth in the Special Conditions.

6.4.2 Deductibles. The Contractor is solely and exclusively responsible for the payment of deductibles, if any, under any policy of insurance required of the Contractor hereunder, without adjustment to the Contract Price on account thereof.

6.4.3 No Modification or Cancellation Without Prior Notice to District. Coverages afforded under policies of insurance required of the Contractor shall include provisions to the effect that coverage thereunder will not be canceled or allowed to expire until at least thirty (30) days prior written notice has been given to the District. 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.

6.4.4 District Additional Insured. The District shall be an additional insured under the Contractor's Commercial Liability and Builders Risk policies of insurance. The additional Insured acknowledgement shall be submitted as a separate declaration from the Contractor's insurance provider (ACCORD form modifications are not acceptable).

6.4.5 Certificates of Insurance. Prior to commencing the Work, 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, and thereupon the District may proceed to exercise any right or remedy provided for under the Contract Documents or at law. 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 Subcontractors' Insurance. Contractor shall require that every Subcontractor, to obtain and maintain the policies of insurance set forth in Articles 6.1, 6.2 and 6.4 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 Comprehensive General Liability Insurance of the Contractor or any Subcontractor, the District, Contractor and all Subcontractors waive rights of subrogation against the others. The costs for obtaining and maintaining the insurance coverages required herein shall be included in the Contract Price.
- 6.8 Indemnity. Unless arising solely out of the active negligence, gross negligence or willful misconduct the District or the Architect, the Contractor shall indemnify, defend and hold harmless the Indemnified Parties who are: (i) the District and its Board of Trustees, officers, employees, agents and representatives (including the District's Inspector); (ii) the Architect its respective agents and employees; and (iii) if one is designated by the District for the Work, the Project Manager and its agents and employees. The Contractor's obligations hereunder includes indemnity, defense and hold harmless of the Indemnified Parties from and against any and all damages, losses, claims, demands or liabilities whether for damages, losses or other relief, including, without limitation attorneys' fees and costs which arise, in whole or in part, from the Work, the Contract Documents or the negligent, grossly negligent or willful acts, omissions or other conduct of the Contractor, 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; (iv) Stop Payment Notice claims asserted by any person or entity in connection with the Work; and (v) 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 any of the Indemnified Parties as a party thereto, the Contractor shall, at its sole cost and expense, defend the named Indemnified Parties in such action or proceeding with counsel reasonably satisfactory to the named Indemnified Parties. 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 any of the Indemnified Parties are bound by, Contractor shall pay, satisfy or otherwise discharge any such judgment, award, ruling, settlement or relief; Contractor shall indemnify and hold harmless the Indemnified Parties from any and all liability or responsibility arising out of any such judgment, award, ruling, settlement or relief. The Contractor's obligations hereunder are binding upon Contractor's Performance Bond Surety and these obligations shall survive notwithstanding Contractor's completion of the Work or the termination of the Contract.
- 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. Unless otherwise stated in the Special Conditions, 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. 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 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 Completion of the Work. The date for commencement of the Work is the date established by the Notice to Proceed issued by the District pursuant to the Agreement, which shall not be postponed by the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible. The date of Completion is the date certified by the Architect and the District's Inspector as such in accordance with the Contract Documents.

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 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 Completion of the Work within the Contract Time.

7.2.2 Correction and Completion of Project Work per bid documents, plans and specifications Prior to One Hundred Percent Completion.

7.2.2.1 Punchlist. Upon achieving Completion of the Work, the District, the District's Inspector, the Project Manager, if any, the Architect and the Contractor shall jointly inspect the Work and prepare a comprehensive list of items of the Work to be corrected or completed by the Contractor ("the Punchlist"). The exclusion of, or failure to include, any item on the Punchlist 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.

7.2.2.2 Time for Completing Punchlist Items. In addition to establishing the Punchlist items pursuant to Article 7.2.3.1, the Project Manager, if any, Contractor and Architect shall, after the joint inspection, establish a reasonable time for Contractor's completion of all Punchlist items. If mutual agreement is not reached to establish the time for the Contractor's completion of Punchlist items, the Architect shall determine such time, and in such event, the time determined by the Architect shall be final and binding upon the District and Contractor so long as the Architect's determination is made in good faith. The Contractor shall promptly and diligently proceed to complete all Punchlist items within the time established. If the Contractor fails or refuses, for any reason, to complete all Punchlist items within the time established, Contractor shall be subject to assessment of Liquidated Damages in accordance with Article 7.4 hereof. The foregoing notwithstanding, if the Contractor fails or refuses to complete all Punchlist items, the District may in its sole and exclusive discretion and without further notice to Contractor, elect to cause the completion of all remaining Punchlist items provided, however that such election by the District is in addition to and not in lieu of any other right or remedy of the District under the Contract Documents or at law. If the District elects to complete Punchlist items of the Work, pursuant to the foregoing, Contractor shall be responsible

for all costs incurred by the District in connection herewith 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 jointly and severally liable to District for any such excess costs.

7.2.3 One Hundred Percent Completion. Completion is that stage in the progress of the Work when the Work or any designated portion thereof (whether described as milestones, phases, segments or other similar terms) is complete in accordance with the Contract Documents so the District can occupy or use the Work for its intended purpose. Completion shall be determined by the Architect, Project Manager, if any, and the District's Inspector upon request by the Contractor in accordance with the Contract Documents. The good faith and reasonable determination of Completion by the District's Inspector, Project Manager, if any and the Architect shall be controlling and final.

7.2.4 Contractor Responsibility for Multiple Inspections. If the Contractor requests determination of Completion or Final Completion by the District's Inspector, Project Manager, if any, and the Architect and it is determined by the District's Inspector, Project Manager, if any, or the Architect that the Work does not then justify certification of Completion or Final Completion and re-inspection is required at a subsequent time to make such determination, the Contractor shall be responsible for all costs of such re-inspection, including without limitation, the fees of the Architect, Project Manager, if any, and the District's Inspector. The District may deduct such costs from the Contract Price then due or thereafter due to the Contractor.

7.2.5 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 is the date upon which the District's Board of Trustees approves of the Final Acceptance of the Work.

7.3 Construction Schedule.

7.3.1 Submittal of Preliminary Construction Schedule. Within five (14) days following execution of the Agreement, the Contractor shall prepare and submit to the District, the Project Manager, if any, and the Architect a Preliminary Construction Schedule indicating, in graphic 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. Unless otherwise provided in the Special Conditions, the Construction Schedules required under this Article 7 shall; (i) be prepared with a commercially available computer software program in a critical path format; (ii) indicate the date(s) for commencement and completion of various portions of the Work including without limitation, procurement, fabrication and delivery of major items, materials or equipment; (iii) indicate manpower and other resources required for completion of each Construction Schedule activity; (iv) indicate costs for completion of each Construction Schedule activity; (v) identify each Submittal required by the Contract Documents, the date for the Contractor's submission of each Submittal and the date for the return of the reviewed Submittal to the Contractor. 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. If the Construction

Schedules required under this Article 7.3 incorporate therein any “float” time, such float shall be deemed to jointly belong to and owned by the District and the Contractor. As used herein, “float time” shall be deemed to refer to the time between 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, if any, 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, the Preliminary Construction Schedule will be returned to the Contractor with comments to the form or content thereof. Review of the Preliminary Construction 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 (21) 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 to the Architect and the Project Manager, if any, the Construction Schedule which incorporates therein the comments to the Preliminary Construction Schedule. Upon the Contractor’s submittal of such Construction Schedule, the District, the Project Manager and the Architect 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 and the Architect. Updates to the Approved Construction Schedule pursuant to Article 7.3.5 below shall not be deemed revisions to the Approved Construction Schedule. If the Approved Construction Schedule depicts 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 to the Architect and the Project Manager 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. The Contractor shall provide the District, the Project Manager and the Architect 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, and maintenance or updating of the Construction Schedules.

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

7.4.1 Excusable Delays. If Completion of the Work is delayed by Excusable Delays, the Contract Time shall be subject to adjustment for such reasonable period of time as determined by the Architect; Excusable Delays shall not result in any increase in the Contract Price. Excusable Delays 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, unanticipated unusually severe weather conditions or DSA directive to stop the Work. 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 exceeds those noted in the Special Conditions and such additional Rain Days directly and adversely impact the critical path 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 Completion of the Work is delayed and such delay is caused by the acts or omissions of the District, the Architect, or separate contractor employed by the District (collectively "Compensable Delays"), upon Contractor's request and notice, in strict conformity with Articles 7 and 9 of these General Conditions, the Contract Time will be adjusted by Change Order for such reasonable period of time as determined by the Architect 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, including without limitation, home office expenses, bond capacity impairment or loss of prospective economic advantage. 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. In addition to the foregoing limitations upon extension of the Contract Time, 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 or Work activities on the critical path of the then current and updated Approved Construction Schedule.

- 7.5 Liquidated Damages.** Should the Contractor neglect, fail or refuse to: (i) submit Submittals in accordance with the Approved Construction Schedule; (ii) achieve Completion of the Work or designated portions thereof within the Contract Time, (subject to adjustments authorized under the Contract Documents); (iii) or to complete Punchlist items within the time established pursuant to 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, until Submittals are submitted, Completion or completion of the Punchlist items are 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 submission of Submittals, Completion or completion of Punchlist items. 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 complete Punchlist items 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. 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 and subject to adjustments thereto in accordance with the Contract Documents, is the total amount payable by the District to the Contractor for completion of the Work and other obligations of the Contractor 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.** Within fifteen (15) days of the execution of the Agreement by Contractor, Contractor shall furnish, in a form acceptable to the District, a detailed estimate and complete Cost Breakdown of the Contract Price. The Cost Breakdown is subject to the District's review

and approval of the form and content thereof. If the District objects 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. Upon the District's approval of the Cost Breakdown, 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, conditioned or withheld in the sole 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 by the District in equal installments with its disbursements of Progress Payments and the Final Payment with the amount of each such installment equal to the aggregate amount of such items as reflected in the Cost Breakdown divided by the number of months of the Contract Time.

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 District, District's Inspector, Project Manager, if any, and the Architect, Applications for Progress Payments ("Payment Applications"), on forms approved by the District, setting forth an itemized estimate of Work completed in the preceding month for the purpose of the District's making of Progress Payments thereon. Values utilized in the Payment Applications shall be based upon the District approved Cost Breakdown pursuant to Article 8.2 above provided that such values are only for determining the basis of Progress Payments to Contractor, and shall not be considered as fixing a basis for adjustments, whether additive or deductive, to the Contract Price, or for determining the extent of Work actually completed.

8.3.2 Payment Application Review for Determination of Proper Payment Application. Pursuant to Public Contract Code §20104.50, upon receipt of a Payment Application, the District's Inspector, the Project Manager, if any, and the Architect will review the Payment Application as soon as practicable for the purpose of determining that the Payment Application is a proper Payment Application. A Payment Application is "proper" only if information required by the form of Payment Application is completely and accurately provided by the Contractor and the Payment Application is accompanied by: (i) a summary listing of the Subcontractors/Material Suppliers entitled to payment of any portion of the requested Progress Payment, along with the amount of payment each Subcontractor/Material Supplier is entitled to receive from the Contractor from the proceeds of the requested Progress Payment; (ii) completed and executed form of Verification of Certified Payroll Records Submittal To Labor Commissioner; (iii) duly completed and executed forms of Conditional Waiver and Release of Rights Upon Progress Payment in accordance with California Civil Code §8132 of the Contractor and Subcontractors/Material Suppliers covering the Progress Payment requested; (iv) duly completed and executed forms of Unconditional Waiver and Release of Rights upon Progress Payment in accordance with California Civil Code §8134 of the Contractor and Subcontractors/Material Suppliers covering the Progress Payment received by the Contractor under the immediately preceding Payment Application; (v) if applicable, a current union statement reflecting that the Contractor and Subcontractors 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; and (vi) a certification by the Contractor that it has continuously maintained the Record Drawings reflecting the actual as-built conditions of the Work performed for which the Progress Payment is requested, it being understood that such certification is subject to verification by the District, Architect or the Project Manager prior to disbursement of the Progress Payment. Pursuant to

Public Contract Code §20104.50, if a Payment Application determined by the District not to be a proper Payment Application it shall be returned by the District to the Contractor as soon as is practicable after receipt thereof, but in no event not more than seven (7) days after receipt. The District's return of any Payment Application pursuant to the preceding sentence shall be accompanied by a written document setting forth the reason(s) why the Payment Application is not proper.

8.3.3 Verification of Work Completed. Upon receipt of a Payment Application, the Architect, Project Manager, if any and the District's Inspector shall inspect and verify the Work to determine whether it has been performed in accordance with requirements of the Contract Documents and to determine the portion of the Payment Application which is properly due to the Contractor under the terms of the Contract Documents.

8.3.4 District's Disbursement of Progress Payments.

8.3.4.1 Timely Disbursement of Progress Payments. Pursuant to Public Contract Code §20104.50, within thirty (30) days after the District's receipt of a proper Payment Application, there shall be paid, by District, to Contractor a sum equal to ninety-five percent (95%) of the value of the Work indicated in the Payment Application which is actually in place as of the date of the Payment Application, as verified by the District's Inspector, Project Manager, if any, and the Architect and the pro rata portion of the Contractor's overhead, supervision and general conditions costs and profit for that month; provided, however, that the District's obligation to disburse any Progress Payment shall be subject to the District's receipt of all documents set forth in Article 8.3.2 above, each and all of which are conditions precedent to the District's obligation to disburse Progress Payments. If a Payment Application is determined not to be proper due to the failure or refusal of the Contractor to submit documents with the Payment Application, as required by Article 8.3.2, or incompleteness or inaccuracies in any such documents submitted or if it is reasonably determined that the Record Drawings 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 is deemed to commence on the date that the District is actually in receipt of documents not submitted with the Payment Application, or corrections to documents with the Payment Application so as to render them complete and accurate, or the date upon which the Contractor accurately and fully completes preparation of the Record Drawings relating to the Work for which the Progress Payment is requested.

8.3.4.2 Untimely Disbursement of Progress Payments. Pursuant to Public Contract Code §20104.50, if the District fails to make a Progress Payment within thirty (30) days after receipt of an undisputed and proper Payment Application, the District shall pay the Contractor interest on the undisputed amount of such Payment Application at the legal rate of interest set forth in California Code of Civil Procedure §685.010(a). The foregoing notwithstanding, if the District determines that any Payment Application is not proper, pursuant to Article 8.3.2 above, and the District does not return such Payment Application within the seven (7) day period provided for in Article 8.3.2, the period of time for the District's disbursement of the Progress Payment on such Payment Application without incurring interest liability shall be reduced by the number of days exceeding the seven (7) day return period.

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

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

8.3.5 Progress Payments for Changed Work. The Contractor's Payment Applications may

include requests for payment on account of Changes in the Work which have been properly authorized and approved by the District's Inspector, the Architect and all other governmental agencies with jurisdiction over such Change in accordance with the terms of the Contract Documents and for which a Change Order has been issued. 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, at the time of the Contractor's submittal of a Payment Application, 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, at or prior to the time of the Contractor's submittal of a Payment Application requesting payment for such materials or equipment if all of the following are complied with: (i) the materials or equipment have been delivered to the Site; (ii) 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 (iii) 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 pursuant to the preceding sentence shall be exercised exclusively by the District; the District's exercise of discretion not to make payment shall not be deemed the District's default hereunder. If the District elects to make payment for materials or equipment delivered and stored at the Site, the costs and expenses incurred to comply with the requirements of (ii) and (iii) 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.

8.3.6.3 Materials or Equipment Not Delivered or Stored at the Site. 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 or which are in the process of fabrication or transportation to the Site.

8.3.7 Exclusions From Progress Payments. In addition to the District's right to withhold disbursement of any Progress Payment provided for in the Contract Documents, neither the Contractor's Payment Application 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 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 Payment Application will pass to the District no later than the time of payment. The Contractor further warrants that upon submittal of a Payment Application, all Work for which a Progress Payment has been previously disbursed 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, 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.

8.3.9 Substitute Security for Retention. Pursuant to California Public Contract Code §22300, eligible and equivalent securities may be substituted for any monies withheld by the District to ensure the Contractor's performance under the Contract Documents at the request and expense of the Contractor and in conformity with the provisions of California Public Contract Code

§22300. The foregoing and the provisions of California Public Contract Code §22300 notwithstanding, failure of the Contractor to request the substitution of eligible and equivalent securities for monies to be withheld by the District within ten (10) days following the date of award of the Contract to Contractor shall be deemed a waiver of such right.

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, Project Manager, if any, and the District's Inspector will promptly make a final inspection of the Work and when the Architect, Project Manager, if any 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, Project Manager, if any, 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 One Hundred Percent reason that the insurance will not be renewable to cover any period following Final Payment as required by the Contract Documents; (iv) consent of the Surety on the Labor and Material Payment Bond and Performance Bond, to Final Payment if required; (v) duly completed and executed forms of Conditional or Unconditional Waivers and Releases of rights upon Final Payment of the Contractor, Subcontractors/Material Suppliers in accordance with California Civil Code §§8136 or 8138, with each of the same stating that there are, or will be, no claims for additional compensation after disbursement of the Final Payment; (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; (x) the completion and submittal of all reports required by the Contract Documents, including without limitation, verified reports required by applicable provisions of the California Code of Regulations; and (xi) if required by the District, such other data establishing payment or satisfaction of obligations such as receipts, releases and waivers of liens, Stop Payment 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. If the Contractor fails to timely submit completed DSA Reports in accordance with

Article 4.21.1 above, the Final Payment due the Contractor shall be reduced in accordance with Article 4.21.2 above.

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 Payment Notice or other claim filed or asserted after the Contractor's acceptance of the Final Payment by any Subcontractor, 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 and the Surety. The Contractor and Surety shall 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 attorney's fees incurred by the 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/Material Suppliers; (iii) claims filed or reasonable evidence of the probable filing of claims by Subcontractors, laborers, Material Suppliers, or others performing any portion of the Work under the Contract Documents for which the District may be liable or responsible including, without limitation, Stop Payment Notice Claims filed with the District pursuant to California Civil Code §9350 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) other claims, penalties and/or forfeitures for which the District is required or authorized to retain funds otherwise due the Contractor; (vii) any amounts due from the Contractor to the District under the terms of the Contract Documents; or (viii) the Contractor's failure to perform any of its obligations under the Contract Documents, its default under the Contract Documents or its failure to maintain adequate progress of the Work. In addition to the foregoing, the District shall not be obligated to process any Payment Application or Application for 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. If the Contractor fails 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. The Contractor shall timely make payment of retention due Subcontractors in accordance with Public Contract Code §7107.

8.7 Computerized Job Cost Reporting System.

8.7.1 Job Cost Reporting. The Contractor and each Subcontractor with a Subcontract valued at One Million Five Hundred Thousand Dollars (\$1.5M) or greater shall maintain a computerized job cost reporting system conforming to the requirements set forth herein. The computer program(s) utilized by the Contractor and applicable Subcontractors shall be subject to the review and acceptance by the District. The job cost reporting systems for the Work shall be updated in regular intervals of not more than one (1) calendar month.

8.7.2 Job Cost Reporting System Requirements. The computerized job cost programs utilized by the Contractor and applicable Subcontractors shall conform and comply with generally accepted accounting principles applied in a consistent manner and with recognized and generally accepted construction industry accounting standards, guidelines and procedures. The job cost reporting system format and configuration shall follow the general format of the District approved Cost Breakdown and budgets established for each line item shall be traceable to a bid estimate of costs. The job cost reporting systems utilized by the Contractor and applicable Subcontractors shall be capable of: (i) providing overall cost status on a monthly and cumulative basis; (ii) providing comparative analysis of the original budgeted costs, actual costs, remaining budget, and projected cost of completion; the job cost reporting system shall be capable of providing comparative analysis for individual line items and the totality of the Work reflected in the job cost report and; (ii) tracking adjustments to original budget amounts for Changes to the Work (including, without limitation, issued, pending and potential Change Orders).

8.7.3 Job Cost System Information. Upon request of the District, the Contractor and applicable Subcontractors shall make available written job cost reports and/or provide the District with the electronic files of the then current or requested job cost report. The Contractor's obligations hereunder are material.

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 authorization issued pursuant to the preceding sentence; the Contractor is not relieved or excused from its obligation to promptly commence and diligently complete 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 is not 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 Construction Change Directive. A Construction Change Directive is a written instrument issued by or on behalf of the District directing a Change to the Work prior to the Contractor and District reaching full agreement on an adjustment of the Contract Time and/or Contract Price on account of such Change. The Contractor shall promptly commence and diligently complete any Change to the Work subject to a Construction Change Directive issued hereunder. The issuance of a Change Order pursuant to this Article 9 in connection with any Construction Change Directive authorized by the District is not a condition precedent to Contractor's obligation to promptly commence and diligently complete any such Construction Change Directive. Upon completion of the Work subject to a Construction Change Directive, if the Contractor and District have not agreed on the

adjustment of Contract Time and/or Contract Price for such Change, District shall issue a Unilateral Change Order pursuant to this Article 9.

9.3 Oral Order of Change in the Work. Any oral order, direction, instruction, interpretation, or determination from the District or the Architect which in the opinion of the Contractor constitutes a Change to 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, Project Manager, if any 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. 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 is the 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 waives any claim for any adjustment to the Contract Price or the Contract Time on account thereof.

9.4 Contractor Submittal of Data. Within thirty (30) 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 Architect, Project Manager, if any, the District's Inspector and the District a detailed written statement setting forth the general nature of the Change, the 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.

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

9.5.1 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:

9.5.1.1 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, Project Manager, if any, or the Architect, the Contractor shall provide a detailed estimate of increase or decrease in costs directly associated with performance of the Change along with cost breakdowns of the components of the Change and supporting data and documentation. The Contractor's estimate of increase or decrease in costs pursuant to the foregoing, if requested, shall be in sufficient detail and in such form as to allow the District, the District's Inspector and the Architect to review and assess the completeness and accuracy thereof. 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 the time specified in the request of the District or the Architect for such estimate.

9.5.1.2 Determination by the District. By the District, whether or not negotiations are initiated pursuant to Article 9.5.1.1 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 9.5.1.2 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 is 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 notifies the District, the Architect, Project Manager, if any 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 9.5.1.2, Contractor shall, pursuant to Article 9.8 below, diligently proceed to perform and complete any such Change.

9.5.1.3 Basis for Adjustment of Contract Price. If Changes in the Work require an adjustment of the Contract Price pursuant to Articles 9.5.1.1 or 9.5.1.2 above, the basis for adjustment of the Contract Price shall be as follows:

9.5.1.3.1 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 in the labor classification(s) necessary for the performance of the Change. Use of a labor classification which would increase labor costs associated with any Change shall not be permitted. Labor costs shall exclude costs incurred by the Contractor in preparing estimate(s) of the costs of the Change, in the maintenance of records relating to the costs of the Change, coordination and assembly of materials and information relating to the Change or performance thereof, or the supervision and other overhead and general conditions costs associated with the Change or performance thereof.

9.5.1.3.2 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 necessarily 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 therefor 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.

9.5.1.3.3 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 the Work shall be compensated in increments of fifteen (15) minutes. 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, Project Manager, if any, 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 \$500.00 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 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, Project Manager, if any, the District's Inspector and the District, the allowable rate for the use of Construction Equipment in connection with 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.

9.5.1.3.4 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, no profit, general conditions or overhead costs shall be paid by the District to the Contractor for the reduced or deleted Work. In such event, the 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 for mark-ups on the cost of a Change adding to the scope of the Work.

9.5.1.4 Contractor Maintenance of Records. If the Contractor is directed to perform any Changes to the Work pursuant to Article 9.1, 9.2 or 9.3, or should the Contractor

encounter conditions which the Contractor believes to 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. If 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. If any Subcontractor provides or performs any portion of a 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 which shall constitute the Contractor's representation and warranty to the District that all information contained therein is true, accurate, complete and relate only to the Change referenced therein. All records maintained by a Subcontractor 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, Project Manager, if any or the District's Inspector upon request. If the Contractor fails or refuses, for any reason, to maintain or make available for inspection, review and/or reproduction such records and the adjustment to the Contract Price on account of any Change to the Work, 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.

9.5.2 Adjustment to Contract Time. If any Change to the Work authorized pursuant to this Article 9, the Contract Time affects the critical path of the Work, 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. The Contractor is solely responsible for submitting scheduling data, analysis and other materials necessary or required by the District to substantiate the Contract Time adjustment requested by the Contractor for a Change. The District is not obligated to consider any adjustment to the Contract Time on account of a Change until the Contractor has submitted such scheduling data, analysis and other materials.

9.5.3 Addition or Deletion of Alternate Bid Item(s). If the Bid Proposal 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. If any Alternate Bid Item is added or deleted from the Work pursuant to the foregoing, the Contract Time shall be adjusted by the number of days allocated for the added or deleted Alternate Bid Item in the Contract Documents; if days are not allocated for any Alternate Bid Item added or deleted pursuant to the foregoing, the Contract Time shall be equitably adjusted.

9.6 Change Orders. If the District approves of a Change, a written Change Order prepared by the Architect on behalf of the District shall be forwarded to the Contractor describing the Change and setting forth the adjustment to the Contract Time and the Contract Price, if any, on account of such Change. All Change Orders shall 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 9.6, 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.

- 9.7 Contractor Notice of Changes. If the Contractor claims that any instruction, request, the Drawings, the Specifications, action, condition, omission, default, or other situation obligates the District to increase the Contract Price or to extend the Contract Time, the Contractor shall notify the Project Manager, if any, the District's Inspector 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 Inspector 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 9.7, any such adjustment shall be determined in accordance with the provisions of Articles 9.5.1 and 9.5.2.
- 9.8 Disputed Changes. If there is 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.
- 9.9 Emergencies. In an emergency affecting or threatening the safety of persons, or which affects or threatens the Work, or property, the Contractor, without special instruction or prior authorization from the District, Project Manager 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.

- 9.10 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 Contractor shall carry out such orders promptly.
- 9.11 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 9.7 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 of the District 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 Architect, Project Manager, if any and the District's Inspector 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, the Laws 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 Architect, the Project Manager and the

District's Inspector written notice of the readiness of such Work for observation, testing or inspection at least two (2) working days prior to the time for the conducting of such test, inspection or observation. 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. If any portion of the Work subject to tests, inspection or approval is covered up by Contractor prior to completion and satisfaction of the requirements of such tests, inspection or approval, Contractor shall be responsible for the uncovering of such portion of the Work as is necessary for performing such tests, inspection or approval without adjustment of the Contract Price or the Contract Time on account thereof.

11.1.2 Cost of Tests and Inspections. The District will pay for fees, costs and expenses for the initial tests/inspections of materials/equipment which are conducted at the Site or locations within a one hundred (100) mile radius of the Site. All fees, costs or expenses for subsequent tests/inspections or for tests/inspections conducted at a location more than a one hundred (100) mile radius from the Site (including without limitation, travel and travel-related expenses) shall be borne solely and exclusively by the Contractor.

11.1.3 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 Laws, including without limitation, 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 Architect or Project Manager, if any will, upon written authorization from the District, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the District, and the Contractor shall give timely notice to the Architect, the Project Manager and the District's Inspector 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 fees of the Architect, Project Manager, if any, and the District's Inspector in connection therewith.

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.

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 or the requirements of the Contract Documents, it must, if required by the Architect or the District's Inspector, be uncovered for observation by the Architect and the District's Inspector and be replaced at the Contractor's expense 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 Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including additional testing and inspections and compensation for the Architect's services and expenses made necessary thereby. The Contractor shall bear all costs of correcting destroyed or damaged 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 proceed with correction of such defective or non-conforming Work within the time fixed herein, 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 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 be jointly and severally liable to the District for any such excess amount.

- 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. The District's determination of the extent of reduction of the Contract Price on account of defective or non-conforming Work accepted by the District shall be binding, conclusive, dispositive and not subject to appeal or other dispute resolution procedures, unless such determination is manifestly unreasonable.

ARTICLE 13: WARRANTIES

- 13.1 Workmanship and Materials. The Contractor warrants to the District that: (i) all materials and equipment furnished under the Contract Documents conform to requirements of the Contract Documents and are new, of good quality and of the most suitable grade and quality for the purpose intended, unless otherwise specified in the Contract Documents; and (ii) all Work and workmanship is of good quality, free from faults and defects and in conformity with the requirements of the Contract Documents. If required by the Architect or the District, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment incorporated into the Work. Any Work or portion thereof not conforming to these requirements, including substitutions or alternatives not properly approved in accordance with the Contract Documents may be deemed defective. 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 (1) 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 with 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; Surety Obligations. The Contractor's warranty obligations hereunder shall survive the Contractor's completion of Work under the Contract Documents, the District's Final Acceptance or the termination of the Contract. The obligations of the Surety issuing the Performance Bond shall include assumption and discharge of the Contractor's warranty obligations if the Contractor fails or refuses to perform its warranty obligations hereunder in strict conformity herewith.

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 directs suspension of the Work, an adjustment shall be made to the Contract Price for increases in the direct cost of performance of the Work of the Contract Documents, actually caused by suspension, delay or interruption ordered by the District; provided however that no adjustment of the Contract Price shall be made to the extent: (i) that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible under the Contract Documents; or (ii) that an equitable adjustment is made or denied under another provision of the Contract Documents. The foregoing notwithstanding, any such adjustment of the Contract Price shall not include any adjustment to increase the Contractor's overhead, general administrative costs or profit, all of which will remain as reflected in the Cost Breakdown submitted by the Contractor pursuant to the Contract Documents. 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 insure Completion of the Work within the Contract Time, or if the Contractor fails to One Hundred Percent 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 ten (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; (vi) 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. If the Contract is terminated pursuant to this Article 15.1, the District may take over the Work and prosecute it to completion, by contract or otherwise, and may exclude the Contractor from the site. The District may take possession of the Work and of all of the Contractor's tools, appliances, construction equipment, machinery, materials, and plant which may be on or about the Site, 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 at or about the Site 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 price for completion of the Work. If 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. If 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 twenty (20) days after demand therefor, the District may take over the Work and prosecute it to completion as provided for above.

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, fees for additional professional and consultant services, and the District's administrative costs, 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 Surety are jointly and severally liable for payment of such difference to the District.

15.1.6 Contractor Responsibility for Damages. The Contractor and the Surety shall be jointly and severally 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 exceeding 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 the Laws or 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 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.

16.3 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.

16.4 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.

16.5 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.

16.6 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.

16.7 Gender and Number. Whenever the context of the Contract Documents so require, the neuter gender shall include the feminine and masculine, the masculine gender shall include the feminine and neuter, the singular number shall include the plural and the plural number shall include the singular.

16.8 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.

16.9 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.

16.10 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.

16.11 Dispute/Claims Resolution.

16.11.1 Public Contract Code §9204 Claims Resolution Procedures. Claims of the Contractor are subject to the non-binding dispute resolution procedures set forth in Public Contract Code §9204 ("Section 9204") provided, however, that the Contractor's initiation of Section 9204 procedures is expressly subject to the Contractor's prior full and timely compliance with requirements and procedures of the Contract Documents relating to procedures for resolution of claims, change orders, disputes and other matters in controversy under the Contract Documents.

16.11.1.1 Claim Defined. The term "Claim" shall be as defined in Section 9204.

16.11.1.2 Claim Documentation. The Contractor shall furnish reasonable documentation to support each Claim. "Reasonable documentation" includes, without limitation: (i) contractual and legal basis establishing Claim entitlement or merit; (ii) factual basis establishing District liability for the Claim; (iii) detailed breakdown of labor, materials, equipment and other costs included in the Claim; and (iv) detailed basis, including Construction Schedule analysis and fragnets supporting any Contract Time adjustment or Liquidated Damages relief included in the scope of a Claim.

16.11.1.3 District Claim Review Statement. Within forty five (45) days (or such other time mutually agreed to by the District and the Contractor) after receipt of a properly submitted and properly documented Claim, the District will conduct a reasonable review

of the Claim and provide the Contractor with a written statement identifying the disputed and undisputed portions of the Claim ("Claim Review Statement"). If the District does not provide the Contractor with the Claim Review Statement for any Claim within forty five (45) days (or other time mutually agreed to by the District and the Contractor) after receipt of a properly submitted and properly documented Claim, the Claim is deemed rejected in its entirety and thereupon, the Contractor may initiate the Meet and Confer process described below. A Claim deemed rejected pursuant to the foregoing does not constitute an adverse finding of Claim merit or the Contractor's responsibility or qualifications. If the Claim Review Statement identifies any undisputed portion of a Claim ("Undisputed Claim") and payment is due from the District on the Undisputed Claim, the District shall process and make payment on the Undisputed Claim within sixty (60) days after the issuance date of the Claim Review Statement.

16.11.1.4 Meet and Confer.

16.11.1.4.1 Meet and Confer Demand. If the Contractor disputes any portion of the Claim Review Statement, or if a Claim is deemed rejected by the District not providing the Contractor with the Claim Review Statement within the time permitted under Section 9204, the Contractor may demand an informal conference to meet and confer with the District for settlement of the issues in dispute ("Meet and Confer"). The Contractor's Meet and Confer request must be submitted to the District: (i) in writing; (ii) by registered mail or certified mail, return receipt requested; and (iii) within ten (10) days after the Claim Review Statement is submitted to the Contractor or within ten (10) days after the date the Claim is deemed rejected, as applicable. Failure of the Contractor to strictly comply with the foregoing is deemed a waiver of the Contractor's right to request the Meet and Confer and the Non-Binding Mediation procedures under Section 9204. If the Contractor strictly complies with the foregoing, the District will schedule the Meet and Confer conference within thirty (30) days of the Contractor's Meet and Confer request for settlement of disputed portions of the Claim Review Statement.

16.11.1.4.2 Meet and Confer Statement. Within ten (10) business days after conclusion of the Meet and Confer conference, if any portion of a Claim remains disputed, the District shall provide the Contractor a written statement identifying the disputed and undisputed portions of the Claim ("Meet and Confer Statement"). If the Meet and Confer Statement identifies any Undisputed Claim and payment is due from the District on the Undisputed Claim, the District shall process and make payment on the Undisputed Claim within sixty (60) days after date the Meet and Confer Statement is issued.

16.11.1.5 Non-Binding Mediation.

16.11.1.5.1 Contractor Initiation. The Contractor may request nonbinding mediation ("Mediation") of disputed portions of a Claim identified in the Meet and Confer Statement. The Contractor's Mediation demand must be submitted to the District: (i) in writing; (ii) by registered mail or certified mail, return receipt requested; (iii) within ten (10) days after the Meet and Confer Statement is submitted to the Contractor; and (iv) with specific identification of the disputed Claims issues subject to Mediation. Failure of the Contractor to strictly comply with the foregoing is deemed a waiver of the Contractor's right to demand Mediation procedures under Section 9204.

16.11.1.5.2 Mediator Selection. The District and Contractor shall mutually agree to a mediator within ten (10) business days after the date of the Contractor's demand for Mediation. If the District and Contractor do not mutually agree to a mediator, the District and Contractor shall each select a mediator and the District/Contractor selected mediators shall select a qualified neutral third party to mediate the disputed portion of the Claim.

16.11.1.5.3 Mediation Procedures. Mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the District and Contractor in dispute resolution through negotiation or by issuance of an evaluation.

16.11.1.5.4 Mediation Costs. All costs, fees and expenses of the mediator(s) and mediation administration shall be shared equally by the District and Contractor. The foregoing notwithstanding, the Contractor and District shall each bear the costs, fees and expenses of their own attorneys, experts and consultants.

16.11.1.5.5 Post-Mediation Disputed Claims. Any Claims issues in dispute after Mediation shall be resolved in accordance with the applicable provisions of the Contract Documents.

16.11.1.5.6 Waiver. The District and Contractor may mutually agree to waive, in writing, Mediation under Section 9204 and subject to the Contractor's compliance with Government Code Claim requirements, proceed directly to commencement of a civil action or binding arbitration.

16.11.2 Payments of Undisputed Claims. If a payment due from the District for Undisputed Claims identified in the Claim Review Statement or the Meet and Confer Statement issued for a Claim is not made within the time established under Section 9204 the overdue portion of such payment shall bear interest at the rate of seven percent (7%) per annum from the date due. The District's credit application of any amount due for an Undisputed Claim against amounts due from the Contractor under the Contract Documents shall be deemed payment of the Undisputed Claim.

16.11.3 Subcontractor Claims.

16.11.3.1 Subcontractor Claim Submittal. If a Subcontractor, of any tier (collectively "Subcontractor") lacks legal standing to assert a Claim against the District because privity of contract does not exist, the Contractor may present the District a Claim on behalf of the Subcontractor ("Subcontractor Claim"). Each Subcontractor requesting submittal of a Subcontractor Claim to the District shall furnish reasonable documentation to support the Subcontractor Claim. Within forty-five (45) days of receipt of a Subcontractor's written request to submit a Subcontractor Claim, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the Subcontractor Claim to the District. If the Contractor did not present the Subcontractor Claim, the Contractor shall provide the Subcontractor with a statement of the reasons for not having done so.

16.11.3.2 Contractor Certification of Subcontractor Claim. The District's review of Subcontractor Claims is expressly subject to the Contractor's submittal of a duly completed and executed form of Contractor Certification of Subcontractor Claim certifying that the Contractor has thoroughly reviewed the Subcontractor Claim and based on the Contractor's review, certify that: (i) the Subcontractor Claim is made by the Subcontractor in good faith; (ii) the Subcontractor Claim is supported by reasonable

documentation establishing entitlement to the relief requested and District liability therefor; and (iii) the Subcontractor Claim does not incorporate any request constituting a False Claim under applicable law, including the California False Claim Act (Government Code §12650 et seq). The form of Contractor Certification of Subcontractor Claim is included in the Contract Documents.

16.11.3.3 District Review of Subcontractor Claim. Subcontractor Claims presented by the Contractor to the District are subject to the Section 9204 non-binding dispute resolution procedures set forth above, as modified herein. Requests for the District to conduct Meet and Confer and/or non-binding mediation procedures must be submitted jointly by the Contractor and the Subcontractor submitting the Subcontractor Claim. If Mediation proceedings are initiated in connection with a Subcontractor Claim, mediator and mediation administration fees and costs shall be borne equally by the District, Contractor and Subcontractor.

16.11.3.4 Disputed Subcontractor Claims. Subcontractor Claims which are not fully resolved by the Section 9204 non-binding dispute resolution procedures shall be resolved by Section 20104.4 Dispute Resolution Procedures or binding arbitration, as applicable. Commencement of Section 20104.4 Dispute Resolution Procedures or binding arbitration proceedings in connection with any Subcontractor Claim is subject to compliance with Government Code Claims requirements.

16.11.4 Government Code Claim Requirements. Pursuant to Government Code §930.6, any claim, demand, dispute, disagreement or other matter in controversy asserted by the Contractor, whether on behalf of itself or a Subcontractor, against the District for money or damages, including without limitation Claims or portions thereof remaining in dispute after completion of the Section 9204 non-binding dispute resolution procedures described above are deemed a "suit for money or damages" and shall be subject to the provisions of Government Code §§945.4, 945.6 and 946 ("Government Code Claims Process"). An express condition precedent to the Contractor's initiation of Section 20104.4 Dispute Resolution Procedures or binding arbitration proceedings pursuant to the following is the Contractor's compliance with the Government Code Claims Process, including without limitation, presentation of the claim, demand, dispute, disagreement or other matter in controversy between the Contractor and the District seeking money or damages to the District and acted upon or deemed rejected by the District in accordance with Government Code §900, et seq.

16.11.5 Section 20104.4 Dispute Resolution Procedures; Claims Less Than \$375,000. Any Claim, or portion thereof, in dispute after completion of the Section 9204 non-binding dispute resolution procedures and the Government Code Claims Process which is equal to or less \$375,000 shall be resolved in accordance with the civil action procedures established in Public Contract Code §20104.4. Unless otherwise agreed to by the District and the Contractor in writing, the mediation conducted pursuant to Section 9204 procedures shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

16.11.5.1 Binding Arbitration of Claims Exceeding \$375,000.

16.11.5.1.1 JAMS Arbitration. Any Claim, or portion thereof in dispute after completion of the Section 9204 procedures and the Government Code Claims Process which exceeds \$375,000 and any other claims, disputes, disagreements or other matters in controversy between the District and the Contractor arising out of, or related, in any manner, to the Contract Documents, or the interpretation, clarification or enforcement thereof shall be resolved by binding arbitration conducted before one (1) retired judge in accordance with the Construction Arbitration Rules and Procedures of Judicial Arbitration Mediation Services ("JAMS") in effect as of the date that a Demand for Arbitration is filed,

except as expressly modified herein. The locale for any arbitration commenced hereunder shall be the regional office of the JAMS closest to the Site.

- 16.11.5.2 Demand for Arbitration. A Demand for Arbitration shall be filed and served within a reasonable time after the occurrence of the claim, dispute or other disagreement giving rise to the Demand for Arbitration, but in no event shall a Demand for Arbitration be filed or served after the date when the institution of legal or equitable proceedings based upon such claim, dispute or other disagreement would be barred by the applicable statute of limitations. If more than one Demand for Arbitration is filed by either the District or the Contractor relating to the Work or the Contract Documents, all Demands for Arbitration shall be consolidated into a single arbitration proceeding, unless otherwise agreed to by the District and the Contractor. The Contractor's Surety, a Subcontractor or Material Supplier to the Contractor and other third parties may be permitted to join in and be bound by an arbitration commenced hereunder if required by the terms of their respective agreements with the Contractor, except to the extent that such joinder would unduly delay or complicate the expeditious resolution of the claim, dispute or other disagreement between the District and the Contractor, in which case an appropriate severance order shall be issued by the Arbitrator(s).
- 16.11.5.3 Discovery. In connection with any arbitration proceeding commenced hereunder, the discovery rights and procedures provided for in California Code of Civil Procedure §1283.05 shall be applicable, and the same shall be deemed incorporated herein by this reference.
- 16.11.5.4 Arbitration Award. The award rendered by the Arbitrator(s) ("Arbitration Award") shall be final and binding upon the District and the Contractor only if the Arbitration Award is: (i) supported by One Hundred Percent evidence; (ii) based on applicable legal standards in effect at the time the Arbitration Award is issued; and (iii) supported by written findings of fact and conclusions of law in conformity with California Code of Civil Procedure §1296. Any Arbitration Award that does not conform to the foregoing is invalid and unenforceable. The District and Contractor hereby expressly agree that the Court shall, subject to California Code of Civil Procedure §§1286.4 and 1296, vacate the Arbitration Award if, after review, the Court determines either that the Arbitration Award does not fully conform to the foregoing. The confirmation, enforcement, vacation or correction of an arbitration award rendered hereunder shall be made by the Superior Court of the State of California for the county in which the Site is situated. The substantive and procedural rules for such post-award proceedings shall be as set forth in California Code of Civil Procedure §1285 et seq.
- 16.11.5.5 Arbitration Fees and Expenses. The expenses and fees of the Arbitrator(s) shall be divided equally among all of the parties to the arbitration. Each party to any arbitration commenced hereunder shall be responsible for and shall bear its own attorneys' fees, witness fees and other costs or expenses incurred in connection with such arbitration. The foregoing notwithstanding, the Arbitrator(s) may award arbitration costs, including Arbitrators' fees but excluding attorneys' fees, to the prevailing party. By this arbitration provision, the District and the Contractor acknowledge and agree that neither shall recover from the other any attorney's fees 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. The limited exceptions in the Contract Documents that provide attorney's fees for specific issues shall neither be construed as applying to this arbitration provision under California Civil Code §1717(a) nor be deemed to be "authorized by the Laws."
- 16.11.5.6 Limitation on Arbitrator. The Superior Court for the State of California for

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

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

- 16.12 Limitation on Special/Consequential Damages. In the event of the District's breach or default of its obligations under the Contract Documents, the damages, if any, recoverable by the Contractor shall be limited to general damages which are directly caused by the breach or default of the District and shall exclude any and all special or consequential damages, if any. The Contractor expressly acknowledges the foregoing limitation to recovery of only general damages from the District if the District is in breach or default of its obligations under the Contract Documents; the Contractor expressly waives and relinquishes any recovery of special or consequential damages from the District.
- 16.13 Capitalized Terms. Except as otherwise expressly provided, capitalized terms used in the Contract Documents shall have the meaning and definition for such term as set forth in the Contract Documents.
- 16.14 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 attorney's 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.
- 16.15 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.
- 16.16 Days. Unless otherwise expressly stated, references to "days" in the Contract Documents shall be deemed to be calendar days.
- 16.17 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

Application of Special Conditions. These Special Conditions for a part of the Contract Documents for the Work described as **BID # 2025-05 CAREER CENTER EXTERIOR UPGRADES**

1. .
2. Project Manager. The District will manage the project.
3. Drawings and Specifications. (Available Electronically), The number of sets of the Drawings and Specifications which the District will provide to the Contractor, pursuant to Article 2.1.3 of the General Conditions is **Two (2)** Additional sets of the Drawings and Specifications may be obtained by the Contractor from the District at the cost of reproduction.
4. Insurance Coverages.
 - 4.1. Contractor Insurance. Pursuant to Article 6 of the General Conditions, the Contractor shall obtain and maintain the following insurance coverages with minimum coverage amounts as set forth below:

Policy of Insurance	Minimum Coverage Amount
Commercial General Liability Insurance	Per Occurrence: Two Million Dollars (\$2,000,000)
	Aggregate: Four Million Dollars (\$4,000,000)
Workers Compensation	In accordance with the Laws
Employers Liability	One Million Dollars (\$1,000,000)
Builders Risk	Full insurable value of the Work; Seismic coverage: Required

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

Policy of Insurance	Minimum Coverage Amount
Commercial General Liability Insurance	Per Occurrence: One Million Dollars (\$1,000,000)
	Aggregate: Two Million Dollars (\$2,000,000)
Workers Compensation	In accordance with the Laws
Employers Liability	One Million Dollars (\$1,000,000)

5. Contract Time. The commencement date of the Contract Time of the Work shall be as set forth in the Notice to Proceed issued by or on behalf of the District. The Contractor shall achieve One Hundred Percent (100%) of the Work by 60 days from Notice to Proceed. The Contract Time shall not be extended if the Contractor commences Work after the date established in the Notice to Proceed for commencement of Work without fault or neglect of the District.
6. Liquidated Damages. The per diem rate of Liquidated Damages for delayed One Hundred Percent Completion, delayed submission of Submittals and delayed completion of Punchlist shall be as set forth herein.
 - 6.1. Delayed One Hundred Percent Completion. If Completion is not achieved on or before expiration of the Contract Time, the Contractor shall be liable to the District for Liquidated Damages from the date of expiration of the Contract Time to the date that the Contractor achieves Completion of the Work at the per diem rate of One Thousand Dollars (\$1,000.00).

- 6.2. Delayed Submission of Submittals. If the Contractor fails to submit a Submittal in accordance with the Submittal Schedule, the Contractor shall be liable to the District for Liquidated Damages for each delayed Submittal at the per diem rate of Five Hundred Dollars (\$500.00) from the date that such Submittal was due to be submitted pursuant to the Submittal Schedule and the date that the Contractor actually submits the Submittal to the Architect.
 - 6.3. Delayed Punchlist Completion. If the Contractor fails to complete Punchlist within the time established pursuant to the Contract Documents, the Contractor shall be liable to the District for Liquidated Damages from the date established for completion of Punchlist until the date that all Punchlist is actually completed at the per diem rate of Five Hundred Dollars (\$500.00).
 - 6.4. Surety Liability. Subject only to limitations established by the penal sum of the Performance Bond, the Surety issuing the Performance Bond shall be liable to the District for Liquidated Damages due from the Contractor.
7. Mark-Ups on Changes to the Work. In the event of Changes to the Work, pursuant to Article 9 of the General Conditions, the mark-up for all overhead (including home and field office overhead), general conditions costs and profit, shall not exceed the percentage of allowable direct actual costs for performance of the Change as set forth below.
- 7.1. Subcontractor Performed Changes. For the portion of any Change performed by Subcontractors of any tier, the percentage mark-up on allowable actual direct labor and materials costs incurred by all Subcontractors of any tier shall be **Ten Percent (10%)**. In addition, for the portion of any Change performed by a Subcontractor of any tier, the Contractor may add an amount equal to Four Percent (4%) of the allowable actual direct labor and materials costs of Subcontractors performing the Change; the foregoing mark-up shall not be applied to the Subcontractor mark-up.
 - 7.2. Contractor Performed Changes. For the portion of any Change performed by the Contractor's own forces, the mark-up on the allowable actual direct labor and materials costs of such portion of a Change shall be **Ten Percent (10%)**.
 - 7.3. Bond Premium Costs. In addition to the foregoing mark-ups on the direct costs of labor and materials, a bond premium expense in an amount equal to the lesser of the Contractor's actual bond premium rate of One Percent (1%) of the total actual direct costs of labor and materials (before Subcontractor and Contractor mark-ups) will be allowed.
 - 7.4. Exclusions From Mark-Up of Actual Costs. Mark-ups on the actual cost of materials/equipment incorporated into a Change or for purchase/rental of Construction Equipment shall not be applied to any portion of such costs which are for sales, use or other taxes arising out of the purchase of materials/equipment and/or for purchase/rental of Construction Equipment.
8. Rain Days.
- 8.1. Rain Days Defined and Limitations on Rain Days. In addition to the requirements and limitations set forth in the Contract Documents, including without limitation Article 7.4.1 of the General Conditions, the Contract Time will be adjusted for unusually severe weather conditions resulting from rainfall only if: (i) the Contractor has taken reasonable measures to proceed with the Work notwithstanding inclement weather conditions; (ii) the Contractor demonstrates (by schedule analysis or other means) to the reasonable satisfaction of the District that the progress of Work on the critical path of the then current Construction Schedule was affected by unusually severe weather conditions resulting from rainfall; and (iii) the Contractor demonstrates to the reasonable satisfaction of the District that the Contractor could not re-sequence Work so that Work activities (whether or not on the critical path of the then current Construction Schedule) not affected by rainfall could have been performed on a Rain Day. The occurrence of precipitation by itself shall not constitute a Rain Day. For purposes of the Contract Documents, a Rain Day occurs when: (i) there is measurable rainfall occurring on a day when Work is scheduled to be performed at the Site; (ii) there is rainfall sufficiently continuous for at least a three (3) hour period; (iii) the rainfall is sufficiently severe to prevent performance of Work at the Site (rainfall is not deemed sufficiently severe to prevent Work at the Site if there are Work activities which are not materially affected by rainfall and which can be reasonably performed by the Contractor by re-sequencing Work activities); and (iv) after a Rain Day (as defined in (i), (ii) and (iii) above) has occurred, the conditions at the Site are adversely affected by rainfall so that a period of time is necessary to

permit sufficient “drying out” of wet conditions at the Site sufficient to permit the continuation of Work.

- 8.2. Rain Days Incorporated Into Construction Schedules. Construction Schedules prepared by the Contractor shall incorporate the following Rain Days. The Contract Time shall not be subject to adjustment for unusually severe weather conditions until the number of Rain Days noted below are exceeded.

Month	Rain Days
January	four (4)
February	four (4)
March	three (3)
April	two (2)
May	two (2)
June	none
July	none
August	none
September	none
October	two (2)
November	three (3)
December	four (4)

9. Hours and Days of Work at the Site.

- 9.1. Work Hours/Days. Subject to limitations set forth elsewhere in the Contract Documents and below, the hours/days of Work at the Site are: 7am – 5pm Mondays through Fridays, except for holiday days.
- 9.2. Limitations on Work Hours/Days. Work activities at the Site will be limited or prohibited on days: (i) devoted to student testing or when testing of students may be adversely affected by Work activities at the Site; or (ii) when other special events or functions are scheduled. The Contractor shall familiarize itself with District activities at the Site to avoid Work activity interferences or disturbances to such District activities. The Contractor’s Construction Schedule shall take into account the District activities which limit or preclude Work activities at the Site.
- 9.3. Facilities/Services for District Inspector. Unless otherwise expressly provided in the Contract Documents, pursuant to Article 4.14.2 of the General Conditions, the Contractor, without adjustment of the Contract Price, shall provide, or cause to be provided, for use by the District Inspector during prosecution of the Work, the following: (i) lockable temporary office space consisting of sufficient space to accommodate Project Inspectors assigned to the Work; (ii) furniture and furnishings consisting of desks and chairs for use by Project Inspectors assigned to the Work, file storage, one (1) conference table and seating sufficient to accommodate seating for at least four (4) people; (iii) landline phone; (iv) plain paper fax machine; (v) landline telephone and fax service; (vi) internet service; and (vii) plain paper copier with copy speed of no greater than thirty five (35) pages per minute.

10. Permits, Fees and Approvals. In addition to permits or approvals obtained by the District for the Work, the Contractor shall obtain the following permits, approvals and other authorizations from any public agency with jurisdiction over any portion of the Work. The Contractor shall obtain the permits, approvals and/or authorizations set forth below: (i) without adjustment of the Contract Price, unless otherwise indicated below; and (ii) without adjustment of the Contract Time.

Contractor Obtained Permit, Approval or Authorization	Cost Reimbursement
Deferred Approval Items	No reimbursement to Contractor; cost included in Contract Price.

For any work requiring City or County review and/or approval including the Merced County Health Department, Contractor shall coordinate and schedule inspections with City or County department

11. Construction Utilities. The Contractor shall obtain and pay for all site utilities required to complete the Work.

12. Use of Site.

- 12.1. Staging/Storage. Staging/storage areas shall be restricted to areas designated in the Contract Documents for such purposes. The Contractor, without adjustment of the Contract Price or the Contract Time, shall secure and pay for the use of additional storage, staging areas, or work areas needed for operations. The Contractor and Subcontractors are responsible for following the requirements established in the Contract Documents for deliveries, storage trailers, office trailers and temporary utilities. The Contractor and Subcontractors shall coordinate material and equipment deliveries with the District and to ensure that materials can be off-loaded efficiently and that Site use operations are maintained in an orderly fashion. If any materials or equipment stored at the Site obstruct the performance of any portion of the Project or otherwise interfere with District operations or activities, these materials shall be removed and relocated by the Contractor without adjustment of the Contract Price or the Contract Time. If the Contractor fails or refuses to comply with the foregoing staging/storage requirements and limitations within a reasonable time, but not more than twenty four (24) hours after notice, the District reserves the right to take measures to comply with such requirements or limitations, with the costs of such measures being the sole responsibility of the Contractor.
- 12.2. Site Logistics Plan. Prior to commencement of Work at the Contractor, the Contractor prepare a Site Logistics Plan which include, without limitation: delivery routes, storage/staging areas, jobsite trailer locations, wash out areas, and other similar activities. The Site Logistics Plan shall: (i) take into account emergency vehicle ingress/egress; pedestrian paths of travel and disabled persons paths of travel; (ii) be subject to review and acceptance by the District; and (iii) be subject to modification during performance of the Work.
- 12.3. Parking. Personnel of the Contractor, Subcontractors and others performing Work at the Site will be allowed to park vehicles in the staging area as designated in the specifications, or areas outside the Site, with a valid District parking permit, in the parking spaces at a location designated by the District. Parking permit charges, if any, shall be borne and paid by the Contractor without adjustment of the Contract Price. The foregoing notwithstanding, the extent or location of parking for such personnel may be limited, restricted, eliminated or modified by the District as reasonably necessary to facilitate and accommodate necessary parking for the District's students, staff and visitors. Neither the Contract Price nor the Contract Time shall be adjusted as a result of any such District modifications to the extent or location of parking.
- 12.4. Prohibition on Smoking. The District has implemented policies and practices limiting and restricting smoking on District property, including the Site. The Contractor is solely responsible for obtaining the District's current non-smoking policy and: (i) notifying Subcontractors of the District's non-smoking policies; (ii) informing employees of the Contractor and Subcontractors of the District's non-smoking policies; (iii) posting notices at the Site summarizing the District's non-smoking policies; (iv) complying with the Laws relating to smoking limitations and restrictions; and (v) taking appropriate actions if the District's non-smoking policies are violated or limitations/restrictions imposed by the Laws are violated, including without limitation, removal of personnel violating such policies, limitations or restrictions.

[END OF SECTION]

Scope of Work as specified in the Site Drawings

Construction of a new exterior patio with privacy wall made of composite cladding for MERCED COLLEGE CAREER CENTER EXTERIOR UPGRADES, MERCED, California.



MEMORANDUM

April 12, 2022

| Via Email

TO: Chief Business Officers

FROM: Marc A. LeForestier
General Counsel

RE: Contractor and Grantee Compliance with Economic Sanctions Imposed in Response to Russia's Invasion of Ukraine

On March 4, 2022, Governor Gavin Newsom issued [Executive Order N-6-22](http://www.gov.ca.gov/wp-content/uploads/2022/03/3.4.22-Russia-Ukraine-Executive-Order.pdf) (EO) (available here: <http://www.gov.ca.gov/wp-content/uploads/2022/03/3.4.22-Russia-Ukraine-Executive-Order.pdf>) regarding sanctions in response to the Russian invasion of Ukraine.

The EO directs all agencies and departments that are subject to the Governor's authority to take certain immediate steps, including notifying all contractors and grantees of their obligations to comply with existing economic sanctions imposed by the U.S. government in response to Russia's actions in Ukraine, as well as any sanctions imposed under state law. As you know, many community college districts contract with the California Community Colleges Board of Governors, and this memorandum is shared with the listserv for this purpose.

This correspondence serves as a notice under the EO that as a contractor or grantee, compliance with the economic sanctions imposed in response to Russia's actions in Ukraine is required, including with respect to, but not limited to, the federal executive orders identified in the EO and the sanctions identified on the U.S. Department of the Treasury website (<https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/ukraine-russia-related-sanctions>). Failure to comply may result in the termination of contracts or grants, as applicable. If you have any questions regarding compliance with these sanctions, they should be addressed to your legal counsel.

Please note that for any agreements or grants valued at \$5 million or more, a separate notification will be sent outlining additional requirements specified under the EO.

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Chancellor's Office, Division Name

1102 Q Street, Sacramento, CA 95811 | 916.445.8752 | www.cccco.edu

SECTION 011113 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY

- A. Work included: Construction of a new exterior patio with privacy wall made of composite cladding for MERCED COLLEGE CAREER CENTER EXTERIOR UPGRADES, MERCED, California.
- B. This Section includes the following:
 - 1. Summarizes the Work of the Contract.
 - 2. Establishes requirements governing the Work.
 - 3. Identifies the Work that will be performed under separate contracts and the coordination.
 - 4. Project Site access.
 - 5. Restrictions under which the project will be constructed.
- C. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

- A. The words "OWNER" and "DISTRICT" are synonymous and interchangeable, when used throughout this Project Manual.

SUBMITTALS

1.3

Submit in accordance with Specification Section - SUBMITTAL PROCEDURES.

- A.
 - 1. Quality Assurance/Control Submittals:
 - a. Certificates:
 - 1) Submit three (3) copies of certificates indicating compliance with the Asbestos Hazard Emergency Regulations Act.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Contractor's Qualifications:
 - a. Contractor shall have experience and have successfully completed three (3) projects of similar scope and size to that indicated for this project.
 - b. Contractor shall have demonstrated that they have the resources to perform all of the requirements of this project.
- B. Regulatory Requirements:
 - 1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
 - a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the Project is located.
- C. Certifications:
 - 1. The Contractor shall certify in writing that no materials containing Asbestos are incorporated in the work, in accordance with the Asbestos Hazard Emergency Regulations Act.
- D. Contractor's Duties:
 - 1. Except as specifically noted, provide and pay for:
 - a. Labor, material and equipment.
 - b. Tools, construction equipment and machinery.
 - c. Heat and utilities required for construction. See Specification Section - TEMPORARY FACILITIES AND CONTROLS.
 - d. Other facilities and services necessary for proper execution and completion of Work.
 - 2. Pay legally required sales, consumer and use taxes.
 - 3. Secure and pay for all site specific as necessary for proper execution and completion of Work.
 - a. Licenses.
 - b. Permits and Fees.
 - c. Government Fees .
 - d. Royalties.
 - 4. Give required notices.
 - 5. Promptly submit written notice to Architect of observed variance.
 - 6. Enforce strict discipline and good order among employees. Do not employ on Work:
 - a. Unfit persons.
 - b. Persons not skilled in assigned task.
- E. :

1.5 PROJECT CONDITIONS OR SITE CONDITIONS

A. Access to Site:

1. General: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of the Project.
2. Contractor shall be responsible for coordinating access to and from the site throughout the duration of the project. Access to and from the site may vary, based upon timing and duration of project.
3. The Contractor shall not use the Off-Site areas, with the exception of the Site Access per Specification Section - TEMPORARY FACILITIES AND CONTROLS, and shall not interfere with the work in these areas.

B. Contractor Use of Premises:

1. Confine operations at sites to areas permitted by:
 - a. Laws.
 - b. Ordinances.
 - c. Permits.
 - d. Contract Documents.
2. Do not unreasonably encumber site with materials or equipment.
3. Assume full responsibility for protection and safekeeping of Contractor's and Owner's material stored on premises, and keep the site and building secure at all times.
4. Obtain and pay for use of additional storage Work areas needed for operations.
5. Limit use of Site Work and storage.

1.6 SCHEDULING

A. The Work of this Project will be constructed under a single contract.

1. It is anticipated that the start of construction will be around April 1st of 2025 and to be completed July 1st of 2025. Coordinate with the Owner.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 012300 – ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install or remove all materials, accessories and other related items necessary to add or delete from the Project as indicated by the alternates in the Contract Documents.
 - a. Any services such as utilities that are meant to pass thru the Alternate areas that serve other areas not involved shall be maintained as part of the Base Bid whether indicated or not.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the BID FORM for certain work defined in the Bidding Requirements that may be added to or deducted from the Base Bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the work. No other adjustments are made to the Contract Sum.

1.3 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
 - 1. Quality Assurance/Control Submittals:
 - a. Notification Letter:
 - 1) Submit three (3) copies of Notification Letter to all concerned on the status of all ALTERNATES.

1.4 QUALITY ASSURANCE

- A. Procedures:

1. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into the Project.
 - a. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
 - b. Provide Lump Sum Price (and all itemized prices) for construction of the Base Bid and each Alternate Bid on the BID FORM.
2. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
3. Execute accepted alternate under the same conditions as other work of the Contract.
4. Schedule: A schedule of Alternates is included at the end of this Section.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. General: All Alternate descriptions are general in nature and refer to the contract drawings for specific scope of work.
- B.

END OF SECTION

SECTION 012500 – SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Work that is substituted for Work specified in DIVISIONS 02 through 49 shall meet the requirements of this Section.
 - 2. Provide all material, labor, equipment and services necessary to completely install all approved substituted materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
 - 3. See the INSTRUCTIONS TO BIDDERS or the GENERAL CONDITIONS for any time limits set for the submittal of substitutions.
 - 4. Substitutions can be requested in one way: "After Award of the Contract":
 - a. "After Award of the Contract": In accordance with the provisions of Section 3400 of the California Public Contract Code, the Contractor awarded the Contract will be provided with a period of thirty-five (35) calendar days after the award of the Contract for submission of data substantiating a request for a substitution of "an equal" item or items.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

- A. Claimant: Bidder, Sub-Contractor, Contractor, Distributor, Supplier, Manufacturer or other entity that is submitting a claim for a substitution.
- B. Substitutions: Substitutions are not a part of the Submittal Process described in Specification Section – SUBMITTAL PROCEDURES. Substitution Requests by a claimant must be reviewed and approved by the Architect before any submittal will be accepted. It is the claimant's responsibility to provide clear and concise documentation to expedite the Architect's review. If the Substitution Request requires re-submission(s) due to the Claimant's inadequate documentation, no time extension will be allowed.
- C. "Or Equal" / "Or Approved Equivalent": Claimant shall request a substitution in accordance with this Specification Section – SUBSTITUTION PROCEDURES.
- D. The Project Manual employs the following methods of specifying products. Claimant shall conform to the directives below for this Project:

1. Product, system or design specified only by reference standards:
 - a. Select any product, system or design meeting reference standards.
2. Product, system or design specified by naming several products, systems, designs and/or manufacturers:
 - a. Select any product, system, design and/or manufacturer named.
3. Product, system or design specified by naming several products, systems and/or manufacturers and reference standards:
 - a. Products, systems, designs and/or manufacturer names indicate products, systems, designs and/or manufacturers that (in the Architect's opinion) meets the reference standards.
 - b. Select any of the named manufacturer's products, systems or designs meeting the reference standards.
4. Product, system or design specified by naming one or more products, systems, designs and stating, "or equal to", "or approved equivalent" with the specified products, systems or designs:
 - a. Select product, system or design specified, "or approved equivalent".
5. Product, system or design specified by naming only one product, system or design:
 - a. Select product, system or design specified, "or approved equivalent".
6. Product, system or design specified by naming only one product, system or design and followed by the statement "DISTRICT STANDARD – NO SUBSTITUTIONS":
 - a. Provide product, system or design specified. No substitutions allowed.

1.3 SUBMITTALS

- A. Submit in accordance with Specification Section - INSTRUCTIONS TO BIDDERS:
- B. Content of Request:
 1. Complete the attached **SUBSTITUTION REQUEST FORM** substantiating compliance of proposed substitution with Contract Documents. **NO OTHER FORMS WILL BE ACCEPTED.**
 2. Attach to the SUBSTITUTION REQUEST FORM an itemized comparison of proposed substitution with product, system or design specified.
 3. For products or systems, attach to the SUBSTITUTION REQUEST FORM:
 - a. Product, system or design identification, including manufacturer's name and address.
 4. Manufacturer's product information: **MUST BE HIGHLIGHTED AND PROJECT SPECIFIC. SUBMITTALS NOT ADEQUATELY MARKED-UP ACCORDING TO PROJECT SPECIFICS WILL BE REJECTED:**
 - a. Literature including product, system or design description, performance and test data and reference standards.
 - b. Samples.
 - c. Warranties.
 5. For construction methods, attach to the SUBSTITUTION REQUEST FORM:
 - a. Detailed description of proposed methods.
 - b. Drawings illustrating methods.
- C. Submit three (3) copies of Substitution Request including all attached data.

1.4 QUALITY ASSURANCE

A. Qualifications:

1. Product, system or design qualifications:
 - a. In making a request for substitution, Claimant certifies that:
 - 1) Claimant has personally investigated proposed product, system or design, and determined that it is equal or superior in all respects to that specified.
 - 2) Claimant shall provide the same guarantee or warranty for substitution as for product, system or design specified.
 - 3) Claimant shall coordinate installation of accepted substitution into the Project, making such changes as may be required for the Project to be complete in all respects.
 - 4) Claimant waives all claims for additional costs related to substitution which subsequently become apparent for integrating the substituted product, system or design into the Project.
 - 5) Claimant waives all claims for time extension(s) due to improper documentation requiring re-submission(s) of a Substitution Request Review.

B. Regulatory Requirements:

1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
 - a. Products (and installation standards), systems or methods used for this Project shall comply with CARB standards in effect at the Project Site, and at the time of installation.

C. Acceptance of Substitutions:

1. Procedures:
 - a. The Contract is based on products, systems or designs described in the Contract Documents.
 - b. Architect will consider proposals submitted in accordance with time limits set within the Specification Section - INSTRUCTIONS TO BIDDERS.
 - c. Architect is solely responsible for judging the acceptance of substitutions.
 - 1) Acceptance of a substitution does not waive the product manufacturer's responsibility for product liability. The Architect will judge (based on the substitution submission data) for function and use – product liability shall remain the responsibility of the product manufacturer.
 - d. Substitute products, systems or designs shall not be used unless the substitutions have been specifically approved for this Project by the Architect.
 - 1) Substitute products, systems or designs that are related to structural, fire and life safety or access compliance shall not be used unless such substitution have been specifically approved for this Project by the Architect and the appropriate authority having jurisdiction.
2. Substitutions will not be considered if:
 - a. They are indicated or implied on product submittals in accordance with Specification Section - SUBMITTAL PROCEDURES. Substitutions are not Submittals, and must be reviewed and approved prior to being submitted as a Submittal.
 - b. Acceptance will require substantial revision of Contract Documents.
 - c. They are submitted after the date set for substitutions within this Contract, unless:

- 1) The specified or drawing item that has been verified to be discontinued or is otherwise unavailable.
- 2) The Owner proposes a cost savings for the product, system or method.
- 3) The Owner proposes early occupancy, and the proposed substitution allows for that convenience.

PART 2 - PRODUCTS
NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULES

- A. Substitution Request Form:
1. See the form attached to the end of this section.
 2. The attached form will be reproduced (and sequentially numbered by the Contractor after the award of the Contract) by the Claimant for any and all proposed substitutions.
 3. **NO OTHER FORMS WILL BE ACCEPTED.**

(Attachment)

SUBSTITUTION REQUEST FORM

TO: DARDEN ARCHITECTS, INC.
6790 N. West Avenue
Fresno, CA 93711

CHECK APPROPRIATE LINE:

_____ Substitution Request After Award of the Contract
_____ Product or System Substitution
_____ Design Change Substitution

The Contractor Awarded the Contract for this Project shall assign sequential Substitution Request # below.
Leave blank if submitted during the Bid Period.

SUBSTITUTION REQUEST # _____

WE HEREBY SUBMIT FOR YOUR CONSIDERATION THE FOLLOWING PRODUCT OR
METHOD AS SUBSTITUTION FOR THE SPECIFIED OR DRAWING ITEM FOR THIS PROJECT:

PROJECT: _____

SPECIFIED ITEM: _____

Specification Section #	Page #	Paragraph #	Description
OR			

DRAWING ITEM: _____

Drawing #	Detail Cut #	Description
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PROPOSED CREDIT IF ANY: _____

PROPOSED SUBSTITUTION:

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents to which the proposed substitution will require for its proper installation.

The undersigned claimant certifies: (Modifications by the claimant to the following list is cause for automatic rejection without further review)

1. The proposed substitution does not affect dimensions shown on drawings or code requirements indicated.
3. The proposed substitution will have no adverse affect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.
5. Attach information for a minimum of three projects where the substitution has been used locally within a 200 mile distance of this project, including names, addresses and telephone numbers of Owners who have accepted this product into their projects.
6. Attach all cost data with explanations if different from Specified or Drawing item. Include in that explanation a discussion on quality of proposed substitution and cost differential.
7. The undersigned claimant shall pay for any subsequent changes in incorporating the proposed substitution that were not apparent at the time of approval into the Work, including compensation to the Architect as described in item 2 above.

The undersigned Claimant(s) declares under penalty of perjury per the California Government Code Section 12650, et seq., that the claim of function, appearance and quality are equivalent or superior to the specified or drawing item, and further know and understand that submission for certification of a false claim may lead to fines, imprisonment and/or other severe legal consequences.

SUBMITTED BY CLAIMANT:**ADDITIONAL CLAIMANT SIGNATURE REQUIRED:**

Signature _____
Firm _____

**The Contractor or Construction Manager
if submitted after the Award:**

Address _____

Signature _____
Firm _____

Date _____
Telephone _____

DESIGN CONSULTANT USE ONLY:

___ Accepted
___ Accepted as Noted
___ Not Accepted
___ Received Past Time Period Allowed by Public Contract Code #3400.

By _____ Date _____
Remarks _____

END OF SECTION

SECTION 012973 – SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes the administrative and procedural requirements necessary to prepare and process the Schedule of Values, Unit Price Schedules, and Application for Payment.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

- A. Schedule of Values: A statement furnished by the Contractor allocating portions of the Contract Sum to various portions of the Work. The statement shall be used as the basis for reviewing the Contractor's Application for Payment.
- B. Unit Prices: Unit Prices are applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work. If the Scope of Work or estimated quantities of Work required by the Contract Documents is increased or decreased, Unit Prices are added to or deducted from the Contract Sum by appropriate modification.

1.3 SUBMITTALS

- A. Submit the following in accordance with Specification Section - SUBMITTAL PROCEDURES.
 - 1. Schedule of Values.
 - a. Initial Schedule of Values.
 - b. Complete Schedule of Values.
 - c. Updated Schedule of Values.
 - 2. Application for Payment.
 - a. Application for Payment Forms.
 - b. Initial Application for Payment.
 - c. Progress of Work Application for Payment.
 - d. Substantial Completion Application for Payment.
 - e. Final Application for Payment
 - 3. Unit Price Schedule.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.
1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including, but not limited to, the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittals Schedule.
 - c. Items required to be indicated as separate activities in the Contractor's Construction Schedule.
 2. Submit the Schedule of Values to Architect at the earliest possible date, but no later than 15 days prior to the date scheduled for submittal of the initial Application for Payment.
 - a. Revise Schedule as required by Architect's review.
 - b. Submit schedule in Hard Copy format and Electronic File Format via Compact Disk.
 - 1) Hard Copy Format: 8-1/2" x 11" minimum.
 - 2) Electronic Compact Disk Format: Microsoft® Excel 97.
 - a) Acceptable Alternative Format: ASCII.
 - c. No payment will be made without the Architect's review and acceptance of the Schedule of Values.
 3. Sub-schedule for Phased Work: Where the Work is separated into phases requiring separating phased payments, provide sub-schedules showing values correlated with each phase of payment.
 4. Sub-schedules for Separate Elements of Work: Provide sub-schedules showing values correlated with each separate element of the Work.
 - a. General Requirements: Detail cost breakdown of all cost items that are directly related to Division 00 Conditions of the Contract and Division 01 General Requirements.
 - b. Project Site Costs: Detailed cost breakdown of all cost items that are directly related to the Project Site.
 - 1) When the Project Site is of sufficient size to warrant, break the site costs down into areas of work compatible with the Contractor's Means and Methods for construction sequences.
 - c. Building Costs: Detailed cost breakdown of all cost items that are directly related to the Project per Building.
- B. Format and Content: Use the 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 Section.
1. Identification: Include the following Project Identification on the Schedule of Values:
 - a. Project Name and Location.
 - b. Owner Name.
 - c. Architect's Project Number.
 - d. Contractor's Name and Address.
 - e. Submittal Date.
 2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Construction Schedule Activity Identification.
 - b. Related Specification Section.
 - c. Description of the Work.

- d. Subcontractor Name.
- e. Manufacturer or Fabricator Name.
- f. Supplier Name.
- g. Change Orders:
 - 1) Detailed cost breakdown of all cost items that are directly related to the Project per Change Order.
- h. Dollar Value for the following as a percentage of the Contract Sum:
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
- 3. Provide breakdown of the Contract Sum that is compatible with the Contractor's Means and Methods for Construction in enough detail to facilitate continued evaluation of Application for Payment and Progress Reports. Coordinate with the Project Manual's Table of Contents. Provide multiple line items for principle subcontract amounts in excess of 1/2 of 1 percent of Contract Sum.
- 4. Round amounts to the nearest dollar. Totals shall equal the Contract Sum.
- 5. Provide a separate line-item 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 Off-Site.
 - 1) When stored Off-Site, include evidence of insurance or Bonded Warehousing.
- 6. Provide separate line-items in the Schedule of Values for initial cost of materials for each subsequent stage of completion and for the total installed value of that part of the Work.
- 7. Allowances: Provide a separate line-item in the schedule of values for each allowance.
 - a. Show line-item values of unit price allowances, as a product of the unit price, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
- 8. Purchase Contracts: Provide separate item in the Schedule of Values for each Purchase Contract. Show line-item value of Purchase Contract. Indicate Owner payments or deposits, if any, and balance to be paid by the Contractor.
- 9. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportional share of general overhead and profit for each item.
 - a. Principle Subcontractor Costs: Provide total costs of principle subcontractors, whose work relates to the FACILITIES SERVICES SUBGROUP and SITE AND INFRASTRUCTURE SUBGROUP, excluding Contractor's overhead and profit.
 - 1) Total costs include proportional share of the principle subcontractors overhead and profit for each.
- 10. Temporary Facilities and other major cost items that are not direct cost of actual work-in-place shall be shown as separate line-items. Such items shall be, but not limited to, the following:
 - a. Performance and Labor and Material Bonds.
 - b. Field Supervision and Layout.
 - c. Temporary Facilities.
 - d. Project Identification Sign.
 - e. Project Closeout:
 - 1) Include separate line-items for Operation and Maintenance Manuals, Punch List Activities, Project Record Documents, and Demonstration and Training.
- 11. Schedule Updating: Update and submit the Schedule of Values before the next Application for Payment when Change Orders result in a change in the Contract Sum.

- a. Separate Sheets for each Change Order shall be included and the form and content of each Change Order shall be in accordance with this specification section.

1.5 REQUEST FOR PAYMENTS

- A. Coordination: Coordinate the preparation of the Application for Payment with the preparation of the Schedule of Values.
 1. Entries shall match data on the Schedule of Values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Application for Payment Forms: Use forms approved by the Architect and Owner for Applications for Payment.
 - a. Submit for approval with initial submittal of Schedule of Values.
 3. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of the Contractor. Project Inspector or Architect will return incomplete applications without action.
 4. Transmittal: Use signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt. One copy shall include Waivers of Lien and similar attachments if required.
- B. Format and Content: Use the Schedule of Values as a guide to establish line items for the Application for Payment.
 1. Identification: Include the following Project Identification on the Application for Payment:
 - a. Project Name and Location.
 - b. Owner Name.
 - c. Architect's Project Number.
 - d. Contractor Name and Address.
 - e. Application Date.
 2. Arrange the Application for Payment in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section.
 - b. Description of Work.
 - c. Dollar Value.
 - d. Percentage of Completion.
 - e. Dollar Value to Date: Include amounts for work completed following previous Application for Payment, whether or not payment has been received.
 - f. Dollar Value this Period: Include only amounts for work completed at the time of Application for Payment.
 - g. Estimate of Dollar Value to Completion.
 - h. Dollar Value of Retention.
 - i. Include amounts of Change Orders issued before last day of construction period covered by application.
 - j. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
 3. 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.
 - a. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.

- b. 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.
 - c. Provide summary documentation for stored materials indicating the following:
 - 1) Materials previously stored and included in previous Applications for Payment.
 - 2) Work completed for this Application utilizing previously stored materials.
 - 3) Additional materials stored with this Application.
 - 4) Total materials remaining stored, including materials with this Application.
 - 4. Waivers of Mechanic's Lien: With each Application for Payment, submit Waivers of Mechanic's Liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 - a. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 - b. When an Application shows completion of an item, submit conditional final or full waivers.
 - c. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 - d. 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.
 - e. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- C. 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. Products List (preliminary if not final).
 - 5. Schedule of Unit Prices.
 - 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.
- D. Application for Payment for Progress of Work:
 - 1. Each Application for Payment shall be consistent with previous applications and payments as certified by the Project Inspector, Architect, and paid for by the Owner.
 - 2. Progress payments shall be submitted to the Architect by the date established by the Owner. The maximum time period covered by each Application for Payment is for one month.
- E. Application for Payment at Substantial Completion: After issuing 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.

2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- F. Final Application for Payment: 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. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. "Contractor's Affidavit of Payment of Debts and Claims".
 5. "Contractor's Affidavit of Release of Liens".
 6. "Consent of Surety to Final Payment".
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 9. Final liquidated damages settlement statement.

1.6 UNIT PRICES

- A. Unit Prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead and profit.
1. Breakdown prices into:
 - a. Delivered cost of products(s) including tax.
 - b. Total installed cost excluding overhead and profit.
 - c. Add Contractor's and subcontractor's overhead and profit costs after subtotal and provide a final total.
- B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of Unit Prices. Methods of measurement and payment for Unit Prices are specified in those sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established Unit Prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to the Contractor.
- D. List of Unit Prices: A schedule of Unit Prices is included in PART 3. Specification Sections referenced in the schedule contain requirements for materials described under each Unit Price.

PART 2 - PRODUCTS

(NOT APPLICABLE)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Specification Section - CAST-IN-PLACE CONCRETE:
 - 1. Concrete slabs per thickness per square foot.
 - 2. Concrete foundations per cubic yard.
 - 3. Concrete walls per cubic yard.
- B. Specification Section - PLUMBING:
 - 1. Utility trenching, pipe placement and backfill per pipe diameter size per linear foot at specific trench depths.
- C. Specification Section - ELECTRICAL:
 - 1. Utility trenching, sleeve pipe or conduit pipe placement and backfill per pipe diameter size per linear foot at specific trench depths.
- D. Specification Section - COMMUNICATIONS:
 - 1. Utility trenching, sleeve pipe or conduit pipe placement and backfill per pipe diameter size per linear foot at specific trench depths.
- E. Specification Section - ELECTRONIC SAFETY AND SECURITY:
 - 1. Utility trenching, sleeve pipe or conduit pipe placement and backfill per pipe diameter size per linear foot at specific trench depths.

END OF SECTION

SECTION 013113 – CONTRACTOR'S "PROJECT MANAGEMENT" AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely manage and coordinate the Project as necessary to construct and complete the Project as indicated by the Contract Documents.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DESCRIPTION:

- A. Manage and Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of construction elements with provisions for accommodating items to be installed later.
 - 1. Coordinate sequence of Work to accommodate Owner Occupancy as specified in the Conditions of the Contract in Division 00 and the General Requirements in Division 01.
 - 2. The Contractor shall set up control procedures, so that "approved schedules" are adhered to. Contractor's responsibility is to correctly notify Owner's Representative of anticipated and actual time delays.
 - 3. Contractor's job superintendent shall be on site at all times that the Work is in progress. Superintendent shall not perform other functions such as trade work or parts pick-up.
 - 4. Interruption of Services:
 - a. Adequate advance written notice (a minimum of fourteen (14) days) shall be given to the Owner's Representative when interruptions of utility services, or interference with the use of existing buildings and roads are anticipated.
 - b. Any interruption of utility services shall be made by the Contractor with the Owner's Representative in attendance. The contractor shall not interrupt any utility services without the Owner's Representative present.
 - 5. Planned utility service shutdowns shall be accomplished during periods of minimum usage.
 - a. In some cases, this may require work outside of normal (7:00 am to 5:00 pm) work hours, at no additional cost to the Owner.
 - b. The Contractor shall program its work so that service will be restored in the minimum possible time, and shall cooperate with the Owner's Representative in reducing shutdowns of utility system.

- c. Adequate advance written notice (a minimum of fourteen (14) days) shall be given to the Owner's representative before interruptions to utility services and other interference to the use of, or access to existing buildings and facilities.
 - d. Required access ways shall be kept open at all times; the use of one way traffic and detours shall be held to a minimum.
- 6. Coordinate the Work and do not delegate the responsibility for coordination to any sub-contractor.
- 7. Anticipate the interrelationship of all sub-contractors, and their relationships to one another.
- 8. Resolve differences or disputes between sub-contractors concerning coordination, interference, or extent of Work.

1.3 SUBMITTALS

- A. Schedule and coordinate submittals specified in Specification Section - SUBMITTAL PROCEDURES, and in Specification Section - PROJECT CLOSEOUT.
 - 1. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
 - 2. Coordinate requests for substitutions to assure compatibility of space, of operating elements, and effect on work of other sections.

1.4 QUALITY ASSURANCE

- A. Coordination of Space:
 - 1. Coordinate use of Project space and sequence of installation of mechanical work, and electrical work, which is indicated diagrammatically on the Drawings. Follow routings shown for pipes, ducts, and conduits as closely as practicable, with due allowance for available physical space.
 - a. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
 - 2. In finished areas, except as otherwise shown, conceal pipes, ducts, and wiring in the construction.
 - a. Coordinate locations of fixtures and outlets with finished elements.
 - 3. Site Utility Coordination:
 - a. Provide 1"=20' scaled and dimensioned Utility Coordination Drawing showing all existing and proposed underground and surface utility improvements including gas, domestic water, fire water, chilled water, hot water, irrigation, storm sewer, sanitary sewer, electrical power, and communications. No site improvements shall be installed prior to Architect's and Owner's review of coordination drawing. Architect's and Owner's review is only for general conformance with the Contract Documents.
- B. Coordination of Project Closeout:
 - 1. Coordinate completion and cleanup of work of separate sections in preparation for Owner occupancy.
 - 2. After Owner occupancy of premises, coordinate access to site by various sections for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

3. Assemble and coordinate closeout submittals specified in Specification Section - PROJECT CLOSEOUT.
- C. Regulatory Requirements:
 1. In accordance with Specification Section - REGULATORY REQUIREMENTS.
- D. Meetings:
 1. Hold coordination meetings and pre-installation meetings with requisite personnel to assure coordination of Work.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 013216 – CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
1. Provide all material, labor, equipment and services necessary to completely provide Construction Schedules, Materials, accessories, and other related items necessary to complete the Project as indicated by the Contract Documents.
 - a. Provide an acceptable Critical Path Method (CPM) construction schedule and updating methods.
 - b. Use specific scheduling software.
 - c. Designate the Contractor's acceptable scheduling representative or utilize an acceptable scheduling consultant.
 - d. Prepare and submit a Preliminary Project Schedule (PPS).
 - e. Prepare and submit a CPM Baseline Project Schedule (BPS) and submit "cost-loaded" schedule data for the express use in the Monthly Progress.
 - f. Produce acceptable Monthly Schedule Updates (MSU), provide monthly schedule narrative reports, and attend monthly scheduling meetings.
 - g. Prepare Short Interval Schedules (SIS).
 - h. Prepare and submit Fragnet Submittals, when seeking time extensions, and/or float consumption.
 - i. Prepare acceptable recovery schedule(s) if the progress is unsatisfactory, and the requirement to gain acceptance from Architect for schedule revisions and sequence changes.
 - j. Schedule Inclement Weather impacts and resulting Mud impacts (if any) into the CPM Baseline Project Schedule (BPS), and for the requirement for time extension requests for unusually severe weather.
 2. Provide projected Construction Schedule for entire Work and revise periodically.
 3. Provide separate sub-schedule, showing all submittal information and the time frames in which they are to be submitted, that include the following:
 - a. Coordination Drawings (If applicable).
 - b. Product Data (If applicable).
 - c. Shop Drawings (If applicable).
 - d. Samples (If applicable).
 - e. Quality Assurance/Control Submittals (If applicable).
 - f. Closeout Submittals (If applicable).
 4. Provide sub-schedules to define critical portions of the entire schedule.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
1. DIVISION 00 SPECIFICATION SECTIONS.
 2. DIVISION 01 SPECIFICATION SECTIONS.
 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

A. The following definitions or terms apply to this specification section:

1. BPS Baseline Project Schedule.
2. CPM Critical Path Method.
 - a. The longest continuous chain of activities through the schedule establishes the minimum overall project duration.
3. "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, including manpower, equipment or materials. Work activities shall include, but not limited to, mobilization; submittals; Architect's review of submittals; procurement; delivery; installation and checkout of equipment or material; subcontractor's items of work and major construction activities.
 - a. Critical activities are activities on the critical path.
 - b. Predecessor activity is an activity that must be completed before a given activity can be started.
4. "Event": An event is the starting or ending point of an activity.
5. "Fragnet": A detailed proposed change in time based on an activity or activities, but do not show effect to the completion date.
6. "Milestone": A key or critical point in time for reference or measurement.
7. "Float":
 - a. Float for any activity, milestone completion date or contract completion date shall be considered a resource available to both the Owner and Contractor. Neither the Owner nor the Contractor shall have exclusive ownership of the float. Float shall be a resource to all parties, and shall be consumed by whoever utilizes it first.
8. "Inclement Weather":
 - a. "Inclement Weather" shall be considered as TEMPERATURE, PRECIPITATION (aka Rainfall & Rain Days) or FOG. The conditions for Inclement Weather are defined herein, and valuations of Inclement Weather are listed in the Meteorological Data NOAA Chart.
9. MSU Monthly Schedule Updates.
10. "Mud" (aka Mud Days):
 - a. Mud is a direct result of precipitation, and for this reason Mud is treated different than precipitation. Mud, or muddy site conditions, will become a candidate for time extensions, only if the amount of precipitation exceeds that which is anticipated and considered normal "Inclement Weather" for a given month.
11. NOAA National Oceanic and Atmospheric Administration.
12. NTP Notice to Proceed.
13. PDM Precedence Diagram Methodology.
14. PPS Preliminary Project Schedule.
15. SIS Short Interval Schedules.
16. "Unusually Severe Weather":
 - a. Defined as more severe than the anticipated "Inclement Weather" for any given month.

1.3 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:

1. Quality Assurance/Control Submittals:
 - a. Submit the Contractor's Construction Schedule and Submittal Sub-Schedule within 35 calendar days after the Award of Contract date, unless otherwise stated in the General Conditions.
 - b. Submit updated schedules as required by change in Work Progress.
2. All items listed below, unless otherwise indicated, shall be submitted in triplicate:
 - a. Within seven (7) days after the Award of Contract:
 - 1) The Contractor shall provide evidence to demonstrate the competency in the use of CPM scheduling, including evidence of the use of cost-loaded Primavera CPM scheduling on projects of similar value and complexity. Upon failure of the Contractor to satisfy the Architect of its CPM scheduling competency, the Contractor shall be required to employ a qualified CPM schedule consultant who regularly performs these services and who in the opinion of the Architect possesses the capacity and qualifications required to perform CPM scheduling for this project.
 - b. Within seven (7) days after the Notice to Proceed:
 - 1) Submit the Contractor's authorized representative and their qualifications.
 - c. Within twenty-one (21) days after the Notice to Proceed:
 - 1) Submit Preliminary Project Schedule (PPS)
 - d. Within sixty (60) days after the Notice to Proceed:
 - 1) Submit Baseline Project Schedule (BPS).
 - e. Within seventy-five (75) days after the Notice to Proceed:
 - 1) Submit cost-loaded schedule data.
3. Coordination Schedules:
 - a. Contractor's Monthly Schedule Updates (MSU) as needed one week prior to progress payments.
 - b. Contractor's Short Interval Schedules (SIS) as needed at the regularly scheduled weekly meetings.
4. Contractor's Time Extension Requests / Fragnet Submittals:
 - a. "Notice of Delay" requests within twenty-four (24) hours after a delay event, on form provided at end of this section.
 - 1) Notice of Delay Form shall be accompanied by the required COR, CCD, RFP or other documents issued by the Architect.
 - b. Fragnet Submittal Forms (in quadruplicate) within fourteen (14) days after a delay event.
 - 1) Fragnet Submittal Forms shall be accompanied by the required COR, CCD, RFP or other documents issued by the Architect.
5. Submittal Sub-Schedule Submittal:
 - a. Submit the Submittal Sub-Schedule within 35 calendar days after the Award of Contract date, unless otherwise stated in the General Conditions.

1.4 QUALITY ASSURANCE

A. Qualifications:

1. The Contractor shall designate, in writing, an authorized representative in its firm who shall be responsible for the preparation, revising, and updating of the cost-loaded Critical Path Method schedule (hereinafter referred to as CPM) utilizing Primavera scheduling software. The Contractor's representative shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling the construction scheduling requirements set forth herein. Such authority shall not be interrupted throughout the duration of the project. The requirements for the CPM schedule are included to assure adequate planning and execution of the work and to assist the Architect and Owner in appraising the reasonableness of the proposed schedule, evaluating progress of the work and for reviewing the Progress Payment Applications.
 2. The Contractor must have scheduling capabilities (hardware and software, inclusive of plotter) located at the construction site, or readily accessible in a local area office. Any Consultant must have the capacity and capability of supporting the project by producing schedule-related data within two (2) days of request by the Contractor, Architect, or Owner.
- B. Regulatory Requirements:
1. In accordance with Specification Section - REGULATORY REQUIREMENTS.
- C. Meetings:
1. Progress Meetings: Scheduled by the Contractor on a bi weekly basis for the proper coordination of the work.
 - a. Minimum agenda shall be to review the work progress, and the following:
 - 1) Discuss field observations, problems, and decisions;
 - 2) Identification of any potential problems that may impede planned progress;
 - 3) Corrective measures to regain projected schedules;
 - 4) Maintenance of quality and work standards in accordance with manufacturer's warranty requirements.
 2. Participants (or designated representative of) invited to attend each of the above meetings shall be as follows:
 - a. Contractor.
 - b. Owner.
 - c. Architect.
 - d. Project Inspector (If applicable)
 - e. Installer.
 - f. Material Manufacturer(s).
 - g. Subcontractors, as appropriate (including any accessory subcontractors).

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products specified are from companies listed below, or approved equivalent. These products listed herein establish the size, pattern, color range and function selected by the Architect for this Project. Manufacturers listed as acceptable alternative manufacturers must still comply with the requirements of the products listed in order to be approved as an equivalent during the Submittal Process. If the acceptable alternative manufacturers listed are not approved during the Submittal Process due to non-compliance with the contract documents, then the Contractor shall submit product specified.

1. Specified product manufacturer, or approved equivalent:
 - a. PRIMAVERA "Project Planner Version 3".
- B. Products from other manufacturers not listed must submit in accordance with Specification Section - SUBSTITUTION PROCEDURES.

2.2 MATERIALS

- A. Contractor's Construction Schedule Form:
 1. Prepare in form of horizontal bar chart.
 - a. Provide separate horizontal-box-column for each trade or operation.
 - b. Order: Chronological order of beginning of each item of Work.
 - c. Identify each column.
 - 1) By specification section number.
 - 2) By distinct graphic delineation.
 - d. Horizontal time scale: Identify first workday of each week.
 - e. Scale and spacing to allow space for updating.
 2. Sheet size and type: 24" x 36", transparency.
 3. Content of Contractor's Construction Schedule Form.
 - a. Provide complete sequence of construction by activity.
 - b. Identify Work of separate, logically grouped activities.
 4. Provide diskette copies of CPM Network, as required.
 5. Contractor shall use "Primavera" Project Planner Version P3 for Critical Path Method (CPM) Scheduling.
 - a. The alternative is the means of providing Owner's Representative with files on CD's or DVD's (WINDOWS Formatted Disks) in a form that can be completely restored into "Primavera" without requiring the use of a Conversion Program or utilizing other software.
- B. Submittal Sub-Schedule Form:
 1. Prepare separate Submittal Sub-Schedule, as called for in Specification Section - SUBMITTAL PROCEDURES.

PART 3 - EXECUTION

3.1 SCHEDULES [AND PROCEDURES FOR CONSTRUCTION SCHEDULES]

- A. Architect will review schedules and return within 10 days after receipt.
 1. Resubmit within 7 days after return of review copy.
- B. Updating:
 1. As a condition of Application Payments (Progress Payments), the Contractor shall show all changes occurring since previous submission of updated schedules, or certify in writing that no changes have occurred. Failure to provide an updated schedule or certification could cause the Architect and Project Inspector to recommend that no payments by the Owner be made until the Contractor has complied with the conditions required for payments.
 2. Indicate progress of each activity and show completion dates.

C. Distribution:

1. Print copies of schedules for distribution.
2. Distribute copies of reviewed schedules to:
 - a. Job site file.
 - b. Project Inspector.
 - c. Architect.
 - d. Sub-contractors.
 - e. Other concerned parties.
3. Instruct recipients to report any inability to comply and provide detailed explanation with suggested remedies.

D. General Requirements:

1. The Architect considers the project schedule requirements to be of significant importance to both the Contractor and the Owner. The development, submittal, acceptance and maintenance of the Baseline Project Schedule (BPS) and subsequent Monthly Schedule Updates (MSU) must be given high priority.
2. Work under this section shall consist of providing a computerized, time-scaled, cost-loaded Critical Path Method (CPM) Contract Schedule using Precedence Diagram Methodology (PDM) showing in detail how the Contractor plans to execute, coordinate and generate progress billings for the work.
3. All schedule submittals (PPS, BPS, MSU's, Fragnets, schedule revisions and recovery schedules) shall include four (4) copies of the following:
 - a. An electronic copy of the schedule on CD (Compact Disc).
 - b. A time-scaled logic diagram or a time-scaled bar chart.
 - c. A tabular report that shows early start, early finish, late start, late finish, original duration, remaining duration, total float and percentage completion appropriately organized and sorted by building, site zones, and major activity codes.
 - d. A predecessor-successor tabular report organized by building, site zones, and major activity codes.
 - e. A written narrative report describing the progress since last report, problems or delays experienced, mitigation undertaken, anticipated progress next month, and a listing of all submittals, RFIs, change directives, Owner-supplied equipment or other Owner-controlled and critical constraints affecting the Contractor's progress, or anticipated to become a critical constraint in the next month.
 - f. A listing of all significant changed, added or deleted activities, revised logic relationships, durations, descriptions, etc. (revisions for routine updates excluded).
 - g. Except for time extension requests, a cost report must be provided listing each activity and its associated cost, percentage of work accomplished, earned value to date, previous payments and amount earned for the update period. For all new or redefined activities created through updates, change orders, or for fragnet delay analyses for time extension requests, a cost report should also be provided listing each new or redefined activity and its associated cost.
 - h. A cash flow envelope report and cash flow projection diagram (S-curves) shall be submitted with the finalized, cost-loaded baseline project schedule. This report and diagram shall be based on the planned monthly progress billings expressed as a percentage of the total project cost. The report and diagram shall calculate and show two projections – one based on early starts/early finishes, and another based on late starts/late finishes. Monthly Schedule Updates (MSU) shall show actual billings plotted against early and late curves.

- i. In addition, from month-to-month, the Architect may request the Contractor provide (at no cost) the following reports or schedule plots:
 - 1) Total or free float report from least to most float.
 - 2) Plots or reports of activities grouped by subcontractors, selected trades or buildings.
 - 3) Plots or reports of activities with scheduled early start in a given time frame (such as a 30 or 60 day look-ahead schedule).
 - 4) Subcontractor certifications, indicating approval of the subcontractors scheduled work, acknowledging outside factors such as manpower resources, stacking of trades, multiple mobilizations, coordination of space with other trades and the stacking of trades.
 - 4. Contractor's Construction Schedule:
 - a. The Contractor's Construction Schedule shall be the basis for evaluating the job progress and time extension requests. The responsibility for developing the construction schedule, accurately updating the schedule, and monitoring the actual progress of the work compared to the planned schedule rests solely with the Contractor.
 - 1) Failure of the Contractor to include any element of the work or any inaccuracy in the Contractor's Construction Schedule will not relieve Contractor from the responsibility for accomplishing all the work in accordance with the Contract requirements.
 - b. Progress payments may be withheld in whole or part should the Contractor fail to comply with the requirements of this section.
 - c. No separate payment will be made to the Contractor for any of the requirements of this section. All such costs shall be part of the Contractor's planned project overhead costs included in its bid.
- E. Early Completion Schedules:
- 1. Early completion schedules may be prohibited due to certain physical or monetary constraints imposed upon the Owner. If an early completion schedule is not prohibited, and is contemplated by the Contractor as part of its bidding strategy, it is hereby expressly understood by the Contractor that early completion schedules will only be acceptable under the condition that the schedule be reasonable and realistic, and if the Contractor certifies that it has included general conditions costs in its bid sufficient for the entire contractual time of performance. It is also understood, therefore, that no damages for delay will be recoverable if the project is prolonged beyond the early completion date, but still completed within the entire contract duration.
- F. Preliminary Project Schedule (PPS):
- 1. Contractor shall furnish the Architect with a PPS within twenty-one (21) days after receiving the Notice to Proceed.
 - 2. The PPS shall indicate a detailed plan for the work to be completed in the first ninety (90) days of the contract, including planned mobilization of plant and equipment; sequence of early operations; and procurement of materials and equipment. Work beyond first ninety (90) days shall be shown in a summary-level bar chart manner.
 - a. The PPS will be temporarily used to record and monitor the progress of the work until the Baseline Project Schedule has been completely developed and accepted. Recorded data on the Preliminary Project Schedule shall be incorporated into the Baseline Project Schedule during the first monthly update.

3. Architect will review the PPS within seven (7) days for general conformance. Contractor shall incorporate any review comments into the preparation of the Baseline Project Schedule (BPS).

G. Baseline Project Schedule (BPS):

1. Within sixty (60) days after the Notice to Proceed, Contractor shall submit a detailed BPS presenting an orderly and realistic plan for the completion of the entire project. The BPS shall be in full conformance with the requirements of this specification.
 - a. The project start date, completion date and the intermediate milestone dates shown in the BPS should match Contract requirements.
2. Unless otherwise approved by the Architect, no activity on the BPS shall have a duration longer than fifteen (15) days, with the exception of submittal, approval, fabrication and delivery (procurement) activities. Activity durations shall be the total number of days required to perform that activity, including consideration for normal and anticipated weather-related impacts that might prolong performance of that activity. National Oceanic and Atmospheric Administration (NOAA) from the nearest observing site to the project shall be the contractual basis for determining "normal" weather or departures from normal.
3. "Responsibility" codes shall be identified for each activity to indicate the responsible subcontractor. Other codes for "area," "trade" or "submittal/procurement" shall be similarly utilized to allow schedule data to be sorted and organized into separate, coherent reports or plots.
4. The BPS shall include a separate sub-schedule for all submittal, approval and procurement activities, including owner-furnished items. Data shall include a particular specification reference, description of item of work covered, and a trade or subcontractor reference. Schedule activities that are dependent on submittal approval and/or material delivery shall not be scheduled to start earlier than the reasonably expected approval or delivery dates.
 - a. Coordinate Submittal Schedule with the list of subcontractors, Schedule of Values and the list of products as well as the Contract Construction Schedule.
 - b. Prepare the schedule in chronological order. Provide information as called for in specification section - SUBMITTAL PROCEDURES.
 - c. Distribution: Following the Architect's response to the initial submittal, print and distribute copies to the Architect, Owner, Subcontractors, and other parties required to comply with submittal dates indicated.
5. The BPS shall not show more than 10% of the total activities as critical. The BPS shall not show more than 20% of the activities with total float of 10 working days or less. The schedule shall not show any activities with negative float. Start and Finish constraints, unless identified in the contract documents, shall be minimized as much as possible to avoid logic conflicts.
6. The BPS shall show the total cost of performing each activity. This cost shall be the total of labor, material and equipment, including general conditions, overhead and profit. The BPS shall not show a separate, individual activity for general conditions, overhead and profit. The cost of general conditions, overhead and profit shall be prorated to all cost-loaded activities. The sum of the cost for all activities shall equal the total contract value.
7. The Contractor shall submit the proposed BPS, less cost-loaded data, within sixty (60) days after NTP. The Architect will commence a review to ascertain any lack of compliance with these specifications. Absent any notice from the Architect of such problems or compliance issues, the Contractor shall submit cost-loaded data within fifteen (15) days after the BPS was submitted, or within seventy-five (75) days of NTP.

- a. The Architect will review the proposed BPS with cost loading for general conformance. Within thirty (30) days after the BPS is submitted, or fifteen (15) days after receipt of cost-loaded data, the Architect will accept the contract schedule or will return it with comments. If the proposed schedule is returned with comments, Contractor shall revise the schedule to incorporate the comments. The schedule shall be resubmitted for acceptance within seven (7) days. The accepted BPS shall become the Contract Construction Schedule.

H. Monthly Schedule Updates (MSU):

1. The Contractor shall submit an MSU, each month, which accurately indicates the actual progress of the work during the prior month. The "data date" (or date through which progress is reported) shall be identified on all update reports or schedule plots. For cost-loaded schedules, the data date shall be the progress billing cut-off date (typically the 25th of the month). Schedule updates shall be submitted within five (5) days after the Architect approves the billing percentages.
 - a. The MSU shall indicate the actual start and finish dates of activities commenced or completed during the prior month. Once "as-built" start and finish dates are updated and accepted as accurate, this data shall not be changed. The MSU shall show the percentage complete for each activity.
2. Schedule calculations shall be performed as follows. If the Contractor has proceeded out-of-sequence from the planned logic, the Contractor's monthly update shall use the "retained logic" option to perform schedule calculations. Also, when the duration(s) of schedule activities are calculated, the "contiguous duration" option shall be used. Interruptible durations are not acceptable.
3. The Contractor shall submit a narrative report along with the MSU. This narrative report shall include a description of the progress achieved that month, a description of problems or delays experienced, an analysis of the effect of approved time extensions to critical activities upon the project completion date, a discussion of current or anticipated delays, and if there is a lack of progress for which the Contractor is responsible, an explanation of mitigating actions taken or a proposal for recovery shall be provided. Further, if the schedule data is changed due to a routine updating only, no identification or discussion of such changes is required in the Monthly Schedule Update. However, if the work is re-sequenced, or if activities are added or deleted, these schedule data changes must be specifically identified, discussed and submitted. Specifically, such submittals shall be separate and apart from monthly update submittals.
4. As part of the MSU, and as part of the Architect's review of the Contractor's progress that month, a monthly schedule meeting shall be held. The monthly meeting shall be held on a mutually agreed date, but no later than ten (10) days after the submittal of the MSU. The Contractor's designated schedule representative shall attend. The intent of these monthly meetings is to address and resolve all schedule issues for the prior month. The Architect requires the MSU no later than seven (7) days prior to the monthly schedule meeting. The Architect may waive or postpone the monthly meeting(s).
5. The Architect will review the Contractor's MSU submittal. Any of the Architect's comments shall be incorporated into the next update for the Architect's verification.

I. Sequence Changes / Recovery Schedules / Schedule Revisions:

1. If the Architect determines that the sequence of the construction differs significantly from the Contract schedule, the Contractor shall submit a revised schedule for approval within fifteen (15) days of the Architect's request. The Contractor agrees to be bound by the Contractor's revised, re-sequenced or optimized schedules, and agrees to make no claim for such.

2. If a Contractor falls fourteen (14) days behind schedule on milestone dates or completion dates, the Contractor will be required to prepare and submit a recovery schedule for review and acceptance. The recovery schedule shall show how the Contractor intends to reschedule the work in order to regain the time lost.
 3. If the Contractor intends to alter its planned sequence or approach to the work, the Contractor shall submit its requested schedule revisions or sequence changes to the Architect for review and comment. This submittal shall be separate from the routine MSU, and shall include a description of the reason(s) for the schedule changes, a description of the changes being made, a list of all added and deleted activities, changed logic relationships, changed activity durations or descriptions, etc. If the requested changes are reviewed and found acceptable, the schedule revision shall be made and incorporated into the project schedule prior to the next MSU.
- J. Short Interval Schedules (SIS):
1. At the regularly scheduled weekly meetings, the Contractor shall submit to the Architect and District a SIS, which is a three-week-look-ahead schedule. The SIS shall be a three-week snapshot of the work generated from the most recent monthly update. The SIS shall include the prior week, the current week, and one week thereafter. The SIS shall contain sufficient detail to evaluate inspection requirements, and for the Contractor to submit its manpower and equipment needs.
- K. Time Extension Requests / Fragnet Submittals:
1. The Contractor shall provide "Notice of Delay" and a Fragnet Submittal to the Architect for all claimed time extension requests, showing the impact of the delay event on the contract schedule. The Notice of Delay form and Fragnet Submittal form is included at the end of this specification section.
 2. The Fragnet Submittal shall demonstrate the time impact based on the date(s) and durations of the delay event, the status of construction at that point in time, and the affect on the scheduled sequence and progress of the work. The Fragnet Submittal shall be based on the latest Monthly Schedule Update. The Fragnet Submittal shall also include all supporting project documentation or delay calculations that establish entitlement and quantify the delay. All required documentation shall have the Fragnet Submittal number posted in the upper-right hand corner of the page.
 3. "Float" on slack time shall not be for the exclusive use or benefit of the Contractor or Owner. Extensions of time for performance will be granted only to the extent that the equitable time adjustment for the activity or activities affected exceeds the total float along the activity path at the time the delay event occurred or when an instrument of the Contract (CCD) or change order was directed.
 4. The Contractor acknowledges and agrees that mitigation of delays due to delay events may require a change to preferential sequences of work. The Contractor must propose possible mitigation plans (sequence changes and any costs) for otherwise critical path delays. The Architect will evaluate the cost of mitigation versus the cost of extended project performance. The Contractor agrees to be bound by the Contractor's revised, re-sequenced or optimized schedules, and agrees to make no claim for such.
 5. Fragnet Submittals shall be provided in quadruplicate and within fourteen (14) days after a delay event, and/or with a Change Order Request (COR) in response to a CCD, RFP, or other documents issued by the Architect. In cases where the Contractor does not provide "Notice of Delay" and/or a Fragnet Submittal for a delay event within the specified time limits, then it is mutually agreed that the delay event has no time impact on the contract completion date (or interim milestones) and no time extension is required.

6. The Owner (or District) shall not be liable for any acceleration costs due to the Contractor's failure to comply with the contract requirements for requesting, documenting and demonstrating that a time extension is required for a delay event. The Contractor's obligation to timely perform per the schedule will not be excused until time extension requests are approved by the Architect. The BPS shall include delays for anticipated precipitation. Hence the duration for activities will not be adjusted, that is until the actual amount of precipitation days exceed the anticipated precipitation days indicated in the NOAA chart, and/or the resulting mud impacts affect the critical path of the schedule.
 7. Upon mutual agreement by the Architect and Contractor, the Monthly Schedule Updates shall include the approved time extensions (if any). No delay events that are the subject of a float consumption request or a time extension request will be incorporated into the Monthly Schedule Update until approved by the Architect.
 8. In the event of multiple delaying events, and upon approval through the time extension approval process, the delay events shall be updated into the current Monthly Schedule Update in the actual order of the delaying events.
- L. Time Extensions For Unusually Severe Weather:
1. General:
 - a. "Inclement Weather": The Owner reserves the right to update Meteorological Data included in the NOAA Chart, so that it reflects the most accurate data for the project site, site conditions and locality.
 - b. "Unusually Severe Weather" is more severe than the anticipated Inclement Weather for any given month.
 - c. NOAA, is the National Oceanic and Atmospheric Administration
 - d. "Mud" (aka Mud Days) shall be considered as muddy site conditions, which prohibit access to and around the project site, including access to the buildings. The Contractor shall understand that even if the anticipated normal precipitation were exceeded for a given month, not all Mud Days are eligible for time extensions. Only a portion of the actual Mud Days will be considered for a time extension, of which they will be the percentage of actual precipitation that are above and beyond the anticipated normal precipitation or "Inclement Weather": See "Unusually Severe Weather". Also, precipitation and Mud need to affect the activities on the critical path in order for them to impact the project schedule. If precipitation and Mud do not affect the critical path of the project, there is no effect to the project and such conditions are not eligible for time extensions. Differing site soil conditions and drainage patterns will create individual variations in how "Mud" affects the site and the progress of the Work. It is the Contractors obligation to become aware of the site soil conditions, drainage patterns, and other elements that may affect the resulting impacts due to Mud.
 2. The provisions herein specify the procedures for the determination of excusable time extensions for unusually severe weather. Inclement Weather, using the NOAA data (to be provided by the Contractor prior to first payment request and approved by the Architect - "sample" NORMALS, MEANS AND EXTREMES data chart provided herein) and resulting Mud impacts due to anticipated precipitation, shall be scheduled into the schedule. In order for the Architect to award a time extension under this clause, the Contractor must satisfy the following conditions:
 - a. The Unusual Weather clause experienced at the project site during the affected contract period must be found to be Unusually Severe Weather, that is, more severe than the anticipated Inclement Weather and Mud for any given month.

- b. The Unusually Severe Weather clause must actually cause a delay to the completion of the Contract. The delay must be beyond the control and without the fault of negligence of the Contractor.
3. The following "sample" schedule of anticipated monthly Inclement Weather is based on National Oceanic and Atmospheric Administration (NOAA) data for the Fresno Area and the schedule provided by the Contractor for the area where the project is located shall constitute the baseline for evaluating weather-related time extensions. The Contractor progress schedule must include the effect of anticipated Inclement Weather and Mud in all weather dependent activities. Further, the Contractor's bid shall include all costs for potential disruption as a result of anticipated Inclement Weather and Mud: Disruption to the project may involve cost and time impacts. The Contractor shall be responsible for all impacts resulting from the anticipated amount of Mud and Inclement Weather shown in the actual NOAA Meteorological Data Chart in the area where the project is located. Impacts include, but are not limited to, de-watering, mucking, temporary weather protection, gravel roadways, equipment downtime, etc.
4. Upon Notice-to-Proceed (NTP) and continuing through the Contract duration, the Contractor shall record on the Contractor Daily Reports, each occurrence of Inclement Weather and Mud, and the resulting impact to the progress of scheduled work. Each occurrence of Inclement Weather and Mud, must be verified and approved by the Inspector of Record. Inclement Weather days will be as defined by the following "sample" NOAA data and will be counted chronologically from the first to the last day of each month, with each daily incidence of "Inclement Weather" being counted as a whole day. Once the number of days of anticipated "Inclement Weather" and "Mud" are exceeded in a given month, the Contractor will become eligible for an excusable, non-compensable time extension for "Unusually Severe Weather". After anticipated "Inclement Weather" and "Mud" delays are exceeded, an "Unusually Severe Weather" delay day will occur when adverse weather prevents work on critical activities for more than fifty percent (50%) of the Contractor's scheduled work day. Upon experiencing critical path delays due to "Unusually Severe Weather", the Contractor shall seek a time extension from the Architect via the Change Order Request process. If the foregoing conditions are met, an excusable a non-compensable time extension will be granted. The Contractor will incorporate all approved Change order Request Submittals into the current Monthly Schedule Update.

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M. Meteorological Data Chart 1

"SAMPLE" Meteorological Data for Fresno, California

Normals, Means and Extremes

TEMPERATURE (degrees F)					PRECIPITATION***		FOG
Normal		Extremes					
Month	Daily Max.	Daily Min.	Record Highest	Record Lowest	Mean* Number Calendar /Work Days per month	Normal (in)	Mean**Number Calendar /Work Days per month
Jan	54.1	37.4	78	19	7.5/5.4	1.96	11.8/8.4
Feb	61.7	40.5	80	24	7.1/5.1	1.8	6.0/4.3
Mar	66.6	43.4	90	26	7.1/5.1	1.89	1.7/1.2
Apr	75.1	47.3	100	32	4.1/2.9	0.97	0.3/0.2
May	84.2	53.7	107	36	1.9/1.4	0.3	0.1/0.1
Jun	92.7	60.4	110	44	0.7/0.5	0.08	0.0/0.0

Jul	98.6	65.1	112	50	0.2/0.1	0.01	0.0/0.0
Aug	96.7	63.8	111	49	0.3/0.2	0.03	0.1/0.1
Sep	90.1	58.8	111	37	1.0/0.7	0.24	0.1/0.1
Oct	79.7	50.7	102	27	2.2/1.6	0.53	0.9/0.6
Nov	64.7	42.5	89	26	5.2/3.7	1.37	5.8/4.1
Dec	53.7	37.1	76	18	6.7/4.8	1.42	12.1/8.6
Year					44.1/31.5	10.6	38.8/27.7

Source: NOAA, National Oceanic and Atmospheric Administration

* Precipitation of .01 inches or more

** Heavy Fog visibility ¼ mile or less

*** Refer to the term Mud, for mud impacts.

2 Above data is subject to change, based upon the locality of the project. Contractor shall assemble the data and submit to The Architect for confirmation, review and modifications:

Obtain data from NOAA (828) 271-4800, or the Local Weather Office.

<http://www.ncdc.noaa.gov>.

FRAGNET SUBMITTAL FORM

Date: _____ Fragnet No.: _____

From: Name of Contractor Sheet _____ of _____

To: Darden Architects, 6790 N. West Avenue, Fresno, CA 93711 (559) 448-8051

Description of Delay: By reference to attached schedule Fragnet, the following delay occurred:

Continued on Sheets _____ of _____
Time Extension Requested: _____ work days x 1.4 = _____ calendar days.

Time Requested for Activity: _____ Time Requested for Project: _____

Related Documents: The following construction documents provide evidence of the delay event:

RFI Nos.: _____ SI Nos.: _____

CCD Nos.: _____ RFP Nos.: _____

Daily Reports Dated: _____ and attached.

Project Correspondence Dated: _____ and attached.

Other Documentation: _____

Schedule-Related Information: By reference to the attached Fragnet, provide the following:

Predecessor Activity to Fragnet: _____

Successor Activity to Fragnet: _____

Affected CPM Schedule Activities (list IDs and descriptions):

NOTICE OF DELAY FORM

Date: _____

From: Name of Contractor Sheet _____ of _____

To: Darden Architects, 6790 N. West Avenue, Fresno, CA 93711 (559) 448-8051

Description of Delay: the following delay occurred:

_____ Continued on Sheets _____ of _____

Related Documents: The following construction documents provide evidence of the delay event:

RFI Nos.: _____ SI Nos.: _____

CCD Nos.: _____ RFP Nos.: _____

Daily Reports Dated: _____ and attached.

Project Correspondence Dated: _____ and attached.

Other Documentation: _____

Affected CPM Schedule Activities (list IDs and descriptions):

END OF SECTION

SECTION 013226 – FORMS AND REPORTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Contractor to provide all Forms and Reports as required by the Architect for Administrative Procedures and other related items necessary to document the Project as required by the Contract Documents, including but not limited to those forms provided under this specification section.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
 - 1. Forms and Reports as attached to this section when required by the Architect.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. In accordance with Specification Section - REGULATORY REQUIREMENTS.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULES

- | | | |
|----|----------------------------------------------------|---------------|
| A. | Listing of Architect required Forms and Reports | No. of Pages: |
| 1. | 01 32 26.01-DAILY SUPERINTENDENT'S REPORT | 2 |
| 2. | 01 32 26.02-SUBCONTRACTOR'S DAILY REPORT | 1 |
| 3. | 01 32 26.03-SHOP DRAWING AND SUBMITTAL TRANSMITTAL | 1 |

4.	01 32 26.04-REQUEST FOR INFORMATION (RFI)	1
5.	01 32 26.05-SUPPLEMENTAL INSTRUCTIONS (SI)	1
6.	01 32 26.06-REQUEST FOR PROPOSAL (RFP)	1
7.	01 32 26.07-CONSTRUCTION CHANGE DIRECTIVE (CCD)	1
8.	01 32 26.08-CHANGE ORDER REQUEST REVIEW (COR)	2
	a. (Review form provided by the Contractor is subject to review and comments by the Owner and Architect).	
9.	01 32 26.09-CHANGE ORDER (CO)	1
10.	01 32 26.10-FRAGNET SUBMITTAL FORM	1
11.	01 32 26.11-APPLICATION FOR PAYMENT (AP)	1
12.	01 32 26.12-CONTRACTOR'S TESTING / INSPECTION REQUEST FORM	1
13.	01 32 26.13-CONTRACTOR'S "DEVIATION NOTICE" INSPECTION REPORT FORM	1
14.	01 32 26.14-CONTRACTOR'S FINAL INSPECTION REQUEST FORM	1
15.	01 32 26.15-CONTRACTOR'S PUNCHLIST INSPECTION REQUEST FORM	1
16.	01 32 26.16-CONTRACTOR'S PUNCHLIST	1
17.	Periodic field reports issued by the Architect and Engineers.	
18.	Contractor's Punch List Response and Correction form is required for each Punch List Review report, citing the issuing Punch List Review format number(s).	
19.	Completed Contractor's Punch List and Final Inspection Reports issued by the Architect, Engineers and the Owner.	
20.	See the attached Forms and Reports suitable for reproduction by the Contractor or Subcontractor.	

END OF SECTION

(Attachments)

GENERAL CONTRACTOR'S DAILY SUPERINTENDENT'S REPORT

(JOB NO./REPORT NO.) (DATE/DAY)

(JOB NAME) WEATHER DESCRIPTION

(WORK SHIFT) / FROM / TO (PROJECT MANAGER/SUPERINTENDENT)

PM/ SUPT	ENGR/ TK	CARPENTERS			LABORERS		CEM FINISHERS			OPER ENGR		OTHER	TOTAL
		FMAN	JRMAN	APP	FMAN	LAB	FMAN	JRMAN	APP	JRMAN	APP		

CONCRETE: CY TODAY: LOCATION: CY TO DATE:

WORK SUMMARY:

DELAYS / WORK RELEASED BY OWNER:

CHANGE ORDERS / EXTRA WORK ORDERS:

INSTRUCTIONS FROM ARCHITECT / OWNER:

MATERIALS / EQUIP. DELIVERED TO JOB:

INSPECTIONS / TESTS PERFORMED

SAFETY / ACCIDENTS:

MAJOR EQUIP. ON SITE:

[illegible]

MAJOR EQUIPMENT ON SITE:

BACK CHARGES:

REMARKS:

**SUBCONTRACTOR'S
DAILY REPORT**

PROJECT: _____ DATE: _____

SHIFT TIME _____ FOREMAN: _____ WEATHER: _____

WORK DESCRIPTION AND LOCATION:

SUB-SUBCONTRACTOR	CREW SIZE	CRAFT	WORK DESCRIPTION / LOCATION

DELAYS:

CHANGE ORDERS / EXTRA WORK ORDERS:

INSTRUCTIONS RECEIVED FROM GC:	TESTS / INSPECTIONS PERFORMED:
MATERIAL / EQUIPMENT DELIVERIES:	MAJOR EQUIPMENT ON SITE:

SAFETY / ACCIDENTS:

SHOP DRAWING AND SUBMITTAL TRANSMITTAL

DESCRIPTION:

SUBMITTAL NO.:

SPEC SECTION:

ARCHITECT:

Darden Architects, Inc.

6790 North West Avenue

Fresno, California 93711

PROJECT:

CONTRACTOR:

SUPPLIER:

Substitution: Yes: ☐ DSA Approval Req'd

DATE RECEIVED: _____ NO. RECEIVED: _____ DATE RETURNED: _____

Contractor Remarks:

Other Required Information:

CPM Activity / Submittal Task No.: _____

Early Start (ES) Date: _____

Late Finish (LF) Date: _____

WARRANTY: ☐ O and M MANUALS ☐

Early Finish (EF) Date: _____

Scheduled Float Time: _____

DESIGN CONSULTANT'S REVIEW:

TRANSMITTED BY ARCHITECT TO: _____ DATE RETURNED: _____

DATE SENT: _____

NO. SENT: _____

Consultants Remarks:

ACTION:

- ☐ NO EXCEPTION TAKEN RELATIVE TO DESIGN
- ☐ NO EXCEPTION TAKEN WITH MODIFICATION NOTED
- ☐ AMEND AS NOTED AND RESUBMIT
- ☐ REJECTED AND RESUBMIT
- ☐ SEE ATTACHED LETTER

ARCHITECT'S REVIEW:

Architects Remarks:

ACTION:

- ☐ NO EXCEPTION TAKEN RELATIVE TO DESIGN
- ☐ NO EXCEPTION TAKEN WITH MODIFICATION NOTED
- ☐ AMEND AS NOTED AND RESUBMIT
- ☐ REJECTED AND RESUBMIT

Approved Substitution ☐

COPIES TO:

DATE RETURNED: _____

Contractor:

Owner:

Inspector:

File:

Other:

REQUEST FOR INFORMATION

RFI No.:

To: **Darden Architects, Inc.**
6790 North West Avenue
Fresno, California 93711

Date:
Respond By:

Architect Project No.
Project:

Attn:

INFORMATION REQUESTED:

test

Cost Impact: None: _____ Signature: _____
Schedule Impact: None: _____ Days _____ Pages Attached: _____
Trade/Contractor: _____ Schedule Task No/Item: _____

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in the Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgement that there will be no change in the Contract Sum or Contract Time.

If the Contractor considers that this supplemental instruction requires a change in the Contract Sum or Contract Time, the Contractor shall not proceed with this Work and shall promptly submit an itemized proposal to the Architect for doing this work. If your proposal is found to be satisfactory and in order, this supplemental instruction will be superseded by a Construction Change Directive.

Referred To: _____ Referred Date: _____ Return Date: _____

SUPPLEMENTAL INSTRUCTIONS:

Consultant's Signature: _____ Architect's Signature: _____

Date: _____ Date: _____

Copy: ☐ Owner ☐ Inspector ☐ Testing Lab ☐ Structural ☐ Mech. ☐ Elec ☐ File ☐ Other Pages Attached: _____

SUPPLEMENTAL INSTRUCTIONS

PROJECT:

SUPPL. INST. NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACT DATE:

NOTICE TO PROCEED:

CONTRACTOR:

Architect Project No.:

DSA Appl. No.:

DSA File No.:

OPSC Appl. No.:

OSHDP No.:

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in the Contract Sum or Contract Time. Proceeding with the Work in accordance with these instructions indicates your acknowledgement that there will be no change in the Contract Sum or Contract Time.

If the Contractor considers that this supplemental instruction requires a change in the Contract Sum or Contract Time, the Contractor shall not proceed with this Work and shall promptly submit an itemized proposal to the Architect for doing this work. If your proposal is found to be satisfactory and in order, this supplemental instruction will be superceded by a Construction Change Directive.

Description:

Trade/Contractor:

Schedule Task No/Item:

Attachments:

Darden Architects, Inc.

Issued By:

Architect

☐ OWNER ☐ CONTRACTOR ☐ INSPECTOR ☐ TESTING LAB ☐ STRUCTURAL ☐ MECHANICAL ☐ ELECTRICAL ☐ OTHER

REQUEST FOR PROPOSAL

PROJECT:

REQUEST FOR PROPOSAL NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACT DATE:

NOTICE TO PROCEED:

CONTRACTOR:

Architect Project No.:

DSA Appl. No.:

DSA File No.:

OPSC Appl. No.:

OSHDP No.:

Please submit an itemized proposal for change in the Contract Sum and Contract Time for proposed modifications to the Contract Documents described herein. Submit proposal promptly or notify the Architect in writing of the date on which you anticipate submitting your proposal.

This is not a Change Order, Construction Change Directive, or a direction to proceed with the Work described in the proposed modifications.

Description:

Attachments

Darden Architects, Inc.

ISSUED BY:

Architect

☐ OWNER ☐ CONTRACTOR ☐ ARCHITECT ☐ CONSULTANT ☐ INSPECTOR ☐ OTHER

CONSTRUCTION CHANGE DIRECTIVE

PROJECT:

DIRECTIVE NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACT DATE:

NOTICE TO PROCEED:

CONTRACTOR:

Architect Project No.:

DSA Appl. No.:

DSA File No.:

OPSC Appl. No.:

OSHPD No.:

You are hereby directed to make the following change(s) in this Contract:

CONTRACT ADJUSTMENT

1. The proposed basis of adjustment to the Contract Sum of Guaranteed Maximum Price is:

- ☐ Lump Sum \$0.00
☐ Unit Price of \$0.00
☐ As provided for in General Conditions and the Supplemental Conditions of the contract.
☐ As Follows:

2. The Contract Time is proposed to (be adjusted). The proposed adjustment, if any, is increase of _____ days)

When signed by the Owner and Architect and received by the Contractor, this document becomes effective IMMEDIATELY as a Construction Change Directive (CCD), and the Contractor shall proceed with the change(s) described above.

Signature by the Contractor indicates the Contractor's agreement with the proposed adjustments in Contract Sum and Contract Time set forth in this Construction Change Directive.

ARCHITECT

OWNER

CONTRACTOR

Darden Architects, Inc.

6790 North West Avenue

Fresno, California 93711

By:

By:

By:

Date:

Date:

Date:

☐ OWNER

☐ CONTRACTOR

☐ ARCHITECT

☐ CONSULTANT

☐ INSPECTOR

☐ OTHER



6790 North West Avenue

Fresno, California 93711

Tel: 559.448.8051

Fax: 559.446.1765

www.dardenarchitects.com

CHANGE ORDER REQUEST REVIEW

PROJECT:

CHANGE ORDER REQUEST NO.:

DATE OF ISSUANCE:

OWNER:

Architect Project No.:

DSA Appl. No.:

DSA File No.:

OPSC Appl. No.:

OSHDP No.:

CONTRACTOR:

DESCRIPTION OF PROPOSED CHANGE:

Scope:

Necessary for:

DESIGN CONSULTANT'S REVIEW:

Date Sent:

ACTION:

Referred To:

Date Returned:

- ☐ NO EXCEPTION TAKEN RELATIVE TO COST
☐ NO EXCEPTION TAKEN RELATIVE TO TIME
☐ AMEND AS NOTED AND RESUBMIT
☐ REJECTED

Consultants Remarks:

ARCHITECT'S REVIEW:

Date Returned:

ACTION:

Architects Remarks:

- ☐ NO EXCEPTION TAKEN RELATIVE TO COST
☐ NO EXCEPTION TAKEN RELATIVE TO TIME
☐ AMEND AS NOTED AND RESUBMIT
☐ REJECTED

Attachments:

REVIEWED:

Darden Architects, Inc.
6790 North West Avenue
Fresno, California 93711

APPROVED:

Architect :

Date :

Owner :

Date :

The Architect is hereby directed to instruct the Contractor to make the above changes in the Project and to include these changes in a subsequent Change Order:

☐ OWNER ☐ CONTRACTOR ☐ INSPECTOR ☐ STRUCTURAL ☐ MECHANICAL ☐ ELECTRICAL ☐ OTHER

CHANGE ORDER REQUEST NO.

Architect Project No.:

CHANGE ORDER REQUEST - BREAKDOWN WORKSHEET

WORK DELETED:

Contractor		
Materials	\$0.00	
Equipment	\$0.00	
Labor	\$0.00	
Material, Equipment, & Labor	\$0.00	
TOTAL:		\$0

ADDITIONAL WORK PERFORMED BY SUB-CONTRACTOR

Sub-Contractor			
Materials	\$0.00		
Equipment	\$0.00		
Labor	\$0.00		
Material, Equipment, & Labor	\$0.00		
Overhead 01 32 26.03	\$0.00		
Profit 01 32 26.03	\$0.00		
Sub-Total:		\$0.00	
Contractor			
Overhead 01 32 26.03	\$0.00		
Profit 01 32 26.03	\$0.00		
TOTAL:			\$0.00

ADDITIONAL WORK PERFORMED BY CONTRACTOR

Contractor			
Materials	\$0.00		
Equipment	\$0.00		
Labor	\$0.00		
Material, Equipment, & Labor	\$0.00		
Overhead 01 32 26.03	\$0.00		
Profit 01 32 26.03	\$0.00		
TOTAL:			\$0.00

TOTAL COST:	\$0.00
--------------------	---------------

TOTAL COST:	\$0.00
TOTAL DAYS:	0

ARCHITECTURAL ADMINISTRATIVE FEES:

Proposal Request Administration	\$0.00
Construction Administration	\$0.00
TOTAL:	\$0.00
DSA Fees:	\$0.00

CHANGE ORDER

PROJECT:

CHANGE ORDER NO.:

DATE OF ISSUANCE:

OWNER:

CONTRACT DATE:

NOTICE TO PROCEED:

CONTRACTOR:

Architect Project No.:

DSA Appl. No.:

DSA File No.:

OPSC Appl. No.:

OSHPD No.:

The Contract is changed as follows:

Description:

See Attached pages for Change Order Items

It is mutually agreed that the affixed signature to this Change Order is evidence that all compensation with respects to the changes defined herein have been satisfied with the execution of this document. Furthermore, no additional compensation either monetarily or via time extension to this contract will be sought in respect to this Change Order.

The Original Contract Sum and Contract Completion Date:

Net change (Contract Sum and Contract Time) by previous Change Orders:

Contract Sum and Contract Completion Date prior to this Change Order:

Contract Sum and Contract Time (increased or decreased) by this Change Order:

New Contract Sum and Contract Completion Date including this Change Order:

ARCHITECT

Darden Architects, Inc.

6790 North West Avenue

Fresno, California 93711

OWNER

CONTRACTOR

By:

By:

By:

Date:

Date:

Date:

☐ OWNER ☐ CONTRACTOR ☐ ARCHITECT ☐ CONSULTANT ☐ INSPECTOR ☐ OTHER

FRAGNET SUBMITTAL FORM

Date: _____

Sheet _____ of _____

From: _____

Fragnet No.: _____

To: Darden Architects, Inc.

Description of Delay: By reference to attached schedule fragnet, the following delay occurred:

☐ Continued on Sheets _____ of _____

Time Extension Requested: _____ wds, _____ cds.

Time Requested for Activity:

Time Requested for Project:

Related Documents: The following construction documents provide evidence of the delay event:

RFI Nos.: _____ SI Nos.: _____

CCD Nos.: _____ RFP Nos.: _____

Daily Reports Dated: _____ and attached.

Project Correspondence Dated: _____ and attached.

Other
Documentation: _____

Schedule-Related Information: By reference to the attached fragnet, provide the following:

Predecessor Activity to Fragnet:

Successor Activity to Fragnet:

Affected CPM Schedule Activities (list IDs and descriptions):

New CPM Schedule Activities (list IDs and descriptions):

END OF FORM

APPLICATION FOR PAYMENT

To: **DARDEN ARCHITECTS, INC.**
6790 N. West Avenue
Fresno, CA 93711

Project: _____

Bid Package No: _____

Pay Application No: _____

Distribution to: _____

Owner: _____

Architect: _____

Contractor: _____

Const Mgr.: _____

Inspector: _____

FROM: _____

Prime Contractor

Address: _____

Phone: _____

CONTRACTOR'S APPLICATION FOR PAYMENT: The present status of the account for this Contract is as follows:

CHANGE ORDER SUMMARY		
APPROVED CHANGE ORDERS:		
Change Order No.	Approved Date.	Amount:
		\$
		\$
		\$
		\$
		\$
		\$
		\$
TOTALS		
Net change by Change Order		\$

ORIGINAL CONTRACT SUM:..... \$

Net Change by Change Orders:..... \$

CONTRACT SUM TO DATE:..... \$

TOTAL COMPLETE & STORED TO DATE:..... \$

RETAINAGE: _____ %:..... \$

TOTAL EARNED LESS RETAINAGE:..... \$

LESS STOP NOTICE(S):..... \$

LESS PREVIOUS PAYMENT:..... \$

CURRENT PAYMENT DUE:..... \$

Contractor: This Certificate is not negotiable. This AMOUNT CERTIFIED is payable only to the Contractor named herein, issuance, payment and acceptance of payment, are without prejudice to any rights of the Owner or Contractor under this contract.

CONTRACTOR:	CONSTRUCTION MANAGER:
DATE: _____	DATE: _____
INSPECTOR:	ARCHITECT:
DATE: _____	DATE: _____

CONTRACTOR'S TESTING / INSPECTION REQUEST FORM

PROJECT: _____

DATE RECEIVED: _____ (by Inspector)

TIME RECEIVED: _____ (by Inspector)

BUILDING: _____

SITE / OFFSITE: _____

CONSTRUCTION PHASE (1, 2, 3, etc.): _____

SPECIFICATION SECTION (No.): _____

PLAN SHEET AND DETAIL: _____

SCOPE OF WORK: _____

(concrete, electrical, etc.)

INSPECTION REQUESTED BY: _____

(contractor name)

LOCATION (bldg., room, floor, wall, ceiling, etc.) _____

TYPE OF INSPECTION (concrete, framing, welding, masonry, electrical, etc.) _____

INSPECTION REQUESTED ON: _____ at _____ am/pm

(date)

(time)

Note 1: A Minimum Notice of 48 hours is Required to be Received by the Inspection Office Prior to the Time the Testing / Inspection is Requested to Begin.

PRINT NAME AND TITLE OF PERSON REQUESTING INSPECTION

SIGNATURE OF PERSON REQUESTING INSPECTION

Note 2: Contractor Must Accompany Inspector on Inspection, if Requested.

PASSED: _____

FAILED: _____

Note 3: See Attached Sheet for Explanation if Inspection Failed. Re-inspection Required.

INSPECTOR SIGNATURE: _____ **Date:** _____

CONTRACTOR'S "DEVIATION NOTICE" INSPECTION REQUEST
FORM

PROJECT: _____

DATE RECEIVED: _____ (by Inspector)

TIME RECEIVED: _____ (by Inspector)

DEVIATION NOTICE(S) (No.): _____

BUILDING: _____

SITE/OFFSITE: _____

CONSTRUCTION PHASE (1, 2, 3, etc.): _____

SPECIFICATION SECTION (No.): _____

SCOPE OF WORK: _____
(concrete, electrical, etc.)

INSPECTION REQUESTED BY: _____
(contractor company name)

LOCATION(S) OF WORK FOR INSPECTION: (be specific – building(s), room(s), etc.)

INSPECTION REQUESTED ON: _____ at _____ am/pm
(date) (time)

Note 1: A Minimum Notice of 48 Hours is Required to be Received by the Inspection Office Prior to the Time the "Deviation Notice" Inspection is Requested to Begin.

PRINT NAME OF PERSON REQUESTING DEVIATION NOTICE INSPECTION

SIGNATURE OF PERSON REQUESTING DEVIATION NOTICE INSPECTION

Note 2: Contractor Must Accompany Project Inspector on "Deviation Notice" Inspection, if Requested.

Note 3: See Attached "Deviation Notice" for Inspector's Comments and/or Date Completed.

PASSED: _____ **FAILED:** _____

PROJECT INSPECTOR SIGNATURE: _____
DATE: _____

CONTRACTOR'S FINAL INSPECTION REQUEST FORM

PROJECT: _____

DATE RECEIVED: _____ (by Inspector)

TIME RECEIVED: _____ (by inspector)

BUILDING: _____

SITE/OFFSITE: _____

CONSTRUCTION PHASE (1, 2, 3, etc.): _____

SPECIFICATION SECTION: (No.) _____

SCOPE OF WORK: _____
(concrete, electrical, etc.)

INSPECTION REQUESTED BY: _____
(contractor company name)

INSPECTION REQUESTED ON: _____ at _____ am/pm
(date) (time)

Note 1: A Minimum Notice of 48 Hours is Required to be Received by the Inspection Office Prior to the Time the Final Inspection is Requested to Begin. Contractor to be Notified by the Construction Manager in Regards to the Actual Date and Time of the Final Inspection.

PRINT NAME AND TITLE OF PERSON REQUESTING FINAL INSPECTION

SIGNATURE OF PERSON REQUESTING FINAL INSPECTION

Note 2: Contractor Must Accompany Project Inspector, Architect and/or Engineer(s) on Final Inspection, if Requested.

PASSED: _____ **FAILED:** _____

Note 3: If the Final Inspection Fails Re-Inspection is Required. See Attached Sheet for Comment(s).

PROJECT INSPECTOR SIGNATURE: _____
DATE: _____

PROJECT ARCHITECT SIGNATURE: _____
DATE: _____

CONTRACTOR'S PUNCHLIST INSPECTION REQUEST FORM

PROJECT: _____

DATE RECEIVED: _____ (by Inspector)

TIME RECEIVED: _____ (by Inspector)

BUILDING: _____

SITE/OFFSITE: _____

CONSTRUCTION PHASE (1, 2, 3, etc.): _____

SPECIFICATION SECTION (No.): _____

SCOPE OF WORK: _____

(concrete, electrical, etc.)

INSPECTION REQUESTED BY: _____

(contractor company name)

LOCATION(S) OF WORK FOR INSPECTION: (be specific – building(s), room(s), etc.)

DESCRIPTION OF WORK TO BE INSPECTED: (item number(s) from punchlist)

INSPECTION REQUESTED ON: _____ at _____ am/pm
(date) (time)

Note 1: A Minimum Notice of 48 Hours is Required to be Received by the Inspection Office Prior to the Time the Punchlist Inspection is Requested to Begin.

PRINT NAME OF PERSON REQUESTING PUNCHLIST INSPECTION

SIGNATURE OF PERSON REQUESTING PUNCHLIST INSPECTION

Note 2: Contractor Must Accompany Project Inspector on Punchlist Inspection, if Requested. Items Must Have Already Been Signed Off by Contractor.

Note 3: See Attached Sheet for Contractor's Signoff and/or Inspector's Comments and/or Date Completed for the Specific Punchlist Items Noted Above.

Note 4: This Inspection is NOT A FINAL INSPECTION but Only an Acknowledgement That a Particular Item(s) is/are Complete.

CONTRACTOR NAME:

Page of

[illegible]

SECTION 013300 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely provide all required submittals and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 SUBMITTALS

- A. Request for Electronic Files:
 - 1. Submit in accordance with the following:
 - a. Contractor's Usage Agreement for Electronic Files:
 - 1) See attachment.
- B. Contractor's responsibilities:
 - 1. The Contractor shall check, verify, and be responsible for all field measurements.
 - 2. The Contractor shall submit a schedule indicating when the required shop drawings and submittals will be submitted to the Architect.
 - a. Submit schedule within the amount of days as indicated in Specification Section - CONSTRUCTION SCHEDULES.
 - 3. Submit copies as scheduled below, checked and approved by the Contractor for all submittals required for the work of the various trades. Deliver submittals promptly to avoid delays in delivery of materials or execution of the work.
 - a. The Contractor (or Subcontractor) shall mark-up the submittals as to project specifics. If the specifications contains a schedule prepared by the Architect (i.e. paint symbols such as DW-1, M-1, CB-1, etc., or tile symbols such as CT-1, CT-2, or IWA, IWB, IWC, etc.), then the submittal will also contain those designations. Submittals without project specifics will be returned to the Contractor as not being properly prepared.
 - b. The Contractor shall stamp the Submittals utilizing any language requested by the Owner in the General Conditions and the following minimum language:

"This submittal has been reviewed by (Name of Contractor) and approved with respect to the means, methods, techniques, sequences, and procedures

of construction, and safety precautions and programs incidental thereto. The Contractor has reviewed and approved not only the field dimensions, but the construction criteria, and has also made written notation regarding any information in the Shop Drawings that does not conform to the Contract Documents. The Contractor has reviewed this submittal and coordinated with all other Shop Drawings received to date by the Contractor and this duty of coordination has not been delegated to subcontractors, material suppliers, the Architect, or the design consultants on this project. The Contractor shall also have indicated that it has not relied upon the dimensions shown on the drawings, specifications and schedules, and that the Contractor has double-checked all dimensions for accuracy and fit. (Name of Contractor) also warrants that this submittal complies with the Contract Documents and comprises no variation thereto."

By: _____ Contractor's Signature

_____ Contractor's Typed Name

Date: _____

- c. Substitutions on shop drawings or in product submittals will not be considered without prior approval in accordance with Specification Section - SUBSTITUTION PROCEDURES. Submittals containing unacceptable items will be rejected.
 - d. The Contractor shall make any corrections required by the Architect during the Architect's initial review, and re-submit the required corrected copies for final review and distribution.
- C. Architect's responsibilities:
- 1. The Architect will make any desired corrections with reasonable promptness, and return the submittal to the Contractor.
 - 2. The Architect's review of such drawings or schedules shall not relieve the Contractor of responsibility for deviations from the drawings or specifications, unless he has, in writing, called the Architect's attention to such deviations at the time of submission, and secured written acceptance.
 - a. The Architect's review shall be for general conformance with the design concept for the project and general compliance with the information given in the Contract Documents.
 - b. The Architect's review shall not be construed as an "approval", or to relieve the Contractor(s) and material suppliers of responsibility for errors or omissions in the submitted documents.
 - c. Modifications or comments made on the submittals or shop drawings during this review do not relieve the Contractor from compliance with the requirements of the drawings and specifications.
 - d. Acceptance of a specific item does not include acceptance of the assembly of which the item is a component.
- D. The following list of items, definitions and required quantities is a minimum required for this project. Verify with FACILITY SERVICES SUBGROUP sections for additional quantities required within those divisions.

1. Product Data: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams, other product information, color choices and/or manufacturer's catalog sheets shall be specially prepared for the Project (marked-up with project specifics) and shall be submitted in sequential sets for each category of work:
 - a. Quantity:
 - 1) Unless otherwise indicated in the Contract Documents, provide Six (6) sets.
 - b. Material Safety Data Sheets (MSDS): MSDS are not required, but it is recognized that applicable federal and state laws require the submission of these data sheets to an Owner. MSDS shall be turned over to the Owner (without review by the Architect or it's consultants) in compliance with federal and state laws.
2. Shop Drawings: Newly prepared information, drawn to accurate scale, consisting of drawings, diagrams, schedules, and other data specifically prepared for the Project by the Contractor, a Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Project. Do not reproduce Contract Documents or copy Standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
 - a. Quantity: Provide One (1) reproducible original (vellum, sepia or mylar) and Three (3) opaque (blue-line or black-line xerographic) prints for each sheet or detail.
 - 1) The contractor shall receive the marked-up reproducibles and copy the required number of sets to the subcontractor, manufacturer's and/or material suppliers.
 - b. Contractor's use of Architect's Electronic CAD Files.
 - 1) Upon written request by Contractor, copies of the Architect's electronic CAD files maybe available for Contractor's use in connection with this Project.
 - a) Contractor's written request shall be on the Architect's "Contractor's Document Usage Agreement for Requested Documents" and may include an additional Architect's Consultant's Agreements, outlining conditions for providing files.
 - b) Contractor's request shall be limited to drawings directly applicable to the Shop Drawings the Contractor wishes to create for submittal.
 - c) Contractor shall pay the Architect for work incurred for providing the requested files. Payment shall be submitted with the request.
 - 2) The Architect's electronic CAD files are limited to files that already exist and that not all files maybe available at the Architect's and Architect's Consultant's discretion.
 - 3) The Architect's electronic CAD files are not part of the Contract Documents and have limitations to the accuracy, incorporating modifications, CAD system formats, CAD entity attributes and layering.
 - 4) The Architect's electronic CAD files have restrictions on Contractor's use, transmittal and delivery of files.
3. Samples: Physical examples specially prepared for the Project (marked-up with project specifics) which illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.
 - a. Quantity:
 - 1) Unless otherwise indicated in the Contract Documents, provide Four (4) sets.
 - b. Color samples shall be submitted on 8-1/2" x 11" cards for all colors scheduling paint types specified utilizing the paint symbols designated by the Architect in the drawings and specifications.

- c. Manufactured devices or equipment items:
 - 1) Quantity: One (1) sample, returned to supplier and which, when approved, may be incorporated into the Project.
 - 4. Quality Assurance/Control submittals: Consists of design data, test reports, certificates, manufacturers instructions, and /or manufacturer's field reports.
 - a. Quantity:
 - 1) Unless otherwise indicated in the Contract Documents, provide Six (6) sets.
 - 5. Closeout submittals: Maintenance data, operating manuals, project documents, engineering calculations, and/or warranties shall be submitted when required in the various specification sections:
 - a. Quantity:
 - 1) Unless otherwise indicated in the Contract Documents, provide Two (2) sets.
 - 6. Field Samples: Sample panels of in place construction, or selected area of completed substrates or work showing the anticipated compliance with specified characteristics in order to establish a standard of quality.
 - a. Quantity:
 - 1) See specific specification section requirements.
 - 7. Mockups: Full-sized erected assemblies, used for coordination purposes or for testing in a laboratory, or required for approval in a finish form before the actual Project construction begins.
 - a. Quantity:
 - 1) See specific specification section requirements.
- E. Substitution, Dispute or Claim Submittals:
- 1. Any substitution, dispute or claim submittals relating to this contract, or any Contract breach, which are not disposed of by agreement shall be promptly submitted in accordance with the GENERAL CONDITIONS, as a claim to and decided by the Architect who shall issue a written decision on the dispute.
 - 2. Adequate supporting data shall include, but is not limited; a statement of the reasons for the asserted entitlement, the certified payroll, invoice for material and equipment rental, and an itemized breakdown of any adjustment sought.
 - 3. If no "SUBMISSION UNDER PENALTY OF PERJURY" clause is provided within the GENERAL CONDITIONS, then the Contractor shall certify, at the time of submission of a substitution, dispute or claim, as follows:

(The rest of this page is left intentionally blank)

SUBMISSION UNDER PENALTY OF PERJURY

I _____, being the _____ (Must be an officer), declare under penalty of perjury under the laws of the State of California, and do personally certify and attest that: I have thoroughly reviewed the attached substitution, dispute or claim for additional compensation and/or extension of time, and know its contents, and said claim is made in good faith; the supporting data is truthful and accurate; that the amount required accurately reflects the contract adjustment for which the Contractor believes the Owner is liable; and further, that I am familiar with California Government Code Section 12650, et seq, pertaining to false claims, and further know and understand that submission of certification of a false claim may lead to fines, imprisonment and/or other severe legal consequences.

By: _____ Contractor's Signature

_____ Contractor's Typed Name

Date: _____

Submission of a substitution, dispute or claim, properly certified, with all required supporting documentation, and written rejection or denial or all or part of the claim by Owner, is a condition precedent to any action, proceeding, litigation, suit or demand for arbitration by Contractor.

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PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 SCHEDULES

- A. Usage Agreement For Electronic Documents:
 - 1. Contractor's Usage Agreement for Electronic Files:
 - a. See attachment.
- B. The following schedule was prepared to assist the Contractor in knowing the required submittals for this project, but may not be complete. Specific submittal information as to what is required is contained within the individual specification sections and those individual sections shall govern in the event of a question.
- C. SUBMITTAL SCHEDULE
 - 1. 01 25 00 - SUBSTITUTION PROCEDURES
 - a. SUBSTITUTION REQUEST FORMS
 - 2. 01 29 73 - SCHEDULE OF VALUES
 - a. SCHEDULE OF VALUES
 - 3. 01 32 16 - CONSTRUCTION SCHEDULES
 - a. CONSTRUCTION SCHEDULE, SHOP DRAWING SUBMITTAL SCHEDULE, CRITICAL PATH SCHEDULES, FRAGNETS.
 - 4. 01 32 26 - FORMS AND REPORTS
 - a. AS REQUIRED BY THIS SPECIFICATION SECTION AND OTHER SPECIFICATION SECTIONS.
 - 5. 01 33 00 - SUBMITTAL PROCEDURES
 - a. SHOP DRAWING AND SUBMITTAL SCHEDULE, COLOR SAMPLES OF ALL FINISH MATERIALS FOR COLOR BOARD SELECTION.
 - 6. 01 45 29 - TESTING LABORATORY SERVICES
 - a. TESTING SCHEDULE, TEST REPORTS
 - 7. 01 78 36 - WARRANTIES
 - a. ALL GUARANTEES AND WARRANTIES
 - 8. 01 78 39 - PROJECT DOCUMENTS
 - a. PROJECT "AS-BUILT" DOCUMENTS, PROJECT "RECORD" DOCUMENTS AND PROJECT "CERTIFICATION" DOCUMENTS.
 - 9. 03 15 14 - DRILLED ANCHORS
 - a. PRODUCT DATA, ICC EVALUATION SERVICE REPORTS, DSA APPROVAL LETTERS.
 - 10. 03 20 00 - REINFORCEMENT
 - a. SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
 - 11. 03 30 00 - CAST-IN-PLACE CONCRETE
 - a. PRODUCT DATA, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.

12. 03 37 13 - SHOTCRETE
 - a. PRODUCT DATA, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
13. 05 30 00 - METAL DECK
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, CLOSEOUT SUBMITTALS.
14. 07 72 00 - ROOF ACCESSORIES
 - a. PRODUCT DATA, SHOP DRAWINGS, SAMPLES AND WARRANTIES.
15. 09 24 00 - CEMENT PLASTER
 - a. PRODUCT DATA (INCLUDING INSTALLATION METHODS) AND MATERIALS LIST.
16. 10 05 00 - MISCELLANEOUS SPECIALTIES
 - a. PRODUCT DATA, COLORS AND SAMPLES (WHERE APPLICABLE) FOR ALL ITEMS.
17. 10 11 00 - VISUAL DISPLAY BOARDS
 - a. PRODUCT DATA AND SAMPLE COLORS.
18. DIV. 22 - PLUMBING SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
19. DIV. 23 -HEATING, VENTILATING AND AIR CONDITIONING SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
20. DIV. 25- INTEGRATED AUTOMATION SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
21. DIV. 26- ELECTRICAL SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
22. DIV. 27 -COMMUNICATIONS SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
23. DIV. 28- ELECTRONIC SAFETY AND SECURITY SECTIONS
 - a. REFER TO APPROPRIATE SPECIFICATION SECTION REQUIREMENTS.
24. 31 20 00 - EARTHWORK
 - a. PRODUCT DATA, SHOP DRAWINGS, QUALITY ASSURANCE/CONTROL SUBMITTALS, PROJECT RECORD DOCUMENTS, AND WARRANTIES, AND DRAWINGS SHOWING KNOWLEDGE OF THE EXTENT OF ENGINEERED PADS.

**CONTRACTOR'S
USAGE AGREEMENT FOR ELECTRONIC FILES -
ELECTRONIC FILE REQUEST FORM**

Project Name: _____

DA Project No.: _____

TO: DARDEN ARCHITECTS, INC.

6790 N. West Avenue

Fresno CA 93711

A. I _____ as a duly authorized

agent of

_____, have a contract with the Owner to perform work on the above project in the following capacity:

- ☐ Lease-Lease Back Agent
- ☐ Construction Manager
- ☐ General Contractor

B. We hereby submit for your consideration a request for Electronic Files on the behalf of

_____, and certify that they have a contract or subcontract to perform work on the above named project in the following capacity:

- ☐ General Contractor
- ☐ Sub-Contractor
- ☐ Others under contract to a sub-contractor

C. I _____, certify the required attachments are included as follows:

- ☐ Completed "Usage Agreement for Electronic Files Agreement along with appropriate related supplemental Agreements.
- ☐ Files requested are specific and are not deemed vague or excessive and with individual sheet numbers identified, and the total number of sheets are correct.
- ☐ The enclosed Payment is accurate (\$120 per sheet) and is made payable to Darden Architects, Inc..

Print Name,

Title

Signature

Date

CONTRACTOR'S USAGE AGREEMENT FOR ELECTRONIC FILES

PROJECT NAME: _____

DA PROJECT NO.: _____

PROJECT ARCHITECT: _____

I _____, as a duly authorized agent of _____ - (Contractor) have a contract or subcontract to perform work on the above named project. The Contractor acknowledges having received at least one (1) complete set of Contract Documents for the project and has posted all Addenda and all other contract documents issued to date.

Contractor Document Usage Agreement

The Contractor is requesting the electronic CAD files of work prepared by the Architect and/or Architect's Consultants (Design Team) on the subject project, so that the information therein may be utilized in the Contractor's work on the same project. The Contractor understands that these files are being provided as a courtesy and they are strictly intended for the Contractor's sole convenience and they are not recognized Contract Documents. This request is subject to the following conditions, which the Contractor hereby agrees to abide by:

1. It is understood and agreed to that any files and/or documents provided are instruments of professional service by the Design Team and are intended for one-time use solely in the construction of this project. They are and shall remain the property of the Architect or the Architect's Consultants, who is deemed to be the author of the drawings and data, and who shall retain all common law, statutory law, and all other rights, including copyrights.
2. The Contractor shall indemnify and hold harmless, the Design Team, its officers, directors, employees or subcontractors, to the fullest extent permitted by law, against all claims, liabilities, losses, damages, and costs, including but not limited to attorney's fees and defense costs arising out of or resulting from contractor's use of these electronic files, or in any way connected with the modification, misinterpretation, misuse, or reuse by the Contractor or by others.
3. The Contractor agrees that by using these electronic files, the Contractor is in no way relieved of the duty to fully comply with the Contract Documents, including and without limitation, the need to check, confirm and coordinate all dimensions and other details, take field measurements, verify field conditions and coordinate with all other contractors for the project.
4. It is agreed to that these electronic files are not Contract Documents. Differences may exist between electronic files and corresponding hard-copy Contract documents. The Design Team makes no representation regarding the accuracy or completeness of the electronic files provided to the contractor. In the event that a conflict arises, the signed and sealed hard-copy Contract Documents shall govern. Contractor is responsible for determining if any conflict exists.
5. The Contractor understands that the Design Team makes no representation as to the compatibility of these files with Contractor's computer hardware or software. The Contractor understands that the accuracy of the information is an artifact of the techniques used to generate it and is in no way intended to imply actual accuracy. It is also understood that the automated conversion of information and data from the system and format used by the Design Team to an alternate system or format cannot be accomplished without the possibility of introduction of inexactitudes, anomalies and errors.
6. Because information presented on the electronic files can be modified, unintentionally or otherwise, the Design Team reserves the right to edit the drawings to remove information deemed not necessary and/or remove all indications of ownership and/or involvement from each electronic display.

7. The Design Team will only furnish those drawings directly applicable to the shop drawings the contractor wishes to create. The Contractor understands that not all electronic files may be available at the Design Team's discretion.
8. The Contractor understands that the Architect's Consultants may have Additional Conditions for release of their electronic files or documents, and the Contractor hereby agree to abide by the Consultants conditions in addition to the stated conditions in this agreement. Additional Conditions (if any) are attached to this agreement.
9. The Contractor understands that the Architect and the Architect's Consultants will incur certain costs in providing the requested electronic files. The Contractor agrees to pay the Design Team a service fee of \$120.00 per sheet, per delivery, prior to any delivery of the electronic files to compensate the Design Team for the labor to prepare and transmit the files and for the additional risk that this transfer will occasion.
10. Under no circumstances shall delivery of the electronic files for use by the Contractor be deemed a sale by the Owner, the Design Team, or any member of the Design Team. The Design Team makes no warranties, either expressed or implied, of merchantability or fitness for any particular purpose. In no event shall the Design Team be liable for any loss of profit or any consequential damages as a result of Contractor's use or reuse of the electronic files.

Darden Architects, Inc.

Attachments:

___ Civil ___ Structural ___ Mechanical ___ Electrical ___ Others

Description of the requested documents and/or CAD files:

 Printed Name

 Title

 Signed

 Dated

FOR USE BY ARCHITECT ONLY

___ Check Not Attached – Not Accepted

___ Accepted

___ Accepted as Noted

___ Not Accepted

By _____

Date _____

Remarks _____

END OF SECTION

SECTION 013516 – ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install all materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Coordinate the work of trades and schedule elements of alterations and renovation work by procedures and methods to expedite completion of the work.
- C. In addition to demolition specifically shown, cut, move or remove items as necessary to provide access or to allow alterations and new work to proceed. Include such items as:
 - 1. Repair or removal of hazardous or unsanitary conditions.
 - 2. Removal of abandoned items and items serving no useful purpose, such as abandoned piping, conduit and wiring.
 - 3. Removal of unsuitable or extraneous materials not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted metals and deteriorated concrete.
 - 4. Cleaning of surfaces, and removal of surface finishes as needed to install new work and finishes.
- D. Patch, repair and refinish existing items to remain, to the specified condition for each material, with a smooth and clean transition to adjacent new items of construction.
- E. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. 31 12 00 SELECTIVE DEMOLITION
 - 4. 03 30 00 CAST-IN-PLACE CONCRETE
 - 5. 09 91 00 PAINTING
 - 6. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 7. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

PART 2 - PRODUCTS

2.1 MATERIALS (Products for Patching, Extending and Matching):

- A. Provide same products or types of construction as that in existing structure as needed to patch, extend or match existing.

- B. The Contract Documents will not typically define products or standards of workmanship present in existing construction; determine products by inspection and necessary testing, and determine quality of workmanship by using existing as a sample for comparison.
- C. The presence of a product, finish, or type of construction requires that patching, extending or matching shall be performed as necessary to make work complete and consistent with identical standards of quality.

PART 3 - EXECUTION

3.1 REPAIR / RESTORATION

- A. Patch and extend existing construction using skilled workers capable of matching existing quality of workmanship. Quality of patched or extended work shall be not less than that specified for new work.
- B. Damaged Surfaces:
 - 1. Patch and replace portions of existing finished surfaces that are found to be damaged, lifted, discolored, or show other imperfections, with matching material.
 - a. Provide adequate support of substrate prior to patching the finish.
 - b. Refinish patched portions of painted or coated surfaces in a manner to produce uniform color and texture over the entire surface.
 - c. When existing surface finish cannot be matched, refinish entire surface to nearest intersections.
- C. Transition from existing to new work:
 - 1. When new work abuts or finishes flush with existing work, make a smooth and clean transition. Patched work shall match existing adjacent work in texture and appearance so that the patch of transition is invisible at a distance of five feet.
 - 2. When finished surfaces are cut in such a way that a smooth and clean transition with the new work is not possible, notify the Architect. Terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to finished surface, or as otherwise directed by the Architect

3.2 ADJUSTING

- A. Test and adjust controls and safeties. Replace damaged or malfunctioning controls and equipment.

3.3 CLEANING

- A. Clean in accordance with Specification Section - PROJECT CLOSEOUT.
 - 1. Leave area level and free of any ruts or debris. Appearance of earth surface shall be equal to or better than adjacent undisturbed surfaces.
 - 2. Clean any soiled surfaces immediately.
 - 3. Finish shall be clean and ready for the application of any additional finishes.
- B. Perform periodic and final cleaning as specified in Specification Section - PROJECT CLOSEOUT.
 - 1. Clean Owner-occupied areas daily.
 - 2. Clean spillage, over spray, and heavy collection of dust in Owner-occupied areas immediately.
- C. At completion of work of each trade, clean area and make surfaces ready for work of successive trades.
- D. At completion of alteration work in each area, provide final cleaning and return space to a condition suitable for use by the Owner.
- E. Contractor shall remove all materials and items as indicated on drawings or otherwise required. Remove all trash or debris as it accumulates and legally dispose of it off site at no additional cost to the Owner.

3.4 PROTECTION

- A. Protection from weather:
 - 1. Protect newly installed work from freezing for 24 hours after erection, installation or application.
- B. Protection from traffic:
 - 1. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, which ensures the work of this section being without damage or deterioration until the time of Substantial Completion.
 - 2. Immediately after cleaning, neatly apply four (4) mil thick, minimum, polyethylene film over finished surfaces at traffic areas. Fasten film firmly to surfaces without visually marring those surfaces.
- C. Assign the work of moving, removal, cutting and patching, to trades qualified to perform the work in a manner to minimize the possibility of damage to each type of work, and provide means of returning surfaces to appearance of new work.
- D. Perform cutting and removal work with minimal disruption and manner to avoid damage to adjacent work.
- E. Cut finish surfaces such as masonry, tile, plaster or metals, by methods which terminate surfaces in a straight line at a natural point of division.

- F. Perform cutting and patching as specified in Specification Section - CUTTING AND PATCHING.
- G. Protect existing finishes, equipment, and adjacent construction from damage.
 - 1. Protect existing and new work from weather and extremes of temperature.
 - 2. Maintain existing interior work above 60 degrees F.
 - 3. Provide weather protection, waterproofing, heat and humidity control as needed to prevent damage to remaining work and to new work.

3.5 SCHEDULES

- A. Schedule work in the sequences specified in Specification Section - SUMMARY OF WORK, if applicable.

END OF SECTION

SECTION 014100 – REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install all materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
 - 2. Section 4-317 (c), Part 1, Title 24, CCR, requires the following:
 - a. "The intent of these drawings and specifications is that the work of the alteration, rehabilitation or reconstruction is to be in accordance with Title 24, California Code of Regulations. Should any existing conditions such as deterioration of non-complying construction be discovered which is not covered by the contract documents wherein the finished work will not comply with Title 24, California Code of Regulations, a change order, or a separate set of plans and specifications, detailing and specifying the required work shall be submitted to and approved by the Division of the State Architect before proceeding with the work."
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 REFERENCES

- A. References to standards, codes, specifications, recommendations and regulations, refer to the latest edition or printing in effect at the date of issue shown in the Documents unless another date is implied by the suffix number of the Standards.
- B. Applicable portions of the Standards listed that are not in conflict with the Contract Documents shall be construed as specifications for this work.
- C. General Standards:
 - 1. AFPA American Forest and Paper Association
 - 2. ANSI American National Standards Institute
 - 3. ASTM American Society for Testing and Materials
 - 4. CAL/OSHA California Occupational Safety and Health Administration
 - a. State of California Construction Safety Orders
 - 5. CS Commercial Standards of the US Department of Commerce
 - 6. EPA Environmental Protection Agency
 - 7. FMG Factory Mutual Group

- 8. NIBS National Institute of Building Sciences
- 9. NIST National Institute of Standards and Technology
- 10. NFPA National Fire Protection Association
- 11. OSHA Occupational Safety and Health Administration
 - a. Federal Construction Safety Orders
- 12. PS Product Standards of the US Department of Commerce
- 13. SS-CDOT "Standard Specification":
 - a. State of California Department of Transportation (CalTrans)
- 14. UL Underwriters Laboratory Incorporated
- 15. WH Warnock Hersey

1.3 SUBMITTALS

- 1. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
- 2. Quality Assurance/Control Submittals:
 - a. Certificates:
 - 1) Submit three (3) copies of certificates written on the Contractor's Letterhead indicating that the required codes shall be present at the Job Site.

1.4 QUALITY ASSURANCE

A. Regulatory Requirements:

- 1. All codes, laws, ordinances, rules, regulations, orders and other legal requirements of City, County, State, Federal and other public authorities which bear on performances of Work shall be applicable to Project. Latest editions shall be applicable unless specified otherwise.
- 2. Relationship between Applicable Codes and Contract Documents. The Contract Documents have been developed with the intent to conform to the applicable codes. Nothing within the Contract Documents shall be construed to permit Work not conforming to the applicable codes.

B. Major Governing Codes And Regulations:

- 1. General: All work shall comply with the requirements of the following codes and regulations. Special reference in other Sections of the Specifications to a specific code will be by use of the abbreviation given in front of the Code.
 - a. Freestanding equipment (if applicable) shall be provided and installed in accordance with the seismic requirements where the Project is located.
- 2. NOTE: * -Indicates that a copy of these codes shall be at the job site at all times.
- 3. AUTHORITY HAVING JURISDICTION:
 - a. AHJ Authority Having Jurisdiction
- 4. FEDERAL LAW:
 - a. ADA Americans with Disabilities Act
- 5. CALIFORNIA CODE OF REGULATIONS (Previously known as the California Administrative Codes)
 - a. CCR-T5: California Code of Regulations, Title 5-Education.
 - b. CCR-T8: California Code of Regulations, Title 8-Industrial Safety
 - 1) Contains the California Elevator Safety Code.
 - c. CCR-T19: California Code of Regulations, Title 19-Public Safety.
 - d. CCR-T21: California Code of Regulations, Title 21-Public Works.

- e. *CCR-T24: California Code of Regulations, Title 24, Part 1-Administrative Regulations AHJ.
- 6. CALIFORNIA BUILDING, ELECTRICAL, MECHANICAL, PLUMBING, ENERGY, FIRE, and REFERENCED CODES
 - a. *CBC: California Building Code 2013 California Code of Regulations, Title 24-Part 2, Volumes 1 and 2, CCR-T24, based on the 2012 edition of the IBC (International Building Code), with the latest California State Amendments.
 - b. *CEC: California Electrical Code 2013, California Code of Regulations, Title 24-Part 3, CCR-T24, based on the 2011 edition of the NEC (National Electrical Code), with the latest California State Amendments.
 - c. *CMC: California Mechanical Code 2013, California Code of Regulations, Title 24, Part 4, CCR-T24, based on the 2012 edition of the UMC (Uniform Mechanical Code), with the latest California State Amendments.
 - d. *CPC: California Plumbing Code 2013, California Code of Regulations, Title 24, Part 5, CCR-T24, based on the 2012 edition of the UPC (Uniform Plumbing Code) by IAPMO, with the latest California State Amendments.
 - e. *CEnC: California Energy Code 2013, California Code of Regulations, Title 24, Part 6, CCR-T24, and the latest California State Amendments.
 - f. *CFC California Fire Code 2013, California Code of Regulations, Title 24, Part 9, CCR-T24, based on the 2012 edition of the IFC (International Fire Code), with the latest California State Amendments.
 - 1) In addition to all other Chapters in the CFC to be followed, attention is specifically called out to comply with Chapter 33 - "Fire Safety During Construction and Demolition".
 - g. CBSC California Building Standards Commission, California Code of Regulations, Title 24, Part 10, CCR-T24.
 - h. CGBSC California Green Building Standards Code 2013, California Code of Regulations, Title 24-Part 11, CCR-T24 (CALGreen).
 - i. CRSC: California Referenced Standard Code 2013, Title 24, Part 12, CCR-T24, with the latest California State Amendments.
- 7. OTHER STATE AGENCIES:
 - a. AQMCD: Air Quality Management Control District in the area where the project is located.
 - b. RWQCB Regional Water Quality Control Board in the area where the project is located.

C. Governing Authority:

- 1. AHJ:
 - a. This Project will be under the authority of:
 - 1) The City of Fresno Codes and Standards.
 - 2) The County of Fresno Codes and Standards.
 - 3) --Other--

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 014200 – REFERENCES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
1. Provide all material, labor, equipment and services necessary to completely install all materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
 - a. The abbreviations, symbols and work meanings not defined in the Contract Documents are in accordance with building industry usage and convention. Questions which arise as to "meaning," or intent shall be referred to the Architect prior to bidding for interpretation.
 - b. Refer to drawings for additional abbreviations and symbols.
 - c. Refer to GENERAL and SPECIAL or SUPPLEMENTAL CONDITIONS and specific specification Sections for additional definitions.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
1. DIVISION 00 SPECIFICATION SECTIONS.
 2. DIVISION 01 SPECIFICATION SECTIONS.
 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

- | | | |
|----|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A. | EXECUTE | Perform what is required to install, apply, erect and otherwise incorporate products into this Project. |
| B. | FURNISH | Supply products required, deliver to Project, unload, store and install as required in location as directed by Contractor, Owner or Architect. |
| C. | GUARANTEE | An assurance by the seller or installer that products or Work are as represented or will be as promised in compliance with Specifications. Synonymous and interchangeable with WARRANTY. |
| D. | INSTALL | Incorporate into this Project. |
| E. | PRODUCTS | The material, equipment, fixtures and other physical substances required to execute the Project. |
| F. | PROVIDE | Furnish and Install into this Project. |

- G. WARRANTY An assurance by the seller or installer that products or Work are as represented or will be as promised in compliance with Specifications. Synonymous and interchangeable with GUARANTEE.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 015000 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install all Temporary Utilities, Support Facilities, and Protection Facilities materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
 - a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.
 - b. CAL/OSHA California Division of Occupational Safety and Health Administration
 - c. CM County of Merced, Codes and Ordinances
 - d. EPA Environmental Protection Agency

1.3 PROJECT CONDITIONS

- A. Environmental Requirements:
 - 1. Dust control:
 - a. Perform work in a manner as to minimize the spread of dust and flying particles.
 - b. Thoroughly moisten all surfaces as required to prevent dust from being a nuisance to the public, neighbors and concurrent performance of other on-site work.
 - 2. Burning: No burning will be allowed on-site.
 - 3. Noise Control:
 - a. Stationary noise sources shall be of a low-noise emission design, consistent with the best available noise reduction technology.

- b. The hours of operation of noise-generating equipment shall be restricted to 6:00 a.m. to 7:00 p.m. Monday through Friday, and to 8:00 a.m. to 6:00 p.m. on Saturday and Sunday.
 - c. Mufflers shall be required on all gas and diesel-powered equipment.
- B. Existing Conditions:
 - 1. Examine site and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. Fire Protection During Construction:
 - 1. Provide Temporary Fire Protection per CFC Chapter 33 during demolition and construction.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Site verification of conditions:
 - 1. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
 - 2. Execution of work under this specification section shall constitute acceptance of existing conditions.
 - 3. Obtain all necessary permits and authorizations by regulatory agencies required to perform the work under this section.

3.2 PREPARATION

- A. Coordination:
 - 1. Before proceeding, verify plans match existing conditions.
 - 2. Coordinate work under this specification with work specified under other sections to ensure proper and adequate interface of work.
- B. Protection:
 - 1. The Contractor shall verify and protect existing landscaping, asphalt area, concrete walkways, and other site improvements to remain on the site before proceeding with the Work.
 - 2. Prior to starting Work, hose bibbs, utility lines, etc., to be abandoned and removed within the construction area shall be stubbed off outside the limits of construction.
 - 3. Verify and protect utilities to remain within the construction area and provide special construction for their protection.

3.3 IMPLEMENTATION

A. General:

1. Perform Work and provide and maintain Temporary Utilities and Temporary Facilities in accordance with the requirements of all regulatory authorities having jurisdiction.
2. Contractors shall cooperate with other contractors and the Owner in the use of the site, Temporary Utilities, Temporary Facilities and shall adjust their operations to maintain harmonious relations and uninterrupted progress of the Work.
3. The Contractor shall assume all responsibility for the provision and maintenance of these Temporary Utilities and Temporary Facilities and for the provisions of public safety where the operations under this Contract interface with public areas.

B. Temporary Facilities:

1. Protection Facilities:
 - a. Existing Facilities:
 - 1) Protect existing vegetation, equipment, structures, utilities, and other improvements at project site and on adjacent properties, except those indicated to be removed or altered. Damage occurring during the course of construction shall be repaired to condition at the start of the Work.
 - b. Environmental:
 - 1) 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.
 - c. Project Enclosure:
 - 1) Project enclosure shall protect materials, construction work, and operations from vandalism, theft, and to exclude the intrusion of the public into the construction area.
 - 2) Maintain security by limiting number of keys and restricting distribution to authorized personnel.

3.4 CLEANING

A. Clean in accordance with Specification Section – PROJECT CLOSEOUT.

1. At all times, keep the premises free from accumulations of waste materials or rubbish caused by employees or the Work.
2. Clean all soiled surfaces to remain immediately.
3. At the completion of the Work, remove all rubbish from and about the building and all tools, scaffolding, and surplus materials and shall leave the Work "broom clean" or its equivalent.

END OF SECTION

SECTION 017329 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary for cutting and patching existing materials, accessories and other related items necessary to remodel the Project as indicated by the Contract Documents.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of Work.

SUBMITTALS

1.3

Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:

- A.
 - 1. Coordination Drawings:
 - a. Submit any installer's coordination drawings indicating the work of this section with that of related work of other sections for proper interface of the completed work. Installer shall coordinate and obtain approvals from the work of other related sections prior to submitting to the Architect.

1.4 QUALITY ASSURANCE

- A. 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.

- B. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces 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.
- C. The Contractor shall do all cutting, fitting or patching of existing construction and his work as may be required to make the several parts come together properly and ready to receive or be received by work of other contractors as shown, or reasonably implied by the drawings and specifications for the completed structure. All work shall be as directed by the Architect to achieve the intended work and degree of finish shown.
- D. Any cost caused by defective or ill-timed work shall be borne by the party responsible therefor.

1.5 WARRANTY

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

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.

- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid interruption of services to occupied areas.

3.3 FIELD QUALITY CONTROL

- 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 existing 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. Cutting: Cut existing 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 as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete or Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill. **Do not overcut concrete corners** – hand chip all corners to prevent over-cutting lines. Cut any masonry pavers at grout lines, and **don't overcut** into adjacent brick that is to remain.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Division 2 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.
- C. Grinding and Sandblasting: Where grinding and sandblasting is required of existing construction, perform in accordance with industry standards for proper preparation of new construction or finishes.
- D. 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 possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate 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. All hard paving and walk replacement shall be flush with adjacent existing construction. Compact existing subgrade so that there is no settling of adjacent horizontal surfaces greater than 1/4", and that all surfaces are ADA compliant.
 - b. Match existing adjacent exposed aggregate concrete paving (color and texture) when construction is proposed for areas paved with exposed aggregate concrete.
 - c. Match existing adjacent colored concrete paving (color and texture) when construction is proposed for areas paved with colored concrete.
3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

END OF SECTION

SECTION 017720 – PROJECT CLOSEOUT

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install all materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 - 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.
- C. Work Included:
 - 1. Project cleanup and coordination of all cleaning work required under all sections of this specification.
 - 2. Collection of and processing for delivery to the Architect of all Project Record Drawings required under this and other various Sections of the Specifications.
 - 3. Compile and assemble all required documents, operation data, maintenance manuals, and parts lists for all equipment items provided for this project.
 - 4. Start-up of all mechanical, electrical, and miscellaneous equipment items; and adjustment required for the performance specified.
 - 5. Compile and assemble all guarantees, warranties, or other written documentation to establish the requirements outlined under all sections of this specification.
 - 6. Repair and touch-up on all items damaged during the construction and handling processes.
 - 7. Furnish maintenance material and spare parts as specified within DIVISIONS 02 through 49 of these specifications.
 - 8. Deliver to the Architect all assembled copies of those items required in Articles 1 through 6 above for presentation to the Owner.
- D. It shall be the responsibility of the Contractor to provide all labor and materials necessary to achieve completion of the items listed under Paragraph A, B and C above, although certain items may be specified under the work of other trades. Periodic removal of debris, cleaning, repair, and testing of times in various areas of the construction site shall be carried out under the direction of the Contractor.

1.2 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:

1. Quality Assurance/Control Submittals:
 - a. Design Data.
 - 1) All design data as required by the Contract Documents.
 - b. Test Reports:
 - 1) Submit four (4) copies of reports.
 - 2) Submit four (4) copies of reports required by regulatory requirements.
 - 3) Submit four (4) copies of ICC Evaluation Service Report.
 - 4) Submit four (4) copies of Testing Laboratory's report.
 - 5) All other Test Reports as required by the Contract Documents.
 - c. Certificates:
 - 1) Submit three (3) copies of certificates.
 - d. Manufacturer's Instructions:
 - 1) Submit three (3) copies of manufacturer's instructions.
 - e. Manufacturer's Field Reports:
 - 1) Submit three (3) copies of manufacturer's field reports.
2. Closeout Submittals in accordance with Specification Sections in Division One:
 - a. Maintenance Data in accordance with Specification Section - PROJECT CLOSEOUT.
 - b. Warranty in accordance with Specification Section - WARRANTIES.
3. Project Record Documents:
 - a. Various Sections of the detailed specifications require Project Record Drawings to be prepared by the Contractor(s). These drawings shall be collected by the Contractor, checked for conformance to the specific requirements, and when completed, delivered to the Architect. The Contractor shall also be responsible for collecting bound operating and maintenance manuals required of all trades supplying equipment, and for delivering them to the Architect.

1.3 QUALITY ASSURANCE:

- A. Safety, Fire and Environmental Protection, and Insurance standards shall be strictly adhered to in all phases of the construction work. It shall be the responsibility of the Contractor to determine the standards applicable to this project as set forth in all codes, regulations, and ordinances having jurisdiction, and as set forth elsewhere in the Specifications.
- B. All specific requirements stipulated in, or required by code references included under all sections of DIVISIONS 02 through 49 inclusive of this specification, and as detailed under Article 3.4 of this Section, shall be required under this Contract.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Materials:
 1. Use only those specified materials or types of materials recommended and approved by the manufacturer of the item to be cleaned.
- B. Touch-Up Materials:

1. Use only those materials furnished by or as recommended and approved by the manufacturer of the item to be touched up. Colors and finish characteristics shall exactly match the base material and extra materials, labor, and services required to achieve this result shall be provided by the Contractor(s).
- C. Replacement Materials:
1. Materials that are damaged and not repairable, or materials that are destroyed shall be replaced with equal and identical materials of the same manufacture and shall function in conjunction with the remaining portions of that material. Items no longer manufactured or available shall be replaced with comparable materials as approved by the Architect and at no additional cost to the Owner.
 2. Materials that are required for maintenance replacement by the owner after the guarantee period has expired, or by the contractor during the guarantee period shall exactly match those materials installed as to make, style, color lot, etc., under this contract, and shall be delivered to the owner in marked, identified containers.
- D. Extra Materials:
1. Carefully examine the requirements of the applicable Sections of all DIVISIONS and specifically of DIVISION 09 and deliver the materials required to the Owner.

PART 3 - EXECUTION

3.1 REPAIR AND RESTORATION

- A. All damaged items shall be repaired and replaced as directed using proper materials and craftsmen skilled in that particular trade. Materials shall be as follows:
1. All repair or replacement parts shall be of the same equality and manufacturer as the item being repaired.
 2. All touch-up paint shall be as provided by the item manufacturer for that purpose and shall exactly match the original color and finish.

3.2 FIELD QUALITY CONTROL

- A. Final Reviews:
1. In addition to all items covered under those Sections of Divisions 02 through 49 inclusive, the Contractor shall comply with the requirements stated herein.
 - a. The Contractor shall request in writing a final review (see Contractor's Request for Final Review form at the end of this Specification Section).
 - 1) The Contractor shall allow a forty-eight (48) hour time period of advance notification prior to the requested date and time indicated on the Review Request form.
 - 2) The Contractor represents that the work has been carefully inspected by the Contractor to determine that the work is complete and in compliance with all requirements set forth.
 - b. The Contractor shall prepare and shall submit the initial Contractor's Punch List identifying the items that remain uncompleted forty-eight (48) hours prior to the scheduled final review by the Architect.
 - c. Under no circumstances shall the Contractor ask the Architect or his representative to make these determinations for him.

2. The Architect shall review the initial Contractor's Punch List along with the Owner's Project Inspector, and determine together whether or not the Project is ready for final review. If approved, the Architect or its representative will make the final review on the date and time requested in the Contractor's Request for Final Review form, except under the following conditions:
 - a. Upon reviewing a portion of the Project and finding quantities of work incomplete or not in compliance, the review shall cease, and the Architect will notify the Contractor.
 - b. If the Contractor has assured the Architect of the completeness and/or accuracy of the work, and the review does not bear this contention out.
3. The above conditions will be adhered to rigidly to prevent the Architect from being required to act as a supervisory agent of the Contractor by being asked to determine the degree of completion,.
 - a. When the Contractor requests additional reviews, he shall reimburse the Architect for all time and expense incurred as indicated on the Contractor's Request for Final Review form at the end of this Specification Section.
 - b. The Architect is herein defined as any of those firms or individuals listed by references on the drawings, including all consultants identified herein.
 - c. All requests for Project Final Review (and re-review) shall be made in writing on the form provided at the end of this Specification Section.
4. When the Architect does approve of the degree of readiness for the Project based on the initial Contractor's Punch List and the readiness of the Project, the Architect will make his final review, adding to the Contractor's Punch List any other items that require further completion.
5. The Contractor shall take the initial Contractor's Punch List, together with the Architect's Punch List, and initial and date each item on each list as to when it was completed.
6. Once both lists are completed and signed by the Project Inspector, the Contractor shall submit to the Architect the completed lists for final review and approval prior to filing for Substantial Completion.

3.3 CLEANING

- A. During Construction:
 1. Oversee cleaning and ensure that building and grounds are maintained free from accumulations of waste materials and rubbish.
 2. Sprinkle dusty debris with water.
 3. At reasonable intervals during progress of work, clean up site and access and dispose of waste materials, rubbish, and debris.
 4. Provide suitable containers and locate on site for collection of waste materials, rubbish, and debris.
 5. Do not allow waste materials, rubbish and debris to accumulate and become an unsightly or hazardous condition.
 6. Remove waste materials, rubbish and debris from the site and legally dispose of at public or private dumping areas off the Owner's property.
 7. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.
- B. Final Cleaning:
 1. Use experienced professional cleaners for final cleaning.

2. At completion of construction and just prior to acceptance or occupancy, conduct a final review of exposed interior and exterior surfaces.
3. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from interior and exterior surfaces.
4. Repair, patch, and touch-up marred surfaces to match adjacent finishes.
5. Broom clean paved surfaces; rake clean other surfaces of grounds.
6. Maintain cleaning until the building, or portion thereof, is accepted by the Owner.

3.4 DEMONSTRATION

- A. Prior to acceptance, verify that all conditions specified in the Article titled FIELD QUALITY CONTROL, Final Review, have been satisfied and that equipment is ready for continuous use. Provide the following services preparatory to acceptance:
 1. Demonstrate to the Owner's representative and the Architect or Engineer the method and sequence of operation, and provide testing devices and/or data to verify that performance equals that specified.
 2. Provide operating instructions in bound form along with manufacturer's parts list and written warranties.

3.5 SCHEDULES

- A. See next page for Request for Final Review from the Contractor(s):

(The rest of this page is left intentionally blank)

**CONTRACTOR'S REQUEST
FOR
FINAL REVIEW FORM**

PROJECT: _____
(Name of Project and DA Project Number)

TO: **DARDEN ARCHITECTS, INC.**
6790 N. West Avenue
FRESNO, CA 93711

FROM: _____
(Contractor)

(Address)

WE HEREBY request Final Review on _____ and _____.
(Date) (Time)

WE HEREBY, request and certify:

1. The project is ready for Final Review.
2. The undersigned will compensate the Architect at a rate of \$176.00 an hour for further review, investigation and comments if it is determined that the Project is not ready for final review as indicated earlier within this Specification Section. The Architect is herein defined as any of those firms or individuals listed by reference on the Drawings, including all Consultants identified herein.

Submitted By (Contractor)

Signature _____
Firm _____
Address _____
Date _____
Telephone _____

Below is

for Use by Design Consultant only

____ Conditions for Final Review Accepted
____ Final Review Accepted as Noted
____ Final Review Not Accepted

By _____

Date _____

Remarks _____

END OF SECTION

SECTION 017836 – WARRANTIES

PART 1 - GENERAL

1.1 SUMMARY

- A. In addition to providing all other warranties specified in the Project Manual and without affecting any rights of Owner under State or Federal law, Contractor shall warrant that the Work done under this Project Manual will be free from faulty materials or workmanship and hereby agrees, upon receiving notification from the Owner or his Agent, to immediately remedy, repair or replace, without cost to the Owners and to his entire satisfaction, all defects, damages or imperfections appearing in said work within a period of one (1) year unless specified otherwise, after date of final acceptance by the Owner of all work done under this Project Manual, regardless of whether or not the Owner or persons operating under contract with the Owner partially or wholly occupies any portion of the work prior to acceptance. For work performed after completion, the one (1) year period shall be extended by the period of time between the date of final acceptance by Owner and actual performance of the work. This obligation shall survive acceptance of the work and termination of the Contract.
1. Warranties shall be in the form outlined below and shall be submitted in duplicate to the Contractor and submitted on his own letterhead.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
1. DIVISION 00 SPECIFICATION SECTIONS.
 2. DIVISION 01 SPECIFICATION SECTIONS.
 3. SPECIFICATION SECTIONS IN THE FACILITY CONSTRUCTION SUBGROUP.
 4. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 5. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 SUBMITTALS

- A. Warranty Form: *(following page.)*

(Contractor's Letterhead)

Project Number: _____

Project Name: _____

WARRANTY FOR

We hereby warrant and the General Contractor warranties that

has been done in accordance with the Drawings and the Specifications and that the Work as installed will fulfill the requirements of the warranty included in the Project Manual. We agree to repair, replace any or all of our work together with any other adjacent work which may be displaced or damaged by so doing that may prove to be defective in its workmanship or materials within a period of _____ years from date of acceptance of the above-named without any expense to the Owner, ordinary wear and tear and unusual abuse or neglect excepted. In the event of our failure to comply with above-mentioned conditions within ten (10) days after being notified in writing by the Owner or his agent, we collectively or separately, do hereby authorize the Owner to proceed to have said defects repaired and made good at our expense and we will honor and pay the costs and charges therefor upon demand.

(Signature of Subcontractor)

(Signature of Contractor)

Date: _____

- B. Submit 2 copies of all manufacturer's or installer/applicator's warranties and bonds as specified within Division 02 –49.
- C. Submit to Architect together with Project Record Documents.

- D. Accompany submittals with transmittal letter in duplicate.
- E. When Product Submittals are required, submit copy of warranty with product submittal.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION

SECTION 024919 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes the following:
 - 1. Section includes requirements governing execution of the work including, but not limited to, the following:
 - a. Demolition and removal of selected portions of building or structure.
 - b. Demolition and removal of selected site elements.
 - c. Salvage of existing items to be reused or recycled.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS
 - 2. DIVISION 01 SPECIFICATION SECTIONS
 - 3. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP

1.2 REFERENCES

- A. Standards:
- B. In accordance with the latest edition of the following standards:
 - 1. ANSI A10.6 American National Standards Institute

1.3 DEFINITIONS

- A. Remove: Detach items from existing site or building(s) and legally dispose or recycle off-site.
- B. Remove and Salvage to Owner: Carefully detach from existing site or building(s), in a manner to prevent damage, and deliver to Owner.
- C. Remove and Reinstall: Detach items from existing site or building(s), prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing item(s) within project site that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

SUBMITTALS

1.4

Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:

- A.
 - 1. Shop Drawings:

- a. Proposed Protection Measures - Submit report and drawings that indicates the measures proposed for protecting individuals and property for dust and noise control.
 - 1) Indicate proposed locations and construction of barriers.
 - 2) Indicate occupant paths of egress and travel.
 - 3) Indicate how long utility services will be interrupted.
 - b. Salvaged Item Inventory List
 - 1) Indicate items to be salvaged and delivered to Owner.
- 2. Closeout Submittals:
 - a. Existing Warranties
 - b. Pre-demolition Photographs

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. In accordance with Specification Section - REGULATORY REQUIREMENTS and the following:
 - a. CARB Materials and equipment used for this project shall comply with the current applicable regulations of the California Air Resources Board and the Environmental Protection Agency (EPA), in the area where the project is located.
 - b. CAL/OSHA California Division of Occupational Safety and Health Administration.
 - c. CF County of Fresno, codes and ordinances
 - d. EPA Environmental Protection Agency
- B. Meetings:
 - 1. Pre- Demolition.....Schedule prior to the start of work.
 - a. Coordinate the work with other work being performed.
 - b. Review requirements of work performed by others that rely on substrates exposed by selective demolition work.
 - c. Identify any potential problems, which may impede planned progress and proper demolition of work.
 - d. Review structural load limitations of existing structure.
 - e. Review areas where existing construction is to remain and requires protection.
 - f. Review demolition waste disposal and material recycling procedures.
 - 2. Progress:.....Scheduled by the Contactor during the performance of the work.
 - a. Review for proper work progress.
 - b. Identify any problems and acceptable corrective measures.
 - c. Identify any measures to maintain or regain project schedule if necessary.
 - 3. Completion:.....Scheduled by the Contactor upon proper completion of the work.
 - a. Inspect and identify any problems.
 - b. Establish method and procedures to maintain protections while progressing to project completion.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Cleaning, handling, and packing:

1. Salvaged Items and Reinstalled Items shall be handled in such a manner as to assure that they are free from damage.
2. Salvaged Items shall be cleaned and packed or cleaned and palletted.
3. Reinstalled Items shall be cleaned.

B. Storage and protection

1. Salvaged Items and Reinstalled Items shall be stored in a dry, protected area.
2. Salvaged Items and Reinstalled Items shall be stored above ground on level platforms, six (6) inches above ground, allowing air circulation underneath.
3. Cover with protective waterproof covering providing for adequate air circulation and ventilation.

1.7 PROJECT CONDITIONS

A. Environmental requirements:

1. Dust control - perform site, exterior, and interior work in a manner as to minimize the spread of dust and flying particles.
 - a. Thoroughly moisten appropriate surfaces as required to prevent dust from being a nuisance to the occupants, public, and neighbors.
2. Noise control - perform work in a manner as to minimize construction noise.
 - a. When a certain level of noise is unavoidable and is objectionable to the occupants of the adjacent spaces, buildings, or premises, coordinate with Owner and make arrangements to perform such work at the most appropriate time periods of the day.

B. Existing conditions:

1. Examine project site and building(s) and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.
2. Conduct work so as not to interfere unnecessarily with adjacent buildings, roads, streets, drives, and walks.
 - a. Do not close or obstruct streets, alleys, walks, or passageways without permission from authorities having jurisdiction and coordinating same with immediate neighbors whose business operation may be affected.
 - b. Safety measures shall be taken to insure an uninterrupted flow of traffic around the site as required by local Police and Fire Departments
3. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
4. Maintain existing utilities indicated to remain in service and protect against damage during selective demolition work.
 - a. Maintain fire-protection facilities in service during the work.
5. Demolition waste becomes the property of the Contractor.
6. Storage or sale of removed items on-site is not permitted.
7. It is not expected that hazardous materials will be encountered in the Work.
 - a. Hazardous materials will be removed by Owner before start of the Work.
 - b. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.

1.8 WARRANTY

A. Existing Warranties:

1. Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties. Notify warrantor before proceeding. Existing warranties include the following:
 - a. Roofing system
2. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Furnish all materials, tools, equipment, facilities, and services as required for performing the selective demolition and removal work.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of conditions:

1. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
2. Execution of work under this specification section shall constitute acceptance of existing conditions.
3. Obtain all necessary permits and authorizations by regulatory agencies required to perform the Work under this Section.
4. Verify that utilities have been disconnected and capped before starting selective demolition operations.
5. Verify that rooftop utilities and service piping have been shut-off prior to roof selective demolition.
6. Record existing conditions by use of Pre-demolition Photographs.
 - a. Inventory and record the condition of items to be salvaged and/or re-installed.

3.2 PREPARATION

A. Coordination:

1. Before proceeding, verify plans match existing conditions.
2. Review documents of existing construction provided by Owner against existing conditions.
3. If conflicts are encountered, report it to the Architect. Then prepare recommendation(s) for correction and submit to Architect for review.
4. Coordinate work under this specification section with work specified under other sections.

5. Coordinate any utility and HVAC unit shut-down with owner 48 hours in advance of the anticipated shut-down.
 - a. Do not interrupt utilities and HVAC units serving occupied or used facilities, except when authorized in writing by the Owner.
 - b. Provide temporary service during interruptions to existing facilities, as may be required by the Owner to maintain essential services.
6. Prior to site selective demolition, review status of trees and shrubs with Architect and Owner. The Owner may wish to relocate trees or shrubs outside the limits of construction.
7. Prior to roofing selective demolition, coordinate with Owner to shut down air intake equipment and service piping in the vicinity of work.

B. Protection:

1. Structure and Property:
 - a. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings, landscape, and facilities to remain.
 - b. All damage inflicted on public and private property and the property of the Owner shall be repaired or restored to the original condition prior to the start of this Work. All repair or replacement work shall be done at no additional cost to the owner.
 - c. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building and site.
 - d. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and other weather damage to building envelope, structure, and interior areas.
 - e. Protect and maintain utility services and mechanical/electrical systems to remain.

3.3 APPLICATION

A. General:

1. Selective demolition shall include the removal of all components of the existing building and/or site described in the documents to be removed. Unless otherwise specified, the component identified for removal shall include all materials, accessories and fabrications associated with that component.
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.
 - a. Temporarily cover opening to remain.
 - b. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. When removing structural framing members, lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
5. Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems.
6. Removed and Salvaged items:
 - a. Clean salvaged items.
 - b. Pack or crate items after cleaning. Identify contents of containers.
 - c. Store items in a secure area until delivery to Owner.
 - d. Transport item to Owner's storage area [on-site][off-site][list address].

- e. Protect items from damage during transport and storage.
- 7. Removed and Reinstalled items:
 - a. Clean and repair items to functional condition adequate for intended reuse.
 - b. Pack or crate items after cleaning and repairing. Identify contents of containers.
 - c. Protect items from damage during transport and storage.
 - d. 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.
- 8. Existing Items to Remain:
 - a. Protect construction indicated to remain against damage and soiling during selective demolition.

B. Site Selective Demolition:

- 1. Utility lines to be abandoned within the construction area shall be removed and stubbed off outside the limits of construction.
- 2. Maintain existing storm drainage system to remain in functioning condition. Prevent debris from entering or blocking drains and piping. Use drain plugs specifically for this purpose. Remove drain plugs at the end of each work day.
- 3. Refer to drawings for trees and shrubs to be removed. Protect certain trees as indicated.
 - a. Remove tops, trunks, and roots of trees and shrubs to a minimum depth of 3 feet or to a depth required to remove all roots 1/4 inch diameter and larger.
 - b. Chip removed trees, shrubs, and roots.
 - 1) Removed chipped material to recycling station.
 - 2) Recycle chipped material into mulch for this project. Refer to Specification Section - LANDSCAPE PLANTING for treatment.
- 4. Remove debris, concrete, asphalt, and any other obstruction to the extent indicated.
- 5. Remove all:
 - a. Buried objects which will interfere with the Work.
 - b. Irrigation lines, irrigation risers, and irrigation valves.
 - c. Stand pipes.
 - d. Water wells and pumps.
 - e. Electrical service and power poles.
- 6. Remove non-soil materials from topsoil, including clay lumps, gravel, trash, debris, weeds, roots, other waste materials, and objects more than 1/2 inch in diameter.
- 7. Stockpile reusable topsoil away from excavation and where work is to proceed.
 - a. Do not stockpile topsoil within drip line of remaining trees.
- 8. Non-soil materials removed from topsoil shall be separated into like materials and recycled either within the project or removed from the project site to a recycling station.
 - a. Those waste materials that are non-recyclable shall be legally disposed off of the project site.

3.4 CLEANING

A. Clean in accordance with Specification Section - PROJECT CLOSEOUT:

- 1. Clean any soiled surfaces to remain immediately.
- 2. Existing substrates shall be clean and ready for the installation of any additional materials.
- 3. Leave site areas level and free of any ruts or debris. Appearance of earth surface shall be equal to or better than adjacent undisturbed surfaces.

END OF SECTION

SECTION 031101 – CONCRETE FORMWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install all Concrete Formwork materials, and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. 03 15 14 DRILLED ANCHORS
 - 4. 03 20 00 REINFORCEMENT
 - 5. 03 30 00 CAST-IN-PLACE CONCRETE
 - 6. 05 12 00 STEEL AND FABRICATIONS
 - 7. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 8. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 REFERENCES

- A. Standards:
 - 1. In accordance with the latest edition of the following standards:
 - a. ACI American Concrete Institute
 - b. APA The Engineered Wood Association (formerly the American Plywood Association)
 - c. PS Product Standards of the U.S. Department of Commerce, latest edition
 - d. WCLIB West Coast Lumber Inspection Bureau

1.3 DEFINITIONS

- A. Terms used throughout this section.
 - 1. Unexposed:
 - a. "Unexposed to View" for determining what forms to use for an unfinished concrete surface.
 - 2. Exposed:
 - a. "Exposed to View" for determining what forms to use for a finished concrete surface.

1.4 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:

1. Product Data.
 - a. Forming materials.
 - b. Tie rods and spreaders.
 - c. Formwork for exposed concrete.
 - d. Form coatings and release agents.
2. Shop Drawings:
 - a. The Contractor shall submit drawings showing the proposed form tie locations for exposed form indentations.
3. Samples.
 - a. Form liners for specific finished concrete surfaces.
4. Quality Assurance/Control Submittals:
 - a. Manufacturer's written Instructions:
 - 1) Instructions for specific form liner manufacturer indicated.
5. Closeout Submittals:
 - a. Record Documents in accordance with Specification Section – PROJECT DOCUMENTS.

1.5 QUALITY ASSURANCE

- A. Qualifications:
 1. Installer Qualifications:
 - a. Engage an experienced Installer who has successfully completed three (3) projects of similar scope and size to that indicated for this Project.
 2. Manufacturer/Supplier Qualifications:
 - a. Firm experienced in successfully producing/supplying products similar to that indicated for this Project, with sufficient production/supply capacity to produce/supply required units without causing delay in the Work.
- B. Regulatory Requirements:
 1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
 - a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.

1.6 WARRANTY

- A. Contractor's General Warranty:
 1. In accordance with Specification Section - WARRANTIES.
- B. Manufacturer's Warranty:
 1. In accordance with manufacturer's written standard warranty:
 - a. Warranty Period One (1) Year.
- C. Installer's Warranty:
 1. In accordance with the terms of the Specification Section - WARRANTIES.
 - a. Warranty Period One (1) Year.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. These products listed herein establish the size, pattern, color range and function selected by the Architect for this Project. Manufacturers that are listed as acceptable alternative manufacturers and substitutions must still comply with the requirements of this project and the products listed in order to be approved as an equivalent during the Submittal Process. If the acceptable alternative manufacturers listed or substitutions are not approved during the Submittal Process due to non-compliance with the contract documents, then the Contractor shall submit product specified.
1. Specified product manufacturer:
 - a. MDO Plywood SIMPSON TIMBER PRODUCTS.
 - b. HDO Plywood SIMPSON TIMBER PRODUCTS.
 2. Specified product accessories:
 - a. Chamfer Strips MEADOW / BURKE COMPANY.
 - b. Cement Compound Plugs MEADOW / BURKE COMPANY.
 - c. Double Sided Foam Tape 3M COMPANY.
 - d. Rustication Strips MEADOW / BURKE COMPANY.
 - e. Spreaders and Ties MEADOW / BURKE COMPANY.
- B. Products from other manufacturers not listed must submit in accordance with Specification Section - SUBSTITUTION PROCEDURES.

2.2 MATERIALS

- A. Unexposed finish forms:
1. Provide plywood, lumber, or another acceptable material.
 - a. Lumber shall be dressed on at least two edges and one side for tight fit, complying with WCLIB Standard Grading and Dressing Rules #17, for Douglas Fir Form Lumber.
 - b. When plywood is used, provide panels complying with PS1, B-B (Concrete Form) Plywood, Group 1, EXT-APA mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.
- B. Exposed finish forms:
1. Provide plywood panel type materials to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practical sizes to minimize number of joints and to conform to joint system shown on the drawings.
 - a. Single Pour Forms: Provide liner panels that are complying with PS1, MDO Plywood, B-B, Group 1, EXT-APA, mill-oiled, edge-sealed, with each piece bearing legible inspection trademark, which are limited to "single-pour use" forms, that are manufactured by SIMPSON TIMBER PRODUCTS, or approved equivalent.
 - b. Multiple Pour Forms: Provide HDO Plywood "Multipour" liner panels, which are limited to "double-pour use" forms, that are manufactured by SIMPSON TIMBER PRODUCTS, or approved equivalent.

2.3 ACCESSORIES

- A. Cement Compound Plugs:
 - 1. Provide gray colored cement compound plugs ("SnaPlug" by MEADOW / BURKE, or approved equivalent) in highly visible concrete surface areas.
 - a. Provide "flush type" in cone holes of size appropriate to the hole size created by tie-holes.
 - 2. Provide a waterproof neoprene adhesive ("SnaPlug Bonder" by MEADOW / BURKE, or approved equivalent), resistant to weather aging and bacterial growth, for adhering cement compound plugs into cone holes.
- B. Chamfer Strips:
 - 1. Provide wood chamfer strips free of knots, for forming edges of cast-in-place concrete.
- C. Double Sided Foam Tape: Provide "Scotch" double sided, high density, pressure sensitive adhesive, foam tape as manufactured by The Tape Division of 3M PRODUCTS, INC., or approved equivalent.
- D. Form release agent:
 - 1. Provide commercial formulation form release agent with a maximum volatile organic compounds (VOC's) in compliance with the CARB in the area where the project is located, that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
 - 2. Provide form liner manufacturer's form release agent when a particular form liner is used to maintain compatibility with form release agent and the form liners used for this project.
- E. Rustication Strips:
 - 1. Provide wood rustication strips free of knots, for forming straight continuous reveals (either vertically or horizontally) and PVC rustication strips as manufactured by MEADOW / BURKE, for forming curved continuous reveals (either vertically or horizontally).
- F. Spreaders and ties for loose plywood forming:
 - 1. Spreader Ties: Use metal spreaders and ties for surfaces to be sacked. Use type that will give positive tying and accurate spreading for accurate sizing of cast walls or forms. Snap type shall leave no metal closer than 1-1/2 inches from exposed surface of concrete and have spreader cones no larger than 1 inch diameter.
- G. Nailer Strip:
 - 1. Provide decay resistant pressure treated wood nailer strips of sizes and locations indicated on the drawings.
 - a. For roof systems, provide compatible materials with the roof system manufacturer's applications.
 - b. Provide fire retardant pressure treated wood nailer strips when the roof assembly requires a Class A rating.
 - 2. All pressure treated wood (decay or fire-retardant) shall be in accordance with the applicable standards of the AWWPA as referenced in the Specification Section - ROUGH CARPENTRY.

PART 3 - EXECUTION

3.1 PREPARATION

A. Surface preparation:

1. Consult with other Trades relative to required openings, and items to be imbedded in concrete (i.e., piping, conduit, hangers, reglets, anchors, inserts, sleeves, etc.). Coordinate work specified under other sections to ensure proper, adequate interfacing between trades, for openings, chases, blockouts, and other required interfacing items.

3.2 ERECTION

A. All formwork shall be:

1. Designed and constructed in accordance with ACI Standard 347 "Recommended Practice for Concrete Formwork".
 - a. Follow ACI 303R "Guide to Cast-In-Place Architectural Concrete" for further recommendations in design and use of Patterned Form Liners.
2. Construct to size, shape, alignment, elevation and position of all concrete elements.
 - a. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages, inserts, and other features required in the work. Use selected materials to obtain required finishes.
 - b. Orient circular fiberglass forms so that the seam is always facing the nearest adjacent wall, or an obscure side not highly visible. Contact the Architect for conditions not easily determined.
3. Properly separate and securely tie with Spreaders and Ties to maintain proper shape. Wood spreaders shall not be allowed to remain in concrete work.
 - a. Use "Penta-Ties" where indicated on the drawings. Glue in cement compound plugs.
4. Brace, support and center sufficiently to carry without excessive deflection all live and dead loads imposed during construction and placement of concrete, and to insure safety to workers and passersby.
 - a. Block adjoining permanent pan units left in place to prevent lateral deflection of forms while placing concrete.
5. Properly construct to eliminate all open joints or discontinuous surfaces.
 - a. Solidly butt joints with double sided foam tape, apply silicone sealant at concrete face, and provide backup at joints to prevent cement paste or mortar from leaking.

B. All joints shall be:

1. Uniform and backed by 2 inch material.
2. Continuous and level or plumb.
3. Sufficiently tight (with double sided foam tape and silicone sealant) to prevent leakage of cement paste.
 - a. Locate joints of formwork whenever possible at rustication joints.
4. Subject to Architect's approval.

3.3 INSTALLATION

- A. General: Design, engineer, erect, support, brace, and maintain formwork to support vertical, lateral, static, and dynamic loads that might be applied until concrete structure can support such loads. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation, and position.
1. Access Openings: Shall be provided in forms for cleaning and inspection of forms and reinforcement.
 - a. In Wall Forms: Provide openings for each pour, composed of a form section held out until inside of each formed cavity has been cleaned, so that no "access hole" is visible in the finished concrete surface.
 2. Architectural Concrete elements shall be formed with MDO (or HDO) form plywood where face uniformity is required such as on signs, plaques, kiosks, and landscape elements.
 3. Side forms at unexposed footings may be omitted if excavation stands without caving.
 - a. Make footing trench two (2) inches wider than width of concrete footing indicated on the drawings, when earth is used as a form.
 - b. Cut trenches true and straight.
 - c. Make side cuts neat and plumb.
 - d. Bottom of trenches shall be level with reasonably sharp corners.
 4. Formwork above grade (stairs, curbs, exposed faces of concrete foundations, etc.) shall be:
 - a. Plywood type as specified treated with Sealer.
 - b. Constructed with plumb and level joints.
 - c. Separated with removable or snap type Spreaders and Ties. Do not use wire ties.
 5. Unintentional indentations in the surface of the concrete left after removal of spreaders and ties shall be filled and sacked unless the architect's approval is given to do otherwise.
 - a. Install Cement Compound Plugs where exposed form tie indentations occur.
 6. Sleeves, anchors and bolts, angles, supports, ties and other materials in connection with concrete construction shall be secured in position before the concrete is placed.

3.4 CONSTRUCTION

- A. Special Techniques – Form Removal and Reuse of Forms:
1. All forms shall be completely removed.
 2. Time of Removal shall be in accordance with ACI 301 "Specifications for Structural Concrete", which requires concrete to reach its specified compressive strength. Variations to the time of removal are listed below subject to the concrete reaching its specified compressive strength:
 - a. Dependent on weather conditions.
 - 1) Due to excessive cold weather for a long duration of days, and subject to the Architect's approval, the time for removal may be extended if deemed necessary.
 - b. Dependent on cylinder test results.
 - c. Dependent on recommendations of additive manufacturer when additives are admitted to the mix.
 - d. Typically (verify with three statements above before initiating the following):
 - 1) Foundation Side Forms: Five (5) days after concrete is poured.

- 2) Wall Forms: Ten (10) day after concrete is poured.
 - 3) Column Forms: Ten (10) days after concrete is poured.
 - 4) Beam, Slab and Joist Soffit Forms:
 - a) Twenty-One (21) days after concrete is poured
 - b) Re-shore as required to support dead loads and any construction loads applied.
 - e. Remove forms in a manner, which will not harm concrete. Do not hammer or pry against concrete.
 3. Nails, tie wires and form ties shall be cut off flush with face of concrete.
 4. Snap type spreaders to be snapped off inside the wall surface.
 5. Clean and repair surfaces of forms to be reused in the work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release compound as specified for new formwork.
 6. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joint to avoid offsets. Do not use patched forms for exposed concrete surfaces except as acceptable to the Architect.
- B. Site Tolerances:
1. Maintain formwork construction tolerances and surface irregularities complying with the following ACI 347 "Guide to Formwork for Concrete" limits:
 - a. Provide Class A tolerances (permitted irregularities are 1/8" in 10' for both gradual and abrupt) for all concrete surfaces exposed to view, or surfaces that will receive additional applied finishes.
 2. Concrete work out of alignment, or level or plumb exceeding the allowable tolerance will be cause for rejection of the whole work affected. Such work shall be removed and replaced as directed by Architect with no additional cost to Owner.

3.5 CLEANING

- A. Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before placing concrete. Retighten forms and bracing before placing concrete, as required, to prevent leakage of cement paste and maintain alignment.
- B. Remove all wood used for formwork from trenches. No wood shall be left buried in the earth.
- C. Final cleaning shall be in accordance with Specification Section – PROJECT CLOSEOUT.

END OF SECTION

SECTION 031514 – DRILLED ANCHORS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all Drilled Anchor materials, labor, equipment and services necessary for Expansion, and Adhesive Anchors in Concrete, and Concrete Masonry Units, and related items necessary to complete the Project as indicated by the Contract Documents unless otherwise specifically excluded.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. 03 11 01 CONCRETE FORMWORK
 - 4. 03 20 00 REINFORCEMENT
 - 5. 03 30 00 CAST-IN-PLACE CONCRETE
 - 6. 05 12 00 STEEL AND FABRICATIONS
 - 7. 09 22 16 METAL FRAMING
 - 8. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 9. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
 - 1. Product Data.
 - a. Submit manufacturer's product data for all expansion and adhesive anchors to be used in this project.
 - 1) Submit current ICC Evaluation Services research or evaluation reports evidencing maximum allowable shear and withdrawal load data.
 - 2. Quality Assurance / Control Submittals:
 - a. Test Reports: Submit to AHJ, copy to Project Inspector and Contractor.
 - 1) Tension Testing as required.

1.3 QUALITY ASSURANCE

- A. Single Source Responsibility:
 - 1. To ensure consistent quality of anchorage, obtain drilled anchors from a single manufacturer.
 - 2. To ensure consistency of anchorage, obtain adhesive for anchorage from a single manufacturer.
- B. Manufacturer Qualifications: Provide drilled and adhesive anchors from a manufacturer that can demonstrate ICC approvals that are current and acceptable to review by the AHJ.

- C. In accordance with Specification Section - REGULATORY REQUIREMENTS and the following:
 - 1. ICC International Code Council
 - 2. IR Interpretation of Regulations
- D. Job Testing: For verifying satisfactory installation workmanship, an independent laboratory will perform proof load tests of drilled anchors acting in tension or shear in the presence of the Project Inspector.
 - 1. When drilled-in expansion-type anchors or other post-installed anchors acceptable to the enforcement agency are used in lieu of cast-in-place bolts, the allowable shear and tension values and installation verification test loads shall be acceptable to the enforcement agency.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in original, unopened packages with manufacturer's labels identifying products legible and intact.
- B. Store materials inside, under cover and in a manner to keep them dry, protected from the weather, surface contamination, corrosion, damage from construction traffic and other causes.

1.5 WARRANTY

- A. Contractor's General Warranty:
 - 1. In accordance with Specification Section - WARRANTIES.
- B. Manufacturer's Warranty:
 - 1. In accordance with manufacturer's written standard warranty:
 - a. Warranty Period One (1) Year.
- C. Installer's Warranty:
 - 1. In accordance with the terms of the Specification Section - WARRANTIES.
 - a. Warranty Period One (1) Year.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. These products listed herein establish the size, pattern, color range and function selected by the Architect for this Project. Manufacturers that are listed as acceptable alternative manufacturers and substitutions must still comply with the requirements of this project and the products listed in order to be approved as an equivalent during the Submittal Process. If the acceptable alternative manufacturers listed or substitutions are not approved during the Submittal Process due to non-compliance with the contract documents, then the Contractor shall submit product specified.
 - 1. Specified Product Manufacturer:
 - a. Expansion Anchors:

- 1) HILTI INC.
 - 2) Acceptable Alternative Manufacturers:
 - a) ITW RAMSET/RED HEAD.
 - b) SIMPSON.
 - c) WEJ-IT.
 - b. Adhesive Anchors:
 - 1) HILTI INC.
 - 2) Acceptable Alternative Manufacturers:
 - a) ITW RAMSET/RED HEAD.
 - b) SIMPSON.
 - c) WEJ-IT.
- B. Products from other manufacturers not listed must submit in accordance with Specification Section - SUBSTITUTION PROCEDURES.

2.2 MATERIALS

- A. Provide manufacturers standard drilled anchors (expansion or adhesive) for installation into Concrete or Concrete Masonry Units unless noted otherwise.
1. Metal Finishes (corrosion resistant):
 - a. Zinc Plated Carbon Steel
 - b. Stainless Steel.
- B. Expansion Anchors:
1. Wedge Anchors: The WEDGE category features a small split expansion ring installed on a tapered (integral cone) part of the stud at the bottom. As the nut is tightened, withdrawing the stud portion from the hole, the expansion ring engages the concrete and is further expanded on the tapered part of the stud.
 2. Sleeve Anchors: The SLEEVE category is similar to the wedge except a large expansion sleeve is used instead of a small expansion ring. The outside of the sleeve defines the anchor diameter with the threaded stud being of a smaller diameter since it fits inside the sleeve. The stud has an integral cone expander at the bottom similar to the wedge category. The expansion mechanism is similar to the wedge category except the top of the sleeve is normally in contact with the nut/washer and is initially forced down over the cone expander as the anchor is tightened. As the sleeve is expanded, it engages the concrete and continues to expand as the wedge anchor.
 3. Shell Anchors: The SHELL category has the most variations, but all use a tapered cone expander, either internal or external, to expand the shell of the anchor against the hole. The anchor is either hammered down over an external expander or a special tool is used to drive an internal expander further into the anchor.
- C. Adhesive Anchors which chemically bonds Steel Rods or Deformed Steel Reinforcement Dowels to concrete or masonry elements:
1. Threaded Steel Rods with minimum yield strength of 36 ksi and complying with ASTM A36 "Specification for Carbon Structural Steel", or ASTM A193 "Specification for Alloy-Steel and Stainless Steel Building Materials for High Temperature or High Pressure Service and Other Special Purpose Applications", Grade B7.

2. Deformed Steel Reinforcement Dowels shall be a minimum of Grade 60 and comply with ASTM A615 "Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement" or ASTM A706 "Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement".
3. Adhesives, consisting of two primary components that are stored separately, and having a mixing nozzle provided by the manufacturer combining the components prior to placing in the holes.
4. Long term durability and stability of the adhesive anchor material and its resistance to loss of strength and chemical change at elevated temperatures shall be established to the satisfaction of the enforcement agency.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordination:
1. Coordinate and provide anchors and installation instructions from the manufacturer for items to be embedded in Concrete or Concrete Masonry Unit construction. Manufacturer's written installation instructions shall be available on the project site.

3.2 INSTALLATION

- A. Fastening to In-Place Construction: Provide anchorage devices where necessary for securing designated items indicated on the drawings, or as necessary for a complete and proper job to in-place construction.
1. Install the anchors in accordance with the requirements given in the ICC Evaluations Services Report recommendations for the specific anchor used.
 2. When installing expansion anchors through metal deck into concrete, the anchors should be installed in the center of the low flute of the decking where practicable in minimum 20 gage deck.
 - a. The minimum depth of embedment shall be 1-1/2 inches above the top flute of the decking (except 1/4 and 5/16-inch diameter anchors for ceilings) when the slab thickness above the top of the flute is at least 3 inches.
 - b. Shell type anchors shall not be used on the underside of concrete and metal deck construction due to damage caused to the concrete when hammering in the shell anchors.
 3. Install Adhesive Anchors by placing adhesive into specially prepared holes, then insert rods or dowels into holes in a manner that disperses the adhesive to assure maximum contact between adhesive, surface of the holes and surface of the anchor.
 - a. Adhesive anchors shall not be used in overhead applications.
- B. Cutting, Fitting, and Placement: Perform cutting, drilling and fitting required for designated items of construction. Set work accurately in location, alignment and elevation, level true and free of rack, measured from established lines and levels.
1. The minimum edge distance and spacing of wedge and adhesive anchors shall not be less than ten (10) diameters or as required by ICC Evaluation Service Report unless specifically shown on drawings.

- C. Use care and caution to avoid cutting or damaging reinforcing bars in Reinforced Concrete or Concrete Masonry Construction.
- D. Do not install expansion or adhesive anchors in recently placed concrete which has not had a minimum 28 day curing period and which has not been accepted as having a minimum compressive strength of 3000 psi.

3.3 FIELD QUALITY CONTROL

A. Testing, General:

1. Perform testing in accordance with ACI 318 "Building code Requirements for Structural Concrete and Commentary", and herein specified.
 - a. When expansion or adhesive anchors are listed for sill plate bolting applications, 10 percent of the anchors shall be tension tested.
 - b. When expansion or adhesive anchors are used for other structural applications, , all such anchors shall be tension tested.
 - 1) Expansion-type anchors shall not be used as hold-down bolts.
 - c. When expansion or adhesive anchors are used for nonstructural applications such as equipment anchorage, 50 percent or alternate bolts in a group shall be tension tested, except that if the design load is less than 75 pounds, only one anchor in ten need be tested. See drawings for items weighing 75 pounds or less.
 - 1) The tension testing of the anchors shall be done in the presence of the Project Inspector and a report of the test results shall be submitted to the enforcement agency AHJ.
2. When expansion anchors are used for ceiling hanger wires, 1 out of 10 must be field tested for 200 pounds of tension per IR 25-2.
 - a. When expansion anchors are used for ceiling bracing wires, 1 out of 2 must be field tested for 440 pounds in tension.
 - b. Test ceiling anchors with wires attached.
3. The proof load may be applied by any method that will effectively measure the tension in the anchor, such as direct pull with a hydraulic jack, calibrated spring-loading devices, etc.
4. If any anchor fails testing, test all anchors of the same category not previously tested until twenty (20) consecutive pass, then resume the initial testing frequency.
 - a. The cost of any additional testing as a result of failures shall be the responsibility of the Contractor at no additional cost to the Owner.
5. When a drilled-in adhesive anchor is used in lieu of a required cast-in-place bolt, cost of testing shall be the responsibility of the Contractor at no additional cost to the Owner.

B. Testing:

1. Expansion Anchors:
 - a. Anchor diameter refers to the thread size for the WEDGE & SHELL categories, and to the anchor outside diameter for the SLEEVE category and Adhesive anchors.
 - b. Apply proof test loads to WEDGE & SLEEVE anchors without removing the nut if possible. If not, remove nut & install a threaded coupler to the same tightness of the original nut using a torque wrench & apply load.

- c. For SLEEVE/SHELL internally threaded categories, verify that the anchor is not prevented from withdrawing by a baseplate or other fixtures. If restraint is found, loosen and shim or remove fixture(s) prior to testing.
- d. Reaction loads from test fixtures may be applied close to the anchor being tested, provided the anchor is not restrained from withdrawing by the fixture(s).
- e. SHELL type anchors shall be tested as follows:
 - 1) Visually inspect 25 percent for full expansion as evidenced by the location of the expansion plug in the anchor body.
 - a) Plug location of a fully expanded anchor shall be as recommended by the manufacturer, or, in the absence of such compensation, as determined on the job site following the manufacturer's written installation instructions.
 - b) At least 5 percent of the anchors shall be proof loaded as indicated in the Test Values schedule on the drawings, but not less than three anchors per day for each different person or crew installing anchors.
 - or;
 - 2) Test installed anchors per ACI 318 "Building code Requirements for Structural Concrete and Commentary".
- 2. Adhesive Anchors:
 - a. Adhesive anchors shall be tension tested. The tension test load shall equal twice the allowable load for the specific location of the anchor to be tested (i.e., accounting for edge distance) or 80 percent of the yield strength of the bolt ($0.8A_bF_y$), whichever is less.
 - 1) The test procedure for expansion-type anchors in the test values table shall also be used for the adhesive anchors.
 - b. Where adhesive anchors are used as shear dowels across cold joints in slabs-on-grade and the slab is not part of the structural system, testing of those dowels is not required.
 - c. Anchors shall exhibit no discernable movement during the tension test.
- 3. Test equipment (including torque wrenches) is to be calibrated by an approved testing laboratory in accordance with standard recognized procedures.
 - a. Alternate torque test procedures and test values for SHELL type anchors may be submitted to the enforcement agency for review and approval on a case-by-case basis when test procedures are submitted and approved by the enforcement agency.
- 4. The following criteria apply for the acceptance of installed anchors:
 - a. HYDRAULIC RAM METHOD: The anchor should have no observable movement at the applicable test load. For wedge and sleeve type anchors, a practical way to determine observable movement is that the washer under the nut becomes loose.
 - b. TORQUE WRENCH METHOD: The applicable test torque must be reached within the following limits:
 - 1) Wedge or Sleeve Type: One-half ($1/2$) turn of the nut.
 - a) One-quarter ($1/4$) turn of the nut for the $3/8$ inch sleeve anchor only.
 - 2) Torque testing of adhesive anchors is not permitted.
- 5. If the manufacturer's recommended installation torque is less than the test torque note in the table, the manufacturer's recommended installation torque shall be used in lieu of the tabulated values.
- 6. Testing should occur 24 hours minimum after installation of the subject anchors.
- 7. Required Maximum Test Values for Concrete, or Concrete Masonry Units in tension for the ranges and sizes of Drilled Anchors are shown on the drawings.

END OF SECTION

SECTION 032000 – REINFORCEMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all reinforcement material, labor, equipment and services necessary to completely install all reinforcing materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. 03 11 01 CONCRETE FORMWORK
 - 4. 03 15 14 DRILLED ANCHORS
 - 5. 03 30 00 CAST-IN-PLACE CONCRETE
 - 6. 05 12 00 STEEL AND FABRICATIONS
 - 7. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 8. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 REFERENCES

- A. The following References and Manufacturer's Standards shall apply to this Specification Section:
 - 1. ACI American Concrete Institute
 - 2. ASTM American Society for Testing and Materials
 - 3. AWS American Welding Society
 - 4. CRSI Concrete Reinforcing Steel Institute

1.3 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
 - 1. Product Data:
 - a. Manufacturer's specification and installation instructions for splice devices.
 - 1) Bar supports.
 - 2. Shop Drawings
 - a. Detail in accordance with ACI 315 "Details and Detailing of Concrete Reinforcing".
 - b. Indicate bending diagrams, assembly diagrams, splicing and laps of bars and shapes, dimensions and details of bar reinforcing and assemblies. Correctness of all reinforcing requirements and work is the responsibility of Contractor. Identify such shop drawings with reference thereon to sheet and detail numbers from Contract Drawings.
 - 1) Do not use scaled dimensions from Contract Drawings in determining the lengths of reinforcing bars.

- 2) No reinforcing steel shall be fabricated without approved shop drawings.
- 3) One of the required submittal copies shall be reproducible transparency.
- 4) Any deviations from the contract documents must be clearly indicated as a deviation on the shop drawings.
- 5) Areas of high congestion, including member joints and embed locations shall be fully detailed to verify clearances and assembly parameters and coordination with other trades.
- c. Certificates of Compliance with specified standards:
 - 1) Reinforcing Bars.
 - 2) Welded wire fabric.
 - 3) Welding electrodes.
3. Samples
 - a. Only as requested by Architect.
4. Quality Assurance/Control Submittals:
 - a. Test Reports – Testing Laboratory shall submit to DSA/SSS, Project Inspector, Architect, Structural Engineer and the Contractor one (1) copy of each report showing results of test.
 - 1) Certified mill test reports of supplied reinforcing indicating chemical and physical analysis. Tensile and bend tests shall be performed by the mill in accordance with ASTM A615 "Specification for Deformed and Plain Carbon-Steel Bars for Structural Concrete".
 - 2) Testing Laboratory reinforcement tests in accordance with CBC Table 1705A.2.1, CBC Section 1913A, and the provisions of Specification Section – TESTING LABORATORY SERVICES.
 - 3) Owner will pay for tests of samples taken from identified bundles accompanied by mill analysis.
 - b. Certificates of Compliance with specified standards:
 - 1) Reinforcing bars.
 - 2) Welded wire fabric.
 - 3) Welding electrodes.
 - 4) Welder's Certification.
5. Closeout Submittals:
 - a. Project Record Documents in accordance with Specification Section - PROJECT DOCUMENTS.
 - b. Warranty.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 1. Installer Qualifications:
 - a. Installation shall be done only by an installation firm normally engaged in this business. All work shall be performed by qualified mechanics working under an experienced supervisor.
 2. Welding Qualifications:
 - a. Welding procedures, welding operators and welders shall be qualified in accordance with AWS D1.4 – "Structural Welding Code Reinforcing Steel".
 - b. Welders shall be recently qualified by Test as prescribed in AWS "Standard Qualifications Procedure".
 - 1) Welders whose work fails to pass inspection shall be re-qualified before performing further welding.

3. Manufacturer/Supplier Qualifications:
 - a. Acceptable Manufacturers/Suppliers shall be regularly engaged in the manufacture of steel bar and wire fabric reinforcing.
4. Testing Laboratory will be approved by DSA/SSS, and selected by the Architect and the Owner.

B. Regulatory Requirements:

1. In accordance with Specification Section – REGULATORY REQUIREMENTS and the following:
 - a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.

C. General:

1. Reinforcement work shall conform to ACI 301 "Specifications for Structural Concrete for Buildings", and CBC Section 1905A and 1913A as minimum standards.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Packing, shipping, handling, and unloading:

1. Deliver reinforcement to Project plainly tagged, completely fabricated and ready to set.

B. Storage and protection:

1. Store reinforcement above the ground surface on platforms, skids or other supports, protected from dirt, rust, or other substances which will prevent bonding to the concrete.
2. Use all necessary care to maintain identification after bundles are taken apart.

1.6 WARRANTY

A. Contractor's General Warranty:

1. In accordance with Specification Section - WARRANTIES.

B. Manufacturer's Warranty:

1. In accordance with manufacturer's written standard warranty:
 - a. Warranty Period One (1) Year.

C. Installer's Warranty:

1. In accordance with the terms of the Specification Section - WARRANTIES.
 - a. Warranty Period One (1) Year.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Deformed Bars: In accordance with ASTM A 706 "Low Alloy Steel Deformed Bars for Concrete Reinforcement" and ASTM A 615 "Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement", Grade as indicated on the structural drawings.

- B. Tie Wire: In accordance with ASTM A 82 "Cold Drawn Wire for Concrete Reinforcement", plain, cold-drawn steel.
- C. Welded Wire Fabric: In accordance with ASTM A 185 "Welded Steel Wire Fabric for Concrete Reinforcement".
- D. Steel Dowels: Same grade as bars to which dowels are connected.

2.2 ACCESSORIES

- A. Supports for Reinforcement: Provide bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening, deformed bars and welded wire fabric in place. Use wire bar-type supports complying with CRSI specifications.
 - 1. Supports and spacing of spacers per standards set forth by CRSI/WCRSI Manual of Standard Practice.
 - 2. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
 - 3. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with legs that are protected by plastic [color to match adjacent concrete surfaces] in accordance with CRSI Class I, or stainless steel in accordance with CRSI, Class II.
- B. Welding Electrodes: As per AWS D1.4 "Structural Welding Code for Reinforcing Steel".
- C. Mechanical Couplers: Mechanical Couplers shall develop 125 percent of the specified yield strength of the bars, and shall comply with ACI 318 "Building Code Requirements for Structural Concrete and Commentary", Section 12.14.3.

2.3 FABRICATION

- A. Bending: In accordance with ACI 318 "Building Code Requirements for Structural Concrete and Commentary", except as modified by CBC Sections 1905A.
 - 1. Fabricate reinforcement in accordance with the requirements of ACI 315 "Details and Detailing of Concrete Reinforcement", where specific details are not shown.
 - 2. Inside diameter of bends for stirrups and ties shall not be less than 1-1/2 inches for No. 3 bars, 2 inches for No. 4 bars and 2-1/2 inches for No. 5 bars.
 - 3. Where bent bars are straightened: field bending of bars will only be done in accordance with DSA/SSS approval per ACI 318 "Building Code Requirements for Structural Concrete and Commentary", Section 7.3.2. Steel reinforcement shall not be bent or straightened in a manner that will injure the material. Bars with kinks or bends not shown on the drawings shall not be used. Heating of bars will not be permitted.
 - 4. Provide offsets in rebar (1:6 maximum) where required to maintain clearances.
- B. Allowable Tolerances:
 - 1. Fabrication:
 - a. Sheared length: 1 inch.
 - b. Depth of truss bars: Plus 0., minus 1/2 inch.
 - c. Ties: Plus or minus 1/2 inch.
 - d. All other bends: Plus or minus 1 inch.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Placing:
1. Place Reinforcement accurately.
 2. Do not move bars beyond allowable without concurrence of the Architect.
 3. Do not heat, bend, or cut bars without concurrence of the Architect.
 4. Reinforcement shall not be bent after being embedded in hardened concrete.
 5. Tie Reinforcement together at all intersections with Tie Wire.
 6. Support Reinforcing Bars by bar supports. Place and secure in accordance with CRSI "Specifications for Placing Bar Supports".
 7. Placement and support shall be complete.
 8. Do not use Reinforcing Bars with kinks or bends except when detailed on the structural drawings.
 9. Architect shall approve placement and support before concrete is deposited.
 10. Spiral reinforcing shall comply with ACI 318 "Building Code Requirements for Structural Concrete and Commentary".
- B. Spacing:
1. Clear space between parallel Reinforcing Bars shall not be less than 1 bar diameter nor less than 1 inch, unless otherwise noted on drawings.
- C. Splicing:
1. At splices, lap Reinforcing Bars 53 diameters minimum, unless otherwise indicated on Drawings.
 - a. Lap Splices: Tie securely with wire to prevent displacement of splices during placement of concrete.
 - b. Splice Devices: Install in accordance with manufacturer's written instructions.
 - 1) Obtain the Architect's review before using.
 - c. Do not splice bars except at locations shown without the concurrence of the Architect.
 - 1) Where splices in addition to those indicated are required, indicate location on shop drawings clearly and highlight "for the Architect's approval".
 2. Stagger splices as indicated on drawings. Splice locations shall be as shown on drawings or shall be approved by Architect and DSA/SSS.
 - a. Near floors.
 - b. Ductile concrete columns must splice at the centerline of the column height.
 - c. As detailed on the drawings.
 3. Where vertical Reinforcing Bars are offset at a splice, the slope of the inclined portion of bar with the axis of the column or wall shall not exceed 1 in 6.
 4. Welded Wire Fabric:
 - a. Install in long lengths, lapping 24 inches at end splices and one mesh at side splices.
 - b. Offset laps in adjacent widths.
 - c. Place fabric in approximately the middle of the slab thickness unless otherwise shown on the drawings.
 - d. Wire tie lap joints at 12 inch centers.

- e. Use concrete blocks to support mesh in proper position.
- 5. Mechanical bar splices shall be approved by the Architect and DSA/SSS.

D. Welding:

- 1. Welding is not permitted unless specifically detailed on Drawings or approved by the Architect.
- 2. Weld under supervision of qualified Testing Laboratory selected by Owner. Cost of supervision to be paid by the Owner. Weld only ASTM A 706 "Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement", unless otherwise noted.
- 3. Employ shielding metal-arc method and meet requirements of AWS D1.4 "Structural Welding Code for Reinforcing Steel".
- 4. Welding is not permitted on bars where carbon equivalent is unknown or is determined to exceed 0.55.
- 5. Welding shall not be done within two bar diameters of any bent portion of a bar which has been bent cold.
- 6. Welding of crossing bars is not permitted.
- 7. Provide material properties supplemental report for bars other than ASTM A706 "Low Alloy Steel Deformed Bars for Concrete Reinforcement".
- 8. Weld in accordance with AWS D1.4 "Structural Welding Code for Reinforcing Steel".
 - a. Weld only where indicated on the drawings.
 - b. Weld only ASTM A 615 "Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement", unless otherwise approved by the Architect and DSA/SSS.
- 9. Inspection provided per CBC Table 1705A.

E. Allowable Tolerances:

- 1. Placement:
 - a. Concrete cover to form surfaces: Plus or minus 1/4 inch.
 - b. Minimum spacing between bars: Plus or minus 1/4 inch.
 - c. Crosswise of members: Spaced evenly with 2 inches of stated separation.
 - d. Lengthwise of members: Plus or minus 2 inches.
- 2. Maximum bar movement to avoid interference with other reinforcing steel, conduits, or embedded items: 2 bar diameters.

F. Drawing Notes: Refer to notes on drawings for additional reinforcement requirements.

G. Mechanical, Electrical and Plumbing Drawings:

- 1. Refer to Mechanical, Electrical and Plumbing drawings for formed concrete requiring reinforcing steel.
- 2. All such steel shall be included under the work of this section.

3.2 CONSTRUCTION

A. Corrective Measures:

- 1. Notify Architect if conduit, piping, inserts, sleeves, etc. interfere with placement of Concrete Reinforcement as indicated on Drawings. Notify Architect immediately if any Concrete Reinforcement is found to be misplaced after concrete has been poured.
- 2. Do not cut, bend, kink or hicky misplaced reinforcement.
- 3. Make corrections only as directed by Architect and approved by DSA/SSS.

4. This Contractor shall bear the cost of any alteration, corrections or replacements of Concrete Reinforcing to concrete required because of misplaced reinforcement.

3.3 FIELD AND QUALITY CONTROL

A. Site Tests:

1. When inspections are indicated for reinforcement placement on the Structural drawings, a special inspector shall be employed to inspect reinforcing placement per CBC Table 1705A.4.
2. Inspect shop and field welding in accordance with AWS D1.4 "Structural Welding Code for Reinforcing Steel", including checking materials, equipment, procedure and welder qualifications as well as the welds. Inspector will use non-destructive testing or any other aid to visual inspection that he deems necessary to assure himself of the adequacy of the weld.

B. Inspections:

1. All reinforcing steel whose properties are not identifiable by mill test reports shall be tested in accordance with ASTM A 615 "Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement". One series of tests shall be performed for each missing report. Contractor shall pay for test required due to lack of positive identification, by means of a back charge by the Owner.
2. When tests are indicated for reinforcing steel on the structural drawings, the reinforcing steel used shall be tested in accordance with ASTM A 615 "Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement". One tensile and one bend test for each 2-1/2 tons of steel or fraction thereof, shall be made.

C. Tests and Inspection shall be performed by Owner's Testing Laboratory except when needed to justify rejected work, in which case the cost of re-tests and re-inspection shall be borne by the Contractor.

3.4 CLEANING

- #### A.
- Reinforcement, at time concrete is placed, shall be free of loose rust scale, mud, oil or other coating that will destroy or reduce the bond.

END OF SECTION

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
1. Provide all material, labor, equipment and services necessary to completely install all Cast-In-Place Concrete materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
 - a. Make ready all interior concrete substrates to receive flooring:
 - 1) Ensure the proper levelness and flatness of all concrete substrates for the intended flooring products.
 - a) If leveling materials are required because of inadequate leveling during the pour and curing periods, follow all manufacturers written instructions for the proper preparation and application of these products.
 - b) Verify that the concrete substrates are at the right RH (Relative Humidity) and Alkalinity Levels for the leveling materials in accordance with manufacturers written instructions.
 - 2) Keep finished concrete substrates clean and ready for scheduled flooring applications during the construction process.
 - a) Protect those substrates from excessive moisture build-up, and keep free of moisture puddles.
 - b) Ensure that construction equipment does not leak fluids on substrates that would prevent bonding of flooring adhesives at the proper time for flooring installations.
 - 3) Provide concrete substrates that are within acceptable limits of RH and that the Alkalinity of the concrete substrates are within the acceptable levels for adhesively applied flooring at the scheduled time for flooring installations.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
1. DIVISION 00 SPECIFICATION SECTIONS.
 2. DIVISION 01 SPECIFICATION SECTIONS.
 3. 03 11 01 CONCRETE FORMWORK
 4. 03 15 14 DRILLED ANCHORS
 5. 03 20 00 REINFORCEMENT
 6. 05 12 00 STEEL AND FABRICATIONS
 7. 09 22 16 METAL FRAMING
 8. 10 05 00 MISCELLANEOUS SPECIALTIES
 9. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 10. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 REFERENCES

- A. Standards:
1. In accordance with the following standards:

- a. ACI American Concrete Institute
- b. ASTM American Society of Testing Materials.
- c. RFCI The Resilient Floor Covering Institute
- d. RIS Redwood Inspection Service
- e. RMAI Rubber Manufacturers Association Inc.

1.3 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
 - 1. Coordination Drawings:
 - a. Layout drawings for construction, control and expansion joints.
 - 1) Coordinate joints with floor patterns.
 - 2. Product Data.
 - a. Submit data on all products listed under MATERIALS, and ACCESSORIES within this specification section.
 - 3. Quality Assurance/Control Submittals:
 - a. Coordinate with Specification Section - TESTING LABORATORY SERVICES for additional Testing Requirements as required by DSA.
 - b. Material samples and mix designs:
 - 1) Material samples and mix designs as required for testing shall be submitted to Architect at least fourteen (14) days prior to any concrete work and shall include results of test data used to establish proportions.
 - a) Grout samples and colors for colored surfaces upon Architect's request only.
 - c. Test Reports:
 - 1) Testing Laboratory shall submit to Architect, Structural Engineer, Owner, and to the DSA one (1) copy of each report showing results of tests.
 - a) Report shall state that tests were made in accordance with specifications.
 - b) Report shall state whether materials were in conformance with specifications.
 - c) Report shall state whether the curing of the concrete slabs are within parameters required for future flooring installations.
 - d. Certificates:
 - 1) Submit three (3) copies of certificates.
 - a) Provide Vapor Retarder manufacturer's certificate of inspection and compliance to installation procedures.
 - b) Cement manufacturer's Mill Certificate of Compliance with the specification.
 - c) Certificates for aggregates and admixtures.
 - 4. Closeout Submittals:
 - a. Project Record Documents in accordance with Specification Section - PROJECT DOCUMENTS.
 - b. Warranty.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Installer Qualifications:

- a. Engage an experienced Installer who has successfully completed three (3) projects of similar scope and size to that indicated for this Project.
 2. Manufacturer/Supplier Qualifications:
 - a. Firm experienced in successfully producing/supplying products similar to that indicated for this Project, with sufficient production/supply capacity to produce/supply required units without causing delay in the Work.
 3. Testing Laboratory Qualifications:
 - a. Qualified Testing Laboratory and personnel approved by DSA.
 - 1) Cost of testing and inspection will be paid by the Owner unless otherwise specified. The Owner shall pay all costs of re-inspection and/or re-tests due to non-compliance with specifications and/or failures, but the Contractor shall reimburse the Owner for these tests when billed or deducted from its payment.
- B. Regulatory Requirements:
 1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
 - a. All materials, equipment and placing operations shall be subject to inspection, tests and approval at all items. Testing Agent shall have free and unhampered access to all places where concrete materials are stored proportioned and mixed.
 - b. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.
- C. Meetings:
 1. Pre-Installation: Scheduled by the Contractor prior to the start of work.
 - a. Coordinate the work with other related work being performed.
 - 1) Schedule pre-construction conference with Vapor Retarder Manufacturer prior to installation at least one week prior to scheduled installation.
 - b. Identify any potential problems that may impede planned progress and proper installation of work regarding quality of installation and warranty requirements.
 - c. Prior to submitting design mixes, review detailed requirements for preparing concrete design mixes and determine procedures for satisfactory concrete operations.
 - d. Review requirements for submittals, status of coordinating work, and availability of materials.
 - e. Establish preliminary work progress schedule and procedures for materials inspection, testing, and certifications.
 2. Progress: Scheduled by the Contractor during the performance of the work.
 - a. Review for proper installation of work progress.

- 1) Schedule installation review at the start of installation with the Vapor Retarder Manufacturer to ensure all of the manufacturers written instructions are complied with.
- b. Identify any installation problems and acceptable corrective measures.
- c. Identify any measures to maintain or regain project schedule if necessary.
3. Completion: Scheduled by the Contractor upon proper completion of the work.
 - a. Inspect and identify any problems that may impede issuance of warranties or guaranties.
 - 1) Prior to covering up the Vapor Retarder installation with concrete, have the Vapor Retarder manufacturer inspect and provide a certified report to the Architect the condition of the Vapor Retarder prior to being covered with concrete, and that the installation was in full compliance with the manufacturer's written instructions.
 - b. Maintain installed work until the Notice of Substantial Completion has been executed.

1.5 PROJECT CONDITIONS

- A. Environmental requirements:
 1. Cold Weather Requirements:
 - a. Do not pour concrete unless air temperature is at least 40 degrees Fahrenheit and rising.
 - b. Do not pour concrete on frozen ground or ice.
 - c. Heat and otherwise prepare materials in accordance with ACI Standard 306.
 - d. Maintain concrete temperature at 50 degrees Fahrenheit (minimum) the first three (3) days after pouring. Protect concrete from freezing the first six (6) six days, after placing.
 2. Hot Weather Requirements:
 - a. Do not pour when temperature exceeds 90 degrees Fahrenheit.
 - b. During hot weather, proper attention shall be given to ingredients, production methods, handling, placing, protection, and curing to prevent excessive Concrete temperatures or water evaporation, which will impair the required strength or serviceability of the member or structure.

1.6 WARRANTY

- A. Contractor's General Warranty:
 1. In accordance with Specification Section - WARRANTIES.
- B. Manufacturer's Warranty:
 1. In accordance with manufacturer's written standard warranty:
 - a. Warranty Period One (1) Year.
- C. Installer's Warranty:
 1. In accordance with the terms of the Specification Section - WARRANTIES
 - a. Warranty period One (1) Year.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. These products listed herein establish the size, pattern, color range and function selected by the Architect for this Project. Manufacturers that are listed as acceptable alternative manufacturers and substitutions must still comply with the requirements of this project and the products listed in order to be approved as an equivalent during the Submittal Process. If the acceptable alternative manufacturers listed or substitutions are not approved during the Submittal Process due to non-compliance with the contract documents, then the Contractor shall submit product specified.
1. Cement:
 - a. Natural (Grey) Portland Cement:
 - 1) LEHIGH PORTLAND CEMENT COMPANY.
 - 2) TXI CEMENT COMPANY (formerly RIVERSIDE WHITE CEMENT).
 - b. White Cement:
 - 1) LEHIGH WHITE CEMENT
 - 2) TXI CEMENT COMPANY (formerly RIVERSIDE WHITE CEMENT).
 2. Admixtures:
 - a. Shrinkage Reducing:
 - 1) Specified product manufacturer EUCLID.
 - a) CONEX.
 3. Bonding Agents:
 - a. Specified product manufacturer: CONRAD SOVIG CO., INC.
 - 1) "Cemlok-NE"
 - b. Acceptable alternative product manufacturers:
 - 1) THE EUCLID CHEMICAL COMPANY "Euroweld".
 - 2) LARSON PRODUCTS CORPORATION "Weld-Crete".
 - 3) SONNEBORN "Sonobond".
 - 4) W.R. GRACE CONSTRUCTION PRODUCTS "Darweld C".
 - 5) W.R. MEADOWS "Deck-O-Weld".
 4. Epoxy Adhesives and Mortar Materials:
 - a. Specified product manufacturer W.R. MEADOWS.
 - 1) "Rezi-Weld," "LV, 1000" or "Gel-Paste" as suitable for application.
 - b. Acceptable alternative product manufacturers:
 - 1) THE EUCLID CHEMICAL COMPANY "Euco #456".
 5. Epoxy Concrete Mortar:
 - a. Specified product manufacturer:
 - 1) GENERAL POLYMER CORPORATION. "TPM 115".
 - b. Acceptable alternative product manufacturers:
 - 1) ANTI-HYDRO CORPORATION: "A-H Emery Epoxy Topping #170".
 6. Concrete Mortar:
 - a. Specified product manufacturer:
 - 1) THE EUCLID CHEMICAL COMPANY "Euco".
 - b. Acceptable alternative product manufacturers:
 - 1) MASTER BUILDERS "Embeco 411-A".
 7. Non-Shrink Grout:

- a. Specified product manufacturer:
 - 1) MINWAX CONSTRUCTION PRODUCTS COMPANY "POR-ROK" Epoxy Grout.
 - b. Acceptable alternative product manufacturers:
 - 1) MASTER BUILDERS "713".
 - 2) MASTER BUILDERS "928".
- 8. Fiber Expansion Joint Filler:
 - a. Specified product manufacturer:
 - 1) W.R. MEADOWS "Sealtight Fiber Expansion Joint Filler".
 - b. Acceptable alternative product manufacturer:
 - 1) CELOTEX CORP. "Flexcell".
 - 2) PHILLIP CAREY MFG. CO. "Elastic Fiber Expansion Joint".
- B. Products from other manufacturers not listed must submit in accordance with Specification Section - SUBSTITUTION PROCEDURES.

2.2 MATERIALS

- A. Concrete:
 - 1. Cement: Type I or II in accordance with ACI 318 "Building Code Requirements for Structural Concrete and Commentary", Chapter 3, and ASTM C 150 "Specifications for Portland Cement".
 - a. Provide white cement for mixing when the Project requires patching for defective work, to match adjacent material color. See Specification Section - CAST-IN-PLACE CONCRETE, Part 3 Article titled "APPLICATIONS", the paragraph titled "Sack Finish".
 - 2. Water: Clean and free from deleterious amounts of acids, alkalis, salts, organic material, or other substances that may be deleterious to concrete or reinforcing.
 - 3. Aggregates:
 - a. Normal weight aggregates in accordance with ACI 318 "Building Code Requirements for Structural Concrete and Commentary", Chapter 3 and ASTM C33 "Standard Specifications for Concrete Aggregates". Crushed Granite or "Perkins" type aggregates are acceptable materials.
 - 1) Maximum Aggregate Size: 1-1/2 inches for standard aggregate.
 - 2) Coarse aggregate when tested in accordance with State of California Highways Test Methods 227 shall have a cleanliness value of 75 minimum.
 - 3) Fine aggregates when tested in accordance with State of California Highways Test Methods 217 shall have a sand equivalent of 75 minimum.
 - b. Lightweight aggregates shall be expanded shale, vacuum saturated or thermal quenched, and shall be in accordance with ACI 318 "Building Code Requirements for Structural Concrete and Commentary", Chapter 3, and ASTM C 330 "Standard Specification for Lightweight Aggregates for Structural Concrete".
 - 1) Maximum Aggregate Size: 3/4 inches for lightweight aggregates.
 - 2) Shrinkage control: Aggregate shall be prepared within 72 hours of being used or be re-wetted for 1/2 hour, twice a day if longer storage is required at the plant.
 - 4. Admixtures: Admixtures shall be in accordance with the provisions of ACI 318 "Building Code Requirements for Structural Concrete and Commentary", Section 3.6, and shall not be used until prior approval from DSA has been obtained. Calcium Chloride is not permitted.

- a. Fly Ash (Not to exceed 15 percent of the total cementitious material per DSA:
 - 1) Conform to ASTM C 618 "Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete".
 - 2) Class "C" Fly Ash is not permitted per CBC 1903A.5.
 - b. Shrinkage Reducing:
 - 1) Compensation and reduction of shrinkage for Portland Cement concrete, and expansive Type G component, which produces a calcium hydroxide platelet crystal system based on calcium aluminate / calcium hydroxide, as specified in ACI 223.
- B. Rock Base:
- 1. Clean mixture of crushed stone or uncrushed gravel, in accordance with ASTM D 448 "Standard Classification for Sizes of Aggregate for Road and Bridge Construction".
 - a. Top Layer:
 - 1) Percent passing a 1-inch sieve 100 percent.
 - 2) Percent passing No. 8 sieve 0 to 5 percent.
 - b. Bottom Layer:
 - 1) Percent passing a 2-inch sieve 100 percent.
 - 2) Percent passing No. 8 sieve 0 to 5 percent.
- C. Sand Base:
- 1. Sand to be washed and of natural siliceous or igneous origin, having hard, strong, and durable particles.
 - 2. Sand shall comply with ASTM C 33 "Specification for Concrete Aggregates", generally as follows:
 - a. Percent passing 3/8 inch sieve 100 percent.
 - b. Percent passing No. 4 sieve 95 to 100percent.
 - c. Percent passing No. 50 sieve 10 to 30 percent.
 - d. Percent passing No. 100 sieve 2 to 10 percent.

2.3 ACCESSORIES

- A. Bonding Agents: Polyvinyl acetate or acrylic base, mixed in accordance with the manufacturer's written recommendations.
- B. Mortar:
 - 1. Site Mix:
 - a. Composed of Concrete Materials indicated in Specification Section - CAST-IN-PLACE CONCRETE, Part 2 Article titled "MATERIALS".
 - 1) Mix: One part cement to 3 parts aggregate (all aggregate shall pass No. 4 sieve).
 - 2) Mixing: Thoroughly mixed in accordance with ACI 318 "Building Code Requirements for Structural Concrete and Commentary".
 - 2. Concrete Mortar:
 - a. Greater than 1/4 inch thick: Floor leveling, patching and repair, non-shrink trowel applied concrete mortar where repair areas of fill.
 - 3. Epoxy Concrete Mortar:
 - a. Less than 1/4 inch thick: Floor leveling, non-shrink trowel applied epoxy concrete mortar where repair areas to fill.
 - 4. Epoxy Mortar and Adhesive Materials:

- a. Modified Polyamide, high modulus mortar, strength to match adjacent concrete or greater, in accordance with ASTM C 881 "Specification for Epoxy-Resin-Base Bonding Systems for Concrete", Grade 1, Type III, Class B & C, and in accordance with ACI 503.4, mixed in accordance with the manufacturer's written recommendations.
 - b. Mixing: Thoroughly mixed in accordance with CBC Section 1905A.8.
- C. Grout:
 - 1. Strength to match adjacent concrete or greater, composed of Concrete Materials indicated in Specification Section - CAST-IN-PLACE CONCRETE, Part 2 Article titled "MATERIALS".
 - a. Mix: Same proportions as concrete mix except omit coarse aggregate and adjust water to produce a thick consistency. Provide mix design per CBC Section 1905A.2.
 - b. Mixing: In accordance with ACI 318 "Building Code Requirements for Structural Concrete and Commentary".
 - 2. Non-Shrink Grout: Flowable, non-shrink, self-leveling, non-staining, non-metallic grout, strength to match adjacent concrete or greater, and in compliance with ASTM C 1107 "Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)":
- D. Fiber Expansion Joint Filler: 1/4" thick at vertical joints and 1/2" thick under thresholds (unless specifically noted otherwise), asphalt saturated fiber expansion joint filler, in accordance with ASTM D 1751 "Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)".
- E. Sack Finish Materials: For repair and patching of defective areas.
 - 1. Provide sack finish materials composed of Concrete Materials indicated in Specification Section - CAST-IN-PLACE CONCRETE, Part 2 Article titled "MATERIALS". Sand shall be fine.
 - 2. Mix: One part cement to one part fine sand with enough water to provide a creamy consistency.

2.4 MIXES

- A. Mix Design and Proportions in accordance with ACI 318 "Building Code Requirements for Structural Concrete and Commentary":
 - 1. Initial mix design shall be prepared for all concrete by recognizing testing laboratory (approved by Architect). In the event that additional mix designs are required due to depletion of aggregate sources, aggregate not conforming to Specifications, or at request of Contractor, these mixes shall be prepared as above.
 - 2. Contractor shall notify the Testing Laboratory and Architect of intent to use concrete pumps to place concrete so that mix designs can be modified accordingly.
 - 3. Mix designs with Fly Ash content greater than 15 percent of the total weight of cementitious materials shall be proportioned by ACI 318 "Building Code Requirements for Structural Concrete and Commentary".
 - a. Provide 3 percent air entrainment typical, 6 percent for mixes with f'_c greater than 4,000 psi when required.
 - 4. Owner's testing laboratory shall review all mix design before submittal.

5. All concrete shall have the following minimum compressive strengths in accordance with ACI 318 "Building Code Requirements for Structural Concrete and Commentary" at 28 days and shall be proportioned within the following limits:
 - a. Building Slab On Grade (with Shrinkage Control): Use for interior building slab on grade, except as otherwise specified:
 - 1) Strength: 4,000 psi at 28 days.
 - 2) Max. Aggregate Size: 1-1/2 inch, well graded.
 - 3) Max. Water Cement Ratio: 0.58.
 - 4) Admixture: Water Reducing + Fly Ash + Shrinkage Control.
 - a) Shrinkage: 0.03% Laboratory Test, 0.035% Field Test at 28 days.
 - 5) Weight: 145 pcf.
 - b. Site: Use for exterior concrete slabs on grade such as walks, site work, mechanical and electrical pads and miscellaneous site items:
 - 1) Strength: 2,500 psi at 28 days.
 - 2) Max. Aggregate Size: 1 inch.
 - 3) Max. Water/Cement Ratio: 0.60.
 - 4) Admixture: Water Reducing.
 - 5) Weight: 145 pcf.
 - c. Architectural: Used for all highly detailed concrete items such as signs, plaques, landscape furnishings, columns, walls, etc.:
 - 1) Strength: 3,000 psi at 28 days.
 - 2) Max. Aggregate Size: 3/8 inch.
 - 3) Max. Water/Cement Ratio: 0.64.
 - 4) Admixture: Plasticizing admixtures used to create maximum workability at minimum slump.
 - 5) Weight: 145 pcf.
 - d. Lean mix: Used for Back Fill of over excavated trenches, encasement of all penetrations, plumbing pipe, mechanical pipe under footings (plumbing & mechanical pipes and electrical conduits):
 - 1) Strength: 1,500 psi at 28 days.
 - 2) Max. Aggregate Size: 3/8 inch.
 - 3) Cement Content: 5.0 sacks/yd min. as determined by mix design.
 - 4) Max. Water/Cement Ratio: 0.62.
 - 5) Admixture: None.
 - 6) Weight: 145 pcf.
- B. Consistency of Concrete: Concrete slump, measured in accordance with ASTM C 143 "Test method for Slump of Hydraulic-Cement Concrete", shall fall within the following limits:
 1. For General concrete placement: 3 inch plus or minus 1 inch.
 2. Mixes employing the specified high range water reducer shall provide a measured slump not to exceed 7 inch +/- 1 inch after dosing, 2 inch +/- 1 inch before dosing.
 3. Concrete slump shall be taken at point of placement. Use water reducing admixtures as required, to provide a workable consistency for pump mixers. Water shall not be added in route by truck or at the jobsite without written review by the Architect.
- C. Mixing:
 1. Equipment: All concrete shall be machine mixed. Provide adequate equipment and facilities for accurate measurement and control of materials.
 2. Method of Mixing to comply with ACI 318 "Building Code Requirements for Structural Concrete and Commentary":

- a. Transit Mixing: Comply with ASTM C 94 "Specification for Ready-Mixed Concrete". Ready mixed concrete shall be used throughout, except as specified below.
 - 1) On-Site Mixing: Use only if method of storing material, mixing of material and type of mixing equipment is approved by Architect.
 - 2) Approval of site mixing does not relieve Contractor of any other requirements of Specifications.
3. Mixing Time: After mix water has been added, concrete shall be mixed not less than 1-1/2 minutes nor more than 1-1/2 hours. Concrete shall be rejected if not deposited within the time specified.
4. Admixtures:
 - a. Use automatic metering dispenser to introduce admixture into mix. Dispenser shall be recommended and calibrated by admixture manufacturer.
 - b. Admixtures shall be charged into mixer as a solution and shall be dispensed by an automatic dispenser or similar metering device. Powdered admixtures shall be weighed or measured by volume as recommended by manufacturer. Accuracy of measurement of any admixture shall be within plus or minus 3 percent.
 - c. Two or more admixtures may be used in same concrete, provided such admixtures are added separately during batching sequence, and provided further that admixtures used in that combination retain full efficiency and have no deleterious effect on concrete or on properties of each other.
 - d. All admixtures are to be approved by Architect prior to commencing this work.
5. Re-tempering:
 - a. Concrete shall be mixed only in quantities for immediate use. Concrete, which has set shall be discarded, not re-tempered.
 - b. Indiscriminate addition of water to increase slump is prohibited.
 - c. When concrete arrives at project with slump below what is suitable for placing, water may be added only if neither maximum permissible water-cement ratio nor maximum slump is exceeded.
 - 1) Water shall be incorporated by additional mixing equal to at least half of total mixing time required.
 - 2) Any addition of water above that permitted by limitation of water-cement ratio shall be accompanied by a quantity of cement sufficient to maintain proper water-cement ratio.
 - 3) Such additions shall only be used if approved by the Architect.
 - 4) In any event, with or without addition of cement, not more than 2 gallons of water per cubic yard of concrete, over that specified in the design mix, shall be added.
6. Cold Weather Batching: When temperature is below 40 degrees F, or is likely to fall below 40 degrees F during a 24 hour period after placing, provide adequate equipment for heating concrete materials.
 - a. No frozen materials or materials containing ice shall be used.
 - b. Temperatures of separate materials, including mixing water, when placed in mixer shall not exceed 100 degrees F.
 - c. When placed in forms, concrete shall have a temperature between 50 degrees F and 85 degrees F.
7. Hot Weather Batching: Concrete deposited in hot weather shall have a placing temperature below 85 degrees F. If necessary, ingredients shall be cooled to accomplish this.

2.5 FINISHES

A. Slab Finishes:

1. Tooled Finishes:
 - a. Trowel Finish: Apply a non-slip trowel finish to surfaces to be covered with resilient flooring, thin-set ceramic or quarry tile, paint or another thin film-finish coating system
 - 1) Sweat Trowel Finish: Apply a non-slip steel trowel ("sweat") finish (tight circular motion pattern approved by the Architect) to slab surfaces exposed to view.
2. Applied Finishes:
 - a. Slab Curing Compound (SCC): Used as a curing compound for exterior slabs on grade with no flooring applications.
3. Repair finishes (Vertical surfaces):
 - a. "Sack Finish": Applied to defective surfaces mixed to the color and consistency required to match the adjacent materials in color and strength.

2.6 SOURCE QUALITY CONTROL

A. Test, Inspection:

1. Inspection of Mix:
 - a. Quality and quantity of material used shall be subject to continuous inspection by a qualified person. Sampling and testing of cement and aggregates in accordance with Title 24, Part 1, Section 4-335, and CBC Section 1705A, and Table 1705A.3.
 - b. Maintain sources of material supply constantly after approval of concrete mix.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Site verification of conditions:

1. Contractor shall inspect bearing soil and report soft or loose unsuitable bearing soil to Architect.
2. Architect will furnish Contractor with corrective measures necessary to remedy field condition.
3. Do not pour concrete until suitable bearing surfaces are achieved.
4. At Engineered Fill, remove soft and loose unsuitable fill and replace with concrete. Cost shall be paid by Contractor.
5. Contractor shall inspect and identify any site conditions and/or design information that prevents the Contractor from complying with the laws, regulations and/or building codes governing ADA access compliance.

3.2 PREPARATION

A. Transportation of Concrete:

1. Handle Concrete from mixer to place of final deposit as rapidly as practical by methods which shall prevent the separation or loss of the ingredients in accordance with ACI 304.3R "Heavyweight Concrete Measuring, Mixing, Transporting, and Placing".
 2. Do not move concrete horizontally by means of vibrators.
 3. Deposit concrete as nearly as practical at its final position in a manner which, will ensure that required quality is obtained.
 4. Chutes shall slope not less than 4 inches and not more than 6 inches per foot of horizontal run.
- B. Protection:
1. At old concrete or concrete which has begun to set upon which Concrete is to be placed:
 - a. Surface shall be level, cleaned of all laitance and rough with solidly embedded large aggregate exposed.
 - b. Rough surface by chipping entire surface not earlier than 5 days after set, by high pressure hosing (80 pounds per square inch) 2 to 4 hours after placing or by sand blasting with coarse silica sand, roughness amplitude shall be at least 1/4 inch.
 - c. Not more than 1/2 hour prior to pouring concrete, place 2 inch thick uniform layer of grout on old concrete.
- C. Surface preparation:
1. Prepare all Sand Base,[[Rock Base,][and][Vapor Retarder] material as applicable prior to forming footings and trenches.
 2. Remove all water from excavation. Divert flow of water through drains using methods to avoid washing over freshly deposited concrete.
 3. Remove hardened concrete, wood chips, shavings and other debris from interior of forms and from reinforcing steel by vacuum process.
 - a. No wooden ties or blocking shall be left in concrete except where indicated for attachment of other work.
 4. Forms shall have been erected, adequately braced, cleaned, sealed, lubricated if required, and bulkheaded where placing is to stop.
 5. Any wood forms other than plywood shall be thoroughly water soaked before placing any concrete.
 - a. The wetting of forms shall be started at least 12 hours before concreting.
 6. Reinforcing steel shall have been placed, tied and supported.
 7. Coordinate with Specification Section - SOIL TREATMENT before placing any concrete.
 8. Embedded work of all trades shall be in place in the forms and adequately tied and braced.
 9. Reinforcing steel, at the time the concrete is placed around it, shall be cleaned of scale, mill scale or other contaminants that will destroy or reduce bond.
 10. Concrete surfaces to which fresh concrete is to be bonded shall be brush cleaned to remove all dust and foreign matter and to expose the aggregate, and then coated with the bonding adhesive herein specified.
 11. Prior to placing concrete for any slabs on grade, the moisture content of the subgrade below the slabs shall be adjusted to at least optimum moisture.
 12. No concrete shall be placed until formwork, reinforcement, and embedded items have been approved by the Architect.
 - a. Clean forms of all debris and remove standing water.
 - b. Thoroughly clean reinforcement and all handling equipment for mixing and transporting concrete.
 - c. Concrete shall not be placed against reinforcing steel that is hot to the touch.

13. Provide runways or other approved means for wheeled equipment. Do not wheel equipment over reinforcing or formwork.

3.3 INSTALLATION

A. Placing of Rock Base or Sand Base.

1. Rock Base:
 - a. Shall occur after scarification and compaction operations.
 - b. Preparation of sub-grade and selection and placing of Rock Base subject to continuous inspection and supervision of Geotechnical Engineer.
 - c. Compact Rock Base to a density of not less than ninety-two (92) percent, but not more than ninety-five (95) percent, in accordance with Test Designation ASTM D 1557 "Test methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft.-lb./sq.ft.)".
 - 1) Density of each layer of Rock Base shall be tested and verified that it meets required density of Geotechnical Engineer prior to placing any other succeeding layers.
 - d. Roll Rock Base under interior (and any designated exterior slabs) to smooth surface, free of large or sharp particles.
 - e. Conduct work to minimize inspection costs.
 - f. Costs of initial compaction tests shall be borne by the Owner.
 - 1) Contractor shall pay for all re-tests required due to failure of initial tests.
2. Sand base:
 - a. Shall occur after scarification and compaction operations.
 - b. Preparation of any sub-grade Engineered Fill, Rock Base sub-bases, placing of Vapor Retarder, and selection and placing of Sand Base subject to continuous inspection and supervision of Geotechnical Engineer.
 - c. Compact Sand Base to a density of not less than ninety-two (92) percent, but not more than ninety-five (95) percent, in accordance with Test Designation ASTM D 1557 "Test method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft.-lb./sq.ft.)".
 - 1) Density of each layer of Sand Base shall be tested and verified that it meets required density of Geotechnical Engineer prior to placing any succeeding layers.
 - d. Roll Sand Base under interior (and any designated exterior slabs) to smooth surface, free of large or sharp particles.
 - e. Conduct work to minimize inspection costs.
 - f. Costs of initial compaction tests shall be borne by the Owner. Contractor shall pay for all re-tests required due to failure of initial tests.

B. Joints:

1. General: Construct joints straight, horizontal, true with faces perpendicular to surface plane of concrete and free of "overhangs" or "lips" to line.
2. Construction Joints:
 - a. Location: as indicated or as approved by Architect.
 - 1) Install as to least impair strength of structure, appearance of concrete and shall conform to typical details and in accordance with ACI Standards.
 - a) Joints between concrete and masonry shall be considered construction joints.
 - b. Spacing: Pour lengths shall be as follows, unless specifically noted otherwise.

- 1) Foundations 100 feet maximum
- 2) Walls 60 feet maximum
- 3) Structural Slabs 60 feet o.c. maximum
- 4) Interior Slabs on grade 30 feet o.c. maximum
- 5) Exterior Slabs on grade 30 feet o.c. maximum
- c. Installation:
 - 1) Construction joints shall have level tops, vertical sides. .
 - 2) Construction joints shall be thoroughly cleaned and roughened by removing entire surface film and exposing clean aggregate solidly embedded in mortar matrix.
 - 3) See drawings for doweling and required keys.
 - 4) Roughen construction joints by any of the following methods:
 - a) By sandblasting joint.
 - b) By thoroughly washing joint, using a high pressure hose, after concrete has taken initial set. Washing shall be done not less than 2 hours nor more than 4 hours after concrete has been poured, depending upon setting time.
 - c) By chipping and wire brushing.
 - d) Vertical construction joints need not be roughened
 - 5) All decisions pertaining to adequacy of construction joint surfaces and to compliance with requirements pertaining to construction joints shall be reviewed with the Architect.
 - 6) Just before starting new pour, horizontal and vertical joint surfaces shall be dampened (but not saturated).
 - 7) Before placing regular concrete mix, horizontal and vertical joint surfaces shall be covered with a layer of mortar composed of cement and fine aggregate of same proportions as that used in prescribed mix, but omitting coarse aggregate.
3. Expansion Joints:
 - a. Location: as indicated or as approved by Architect.
 - 1) Exterior slabs on grade: locate at walks, curbs, gutters, etc.
 - a) Locate at each side of structure/vertical surface, curb transition opposite apron joints, end of curb returns, and back of curb when adjacent to walk.
 - 2) Interior slabs on grade: Install at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 - b. Spacing:
 - 1) Exterior Slabs on grade: 30 feet o.c. maximum.
 - 2) Interior Slabs on grade: as indicated.
 - c. Installation:
 - 1) Install Expansion Filler in expansion joints.
 - a) Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless noted otherwise.
 - b) Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface.
 - c) Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
 - d) "Glue" Expansion Filler to edge of previous pour.
 - 2) When concrete has taken initial set, the edge of concrete surface shall be rounded by tooling to top of Expansion Filler.

- 3) Interrupt reinforcing at all expansion joints.
 - a) Refer to Drawings for detail.
4. Control Joints (Contraction Joints):
 - a. Location: as indicated or as approved by Architect.
 - 1) Construction and expansion joints shall be considered as control joints.
 - b. Spacing:
 - 1) Exterior Slab on grade: 10 feet o.c. maximum
 - 2) Interior Slab on grade: 15 feet o.c. maximum
 - a) Maximum area not to exceed 275 sf
 - b) Maximum length to width not to exceed 1 to 1 1/2 ratio
 - c) Conform to bay spacing wherever possible (at column centerlines, half bays, third bays, etc),
 - c. Installation: Form weakened-plane control joints, sectioning concrete into areas as indicated.
 - 1) Use saw cuts 1/8 inch wide by 1/4 of slab depth, or tooled joints with rounded edges 1/8 inch wide by 1/4 of slab depth, unless specifically noted otherwise.
 - 2) Control joints in unexposed floor slabs may be formed by saw cuts as soon as possible after slab finishing without dislodging aggregate and with no spalling of edges on either side of the joint.
 - 3) Slab reinforcing need not be terminated at control joints.
- C. Placing of Concrete - General:
 1. All concrete shall be placed under direct observation of the Owner's Inspector.
 2. Notify Owner's Inspector not less than forty-eight (48) hours prior to pouring of first concrete.
 3. Place concrete in accordance with ACI 304.3R "Heavyweight Concrete Measuring, Mixing, Transporting, and Placing".
 4. Do not place Concrete outside of regular working hours except to complete work already started.
 5. Do not use Concrete which has been mixed for a period longer than one and one-half (1-1/2) hours or which has started to stiffen or set.
 6. Re-mixing on concrete, which has started to set, shall not be permitted.
 7. Pouring of concrete shall be a continuous operation until the completion of the Section or Panel in accordance with ACI 304.3R "Heavyweight Concrete Measuring, Mixing, Transporting, and Placing".
 8. Consolidation:
 - a. Concrete shall be thoroughly compacted and worked to all points with solid continuous contact to forms and reinforcement to eliminate air pockets and honeycombing.
 - b. Power vibrators shall be used immediately following pour.
 - c. Spading by hand, hammering of forms or other combination of methods will be allowed only where permitted by Architect.
 - d. In no case shall vibrators be placed against reinforcing steel or used for extensive shifting of deposited fresh concrete.
 - e. Provide and maintain standby vibrators, ready for immediate use.
 9. Keep a record of times, dates and locations of all concrete placing operations for the duration of the project. Record shall be available to Architect and Owner's Inspector at all times.
 10. In no case shall concrete be poured into an accumulation of water ahead of pour.

11. If any concrete operation, once planned, can not be completed in a continuous operation, placement shall stop at temporary bulkheads located where resulting construction joints will least impair the strength of the structure. The location of construction joints shall be as shown on the drawings, or as approved by Architect.
 12. Hot Weather Concreting: Unless otherwise directed by the Architect, perform all work in accordance with ACI 305.1 "Specification for Hot Weather Concreteing" when air temperature rises above 75 degrees F and the following:
 - a. Mixing Water: Keep water temperature as low as necessary to provide for the required concrete temperature at time of placing. Ice may be required to provide for the design temperature.
 - b. Aggregate: Keep aggregate piles continuously moist by sprinkling with water.
 - c. Temperature of Concrete: The temperature of the concrete mix at the time it is being placed in the forms shall not exceed 85 degrees F.
 - 1) The method employed to provide this temperature shall in no way alter or endanger the design mix or the design strength required.
 - 2) Dampen subgrade and formwork before placing concrete.
 - 3) Remove all excess water before placing concrete.
 - 4) Keep concrete continuously wet when air temperature exceeds 85 degrees F for a minimum of 48 hours after placing concrete.
 - d. Protection: Minimize evaporation from concrete in place by providing shade and windbreaks. Maintain such protection for 14 days minimum.
 13. Cold Weather Concreting: Follow recommended ACI 306R "Cold Weather Concreteing" procedures when air temperature falls below 40 degrees F, as approved by Architect.
 - a. Concrete placed in freezing temperature shall have a temperature of not less than 50 degrees F.
 - b. Maintain this temperature for at least 7 days.
 - c. No chemicals or salts shall be used to prevent freezing and no accelerating agents shall be used without prior approval from Architect.
- D. Placing of Concrete at Footings, Walls, Columns, etc.:
1. Concrete shall be placed in layers not to exceed twenty-four (24) inches in depth, and shall be thoroughly compacted.
 - a. Wait forty minutes before placing next layer.
 - b. Re-vibrate six (6) inches into previous lift before next lift is added.
 - c. Locate top of lift at or below top of wall opening.
 2. Use openings in forms, elephant trunks or other approved methods to prevent accumulation of concrete on forms and reinforcement above the level of pour.
 - a. Unconfined free falls shall not exceed five (5) feet.
 3. Where placing or consolidation is restricted by close assemblage of reinforcing and/or forms use a Modified Mix Concrete with smaller aggregate and/or pour 3 inches of neat grout into form prior to regular mix.
 4. Concrete shall not be flowed horizontally along forms.
- E. Placing of concrete at slab on grade:
1. Slabs on grade shall not be poured until the sub-grade has been thoroughly compacted and properly prepared, complete with vapor retarder or barrier, nor until reinforcement and inserts are securely fastened in place.
 - a. Sub-grade above and below vapor retarder where installed resilient flooring products or rubber/vinyl-backed products are proposed to be installed shall not be moistened prior to pouring concrete.

2. No greater area shall be poured at one time than can be properly finished without checking.
 3. Slabs on grade shall be laid out in a checkerboard pattern when applicable. Pour and allow alternate slabs to set.
 - a. Fill out balance of checkerboard pattern with subsequent pour.
 4. Concrete shall be poured as dry as possible, consistent with good workmanship.
 - a. Water shall not be added to mix to improve workability without approval of the Architect.
 5. Concrete shall be compacted by hand tamping and by mechanical vibration.
 - a. After the concrete is thoroughly compacted, the surface shall be screeded off, any surface water removed and finish applied as specified.
 6. The Contractor may, on approval of DSA and the Architect, use a Finish Enhancing Admixture (High Range Water Reducer) in accordance with Article Titled MATERIALS.
- F. Placing of concrete by pumps:
1. If pumps are used to place concrete, the fines (3/8" and smaller) shall not exceed 45 percent of the total volume of aggregate. Standby equipment must be provided to insure completing pours to planned cutoffs.
 2. Pumps shall handle concrete at a uniform rate without bleeding or segregation of aggregates. Concrete from end of the hose shall have a free fall not to exceed four (4) feet. Aluminum pipe shall not be used to transport pumped concrete.
- G. Installation of nonshrink grout or drypack: Install under base plates immediately after erection of structural steel.
1. General: Ram in thin layers, using a short length of ram, the free end of which shall be struck with a heavy hammer or mallet, several blows for each layer, to compact the mixture. When completed, the exposed drypack shall show slight indication of moisture.
 2. Curing: Cure with a curing compound or with moisture-retaining barrier kept wet.
- H. Placing of concrete on above grade slabs:
1. General: In addition to all the preceding requirements for pouring concrete, on above grade slabs the contractor shall coordinate the pour so as to not over stress the structure and evenly distribute the pours to minimize deflection for the structural members in order to minimize slab cracking.

3.4 APPLICATION

- A. Finishes application:
1. Screed, consolidate, and level concrete slabs prior to any Finishes.
 2. Tooled Finishes:
 - a. Trowel finish:
 - 1) After floating, begin first trowel-finish operation using a power-driven trowel.
 - a) Begin final troweling when surface produces a ringing sound as trowel is moved over surface.
 - b) Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and finish surfaces to tolerances indicated.

- c) Grind smooth any surface defects that would telegraph through applied floor covering system.
 - 2) Where thin set ceramic or quarry tile is to be installed with thin-set mortar, apply a trowel finish as specified, then immediately follow by slightly scarifying the surface with a fine broom.
 - 3) Apply a non-slip "Sweat Trowel" finish (tight circular motion approved by the Architect) to exterior slabs in the final troweling operation.
 - 3. Repair Finishes:
 - a. "Sack Finish": Use only enough water as required for handling and placing.
 - 1) Cut out honeycombs, rock pockets, voids over 1/4 inch in any dimension, and holes left by tie rods and bolts down to solid concrete but in no case to a depth less than one (1) inch.
 - a) Make edges of cuts perpendicular to the concrete surface.
 - b) Thoroughly clean, dampen with water, and brush-coat the area to be patched with a bonding agent.
 - c) Place patching mortar before bonding agent has dried.
 - 2) For surfaces exposed to view, blend white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color.
 - a) Provide test areas at inconspicuous locations to verify mixture and color match before proceeding with patching.
 - b) Compact mortar in place and strike-off slightly higher than surrounding surface.
- B. Concrete curing and protection:
- 1. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
 - a. In hot, dry, and windy weather protect concrete from rapid moisture loss before and during finishing operations with an evaporation-control material.
 - b. Apply according to manufacturer's written instructions after screeding and bull floating, but before power floating and troweling.
 - 2. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than ten (10) days.
 - 3. Formed Surfaces:
 - a. Wet forms immediately after pouring.
 - b. Keep forms and exposed surfaces wet until forms are removed.
 - c. Keep all surfaces wet after forms are removed for ten (10) days after placement of Concrete.

3.5 CONSTRUCTION

- A. Site Tolerances:
- 1. Exterior Site Improvements:
 - a. Placement of all concrete shall not exceed 0.02 feet variance from designated grades.
 - b. Surface variation of all concrete slabs shall not exceed 0.01 foot in 10 feet.

- c. Construction of all concrete subject to ADA access compliance, including Accessible Path of Travel, curb returns, parking stalls and unloading areas, barrier free amenities and / or other applicable site improvements shall conform to the Americans with Disabilities Act, California Title 24 and the California Building Code, regardless of any construction tolerances. Examples of minimum and maximum limits related to ADA access compliance include, but are not limited to:
 - 1) Accessible Path of Travel cross-slope shall not exceed 2 percent.
 - 2) Accessible Path of Travel longitudinal slopes shall not exceed 5 percent.
 - 3) Ramp longitudinal slopes shall not exceed 8.33 percent.
 - 4) Walks shall not have less than 48 inches in unobstructed width.
- d. Contractor shall maintain all grades and slopes through out construction and until Notice of Completion has been filed.

3.6 REPAIR/RESTORATION

A. Minor Defects:

- 1. Minor defects in concrete shall mean any of the following:
 - a. Pour joints, voids, rock pockets, tie holes, etc. where strength, and durability is not adversely affected.
 - b. Shrinkage Cracks where slabs are not exposed or where appearance is not important
 - c. Minor defects of pour joints, voids, rock pockets, tie holes, etc.
 - d. Immediately after removing forms, inspect all concrete surfaces. Patch any pour joints, voids, rock pockets, tie holes, etc., as soon as possible, but not until the defect has been examined by the Architect.
 - e. Chip away defective areas to a minimum depth of one inch, with edges perpendicular to surface. Clean area to be patched of all laitance.
 - f. Coat area to be patched with Bonding Agent. Patch with Mortar mixed with Bonding Agent thoroughly compacted into place and screeded off to leave the patch slightly higher than the surrounding surface. After at least one hour finish patch to match the adjoining surface. Cure patch by application of curing compound or by wetting for seven (7) days.
 - g. Fill tie holes solid with mortar after cleaning and thoroughly wetting. Fill through holes by means of a plunger-type grease gun. See Specification Section - CONCRETE FORMWORK, Part 3 Article titled "INSTALLATION", and the paragraph titled "Indentations" for exception.
 - h. Remove fins and rough surfaces from all exposed concrete.
- 2. Minor defect of shrinkage cracks:
 - a. After entire slab is finished and fully cured, shrinkage cracks larger than 1/32 inch wide shall be filled with cement grout and struck off level with surface.

B. Serious Defects:

- 1. Serious defects in concrete shall mean any of the following:
 - a. Concrete not meeting 100 percent of the specified 28 day compressive strength.
 - b. Concrete exhibiting rock pockets, voids, spalls, streaks, cracks, exposed reinforcing to extent that strength, durability, or appearance is adversely affected.
 - c. Concrete significantly out of place, line or level.
 - d. Concrete not containing the required embedded items.
 - e. Shrinkage Cracks where slabs are exposed and appearance is important.

- f. Concrete where patching does not satisfactorily restore quality and appearance of surface.
 - 2. Upon determination that concrete strength is defective:
 - a. Should cylinder tests fall below minimum strength specified, concrete mix for remainder of work shall be adjusted to produce required strength. Core samples shall be taken and tested from cast-in-place concrete where cylinders and samples indicate inferior concrete with less than minimum specified strength.
 - b. Cores of hardened concrete shall be taken and tested in accordance with ASTM C 39 "Test method for Compressive Strength of Cylindrical Concrete Specimens" and ASTM C 42 "Test method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete". Number and location of such cores shall be subject to the approval of Architect.
 - c. Cost of core sampling and testing will be paid for by the Contractor.
 - d. "500 psi" and "85 percent" reduction in ACI 318 "Building Code requirements for Structural Concrete and Commentary", Section 5.6.5.4 will not justify low cylinder tests.
 - e. If core tests indicate that concrete is below the strength specified, the concrete shall be deemed defective, and shall be removed and replaced without additional cost to the Owner.
 - 3. Major defect of shrinkage cracks.
 - a. After entire slab is finished and fully cured, unsightly shrinkage cracks shall be repaired in a manner satisfactory in appearance to the Architect. If this cannot be accomplished, concrete shall be considered defective.
 - 4. Upon determining that concrete surface is defective:
 - a. Contractor may restore concrete to acceptable condition by cutting, chipping, pointing, patching, grinding, if this can be done without significantly altering strength of structure.
 - b. Permission to patch defective areas will not be considered a waiver of the right to require removal if patching does not, in the opinion of the Architect, satisfactorily restore quality and appearance.
 - c. If patching does not restore concrete to specified quality and appearance, the concrete shall be deemed defective, and shall be removed and replaced without additional cost to the Owner.
 - d. No repair work shall begin until concrete has been examined and procedures have been reviewed by the Architect and Structural Engineer and approved by DSA .
 - 5. Repair defects by complete removal of concrete and replacement or repair defects with Shotcrete in accordance with CBC Sections 1913A, strength to match mix design and material being repaired.
 - 6. Place and cure Shotcrete in accordance with CBC Section 1913A.
 - 7. Inspect and test Shotcrete as per CBC Section 1705A.4, Table 1705A.4.
- C. Cost of repairing shall be borne by the Contractor.

3.7 FIELD QUALITY CONTROL

- A. Contractor's Field Quality Control:

1. Contractor shall protect slabs receiving flooring products from excess moisture after the curing process, removing excess moisture after rains, broken water pipes, etc., to ensure that the monolithic slabs are dry enough for application of flooring products. When all spaces have been enclosed, acclimate the building as soon as possible with the building's own mechanical heating and cooling system, and other outside devices as required to properly prepare the monolithic slabs for flooring installation.
 - a. The test sites for the RH Tests shall be at the same room temperature and humidity expected during normal use. If this is not possible, then the test site conditions should be 75 degrees F (plus or minus 10 degrees F) and 50 percent relative humidity (plus or minus 10 percent relative humidity) 48 hours prior to, and during testing.
2. Contractor shall maintain temperature and humidity in a manner not deleterious to the flooring materials installed until the Owner assumes occupancy.

B. Site Tests:

1. Compression Tests:
 - a. Testing Agent will make a set of four (4) concrete compression cylinders from each fifty (50) cubic yards of each class of concrete, or fraction thereof, placed each day, and cure and test concrete compression cylinders in accordance with ASTM C 31 "Practice for Making and Curing Concrete Test Specimens in the Field", ASTM C 39 "Test method for Compressive Strength of Cylindrical Concrete Specimens", and ASTM C 172 "Practice for Sampling Freshly Mixed Concrete".
 - 1) From each concrete compression cylinder set, Testing Agent shall test one cylinder at age seven (7) days, test two cylinders at age twenty-eight (28) days per ACI 318 "Building Code requirements for Structural Concrete and Commentary", Section, 5.6.2.4 and hold one cylinder for test only if directed by the Architect.
 - 2) Cylinders shall be identified as to area from which they were taken and show the date and time of day they were prepared.
 - b. Testing Agent shall also test Grout and Mortar as required for compliance to Compression Requirements specified.

C. Inspection:

1. Project Inspector shall inspect placement of concrete and grout.

D. Manufacturer's Field Services:

1. Contractor shall notify Vapor Retarder manufacturer at least one week prior to the Pre-Construction Conference regarding the Vapor Retarder installation, and will schedule subsequent visits at the appropriate times with at least one week's notice to ensure proper installation of the Vapor Retarder in accordance with the Manufacturer's Written Instructions.
2. Manufacturer shall provide and written Inspection and installation certification to the Architect that full compliance with the manufacturer's written instructions were followed and adhered to prior to covering with concrete.

3.8 CLEANING

- A. The top of all concrete foundations receiving concrete masonry units shall be washed free of all laitance and loose concrete, and roughened to a roughness amplitude of 1/4".

- B. Remove all debris, excess materials, tools, and equipment resulting from or used in this operation at completion of work.

END OF SECTION

SECTION 051200 – STEEL AND FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install all Steel and Fabrications, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. 03 11 01 CONCRETE FORMWORK
 - 4. 03 15 14 DRILLED ANCHORS
 - 5. 03 20 00 REINFORCEMENT
 - 6. 03 30 00 CAST-IN-PLACE CONCRETE (Grouting of Bearing Plate)
 - 7. 07 60 00 SHEET METAL
 - 8. 09 22 16 METAL FRAMING
 - 9. 09 91 00 PAINTING
 - 10. 10 05 00 MISCELLANEOUS SPECIALTIES
 - 11. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 12. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 REFERENCES

- A. Standards:
 - 1. In accordance with Specification Section – REGULATORY REQUIREMENTS and the following standards:
 - a. AISC: American Institute of Steel Construction "Specification for Design, Fabrication and Erection of Structural Steel buildings" and "Code of Standard Practice for Steel Buildings and Bridges" and "Recommended Procedure for Identification of High Strength Steels During Fabrication".
 - 1) NOTE: All connections shall be designed by the Structural Engineer and approved by AHJ.
 - 2) NOTE: Paragraph 4.2.1 of the AISC "Code of Standard Practice for Steel Buildings and Bridges" for fabricator designed connection shown on shop drawings is deleted. All connections shall be as shown in the Contract Document drawings.
 - 3) AISC: "Specification for Architecturally Exposed Structural Steel".
 - 4) AISC: "Specification for Structural Joists using A325 or A490 Bolts".
 - 5) AISC: "Specification for Structural Steel Buildings" using the AISC 360-05.
 - b. ANSI: American National Standards Institute:
 - 1) ANSI B18.22.1 "Plain Washers".

- 2) ANSI B18.22.1 "Beveled Washers".
- c. ASTM: American Society for Testing and Materials.
 - 1) ASTM A123: Standard Specification for Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products.
 - 2) ASTM A153: Standard Specification for Zinc (Hot-Dip) on Iron and Steel Hardware.
 - 3) ASTM A 385: Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip).
 - 4) ASTM A780: Standard Specification for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
- d. AWS: American Welding Society "Structural Welding Code".
 - 1) AWS D1.1 "Structural Welding Code".
 - 2) AWS A2.0 "Welding Symbols".
- e. EF: Engineering Foundation, "Specification for Structural Joints Using bolts from ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength".
- f. ICC: International Code Council
- g. NAAMM: National Association of Architectural Metal Manufacturers
 - 1) Metal Stairs Manual
 - 2) Pipe Rail Manual.
- h. RCSC: Research Council on Structural Connections, "Specification for Structural Joints Using ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength".
- i. SSPC: The Society for Protective Coatings.
 - 1) SSPC-SP 1 "Solvent Cleaning".
 - 2) SSPC-SP 2 "Hand Tool Cleaning".
 - 3) SSPC-SP 3 "Power Tool Cleaning".
 - 4) SSPC-SP 6 "Commercial Blast Cleaning".
 - 5) SSPC-SP 7 "Brush-Off Blast Cleaning".

1.3 DEFINITIONS

A. Welding Definitions:

- | | |
|------------|--------------------------------------|
| 1. CVN | Charpy V-Notch (Testing Procedure). |
| 2. FCAW | Flux Core Arc Welding. |
| 3. FCAW-G | Flux Core Arc Welding-Gas Shielded. |
| 4. FCAW-SS | Flux Core Arc Welding-Self Shielded. |
| 5. G-MAW | Gas Metal Arc Welding. |
| 6. SMAW | Shielded Metal Arc Welding. |
| 7. SAW | Submerged Arc Welding. |

1.4 SUBMITTALS

A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:

1. Product Data.

- 1) Submit Load Indicating Device information as indicated in Part 3 of this Specification Section, and include Laboratory Test Reports and other data to show compliance with Specification (include Specified Standards).
 - 2) Include certified copies of mill reports covering chemical and physical properties of each type of steel.
 - 3) Submit primer paint system. Obtain certification from the project's Painting Contractor and Paint Manufacturer that primer paint system is compatible with proposed painting systems for this project.
2. Shop Drawings.
 - a. The Contract Drawings represent the spatial relationship as conceived by the Architect.
 - 1) The production of the structural steel Shop Drawings may require the employment and utilization of a 3-dimensional structural steel fabrication layout program to achieve the exact relationship of all intersecting members.
 - 2) Building sections and details represent interpretations of these relationships and the dimensions shown shall not be relied upon for accuracy and fit, but the Contractor / Structural Steel Fabricator shall verify them and double-check them for accuracy and fit.
 - 3) Any significant variations shall be submitted to the Architect and Structural Engineer for review and approval, of which the conditions may or may not require AHJ review and approval.
 - 4) "Fit-Up" means and methods are the sole responsibility of the Contractor.
 - b. Provide all information necessary for the fabrication of component parts. Indicate size and weight of members, type and location of shop and field connections, size and extent of all welds, and welding sequence when required.
 - c. Include details of cuts, connections, camber, holes and other pertinent data. Include welds by Standard AWS Symbols, and show size, length and type of each weld.
 - d. Provide sections, drawings, templates and directions for installation of anchor bolts and other anchors.
 - e. Dimension requirements of structural steel for manufactured items, such as Mechanical Equipment, Dock Levelers, etc. All of these items shall be coordinated and provided by the General Contractor. The General Contractor shall also coordinate and provide dimensions to locate Structural Steel for Window Washing supports such as davits, tie-backs, etc.
3. Samples.
 - a. Provide material samples cut and machined for testing without charge to the Owner.
4. Quality Assurance/Control Submittals.
 - a. Test Reports:
 - 1) Submit mill analysis and test reports for each heat, in accordance with ASTM A 6 "General Requirements for Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use", certifying conformity with the Specifications. Steel shall be identifiable in the fabricating shop.
 - 2) Submit test reports for each lot of high strength bolts in accordance with ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" and ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength" .

- 3) Submit Welding Procedure Specification (WPS) to the Structural Engineer for review prior to use.
 - a) For WPS's that have been qualified by test, the supporting Procedure Qualification Record (PQR) shall be submitted to the Structural Engineer for review prior to use.
- 4) Submit to the Structural Engineer for approval, a step by step welding sequence for the field welding of each type of connection.
- 5) Submit to the Structural Engineer a quality control plan that addresses all inspection issues, including in process and final inspection that are addressed in AWS D1.1.
- b. Certificates:
 - 1) Submit current valid certificate issued by an independent testing agency for all welders, welding operators, and tack welders.
 - 2) Certification of Welder's Qualifications: Welders that will make welds in restricted access, such as, but not limited to, the bottom flange-to-column welds through a cope hole or access hole in the beam web, shall be qualified by the Contractor using the same welding procedure as will be used for production and a mock-up assembly that simulates the construction configuration.
 - 3) Provide Certified Mill Test Report Sheets in accordance with ASTM A123 "Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products", certified at the plant after galvanizing, but prior to shipment.
5. Closeout Submittals:
 - a. Project Record Documents in accordance with Specification Section - PROJECT DOCUMENTS.
 - b. Warranty.

1.5 QUALITY ASSURANCE

A. Qualifications:

1. Installer Qualifications:
 - a. Engage an experienced Installer who has successfully completed three (3) projects of similar scope and size to that indicated for this Project.
 - b. Welders shall be recently qualified by Test as prescribed in AWS "Structural Welding Code" for the type of welding to be performed.
 - 1) All welders, welding operators, and tack welders shall be qualified with the largest diameter electrode(s) to be used on the work by test and hold a current valid certificate issued by an independent testing agency, to perform the type of welds required by the work; including the process, position, and thickness of materials used (AWS D1.1: 4.19.1).
 - 2) In addition to meeting the requirements of AWS, welders that will make welds with restricted access, such as, but not limited to, the flange to column welds through a cope hole or access hole in the beam web, or where access to the bottom of a groove is restricted by the presence of a column flange, shall be qualified by the Contractor using the same welding procedure as will be used for production and a mock-up assembly that simulates the construction configuration.
 - 3) All welders on the project shall be capable of understanding and following the requirements of the written WPS.

- 4) Each welder employed on the project shall understand all the requirements of this welding specification before welding on the project.
 - 5) The written WPS shall be available to the welder, welding supervisor, and all inspectors.
 - 6) Provide weld procedures for both pre-qualified welds and special welds to be submitted to the Owner's Testing laboratory and the Architect. Procedures shall be provided for both shop & field welds and shall be provided prior to commencing welding operations.
2. Manufacturer/Supplier Qualifications:
 - a. Structural Steel firm experienced in successfully producing/supply capacity to produce/supply required units without causing delay in the Work.
 - b. Provide documentation that the Hot-Dipped Galvanizer is a member in good association with the AGA (American Galvanizers Association).
- B. Regulatory Requirements:
1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
 - a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Product Handling:
1. Store materials to permit easy access for inspection and identification. Keep steel members off the ground using pallets, platforms, or other supports. Protect steel members and packaged materials from erosion and deterioration.

1.7 SCHEDULING

- A. Schedule the Work so that there will be no excessive inspection time. At all times that an inspector is required, sufficient work shall be laid out and adequate personnel supplied so that the Inspector's time will be used to full advantage. If inspection costs become excessive because of poor shop procedure, such excess costs will be paid for by the Owner, but deducted from the Contract Price. Poor procedures will be determined upon review of Inspection and/or Testing Reports. The rate for charging the excess costs will be as follows:
1. Minimum of three (3) certified welders are used, Owner will pay 100 percent.
 2. Only two (2) certified welders are used, Contractor will be charged 1/3 of the Inspection cost.
 3. Only one (1) certified welder is used, the Contractor will be charged 2/3 of the inspection cost.

1.8 WARRANTY

- A. Contractor's General Warranty:
1. In accordance with Specification Section - WARRANTIES.
- B. Manufacturer's Warranty:

1. In accordance with manufacturer's written standard warranty:
 - a. Warranty Period One (1) Year.
- C. Installer's Warranty:
 1. In accordance with the terms of the Specification Section - WARRANTIES
 - a. Warranty Period One (1) Year.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. These products listed herein establish the size, pattern, color range and function selected by the Architect for this Project. Manufacturers that are listed as acceptable alternative manufacturers and substitutions must still comply with the requirements of this project and the products listed in order to be approved as an equivalent during the Submittal Process. If the acceptable alternative manufacturers listed or substitutions are not approved during the Submittal Process due to non-compliance with the contract documents, then the Contractor shall submit product specified.
 1. Specified galvanized repair paint product manufacturer, or approved equivalent:
 - a. AERVOE INDUSTRIES, INC.
 - 1) Zinc Rich Galvanize "#1141".
- B. Products from other manufacturers not listed must submit in accordance with Specification Section - SUBSTITUTION PROCEDURES.

2.2 MATERIALS

- A. Steel:
 1. Structural Shapes, Plates, and Bars: Shall be made in accordance with "Specifications for Structural Steel", ASTM A 36 "Standard Specification for Carbon Structural Steel"; ASTM A 992 "Standard Specification for Steel for Structural Shapes for use in Building Framing" Grade 50; or ASTM A 572 "Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel" Grade 50, as noted on Drawings.

2.3 COMPONENTS

- A. Fasteners:
 1. Anchor Bolts:
 - a. All anchor bolts cast in concrete or masonry shall be headed bolts with cut threads conforming to ASTM F 1554 "Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength" or ASTM A 36 "Standard Specification for Carbon Structural Steel" or ASTM A 572 "Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel" Grade 50 as indicated on drawings.

2.4 FABRICATION

- A. Connections: Weld or bolt shop connections, as indicated. Bolt field connections, except where welded connections or other connections are indicated.
- B. Unless noted otherwise, make holes 1/16 inches larger than the nominal bolt diameter.
 - 1. For anchor bolts, the hole diameter may not exceed the sizes indicated in CBC Section 2204A.2.2 , nor what is specified on the drawings.
- C. Welding, Shop and Field: Weld by shielded arc method, submerged arc method, flux cored arc method, or other method approved by AWS. Perform welding in accordance with AWS Code. All welders, both manual and automatic, shall be certified in accordance with AWS "Standard Qualification Procedure" for the Work to be performed. See paragraph "welding" herein, for detailed requirements. If sizes of fillet welds are not shown on drawings, use AWS minimum weld size but not less than 3/16 inch fillet welds.
- D. AISC Group 4 and 5 shapes and built up members shall meet the requirements for joints in AISC Sections J1.7, J1.8, J2.6 and M2.2.
- E. Welding – General:
 - 1. General: Quality of materials and design and fabrication of all welded connections shall conform to AISC "Specifications for the Design, Fabrication and Erection of Structural Steel for Building", "AWS Code for Welding in Building Construction", and requirements of this section.
 - a. Location and type of all welds shall be as shown. Make no other welded splices, except those shown on drawings, without prior approval of the architect.
 - 2. Automatic Welding: Use electrode wire and flux for automatic and semi-automatic welding acceptable to Architect. All methods, sequences, qualification and procedures, including preheating, and post heating if necessary, shall be detailed in writing and submitted to the architect for review.
 - 3. Qualification of Welders:
 - a. Structural steel welding: Manual and automatic welds for structural steel construction shall be made only by operators who have been previously qualified by tests, as prescribed in AWS D1.1 to perform type of work required.
 - b. Welders shall be checked by the welding inspector. Those not doing satisfactory work may be removed, and may be required to pass qualification tests again. All qualification testing shall be at the Contractor's expense.
 - c. Only welders whose weld procedures and pre-qualification by testing that have passed shall be considered qualified for such welds.
 - 4. Control cooling process after weld is completed by either step down post heat or thermal blankets as determined by procedures and prequalification.
 - 5. Box columns and built-up members shall have ultrasonic testing before and after welding.
 - 6. Flame cut surfaces shall be ground to remove contaminated steel layer to provide welds proper fusion without impurities.
 - 7. Preparation of surface: Surfaces to be welded shall be free of loose scale, slag, rust, grease, paint and any other foreign material.

8. Welding equipment: Welding equipment to be used in each case shall be acceptable to welding inspector. Use equipment with suitable devices to regulate speed and manually adjust operating amperage and voltage. The amperage capacity shall be sufficient to overcome line drop, and to give adequate welding heat.
9. Remove runoff tabs and grind surfaces smooth where the tabs would interfere with fireproofing and architectural finishes.
10. End-welded studs:
 - a. Automatic end-welded studs: Automatically end-weld in accordance with the manufacturer's written recommendations in such a manner as to provide complete fusion between the end of the stud and the plates. There shall be no porosity or evidence of lack of fusion between the welded end of the stud and the plate. The stud shall decrease in length during welding approximately 1/8 inch for 5/8 inch, and 3/16 inch for 3/4 inch diameter. Stud sizes indicated on drawings represent the finish stud height.
 - b. Fillet-end welded studs: Studs may be welded using prequalified FCAW, GMAW, or SMAW processes provided the requirements of the AWS D1.1 Chapter 7 Section 7.5.5 are met as well as any other pertinent requirements of D1.1.
11. Provide mill camber as shown on the construction documents within AISC tolerance. Place mill tolerance upward for all beams specified no camber.

2.5 FINISHES

A. Hot-Dip Galvanizing:

1. Zinc coatings on iron and steel products in accordance with ASTM A 123 "Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products".
 - a. Minimum thickness required shall be 3.9 mils.
 - b. All items that will be exposed to view (i.e. security fence, handrails, guard rails, awnings, canopies and shade structures left exposed to view), shall be Hot-Dipped Galvanized in accordance with ASTM A 385, "Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip)".
2. Zinc coatings on iron and steel hardware shall be in accordance with ASTM A 153 "Standard Specifications for Zinc Coating (Hot-Dip) on Iron and Steel Hardware".
3. Galvanized repair paint: High-Zinc-Dust-Content, in accordance with SSPC-Paint 20 or DOD-P-21035, with dry film containing a minimum of 94 percent zinc dust by weight paint for re-galvanizing welds and repair painting galvanized steel.

2.6 SOURCE QUALITY CONTROL

A. Fabrication Tolerances:

1. "Architecturally Exposed Structural Steel", all steel for the Custom Steel Fabrications and miscellaneous "Metal Fabrications" that are subject to view are defined as "Exposed-to-View" joints. All joints that are "Exposed to View" shall be in accordance with AISC Code of Standard Practice, Section 10, "Architecturally Exposed Structural Steel".
 - a. All cope, miters and butt cuts in surfaces "Exposed-to-View" are made with uniform gaps of 1/8 inch if shown to be open joints, or in reasonable contact if shown without gap, in accordance with AISC Code of Standard Practice, Section 10.3.4.

B. Tests, Inspection:

1. In accordance with Specification Section – TESTING LABORATORY SERVICES and the following:
 - a. Materials shall be certified, identified and tested in conformance with CBC Table 1705A.2.1. Commercial stock steel shall be identified in accordance with CBC Table 1705A.2.1.
 - b. Complete four-sided inspection of all steel shall be made when required by Architect.
 - c. Tests and inspection of Shop and field welding in accordance with CBC Table 1705A.2.1. Perform shop and field welding only under supervision of welding inspector.
 - 1) Welds shall be in accordance with CBC Table 1705A.2.1.
 - 2) Inspection:
 - a) Welding inspector shall be an AWS Certified Welding Inspector (CWI).
 - d. Tests & Inspection for High Strength Bolts in accordance with CBC Table 1705A.2.1.
2. Testing Laboratory:
 - a. An inspection and testing laboratory will be selected by the Owner for testing and inspection as required by the Contract Documents. The selected laboratory shall conform to the requirements of ASTM E 329 "Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction". Documentary evidence of such conformance shall be submitted to the Owner and the Governing Agency.
 - b. All materials, work, methods and equipment shall be subject to inspection at the mill, fabricating plant and at the building site. Material or workmanship not complying fully with the Contract Documents will not be accepted. The Contractor shall give the Testing Laboratory reasonable notice when ready for inspection and shall supply samples and test pieces and all facilities for inspection without extra charge. The Owner will assume the expense of making the tests and inspection except as otherwise specified in Division 1.
3. Cost of Testing and Inspection: Costs of testing and inspection of structural steel, except as specified hereunder and in Division 1, will be paid for by the Owner.
 - a. All transportation costs and per diem living costs for inspection at fabricator's plant further than 75 miles from the job site will be back-charged to the Contractor.
 - b. It is assumed that all fabrication will take place in one shop location only. All additional inspection costs will be back-charged to the Contractor.
 - c. All mill tests and costs or re-test of plain materials shall be at the expense of the Contractor.
 - d. Costs of tests required due to Contractor's failure to provide steel identifiable in accordance with the indicated ASTM designation shall be at the expense of the Contractor.
4. Structural Steel Testing and Inspection:
 - a. If structural steel tests are indicated as required on the structural drawings, one tension and one bend test shall be made for each size of structural shape, plate and for each tube and pipe size. Tests to be made in accordance with requirements of appropriate ASTM designations.

- b. If structural steel tests are not indicated as required on the structural drawings, then for shapes, plates, bars, pipe and tubing, manufacturer's certified mill test reports and analysis for each heat will be acceptable for steel identifiable in accordance with indicated ASTM designation. Mill test reports shall indicate the physical and chemical properties of all structural steel used. Correlate individual heat numbers with each specified structural section.
 - c. Unidentifiable Steel:
 - 1) For F_y less than or equal to 36.0 ksi: Provide one tension and elongation test and one bend for each 5 tons or fraction thereof for each size.
 - 2) For F_y greater than 36.0 ksi: Provide one tension and elongation test and one bend or flattening for each piece.
 - d. Costs of re-tests and additional testing required by the use of unidentifiable steels shall be the Contractor's responsibility. Additional costs of testing incurred by the Owner shall be deducted from the Contract Final Payment.
5. Expansion Anchors: Load test as indicated on the drawings.
6. Welding Inspection:
- a. If shop or field welding inspection is indicated on the structural drawings, all shop and field welded operations shall be inspected by a qualified welding inspector employed by the Testing Laboratory. Such Inspector shall be a person trained and thoroughly experienced in inspection of welds. The inspector's ability to distinguish between sound and unsound welding will be reliably established.
 - b. The Welding Inspector shall make a systematic record of all welds. This record shall include:
 - 1) Identification marks of welders.
 - 2) List of defective welds.
 - 3) Manner of correction of defects.
 - c. The welding inspector shall check the material, equipment and procedure, as well as the welds. He/she shall also check the ability of the welder. He/she shall furnish the Architect with a report, duly verified by him/her that the welding which is required to be inspected is proper, and has been done in conformity with the Contract Documents, and that he/she has used all means to determine the quality of the welds.
 - d. All full penetration groove welds shall be subject to ultrasonic testing, as per AWS D1.1, Section 6 "Inspection, Part "C", Ultrasonic Testing of Groove Welds". All defective welds shall be repaired and re-tested with ultrasonic equipment at the Contractor's expense.
 - e. All partial penetration groove welds shall be tested by ultrasonic testing.
 - f. When ultrasonic indications arising from the weld root be interpreted as either a weld defect or the backing strip itself, the Engineer shall be notified. The Engineer may require the removal of backing strip. The backing strip shall be removed at the expense of the Contractor, and if no root defects are visible the weld shall be re-tested. If no defect is indicated on this re-test, and no significant amount of base and weld metal have been removed, no further repair of welding is necessary. If a defect is indicated, it shall be repaired and re-tested at the Contractor's expense.
 - g. The ultrasonic instrumentation will be calibrated by the technician to evaluate the quality of the welds in accordance with AWS D1.1.
 - h. Other methods of inspection, for example, X-ray, gamma ray, magnetic particle, or dye penetrant, may be used on welds if felt necessary by the inspection laboratory, and with the approval of the Engineer.

- i. Base metal thicker than 1-1/2 inches, when subjected to through thickness weld shrinkage strains, shall be ultrasonically inspected for discontinuities directly behind such weld before and after joint completion.
 - j. End-welded studs shall be sampled, tested, and inspected per the requirements of the Structural Welding Code – Steel D1.1 Chapter 7, published by the American Welding Society.
 - k. At the discretion of the Owner's testing agency, the ultrasonic testing frequency may be reduced but may not be less than the following:
 - 1) Initially, all welds requiring ultrasonic testing will be tested at the rate of 100 percent in order to establish the qualifications of each individual welder. If the reject rate is demonstrated to be less than 5 percent of the welds tested for each welder, then the frequency of testing for that welder may be reduced to 25 percent. If the reject rate increases to 5 percent or more, 100 percent testing will be re-established until the rate is reduced to less than 5 percent. The percentage of rejects will be calculated for each welder independently.
7. High Strength Bolting Tests and Inspection:
- a. Furnish certified test reports for each lot of bolts in accordance with Section 9 of ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength". Install bolts under the supervision of a qualified inspector in accordance with Section 9, Research Council "Specifications for Structural Joints using bolts for ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength".
 - b. If high strength bolting inspection is indicated or required on the structural drawings, the testing laboratory will visually inspect all high strength bolts.
 - c. While the work is in progress, the Project Inspector shall determine that the requirements of this Specification are met in the work. The Project Inspector shall observe the calibration procedures and shall monitor the installation of bolts to determine that all plies of connected material have been drawn together and that the selected procedure is properly used to tighten all bolts.
 - 1) In addition to the requirement of the foregoing paragraph, for all connections specified to be slip critical (SC), the Project Inspector shall assure that the specified procedure was followed to achieve the pretension specified in the AISC. The pre-tension shall be verified by the Project Inspector for these bolts.
 - 2) Bolts in connections identified as not being slip-critical nor subject to direct tension need not be inspected for bolt tension other than to ensure that the piles of the connected elements have been brought into snug contact.
- C. Verification of Performance:
- 1. Testing Agent shall be a qualified person or Testing Laboratory listed and approved by AHJ and selected by the Architect, and the Owner.
 - 2. Testing Agent shall make Test and Inspection Reports certifying materials and workmanship to conform with Drawings and Specifications.
 - a. Cost of Testing and Inspection will be paid by Owner unless otherwise specified.
 - b. Cost of cutting and machining test samples shall be paid by Contractor.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify, with steel erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
 - 1. Prepare a certified survey of bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.
 - 1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

- A. Employ a licensed land surveyor for accurate erection of structural steel.
 - 1. Check elevations of bearing surfaces (concrete or masonry), and locations of anchor bolts and similar devices, before erection work proceeds.
 - 2. Report discrepancies to Architect.
 - 3. Do not proceed with erection until corrections have been made or until compensating adjustments to structural steel work have been agreed upon with the Architect.
- B. Erect all Structural Steel frame work in accordance with AISC Specifications "Specification for the Design, Fabrication and Erection of Structural Steel for Building", latest edition, and AISC Code unless otherwise indicated on Drawings or Specification.
 - 1. Framing: Carry up framing true and plumb. Provide temporary bracing wherever necessary to support all loads to which the structure may be subjected, including erection equipment and its operation. Leave bracing in place as long as may be required for safety. As erection progresses securely connect the work to take care of all dead load, wind and erection stresses.
 - 2. Connections:
 - a. High Strength Bolts shall be used to assemble structural joints in accordance with AISC "Specification for Structural Joints using bolts for ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength", unless otherwise indicated on the drawings.

- 1) Tighten nuts for Bolts in accordance with CBC Sections 1705A.2.1. Load Indicating Devices shall be pre-approved by the AHJ, and certification by an independent testing laboratory stating that the devices meet AISC Specifications shall be submitted to Project Engineer and AHJ.
 - 2) Manufacturer shall also submit installation procedures prior to incorporation into the work for approval by the Project Engineer.
 - 3) Once approved, manufacturer's installation instructions shall be followed for all conditions. Mark bolts that have been completely tightened with an identifying symbol.
 - 4) Connections shall be slip-critical (SC) type.
 - a) Slip-critical connections, surfaces shall be in accordance with AISC "Specification for Structural Joints Using bolts for ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength".
 - 5) Contacting surfaces shall be painted, except for friction-type (SC) connections.
 - 6) Provide washers in accordance with ASTM A 325 "Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength" or ASTM A 490 "Standard Specification for Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength".
 - b. Welding: The details of all joints, the technique of welding employed, the appearance and quality of welds made, and the methods used in correcting defective work shall conform to "AISC Specs", "AWS Code", Table 1705A.2.1.
 - 1) All "exposed-to-view" welds will be smooth and flush with no voids showing and still be in conformance with standards referenced herein.
 - 2) All exposed to view butt welds shall be flush as connected members will allow. Minor defects and transitions in metal surfaces shall be filled and sanded out with an approved metal filler prior to painting.
 - 3) Exposed fillet welds are acceptable "as is" provided the surface chevrons are shallow and have no abrupt protrusions.
 3. Cutting Holes: The use of a cutting torch is permissible only if the metal being cut is not carrying stress during the operation and only with the prior approval of the Architect and AHJ for each specific condition.
 4. Setting Plates: Set column base plates and leveling plates to correct elevations and temporarily support on steel wedges or shims until the supported members have been plumbed, locked in place and grouted.
- C. Erection Sequence: Erect steel in accordance with special erection sequences where special erection sequences are indicated on the contract documents.
- D. Before and during erection, keep all structural steel clean. Ship, handle and store steel in a manner to avoid injury to members. Steel members showing evidence to rough handling or injury will be rejected.
- E. Mark each member with erection identification corresponding to mark shown on erection drawings. Carefully plan erection of structural steel so that no cutting and removal of material will be necessary. Do not torch burn in the field, unless specifically permitted by Engineer.

- F. Provide sufficient bracing, shoring and guys to effect safe and satisfactory erection. Provide bracing and shoring capable of holding steel work plumb and properly aligned while field connections are being made, and until lateral force resisting elements are deemed by the Architect to be capable of bracing structure. Temporary bracing shall be adequate to resist lateral forces from wind or seismic prior to the completion of the lateral resisting system.
- G. Set bearing and base plates with extreme care. Bring level, to line and grade with leveling plates or by leveling nuts and bolts. Grout solid under plates with a flowable non-shrink grout per Specification Section – CAST-IN-PLACE CONCRETE prior to applying vertical load.
- H. Field Assembly: Set structural framing accurately to the lines and elevations indicated. Align and adjust the various members forming a part of a complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces which will be in permanent contact. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 - 1. Shimming or other adjustments not indicated on drawings shall be approved by the Engineer prior to installation. Level and plumb individual members of the structure within specified AISC tolerances except as noted herein. Column shimming shall be 1/4 inch.
- I. All welds shall be full and clean, and conform to AISC and AWS Specifications.
- J. Erection Tolerances: Maintain erection tolerances of structural steel and architecturally exposed structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
 - 1. Individual pieces shall be erected so that the deviation from plumb, level and alignment shall not exceed 1 to 500 plus:
 - 2. The maximum displacement of the center-line of columns adjacent to elevator shafts, from the established column line, shall not be more than 1 inch at any point from the established column line in the first 20 stories.
 - 3. In order to provide a true, flat plane for the exterior elevations, install all steel framing at the exterior walls of the building, so that the center lines of such framing does not vary by more than 1 inch for the length of the building.
 - a. Also, install each vertical member on such grids so that its vertical center-line does not vary by more than 1/2 inch from a vertical line for each story and 1 inch for its full height.
 - 4. Take special care that column base plates are parallel and perpendicular to faces of columns and that bolt holes are accurately placed.

3.4 CONSTRUCTION

- A. Special Techniques:
 - 1. Architecturally Exposed Structural Steel and "Exposed to View" Metal Fabrications.
 - a. At all exposed joints, continuous fill with Plastic Steel Putty. Sand smooth and uniform and ready to receive finishes.
 - 1) Clean all areas to have smooth seams with manufacturers recommended cleaner.
 - 2) Place Steel Putty and cure.

3.5 REPAIR / RESTORATION

- A. Defective Work shall be immediately replaced with proper work. Such replaced Work and the Testing and Inspection for it shall be at the expense of the Contractor. If defects or damages cannot be corrected in the field, the material shall be returned to the shop or new parts furnished, as the Architect directs, and the Contractor shall pay all costs therefor.
1. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780 "Practice for Repair of Damaged and Uncoated Areas of Hot-Dipped Galvanized Coatings".
 2. Primer Coat - On all hot-dip iron or steel that needs repair, provide one primer coat of the following:
 - a. Zinc Rich Galvanize No. 1141 by AERVOE INDUSTRIES, INC., or approved equivalent.
 - b. Provide a smooth-flowing, high-solids compound that provides a fast-drying coating that protects ferrous metals in highly corrosive environments. Coating shall be 97% pure zinc metallic flake, which leaves 94% zinc in the dry film.
 - c. Overall Dry Film Thickness 2.0 mil.
 3. Finish Coat - On all hot-dip iron or steel that needs repair, provide one finish coat over a properly cured primer coat of the following:
 - a. Zinc Rich Galvanize No. 1141 by AERVOE INDUSTRIES, INC., or approved equivalent.
 - b. Provide a smooth-flowing, high-solids compound that provides a fast-drying coating that protects ferrous metals in highly corrosive environments. Coating shall be 97% pure zinc metallic flake, which leaves 94% zinc in the dry film.
 - c. Overall Dry Film Thickness 2.0 mil.
- B. Touch-up Primer Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop priming to comply with SSPC-PA1 "Touching Up Shop-Painted Surfaces".
1. Clean and prepare surfaces by SSPC-SP 2 "Hand-Tool Cleaning" or SSPC-SP 3 "Power-Tool Cleaning".

3.6 FIELD QUALITY CONTROL

- A. Site Tests:
1. As required by Regulatory Requirements.
- B. Tests, inspection:
1. As required by Regulatory Requirements.
 2. Schedule inspections and notify the Architect, Project Inspector and any other regulatory agencies of the time at least 48 hours prior to the inspection.
 3. No work shall be without the inspections required by Regulatory Requirements.
 4. Tests and inspection of field welding in accordance with CBC Table 1705A.2.1. Perform field welding only under supervision of welding inspector.
 - a. Welds shall be in accordance with CBC Table 1705A.2.1.
 - b. Inspection shall be in accordance with CBC Table 1705A.2.1.
 - 1) Welding inspector shall be an AWS Certified Welding Inspector (CWI).

- C. Verification of Performance:
 - 1. Certification:
 - a. The Contractor shall engage and pay for a registered Civil Engineer or Licensed Land Surveyor to check the alignment, plumbness, elevation, and overall accuracy of the erected framing at appropriate stages during construction and at completion of erection.
 - b. Civil Engineer or Licensed Land Surveyor shall submit written verification and certification that the entire installation is in accordance with the Contract Documents.

3.7 SCHEDULES

- A. Metal Fabrication Schedule should be used as a guide only and is not considered as a complete list. Refer to Drawings for location and details:
 - 1. Miscellaneous backing members, brackets, and supports for work installed by other trades.

END OF SECTION

SECTION 076000– SHEET METAL

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install all Sheet Metal materials, accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. 05 12 00 STEEL AND FABRICATIONS
 - 4. 09 22 00 METAL FRAMING
 - 5. 09 91 00 PAINTING
 - 6. 10 05 00 MISCELLANEOUS SPECIALTIES
 - 7. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 8. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 REFERENCES

- A. Standards:
 - 1. DOD Department of Defense
 - 2. LIA Lead Industries Association.
 - 3. NRCA National Roofing Contractors Association
 - 4. SMACNA Sheet Metal and Air Conditioning Contractors' National Association, 6th Edition, Architectural Sheet Metal Manual.
 - 5. SSPC The Society of Protective Coatings

1.3 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
 - 1. Shop Drawings.
 - a. Submit shop drawings showing fabrication and installation of the work of this section including plans, elevations, sections, details of components, and attachments to other units of work.
 - 2. Closeout Submittals in accordance with Specification Sections in Division One:
 - a. Warranty in accordance with Specification Section - WARRANTIES.

1.4 QUALITY ASSURANCE

- A. Qualifications:

1. Material Qualifications:
 - a. Work shall be in accordance with Standards and details set forth in latest edition of the SMACNA Manual and Specifications unless indicated otherwise.
 - b. The roofing manufacturer and installer selected for this project will select the roof flashing material and detailing for all roof penetrations compatible with the roofing system used and the warranties required. The schedule for roofing penetrations at the end of this section and the details contained within the drawings are minimum standards required for this project.
2. Installer Qualifications:
 - a. Engage an experienced Installer who has successfully completed three (3) projects of similar scope and size to that indicated for this Project.

B. Regulatory Requirements:

1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
 - a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.

1.5 PROJECT CONDITIONS

A. Existing Conditions:

1. Examine site and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.
2. Conduct work so as not to interfere unnecessarily with adjacent roads, streets, drives and walks.

1.6 WARRANTY

A. Contractor's General Warranty:

1. In accordance with Specification Section - WARRANTIES.

B. Manufacturer's Warranty:

1. In accordance with Specification Section - WARRANTIES.
 - a. Warranty Period Five (5) Years.

C. Installer's Warranty:

1. Workmanship and Materials Warranty:
 - a. Warranty Period Five (5) years.
 - b. Upon project completion and acceptance, the subcontractor shall issue Owner a warranty against defective workmanship and materials.
 - c. The subcontractor shall warranty to maintain the roof flashing in a watertight condition for the period of years specified from the date of acceptance and shall be responsible for the repair of any failure that is the result of defects in materials and workmanship.

- d. The subcontractor shall obtain from the Roofing Installer and the General Contractor a co-endorsement of the Warranty.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. These products listed herein establish the size, pattern, color range and function selected by the Architect for this Project. Manufacturers that are listed as acceptable alternative manufacturers and substitutions must still comply with the requirements of this project and the products listed in order to be approved as an equivalent during the Submittal Process. If the acceptable alternative manufacturers listed or substitutions are not approved during the Submittal Process due to non-compliance with the contract documents, then the Contractor shall submit product specified.
 1. Specified product manufacturer:
 - a. Ice and Water Shield:
 - 1) GRACE CONSTRUCTION PRODUCTS
 - a) CE and WATER SHIELD HT.
 - 2) Acceptable alternative manufacturers:
 - a) CARLISLE COATINGS & WAQTERPROOFING - CCW WIP 400.
 - b. Galvanized Repair Paint:
 - 1) RECTORSEAL.
- B. Products from other manufacturers not listed must submit in accordance with Specification Section - SUBSTITUTION PROCEDURES.

2.2 MATERIALS

- A. Sheet Metals:
 1. Steel Sheet:
 - a. Zinc-Coated, Commercial quality with 0.20 percent copper, ASTM A 653 "Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvanealed) by the Hot-Dip Process", G-90 hot-dip galvanized, mill phosphatized where indicated for painting; 0.0359 inch thick (20 gage) minimum, except as otherwise indicated.

2.3 FABRICATION

- A. Sheet Metal Fabrication Standard: Fabricate sheet metal to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated.
 1. Comply with details shown to fabricate sheet metal that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
 2. Form exposed sheet metal work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.
 3. Seams:

- a. Fabricate nonmoving seams in sheet metal with "Drive Cleat" or "Lock" seams.
4. Expansion Provisions:
 - a. Space movement joints at maximum of 10 feet (3 m) with no joints allowed within 24 inches of corner or intersection.
 - b. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
 - c. Gutter Expansion control and design, unless otherwise indicated on the drawings:
 - 1) Ends of a gutter shall occur no more than fifty (50) feet apart with at least one downspout in between, and gapped in accordance with Chapter 1, Table 1-7.
 - 2) Adjacent ends shall be telescoped or enclosed with covers in a manner to accommodate expansion as indicated in Chapter 1, Fig. 1-5 to 1-7 and 1-10.
5. Sealed Joints:
 - a. Form nonexpansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
6. Separate metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.
7. Conceal fasteners and expansion provisions where possible.
 - a. Exposed fasteners are not allowed on faces of sheet metal exposed to public view.
8. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, noncorrosive metal recommended by sheet metal manufacturer.
 - a. Size: As recommended by SMACNA manual or sheet metal manufacturer for application but never less than thickness of metal being secured.

2.4 FINISHES

- A. Shop Finishing:
 1. All exterior galvanized sheet metal, unless specified otherwise, shall have all surfaces, except surfaces receiving roofing felt, properly cleaned and prepared and then painted with one coat Galvanized Metal Primer prior to installation.
 - a. Galvanized Metal Primer: ICI 4020 "DEVGUARD", or approved equivalent.
 - b. Galvanized repair paint: High-Zinc-Dust-Content, in accordance with SSPC-Paint 20 or DOD-P-21035, with dry film containing a minimum of 94 percent zinc dust by weight paint for re-galvanizing welds and repair painting galvanized steel.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Site verification of conditions:
 1. Prior to the execution of the work under this specification section, inspect the installed work executed under other specification sections of this Project Manual which affect the execution of work under this specification section.

2. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
3. Execution of work under this specification section shall constitute acceptance of existing conditions.

3.2 PREPARATION

- A. Coordination:
 1. Coordinate work under this specification section with work specified under other sections to ensure proper and adequate interface of work.
- B. Protection:
 1. Protect all adjacent surfaces from drips, spray, air pollution of surrounding environment, and other damage from work under this specification section.
- C. Surface preparation:
 1. Prepare surface in accordance with manufacturer's written instructions and recommendations.
 2. Clean substrates of substances (oil, grease, rolling compounds, incompatible primers, loose mill scale, etc.) which could impair bond of materials specified within this section.

3.3 INSTALLATION

- A. General:
 1. In accordance with manufacturer's written instructions and recommendations unless specifically noted otherwise.
 2. In accordance with approved submittals.
 3. In accordance with Regulatory Requirements.
 4. Set plumb, level, and square.
 5. Structurally reinforce and anchor work as required.
 6. Work shall be weather and water tight as required.
 7. Where dissimilar metals come into surface contact, cover surface in contact with electrolytic insulation.
 8. Immediately following installation, and prior to roofing application, the metal will be primed with a quick drying primer compatible with roofing system installed and in compliance with roofing manufacturer's warranty requirements.
- B. Layout:
 1. Lines shall be straight and true.
 2. Field mitered joints shall be neat, true to line, and water tight.
 3. Fastening:
 - a. In accordance with approved shop drawings.
 4. Sealants:
 - a. Seal all joints with sealant.
- C. Assistance:
 1. Installation shall be in direct consultation and review of roofing system manufacturer where applicable.

3.4 CLEANING

- A. Clean in accordance with Specification Section - PROJECT CLOSEOUT.
1. Clean any soiled surfaces immediately.
 2. Finish shall be clean and ready for the application of any additional finishes.

3.5 SCHEDULES

- A. The Schedules are divided into "Architectural" Sheet Metal Items and "Utility" Sheet Metal Items:
1. Architectural Sheet Metal Items: Those items visible from the interior occupied spaces and from all exterior viewing positions. Fabrication of all Architectural Items shall provide a fully finished appearance on all visible surfaces. Fabrication shall be soldered or welded joints and ground smooth. Solid flat head riveted joints may be used if necessary, but limited in use and must be indicated on the shop drawings by the fabricator, and accepted by the Architect. The use of sheet metal screws, pop rivets, or bolts are not be permitted. All joints between section shall be uniformly gapped with a maximum of 1/16" and splice backing shall be centered on the joint.
 2. Utility Sheet Metal Items: Those items not visible from the interior occupied spaces nor from exterior viewing positions. Fabrication of all Utility Items shall be in accordance with SMACNA Standards and shop practices.
- B. Sheet Metal Schedules should be used as a guide only and it is not considered as a complete list. Refer to Drawings for locations of all conditions requiring sheet metal items.
- C. Multiple types of material are specified for various items in the Schedules. Verify with roofing manufacturer as to which material shall be used to be compatible to the roofing material provided and to satisfy roofing warranty requirements.
- D. Materials gages specified for Items in the Schedules are minimum and shall be provided unless otherwise noted on the Drawings.
- E. Schedules' Remarks / SMACNA No., 6th Edition, and are references of the standards for fabrication. Refer to Drawings for configurations and other fabrication requirements of sheet metal items.
- F. Architectural Sheet Metal Items

"ARCHITECTURAL" SHEET METAL ITEMS					
ITEM	LOCATION	MAT.	GA.	FINISH	REMARKS / SMACNA NO., 6th Edition
Parapet Cap	Parapet Walls	Steel	20	Shop	Chapter 3, similar to Fig. 3-4A or Fig. 3-4G with E-1 and E-4 edge styles, as indicated on drawings. Provide J9 "Drive Cleat" joints, typical.
Cap Coping	Parapet Walls	Steel	20	Shop	Chapter 3, similar to Fig. 3-4G with E-4 edge style, as indicated on drawings. Provide J9 "Drive Cleat" joints, typical.
Drip Flashing	Various Conditions	Steel	22	Shop	Chapter 4, minimum 4" under finish and minimum 4" cover. Provide J2 "Butt & Backup Plate" joints with 1/16" gap. Fabricate Transition pieces and End Caps.

“ARCHITECTURAL” SHEET METAL ITEMS					
ITEM	LOCATION	MAT.	GA.	FINISH	REMARKS / SMACNA NO., 6th Edition
Counter Flashing	Various Conditions	Steel	22	Shop	Chapter 4, minimum 4" under finish and minimum 4" cover with 3/4" hemmed drip. Provide J2 “Butt & Backup Plate” joints with 1/16" gap. Fabricate Transition pieces and End Caps.
Opening Heads, Jambs & Sill Flashing	Metal Frames	Steel	22	Shop	Weld and Grind smooth all joints
Opening Heads, Jambs & Sill Flashing	Aluminum Windows	Alum	0.0253	Match Aluminum Window Finish.	Seal all joints.
Opening Heads, Jambs & Sill Flashing	Storefront	Alum	0.0253	Match Storefront Finish.	Seal all joints.
Opening Heads, Jambs & Sill Flashing	Curtain Wall	Alum	0.0253	Match Curtain Wall Finish.	Seal all joints.
Wall Penetration Flashing	Exterior Wall	Steel	22	Shop	Similar to Chapter 6, Figures 6-36, 37, 38 & 39.
Scuppers	Parapet Wall	Steel	22	Shop	Chapter 1, similar to Fig. 1-26A-B or 1-30A-B.
Gutters	Exterior	Steel	18	Shop	Chapter 1, Fig. 1-1. Provide expansion joints similar to Fig. 1-7. Solder overflow and downspout outlets.
Conductor Head	Exterior	Steel	18	Shop	Chapter 1, similar to Fig. 1-25. Solder downspout outlet.
Down Spouts	Exterior	Steel	18	Shop	Chapter 1, similar to Fig. 1-31, 1-32A or B. Provide Fig. 1-35B or J hangers.
Fascia Panels	Exterior	Steel	18	Shop	Weld and grind smooth all joints.
Color Band Panels	Exterior	Steel	18	Shop	Weld and grind smooth all joints.
Serving Counter	Serving Counter	S.S.	16	#4	Weld and Grind smooth all joints
Work Counter	Work Counter	Steel	16	Shop	Weld and Grind smooth all joints
Fabricated Tilt Mirror	Student Restrooms	S.S.	16	#4	Weld and grind smooth all joints.

G. Utility Sheet Metal Items

"UTILITY" SHEET METAL ITEMS					
ITEM	LOCATION	MAT.	GA.	FINISH	REMARKS / SMACNA NO. , 6th Edition
Clips & Cleats	Various Conditions	Steel	22	Shop	
Parapet Boot Flashing	Parapet Cap & Cap Coping	Steel	18	Shop	Solder all joints. Minimum 4" under finish and min. 4" cover.
Counter Flashing	Various Conditions	Steel	22	Shop	Minimum 4" under finish and min. 4" cover with 3/4" hemmed drip. Provide J2 "Butt & Backup Plate" joints with 1/16" gap. Fabricate Transition pieces and End Caps.
Reglet & Counter Flashing	Plaster Parapets	Steel	24	Shop	FRY Spring Lock Type "ST" with "Spring-Loc" Flashing. Preformed transition pieces and end caps.
Reglet & Counter Flashing	Plaster Parapets	Steel	24	Shop	FRY Spring Lock Type "STX" with "Spring-Loc" Flashing. Preformed transition pieces and end caps.
Reglet & Counter Flashing	Masonry Parapet	Steel	24	Shop	FRY Spring Lock Type "MA" with "Spring-Loc" Flashing. Preformed transition pieces and end caps.
Reglet & Counter Flashing	Masonry Parapet	Steel	24	Shop	FRY Spring Lock Type "SM" with "Spring-Loc" Flashing. Preformed transition pieces and end caps.
Structural Support Flashing	Roof Penetration	Steel	18	Shop	Chapter 4, Similar to Figures 16A or B or C if welded or soldered, and grind smooth.
Vent Pipe Flashing	Roof Penetration	Lead or Steel	4#/sf or 22	Shop	Chapter 4, Fig. 4-15B.
Pipe or Conduit Flashing	Roof Penetration	Lead or Steel	4#/sf or 22	Shop	Chapter 4, similar to Figure 4-15C.
Multiple Pipe or Conduit Flashing	Roof Penetration	Lead or Steel	4#/sf or 22	Shop Or Shop	Chapter 4, similar to Figure 4-15A or 4-15B.
Insulated Pipe Flashing	Roof Penetration	Lead or Steel	4#/sf or 22	Shop	Chapter 4, Similar to Fig. 4-15C. Refer to Plumbing.
Mechanical Flue Pipe Flashing	Roof Penetration	Lead or Steel	4#/sf or 22	Shop	Chapter 4, Similar to Fig. 4-15C. Refer to Plumbing.
Manufactured Curb Flashing	Roof Penetration	Steel.	22	Shop	Provide formed metal corners lapped 6" with sheet metal screws with neoprene washers at 18" o.c.
Hatch Flashing	Roof Penetration	Steel.	22	Shop	Provide formed metal corners lapped 6" with sheet metal screws with neoprene washers at 18" o.c.
Ventilating Units Flashing	Roof Penetration	Steel.	22	Shop	Provide formed metal corners lapped 6" with sheet metal screws with neoprene washers at 18" o.c.
Scuppers	Parapet Screens	Steel.	22	Shop	Chapter 1, similar to Fig. 1-26A-B or 1-30A-B.
Roof Splash Pans	Roof	Steel.	22	Shop	Chapter 1, Fig. 1-36, 2-rib corrugation section..

"UTILITY" SHEET METAL ITEMS					
ITEM	LOCATION	MAT.	GA.	FINISH	REMARKS / SMACNA NO. , 6th Edition
Valley Flashing	Metal Panel Roof	Steel.	22	Shop	Chapter 6, Similar to Fig. 6-6 or Fig. 1-21 or Fig. 1-23, Detail 10, or Fig. 6-9, Detail 7 and Chapter 4, Fig. 4-10.
Built-in Gutter	Metal Panel Roof	S.S.	16	Shop	Chapter 1, similar to Fig. 1-4 or Fig. 1-21 or Fig. 1-23. Provide expansion joint similar to Fig. 1-8. Weld and grind smooth all joints.
Louver Screens	Louvered Openings	Steel.	14	Shop	Chapter 7, Fig. 7-7A or B. Provide 12 gage (0.105) 3 x 3 welded wire mesh.
Plumbing Sheet Metal	Various Plumbing Conditions	Steel.	22	Shop	Refer to Plumbing Drawings and Specifications.
Mechanical Sheet Metal	Various Mechanical Conditions	Steel.	22	Shop	Refer to Mechanical Drawings and Specifications.
Electrical Sheet Metal	Various Electrical Conditions	Steel.	22	Shop	Refer to Electrical Drawings and Specifications.
Roof and Overflow Drain Pans	Roof	Lead	#4	Shop	See Details.
Mechanical, Large Flue Flashing	Roof Penetration	Steel	22	Shop	Chapter 4, Detail 4-14A.

END OF SECTION

SECTION 092216 – METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provide all material, labor, equipment and services necessary to completely install all metal framing materials (both Cold-Formed Framing and Lightgage Metal Framing), accessories and other related items necessary to complete the Project as indicated by the Contract Documents.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. 03 15 14 DRILLED ANCHORS
 - 4. 03 30 00 CAST-IN-PLACE CONCRETE
 - 5. 05 12 00 STEEL AND FABRICATIONS
 - 6. 07 60 00 SHEET METAL
 - 7. 10 05 00 MISCELLANEOUS SPECIALTIES
 - 8. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.

1.2 REFERENCES

- A. In accordance with the following:
 - 1. AISI American Iron and Steel Institute
 - 2. ASTM American Society for Testing Materials
 - 3. AWS American Welding Society
 - 4. ICC International Code Council.

1.3 DEFINITIONS

- A. Minimum Uncoated Steel Thickness: Minimum uncoated thickness of metal framing delivered to the Project site shall be not less than 95 percent of the thickness used in the metal framing design. Lesser thicknesses shall be permitted at bends due to cold forming.

SYSTEM DESCRIPTION

1.4

- A. Performance Requirements: It is the intention of this section and the drawings to form a guide for a complete framing system. Any items not specifically noted but necessary for a complete framing system shall be provided under this section.
 - 1. Wall systems shall accommodate tolerances, deflection of building structural members, and clearances of intended openings.

2. Fire-Test-Response Characteristics: Where indicated, provide metal framing materials and construction identical to that of assemblies tested for fire resistance.
 - a. Per ASTM E 119 "Test methods for Fire Tests of Building Construction and Materials" by a testing and inspecting agency acceptable to Authorities Having Jurisdiction (AHJ), products used in the assembly shall carry a classification label from a testing laboratory acceptable to the AHJ.

1.5 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
 1. Product Data: For each type of product indicated.
 - a. Materials list of items proposed to be provided under this section.
 2. Quality Assurance/Control Submittals:
 - a. Test Reports:
 - 1) Current ICC ES Report.
 - 2) Welding inspection report per List.
 - b. Certificates:
 - 1) Welding certificates indicating qualifications.
 - 2) Mill certificates, per ICC AC46 "Acceptance Criteria for Cold-Formed Steel Framing Members", indicating steel sheet complies with requirements, including base-metal thickness, yield strength, tensile strength, total elongation, and metallic-coating thickness. Comply also with CBC Section 2203A.1.
 - c. Manufacturer's Written Instructions:
 - 1) Manufacturer's written recommended installation procedures shall become the basis for accepting or rejecting actual installation procedures on the work.
 3. Closeout Submittals in accordance with the following:
 - a. Warranty in accordance with Specification Section –WARRANTIES.

1.6 QUALITY ASSURANCE

- A. Qualifications:
 1. Material Qualifications:
 - a. Galvanized and carbon sheet steel products formed from steel with a minimum yield stress of 33 ksi for 18 gage and lighter member and 50 ksi for 16 gage and heavier members.
 - b. All products shall be engineered to meet the latest Edition of the American Iron and Steel Institute (AISI), "North American Specification for the Design of Metal Steel Structural Members".
 - c. All products manufactured shall comply with the CBC and AISI, and shall have a current ICC Evaluation Service Report (ICC ESR).
 - 1) AISI "Code of Standard Practice for Cold-Formed Steel Structural Framing".
 2. Installer Qualifications:
 - a. Engage an experienced Installer who has successfully completed three (3) projects of similar scope and size to that indicated for this Project.
 - b. Welders shall be qualified for welding in horizontal, vertical, and overhead positions in accordance with AWS D1.3.

3. Manufacturer/Supplier Qualifications:
 - a. Firm experienced in successfully producing/supplying products similar to that indicated for this Project, with sufficient production/supply capacity to produce/supply required units without causing delay in the work.
 - B. Regulatory Requirements:
 1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:
 - a. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.
 - C. Meetings:
 1. Pre-Installation: Scheduled by the Contractor prior to the start of work.
 - a. Coordinate the work with other work being performed.
 - b. Identify any potential problems that may impede planned progress and proper installation of work regarding quality of installation and warranty requirements.
 2. Progress: Scheduled by the Contractor during the performance of the work.
 - a. Review for proper installation of work progress.
 - b. Identify any installation problems and acceptable corrective measures.
 - c. Identify any measures to maintain or regain project schedule if necessary.
 3. Completion: Scheduled by the Contractor upon proper completion of the work.
 - a. Inspect and identify any problems that may impede issuance of warranties or guaranties.
 - b. Maintaining installed work until the Notice of Substantial Completion has been executed.
- 1.7 DELIVERY, STORAGE, AND HANDLING
- A. General: Steel Framing and related accessories shall be stored and handled in accordance with AISI "Code of Standard Practice for Cold-Formed Steel Structural Members".
 - B. Packing, shipping, handling, and unloading:
 1. Products shall be handled in such a manner as to assure that they are free from corrosion, deformation, dents, scratches and other damage.
 - C. Acceptance at Site:
 1. Products must be in manufacturer's original unopened bundles and containers with labels indicating brand name, size, and grade.
 2. Damaged products will not be accepted.
 - D. Storage and protection:
 1. Metal Framing and related accessories shall be stored and handled in accordance with the AISI "Code of Standard Practice".
 2. Products shall be stored above ground on level platforms, six (6) inches above ground, allowing air circulation under stacked units.
 - a. Cover materials with protective waterproof covering providing for adequate air circulation and ventilation.

1.8 PROJECT CONDITIONS

A. Existing Conditions:

1. Examine project and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.
2. Field Measurements: Take and be responsible for field measurements as required. Report any significant differences between field dimensions and the contract document conditions to Architect.
3. Carefully coordinate work under this Section with that of the structural framing sections and details so that the interface between structural framing and non structural framing shall provide the lines and degree of finish shown and specified.

1.9 Describe special or extended warranty or bonds covering the conformance and performance of the work of the section. Coordinate with Contracting Requirements. Do not make statements that will limit or void those provisions. Ensure that procedures complement Division 01 Closeout Submittals. Include statements specific to this section that supplement or extend warranties contained in Div 01 WarrantiesWARRANTY

A. Contractor's General Warranty:

1. In accordance with Specification Section - WARRANTIES.

B. Manufacturer's Warranty:

1. In accordance with manufacturer's written standard warranty:
 - a. Warranty Period One (1) Year.

C. Installer's Warranty:

1. In accordance with the terms of the Specification Section - WARRANTIES:
 - a. Warranty period One (1) Year.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. These products listed herein establish the size, pattern, color range and function selected by the Architect for this Project. Manufacturers that are listed as acceptable alternative manufacturers and substitutions must still comply with the requirements of this project and the products listed in order to be approved as an equivalent during the Submittal Process. If the acceptable alternative manufacturers listed or substitutions are not approved during the Submittal Process due to non-compliance with the contract documents, then the Contractor shall submit product specified.
 1. Studs, Tracks, Ceiling Joists, Channels and Steel Accessories specified product manufacturer:
 - a. CLARK DIETRICH BUILDING SYSTEMS, LLC (CDBS).
 - b. Acceptable alternative manufacturers:

- 1) CEMCO.
 - 2) STUDCO.
 2. Slotted Deflection Track and Vertical Deflection Clip accessories specified product manufacturer, unless otherwise noted:
 - a. CLARK DIETRICH BUILDING SYSTEMS, LLC (CDBS).
 - b. Acceptable alternative manufacturers:
 - 1) CEMCO.
 - 2) STUDCO.
 3. Flat Strap and Backing Plate:
 - a. CLARK DIETRICH BUILDING SYSTEMS, LLC (CDBS):
 - b. Acceptable alternative manufacturers:
 - 1) CEMCO.
 - 2) STUDCO.
 4. Channel Bridging or Bracing:
 - a. CLARK DIETRICH BUILDING SYSTEMS, LLC (CDBS):
 - b. Acceptable alternative manufacturers:
 - 1) CEMCO.
 - 2) STUDCO.
 5. Metal screw specified product manufacturer:
 - a. GRABBER CONSTRUCTION PRODUCTS.
- B. Products from other manufacturers not listed must submit in accordance with Specification Section - SUBSTITUTION PROCEDURES.

2.2 MATERIALS

- A. Steel Sheet:
1. Steel sheet for 16 gage and heavier shall comply with ASTM A 1003 "Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members", structural steel classification, Grade 50 ksi, Class 1 or 2.
 2. Steel sheet for 18 gage and lighter shall comply with ASTM A 1003 "Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members", structural steel classification, Grade 33 ksi, Class 1 or 2.
 3. When hot-rolled steel sheet and strip is used in fabrication of metal members they shall comply with ASTM A1011 "Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength", structural steel classification, Grade 50 ksi.
- B. Coating:
1. Steel sheet shall be galvanized in accordance with ASTM A 1003 "Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members", G60 minimum and comply with ASTM A 924 "Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process".
 - a. Vertical Deflection Clips shall be in accordance with ASTM A 1003 "Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members", G90 minimum and ASTM A 924 "Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process".
 2. When hot-rolled steel sheet and strip is used in fabrication of metal members, hot-dip galvanize coating shall be in accordance with ASTM A 123 "Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products".

C. Thickness:

Reference Gage	Mils	Minimum Base-Metal Thickness (inch)	Minimum Design Thickness (inch)
20	33	0.0329	0.0346
18	43	0.0428	0.0451
16	54	0.0538	0.0566
14	68	0.0677	0.0713
12	97	0.0966	0.1017
10	118	0.1180	0.1240

2.3 COMPONENTS

- A. Studs: Manufacturer's standard C-shaped steel studs, punched, with stiffened flanges, complying with ASTM C 645 "Specification for Nonstructural Steel Framing Members".
- B. Track: Manufacturer's standard U-shaped steel track, unpunched, with unstiffened flanges, complying with ASTM C 645 "Specification for Nonstructural Steel Framing Members".
 - 1. Slotted Deflection Track: Manufacturer's single, 20 gage minimum, deep-leg, U-shaped steel track; unpunched, with unstiffened flanges with vertical slotted holes, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal and lateral loads.
 - a. Product, or approved equivalent, must be approved by AHJ.
 - b. Slotted Deflection Track must be rated for both 1 and 2 hour "T" and "F" Fire-Rated Assemblies.
 - 2. Double Deflection Tracks: Manufacturer's double, deep-leg, U-shaped steel tracks, consisting of nested inner and outer tracks; unpunched, with unstiffened flanges.
 - a. Outer Track: Of web depth to allow free vertical movement of inner track, with flanges designed to support horizontal and lateral loads.
- C. Flat Strap and Backing Plate: Galvanized Steel Sheet for blocking and bracing in length and width required.
 - 1. Standard Backing shall be 16 gage minimum and continuous. Notch backing at studs.
- D. Channel Bridging or Bracing:
 - 1. U-Channel Assembly per ASTM C 645 "Specification for Nonstructural Steel Framing Members", Base Metal Thickness of 0.0538 inch and minimum 1/2 inch wide flanges.
- E. Steel Accessories: Fabricate Backing, Bridging, Clip Angles, Strap and Shapes in configurations shown and in compliance with ASTM C 645 "Specification for Nonstructural Steel Framing Members".
 - 1. Standard Backing shall be 16 gage minimum and continuous. Notch backing at studs.

2.4 ACCESSORIES

- A. Fasteners:

1. Metal Screws: Provide corrosion-resistant-coated, self-drilling or self-tapping steel screws complying with ASTM C 1513 "Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections" and ICC ESR 2196 "HILTI Self-Drilling and Self-Piercing Screws".
 - a. Provide low profile "Truss Head" framing screws so that subsequent substrates lay flat over fasteners.
 2. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 10 times design load, as determined by testing per ASTM E 1190 "Test Methods for Strength of Power-Actuated Fasteners Installed in Structural Members" conducted by a qualified independent testing agency.
 3. Expansion Anchors: Refer to Specification Section – DRILLED ANCHORS.
- B. Welding Electrodes: Comply with AWS Standards.
- C. Galvanized Repair Paint: Provide product complying with ASTM A 780 "Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings".
- D. Drypack Grout: Refer to Specification Section – CAST-IN-PLACE CONCRETE.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Site verification of conditions:
1. Prior to the execution of the work under this specification section, inspect the installed work executed under other sections of this Project Manual which affect the execution of work under this specification section.
 2. Before sprayed fire-resistive materials are applied, attach continuous angles, supplementary framing, or tracks to structural members indicated to receive sprayed fire-resistive materials.
 3. Carefully coordinate all requirements for pipes and other items designed to be housed within the partition, wall or ceiling systems.
 4. Carefully coordinate all requirements for backing support of items to be mounted on finished walls.
 5. Space metal framing as required for compliance with all pertinent regulations, to give proper support for the facing material, and as indicated on the Drawings.

3.2 PREPARATION

- A. Protection:
1. Protect all adjacent surfaces from damage from work under this specification section.
 2. Remove any fireproofing only as much of these materials as needed to complete installation of metal framing without reducing thickness of fire-resistive materials below that are required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.
- B. Surface preparation:

1. Prepare surface in accordance with manufacturer's written instructions and recommendations.
2. Clean substrates of substances (oil, grease, rolling compounds, incompatible primers, loose mill scale, etc.) which could impair bond of materials specified within this section.
3. Grout bearing surfaces uniform and level to ensure full contact of bearing flanges or track webs on supporting concrete or masonry construction.

3.3 INSTALLATION

A. General:

1. In accordance with drawings and manufacturer's written instructions and recommendations, and procedures described in ASTM C 754 "Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products".
2. In accordance with approved submittals.
3. In accordance with Regulatory Requirements.
4. Set plumb, level, and square.
5. Metal Framing may be shop or field fabricated for installation, or it may be field assembled.

B. Layout:

1. Lines shall be straight and true.
2. Install Metal Framing according to ASTM C 754 "Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products", unless more stringent requirements are indicated.

C. Installation:

1. Install shop or field fabricated, Metal Framing and securely anchor to supporting structure.
 - a. Bolt or weld wall panels at horizontal and vertical junctures to produce flush, even, true-to-line joints with maximum variation in plane and true position between fabricated panels not exceeding 1/16 inch in ten (10) feet.
2. Install Metal Framing and accessories plumb, square, and true to line, and with connections securely fastened, according to manufacturer's written recommendations and requirements of the Contract Documents.
 - a. Cut framing members by sawing or shearing; do not torch cut.
 - b. Fasten Metal Framing members by welding or screw fastening. Wire tying of framing members is not permitted.
 - 1) Comply with AWS D1.3 requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
 - 2) Locate mechanical fasteners and install, with screw penetrating joined members by not less than three exposed screw threads.
 - 3) Beneath sheathing provide low-profile screw heads (i.e. "Wafer Head").
 - 4) Fasten both flanges of studs to track, unless otherwise indicated.
3. Install framing members in one-piece lengths, unless splice connections are indicated for track or tension members.
4. Punched openings in studs must align when placed in final position.

5. Install temporary bracing and supports to secure framing and support loads comparable in intensity to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.
6. Install horizontal bridging in wall studs, spaced in rows as indicated on the drawings. Fasten at each stud intersection.
7. Do not bridge building expansion and control joints with Metal Framing. Independently frame both sides of joints.
8. Install insulation in built-up exterior framing members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work.
9. Fasten hole reinforcing plate over web penetrations that exceed size of manufacturer's standard punched openings.
10. Erection Tolerances: Install Metal Framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:
 - a. Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
11. At all sound partitions, set floor runners in two 1/4 inch diameter continuous beads of acoustical sealant as prescribed in Specification Section - SEALANTS.
12. At all smoke barrier partitions, set floor and ceiling runners in two 1/4 inch diameter continuous beads of Class II Flame Spread and Smoke Developed rated acoustical sealant as prescribed in Specification Section - SEALANTS.
13. Install supplementary backing and bracing wherever walls or partitions are indicated to support equipment, services, casework, heavy trim and furnishings, and similar work requiring attachment to wall or partition. Comply with stud manufacturer's written instructions and industry standards.
14. Frame wall openings larger than 2-foot square with double stud at each jamb.
15. Install continuous strapping to side of studs that do not receive sheathing at 3'-6" o.c. vertically.

3.4 REPAIR / RESTORATION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed Metal Framing with galvanized repair paint and manufacturer's written instructions.
- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, that ensure Metal Framing is without damage or deterioration at time of Substantial Completion.

FIELD QUALITY CONTROL

3.5

Site Tests:

- A.
 1. As required by Regulatory Requirements.
- B. Inspection:
 1. As required by Regulatory Requirements.
 2. Schedule inspections and notify the Architect, Project Inspector and any other regulatory agencies of the time at least 48 hours prior to the inspection.

3. Project Inspector shall verify that all stud cavity walls are free of moisture and dry prior to any other construction that encloses the wall cavity.

END OF SECTION

SECTION 099100 - PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
1. Provide all material, labor, equipment and services necessary to furnish and install Painting, accessories and other related items necessary to complete the Project as indicated by the Contract Documents unless specifically excluded.
 - a. Material and Equipment to be Painted: Paint all piping, unwrapped ductwork, electric conduits where exposed to view. Prime and paint all exposed, factory finished, mechanical and electrical equipment and accessories which, are exposed to view on the exterior and/or in the interior of buildings except as specifically excluded.
 - b. Material and Equipment not to be Painted: Do not paint piping, ductwork, equipment and machinery located in attic spaces, above furred or suspended ceilings, in furred pipe or duct spaces. Do not paint factory finished equipment or machinery located in mechanical rooms or mechanical buildings, attics (unless specifically scheduled), furred or suspended ceilings.
- B. Related Sections: The following Project Manual Sections contain requirements that relate to this section:
1. DIVISION 00 SPECIFICATION SECTIONS.
 2. DIVISION 01 SPECIFICATION SECTIONS.
 3. 05 12 00 STEEL AND FABRICATIONS
 4. 07 60 00 SHEET METAL (Shop Priming)
 5. 10 05 00 MISCELLANEOUS SPECIALTIES
 6. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.

1.2 REFERENCES

- A. Standards:
1. In accordance with the following standards:
 - a. CA-CHPS - California High Performance Schools
 - 1) 2011-CA-CHPS Addendum.
 - b. MPI Master Painters Institute (MPI - Architectural Painting Specification Manual, MPI – Maintenance Repainting Manual, and the MPI – Glossary, and all recent amendments).
 - c. PDCA Painting and Decorating Contractors of America, latest edition of the Architectural Specification Manual, as prepared by Specification Services, Inc., Washington State Council of the PDCA.

1.3 DEFINITIONS

- A. The following definitions are just some of the more important definitions used within this section, and were taken from the MPI Glossary Manual, or used to simplify language used by the Architect. These definitions and others stated within the Manual apply for this Specification Section.
1. Acrylic Latex An aqueous dispersion of acrylic resins.
 2. Acrylic Resin A/R - Synthetic resins made by polymerizing esters of acrylic acid.
 3. A/U Aliphatic Urethane
 4. A/A/U Aliphatic Acrylic Urethane
 5. Blocking Sticking or bonding together of two painted surfaces that are in direct contact. Most often caused by stacking painted articles before dry or reaching a "block free" (or "non-blocking") stage.
 6. DFT Dry Film Thickness – the depth or thickness of a coating in the dry state. Expressed in mils (1/1000 inch) or microns.
 7. DRY FALL A Fog Paint designed to be applied by spray and dries fast enough that the overspray will be a dry powder after falling a certain distance. The dust can then be swept or vacuumed up.
 8. ODFT "Overall Dry Film Thickness" – the depth or thickness of a complete coating system in the dry state. Expressed in mils (1/1000 inch) or microns.

1.4 SUBMITTALS

- A. Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:
1. Product Data.
 - a. Submit manufacturer's full color range (including any standard, premium and custom colors) for selection by the Architect.
 - b. Material Safety Data Sheets will be turned over to the Owner in compliance with local rules and regulations, but will not be reviewed.
 - c. Materials Lists:
 - 1) Format in accordance with Article in this section titled "Paint Finish Schedule".
 - d. Additional submittals to substantiate proposed equivalent systems.
 2. Samples.
 - a. Brushouts: In accordance with Specification Section - SUBMITTAL PROCEDURES.
 - b. For each color and finish selected provide paint brushouts showing color tint graduation of each coat to and including the final color coat.
 - 1) Selected colors and finishes:
 - a) Size: 8 1/2" x 11" boards.
 - b) Quantity: 3 boards of each color and finish.
 - c) Board material wherever possible and for transparent finishes shall be same as material to be finished. Opaque finishes may be on heavy card stock.
 3. Closeout Submittals in accordance with the following:
 - a. Maintenance Data in accordance with Specification Section - PROJECT CLOSEOUT.

- b. Project Documents in accordance with Specification Section - PROJECT DOCUMENTS.
- c. Warranty in accordance with Specification Section - WARRANTIES.

1.5 QUALITY ASSURANCE

A. Qualifications:

1. Material Qualifications:

- a. Where possible (except for specified materials), paint materials shall be products of only one manufacturer.
- b. All materials, preparation and workmanship shall conform to requirements of the specified edition of the Architectural Painting Specification Manual by the Master Painters Institute (hereafter referred to as the MPI Painting Manual), unless otherwise indicated.
- c. Flame Spread Ratings in accordance with ASTM E 84 "Standard Test Method for Surface Burning Characteristics of Building Materials":
 - 1) Paint finishes in required exit stairways, corridors and exitways must meet flame spread ratings as required by regulatory agencies.
 - 2) Class A - Tunnel Test 0-25 for enclosed required exit stairways and other exit ways.
 - 3) No interior paint or wall finish will be permitted having a tunnel test in excess of 200. All paint materials must be certified that materials meet these requirements.
- d. Manufacturer's Written Instructions - One for the Architect, Contractor and the Owner:
 - 1) Submit three (3) copies of manufacturer's written instructions.
- e. Compatibility:
 - 1) Paint materials and equipment shall be compatible in use.
 - 2) Finish coats shall be compatible with prime coat.
 - 3) Prime coats shall be compatible with surface to be coated.
 - 4) Tools and materials shall be compatible with coating to be applied.
- f. Air Quality:
 - 1) Paint materials and equipment used for application will comply with CARB Air Quality Control Standards in effect at the Project Site and at the time of application.

2. Installer Qualifications:

- a. Engage an experienced Installer who has successfully completed three (3) projects of similar scope and size to that indicated for this Project.
 - 1) Only qualified journeypersons, as defined by local jurisdiction, shall be engaged in painting and decorating work. Apprentices may be employed provided they work under the direct supervision of a qualified journeyperson in accordance with trade regulations.

3. Manufacturer/Supplier Qualifications:

- a. Firm experienced in successfully producing/supplying products similar to that indicated for this Project, with sufficient production/supply capacity to produce/supply required units without causing delay in the work.

B. Regulatory Requirements:

- 1. In accordance with Specification Section - REGULATORY REQUIREMENTS, and the following:

- a. CAL/OSHA California/Occupational Safety and Health Act
 - b. CARB Materials and equipment used for this Project shall comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA), in the area where the project is located.
 - c. CBC California Building Code (CBC 803.1.1)
- C. Mockups: Provide a full-coat benchmark finish sample for each type of coating and substrate required for Architect's review. Duplicate finish of approved sample Submittals.
 - 1. Wall Finishes shall be at least 100 sq. ft., suitably marked "MOCKUPS" and protected for the duration of the construction Project.
 - 2. Small areas and items can be selected by the Contractor, suitably marked "MOCKUPS" and protected for the duration of the construction Project.
 - 3. Apply benchmark samples, according to requirements for the completed Work, after permanent lighting and other environmental services have been activated. Provide required sheen, color, and texture on each surface.
 - 4. Approved mockups (wall areas and small areas or items) may become part of the completed Work if undisturbed at time of Substantial Completion.
- D. Meetings:
 - 1. Pre-Installation: Scheduled by the Contractor prior to the start of work.
 - a. Coordinate the work with all other related work.
 - b. Identify any potential problems that may impede planned progress and proper installation of work regarding quality of installation and warranty requirements.
 - 2. Progress: Scheduled by the Contractor during the performance of the work.
 - a. Review for proper installation of work progress.
 - b. Identify any installation problems and acceptable corrective measures.
 - c. Identify any measures to maintain or regain project schedule if necessary.
 - 3. Completion: Scheduled by the Contractor upon proper completion of the work.
 - a. Inspect and identify any problems that may impede issuance of warranties and guaranties.
 - b. Maintain installed work until the Notice of Substantial Completion has been executed.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Acceptance at Site:
 - 1. Products must be in manufacturer's original unopened containers with labels indicating brand name, model, and grade.
 - 2. Damaged products will not be accepted.
- B. Storage and protection:
 - 1. Products shall be stored above ground on level platforms, six (6) inches above ground, allowing air circulation under stacked units, in a locked, clean and neat, well ventilated area.
 - a. All receiving, opening and mixing shall be done in this area.
 - b. Oily rags and waste shall be removed from area each night and all other precautions shall be taken to avoid danger of fire.
 - c. Empty containers shall not be removed from site, unless otherwise approved by the Architect.

- d. Cover materials with protective waterproof covering providing for adequate air circulation and ventilation.

1.7 PROJECT CONDITIONS

A. Environmental requirements:

1. Rain or Fog:
 - a. No work under this section shall be started or maintained under threat of rain.
 - b. Surfaces shall be painted only when they are free from moisture.
 - c. No painting of exterior surfaces shall be done less than 72 hours of actual drying weather after a rain or during periods of dew or fog.
 - d. Perform no painting or decorating work when the maximum moisture content of the substrate exceeds:
 - 1) 12 percent for concrete and masonry (clay and concrete brick / block).
 - 2) 15 percent for wood.
 - 3) 12 percent for plaster and gypsum board.
 - e. Perform no painting or decorating work when the relative humidity is above 85 percent or when the dew point is less than 5 degrees F variance between the air / substrate temperature.
2. Temperature: No painting shall be done when ambient air and substrate temperatures are below 50 degrees F for both interior and exterior work.
3. Alkalinity: An alkali level of between 7.0 and 8.5 pH is suitable for painting. Any reading above that level, then the surface shall be neutralized as required for the surface to be painted.
 - a. Methods shall be consistent with MPI - Architectural Painting Specification Manual, and shall not result in any adverse condition causing inadequate adhesion, improper curing and drying, or durability of paint system.
4. No exterior painting shall be done during winds or dusty conditions.
5. Perform no exterior painting and decorating work unless environmental conditions are within MPI and paint manufacturer's requirements or until adequate weather protection is provided.
 - a. Where required to meet project schedules, suitable weatherproof covering and sufficient heating facilities shall be in place to maintain minimum ambient air and substrate temperatures for 24 hours before, during and after paint application.
6. Perform no interior painting or decorating work unless adequate continuous ventilation and sufficient heating facilities are in place to maintain minimum ambient air and substrate temperatures above minimum requirements for 24 hours before, during and after paint application.
 - a. Where required to meet project schedules, provide supplemental ventilating and heating equipment if ventilation and heating from existing system is inadequate to meet minimum requirements.

B. Existing Conditions:

1. Examine site and compare it with the drawings and specifications. Thoroughly investigate and verify conditions under which the work is to be performed. No allowance will be made for extra work resulting from negligence or failure to be acquainted with all available information concerning conditions necessary to estimate the difficulty or cost of the work.
2. Concrete and masonry surfaces shall be installed at least 28 days prior to painting and decorating work and shall be visually dry on both sides.

3. Conduct all moisture tests using a properly calibrated electronic Moisture Meter, except test concrete floors for moisture using a simple cover patch test.
4. Test concrete, masonry and plaster surfaces for alkalinity as required.
5. Contractor shall provide a minimum lighting level of 323 Lux (30 foot candles) on surfaces to be painted or decorated.

1.8 WARRANTY

A. Contractor's General Warranty:

1. In accordance with Specification Section - WARRANTIES.
 - a. Original adherence of all materials and no evidence of any surface defect shall be maintained during warranty period.
 - b. Color at end of warranty period shall remain free from serious fading and any discernible variations shall be uniform.

B. Manufacturer's Warranty:

1. In accordance with manufacturer's written standard warranty:
2. Provide Paint Manufacturer's special ten (10) year Material Warranty co-endorsed by the installer for exterior paint application of cement plaster surfaces.
 - a. Warranty period Ten (10) Years.
3. Provide Water-Repellant Manufacturer's special Weatherproofing Warranty co-endorsed by the installer for exterior sealer application of concrete or concrete block surfaces.
 - a. Warranty period Ten (10) Years.

C. Installer's Warranty:

1. Paint Installer's Warranty:
 - a. Installer will certify that a Paint Manufacturer's Representative tested the substrate according to Paint Manufacturer's standard procedures and have submitted project information and test patch forms.
 - b. Installer shall certify that Paint Manufacturer's products were installed on the structure in accordance with manufacturer's specification requirements.
 - c. Installer further agrees that if installer fails to fulfill their obligation under this certification statement within 30 days notice of the complaint, Paint Manufacturer may proceed with the investigation and repairs and shall pay the entire material cost, providing it wasn't the installer's responsibility.
2. Water-Repellant Installer's Warranty:
 - a. Warranty period Two (2) Years.
 - b. Installer will certify that a Water-Repellant Manufacturer's Representative tested the substrate according to Water-Repellant Manufacturer's standard procedures and have submitted project information and test patch forms.
 - c. Installer shall certify that Water-Repellant Manufacturer's products were installed on the structure in accordance with manufacturer's specification requirements.
 - d. Installer agrees:
 - 1) Investigate all complaints of leakage and/or water absorption on surfaces to which Water-Repellant Manufacturer's weatherproofing products were applied and provide a written report of the cause to Water-Repellant Manufacturer within thirty (30) days of the complaint.

- 2) Re-apply Water-Repellant Manufacturer's weatherproofing products according to Water-Repellant Manufacturer's standard procedures at installer's cost for labor and material if the leakage and/or water absorption is due to improper surface preparation, application and/or improper use of material.
 - 3) Request authority from Water-Repellant Manufacturer to re-apply Water-Repellant Manufacturer's weatherproofing products at Water-Repellant Manufacturer's expense to areas, which were not rendered hydrophobic due to imperfect weatherproofing materials.
- e. Installer further agrees that if installer fails to fulfill their obligation under this certification statement within 30 days notice of the complaint, Water-Repellant Manufacturer may proceed with the investigation and repairs and shall pay the entire cost, providing it wasn't the installer's responsibility.

1.9 MAINTENANCE

A. Extra Materials:

1. Quantity: 10 percent of quantity needed to paint Project, but not to exceed one gallon, of each type and color of finish coat used.
2. Identification: At project completion, provide an itemized list complete with manufacturer, paint type and color coding for all colors used, and locations within the Project for Owner's later use in maintenance.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products specified are from companies listed below, or approved equivalent. These products listed herein establish the size, pattern, color range and function selected by the Architect for this Project. Manufacturers listed as acceptable alternative manufacturers must still comply with the requirements of the products listed in order to be approved as an equivalent during the Submittal Process. If the acceptable alternative manufacturers listed are not approved during the Submittal Process due to non-compliance with the written documents, then the Contractor shall submit product specified.

1. Specified paint coating product manufacturer, or approved equivalent:
 - a. PPG PAINTS (formerly AKZO NOBEL, makers of GLIDDEN PROFESSIONAL, or ICI DULUX PAINTS).
 - 1) Composed of the following companies: AMERITONE PAINT, DECRATREND, DEVOE COATINGS, DEVOE PAINT, FLOOD WOOD CARE, FULLER O'BRIEN, GLIDDEN, and SINCLAIR PAINT.
 - b. Also specified: GEMINI and MONOPOLE.
 - c. Acceptable alternative manufacturers:
 - 1) DUNN EDWARDS, FRAZEE PAINTS, KELLY MOORE PAINTS, SHERWIN WILLIAMS and VISTA PAINT. Submittals by these manufacturers, subject to specification requirements, must be in accordance with Section - SUBMITTAL PROCEDURES.
 - a) Paint material quality and systems shall be equal to numbers and systems listed in Paint Finish Schedule at the end of this section.

- b) If submitted paint numbers differ from Darden Architects, Inc. Paint Equivalency List, additionally submit explanation of difference and certification letter from the installer attesting that the different product is equal to or better than specified; i.e. equivalent or better percentage of solids, system ODFT, and VOC compliant. Paint Equivalency List published by Darden Architects, Inc. is available only for this project at written request.
 - 2. Specified water-borne Alkyltrialkoxo Silane water repellent product manufacturer, or approved equivalent:
 - a. EVONIK DEGUSSA CORPORATION.
 - 3. Specified Graffiti coating manufacturer, or approved equivalent:
 - a. Sacrificial:
 - 1) VISUAL POLLUTION TECH, INC.
 - b. Non-sacrificial:
 - 1) BASF HYDROZO.
 - 2) EVONIK DEGUSSA CORPORATION.
 - 3) THIS STUFF WORKS - TSW
- B. Products from other manufacturers not listed must submit in accordance with Specification Section - SUBSTITUTION PROCEDURES.

2.2 MATERIALS

- A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
 - 1. Shop Primers or Coil-Coated Primers: It shall be assumed that all Shop Primed or Coil-Coated primed metals do not meet the requirements for primer material and mil thickness as defined herein. As such, all Shop Primed or Coil-Coated primed metals shall be field primed as indicated in the schedule.
- B. Material Quality: Provide manufacturer's best-quality coating material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
 - 1. All materials used shall be lead and mercury free and shall have low VOC content to meet the applicable CARB standards in the area where the Project is located.
 - 2. All paint materials shall have good flowing and brushing properties and shall dry or cure free of blemishes, sags, air entrapment, etc.
 - 3. All Water-Repellant Coatings shall comply with the following:
 - a. Provide Alkyltrialkoxo Silane combination with a ratio concentration and application procedure as recommended by the manufacturer with the ability to cover in one or more applications for a ten year warranty in accordance with the following substrates:
 - 1) Thin Brick.
 - 2) Concrete.
 - 3) Concrete Masonry Units
 - 4) Split-Faced Concrete Masonry Units.
 - b. Color Clear.
 - c. Active Substance Alkyltrialkoxo Silane.

- d. Active Content 100 percent.
- e. Solvent Water.
- f. Flash Point (Concentrate) 93 degrees F.
- g. Flash Point (Mixed) 200 degrees F.
- h. Density 7.77 lbs./gallon.
- i. VOC (19:1) 50 g/liter (Maximum).
- j. VOC (9:1) 100 g/liter (Maximum).
- k. VOC (6:1) 200 g/liter (Maximum).
- 4. All Bituminous Paint:
 - a. Shall comply with Cold-Applied Asphalt-Mastic paint complying with SSPC-Paint 12 requirements, except containing no asbestos, formulated for 30-mil thickness per coat.

2.3 MIXES

- A. Mixing and Tinting:
 - 1. Unless otherwise specified herein or pre-approved, all paint shall be ready-mixed and pre-tinted at the factory. Re-mix all paint in containers prior to and during application to ensure break-up of lumps, complete dispersion of settled pigment, and color and gloss uniformity.
 - 2. Paste, powder or catalyzed paint mixes shall be mixed in strict accordance with manufacturer's written instructions.
 - 3. Where thinner is used, addition shall not exceed paint manufacturer's written recommendations.
 - 4. Do not use kerosene or any such organic solvents to thin water-based paints.
 - 5. Thin paint for spraying in strict accordance with paint manufacturer's written instructions. If directions are not on the container, obtain instructions in writing from the manufacturer and provide one copy of instructions to the Project Inspector.

2.4 FINISHES

- A. Finish Colors:
 - 1. Unless otherwise specified herein, all painting work shall be in accordance with MPI Premium Grade finish requirements as a minimum.
 - 2. Determined by Architect prior to or as work progresses.
 - a. Colors to be selected from paint manufacturer's full color systems, including standard, premium and custom colors.
 - 3. When deep or 'Ultra colors' are selected, submit to Architect proposed revision to specified system product numbers, according to manufacturer's written recommendations.
 - a. When deep or ultra colors are selected for use on walls or special color treatments such as graphics or many color changes are desired, the areas and extent of use will be clarified upon request of the Contractor.
 - 4. Gloss standards, in accordance with MPI standards, using the ASTM D 523 "Test for Specular Gloss", are as follows:

Gloss Level	Description	Units at 60 degrees	Units at 85 degrees
G1	Matte or Flat Finish	0 to 5	10 max.

Gloss Level	Description	Units at 60 degrees	Units at 85 degrees
G2	Velvet Finish	0 to 10	10 to 35
G3	Eggshell Finish	10 to 25	10 to 35
G4	Low Sheen or Satin Finish	20 to 35	35 min.
G5	Semi-Gloss Finish	35 to 70	
G6	Gloss Finish	70 to 85	
G7	High-Gloss Finish	Greater than 85	

PART 3 - EXECUTION

3.1 EXAMINATION

A. Site verification of conditions:

1. Prior to the execution of the work under this specification section, inspect the installed work executed under other sections of this Project Manual that affects the execution of work under this specification section.
 - a. Thoroughly examine (and test as required, if necessary) all conditions and surfaces to be painted and report in writing to the Contractor and the Architect any conditions or surfaces that will adversely affect the work of this section.
 - b. The Installer is responsible for verifying the compatibility of items primed by others and the finish coat or coats required by the Contract Documents. Should an incompatibility occur, the Installer (along with the manufacturer's technical representative) will recommend compatible alternatives for the Architect's approval.
2. Report unacceptable conditions to the Architect. Do not begin work until unacceptable conditions have been corrected.
3. Execution of work under this specification section shall constitute acceptance of existing conditions.

3.2 PREPARATION

A. Protection before Application:

1. Protect all adjacent surfaces from drips, spray, air pollution of surrounding environment, and other damage from work under this specification section.
2. Removal of Hardware and Miscellaneous Items:
 - a. Coordinate the work with other trades so that they remove electrical outlet and switch plates, mechanical diffusers, escutcheons, registers, surface hardware, fittings, fastenings, and the like prior to starting work under this Section.
 - b. Store during painting work. Coordinate cleaning and reinstallation after painting work is finished.
 - c. Do not use solvent or cleaning agents detrimental to permanent finishes.
 - d. Remove doors before painting to paint bottom and top edges, and then re-hang.
3. Protect adjacent surfaces against damage from painting operations. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
 - a. Protective means include: Drop cloths, shields, masking templates, etc.

- b. Exterior surfaces include: landscaping, walks, drives, adjacent building surfaces, glazing, aluminum surfaces, etc.
- c. Interior surfaces include: rating and instruction labels on doors, frames, equipment, piping, etc.

B. Surface preparation:

- 1. General:
 - a. In accordance with MPI Standards.
 - b. Surfaces to be finished shall be clean, dry and free of dirt, passivators, oils, loose paint and any other contamination that would adversely affect adhesion, protective properties or appearance of the coating.
 - c. All oil, grease, dirt or other foreign matter shall be removed by washing with a solution of cleaner and water, rinse and allow to dry.
 - d. If efflorescence, alkali or glazed surfaces exist, neutralize with acid wash followed by thorough water rinsing.
 - 1) Protect all adjacent substrates or materials that could be affected by acid washing or water rinsing. Collect all washing & rinsing residue and dispose of away from structures.
- 2. Wood Substrates - (New and Repaint Surfaces):
 - a. Interior Surfaces: MPI Interior Surface Preparation, Chapter 3, Section 3.
 - b. Exterior Surfaces: MPI Exterior Surface Preparation, Chapter 2, Section 3.
 - c. Fill holes and other imperfections with putty or plastic wood to match natural finish before and after application of prime or seal coat.
 - d. Provide necessary extra treatment over knots, pitch pockets, sappy portions and other defects to produce a proper base for painting.
 - e. Sand down raised grain or rough surfaces.
 - f. Clean surfaces free of dust, soil and other foreign material.
- 3. Gypsum Board Substrates - (New and Repaint Surfaces):
 - a. Interior Surfaces: MPI Interior Surface Preparation, Chapter 3, Section 3.
 - b. Clean surfaces of dirt, laitance, excess mortar and foreign matter.
 - c. Do all necessary minor sanding.
 - d. Fill minor cracks, scratches, holes and nail heads.
- 4. Plaster Substrates - (New and Repaint Surfaces):
 - a. Interior Surfaces: MPI Interior Surface Preparation, Chapter 3, Section 3.
 - b. Exterior Surfaces: MPI Exterior Surface Preparation, Chapter 2, Section 3.
 - c. Clean surfaces of dirt, laitance, excess mortar and foreign matter.
 - d. Neatly patch, flush and smooth, minor cracks, holes, pits and other imperfections in plaster or concrete surfaces.
- 5. Concrete Substrates - (New and Repaint Surfaces):
 - a. Interior Surfaces: MPI Interior Surface Preparation, Chapter 3, Section 3.
 - b. Exterior Surfaces: MPI Exterior Surface Preparation, Chapter 2, Section 3.
 - c. Clean surfaces of dirt, laitance, excess mortar and foreign matter.
 - d. Neatly patch, flush and smooth, minor cracks, holes, pits and other imperfections in plaster or concrete surfaces.
- 6. Metal Substrates - (New and Repaint Surfaces):
 - a. Interior Surfaces: MPI Interior Surface Preparation, Chapter 3, Section 3.
 - b. Exterior Surfaces: MPI Exterior Surface Preparation, Chapter 2, Section 3.
 - c. Shop Primed or Factory Primed Surfaces:

- 1) Shop Primed or Factory Primed Surfaces are considered "un-primed" due to their mil thicknesses provided, and common incompatibility issues with specified coating system; and are suitable only for protection during transit (shipment and storage) until incorporated into the Project.
- 2) Remove dust, oil and rust.
- 3) Sand surface lightly.
- 4) Touch up imperfections, scratches, surface damage, etc. with the appropriate primer.
- 5) Field connection welds, soldered joints, burned and abraded portions shall be spot primed with the appropriate primer.
- d. Coil-Coated Product Surfaces:
 - 1) Coil-Coated Product Surfaces are considered "un-primed" due to their mil thicknesses provided, and the common incompatibility issues with specified coating system; and are suitable only for protection during shipment and storage until incorporated into the Project.
 - 2) Remove dust, oil and rust.
 - 3) Touch up imperfections, scratches, surface damage, etc. with the appropriate primer.
 - 4) Field connection welds, burned and abraded portions shall be spot primed with the appropriate primer.
 - 5) Field apply manufacturer's written recommended primer coat over entire surface compatible with substrate finish and finish coats indicated on the paint schedule.
- e. Un-primed Surfaces:
 - 1) Remove dust, rust, mill scale, grease and foreign matter by sand blasting or wire brushing.
 - 2) Surfaces to be smooth and ready to receive coatings.
- f. Non-Ferrous Metal, Galvanized, Aluminum, and Copper Surfaces:
 - 1) Metal Etch and Solvent Clean per SSPC-SP 1 or clean with TSP or other appropriate cleaner followed by thorough water rinsing.
 - 2) Brush Blast to standards of SSPC-SP 16, or if blasting is not feasible, sand thoroughly, wipe clean and apply a test patch for the coating specified.
 - 3) Allow system to cure at least one week, then test adhesion per ASTM D 3359 "Standard Test Methods for Measuring Adhesion by Tape Test".
7. Concrete Block Surfaces - (New and Repaint Surfaces):
 - a. Interior Surfaces: MPI Interior Surface Preparation, Chapter 3, Section 3.
 - b. Exterior Surfaces: MPI Exterior Surface Preparation, Chapter 2, Section 3.
 - c. Clean and free of all dirt, dust, rust, oil and free from all foreign matter.
 - d. Test for moisture content.
 - 1) Do not coat if moisture is present.
 - 2) Concrete Blocks to be thoroughly dry and cured prior to coating.
 - e. Do not coat Masonry wall if joints are not properly pointed, has excessive mortar drippings cracked units or shows signs of excessive efflorescence.
 - 1) Notify Architect promptly through General Contractor.
 - 2) Do not coat until unsatisfactory and unacceptable Concrete Block surfaces are corrected suitable for coating.
 - f. Do not apply opaque finishes to Concrete Block with airless sprayer unless "backrolled".

3.3 APPLICATION

A. Standards:

1. In accordance with MPI Painting Manual.
2. In accordance with manufacturer's specifications.

B. Method:

1. Apply by brush, roller or spray in accordance with MPI Painting Manual and the coating manufacturer's written recommendations except where specified otherwise in Schedule of Paint Finishes.
2. Painting of doors by rollers shall only be allowed only if the applicator uses a 1/4 inch nap or less roller.

C. Coatings:

1. All coatings shall be applied without reduction except as specifically required by label directions, or required to be reduced by this Specification. In such cases, reduction shall be the minimum permitted and shall not exceed VOC limits.
2. Apply each coat evenly and allow each coat to dry prior to applying succeeding coats. Each coat to have enough consistency to conceal work to which it is applied.
 - a. Follow manufacturer's recommendations for recoat windows when using high performance coatings, epoxys, and urethanes.
3. Cut into a true line and leave smooth and clean without overlapping. Coat doors and windows in open position.
4. Sand finishes on smooth surfaces to assure proper adhesion of subsequent coats.
5. Tint each undercoat a lighter shade to facilitate identification of each coat, if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
6. Apply coating systems so as to obtain not less than the dry film mil thickness recommended by the manufacturer.
7. Sand metal work only as necessary to provide for the complete bonding of coats.
8. Project Inspector to inspect and approve each coat and operation before succeeding coats are applied.
9. Finish work to be free from runs, sags, defective application and improper workmanship.
10. Back prime all woodwork and casework coming in contact with plaster, masonry or concrete immediately upon delivery to project.
11. Post sign promptly following application of coatings.

3.4 FIELD QUALITY CONTROL

A. All surfaces, preparation and paint applications shall be inspected by the Project Inspector:

1. Painted exterior and interior surfaces shall be considered to lack uniformity and soundness if any of the following defects are apparent to the Painting Inspection by the Project Inspector:
 - a. Brush / Roller marks, streaks, laps, runs, sags, drips, heavy stippling, hiding or shadowing by inefficient application methods, skipped or missed areas, and foreign materials in paint coatings.
 - b. Evidence of poor coverage at rivet heads, plate edges, lap joints, crevices, pockets, corners and re-entrant angles.

- c. Damage due to touching before paint is sufficiently dry or any other contributory cause.
 - d. Damage due to application on moist surfaces or caused by inadequate protection from the weather.
 - e. Damage and / or contamination of paint due to blown contaminants (dust, spray paint, etc.).
- 2. Painted surfaces shall be considered unacceptable if any of the following are evident under natural lighting source for exterior surfaces and final lighting source (including daylight) for interior surfaces:
 - a. Visible defects are evident on vertical surfaces when viewed at normal viewing angles from a distance of not less than 39 inches.
 - b. Visible defects are evident on horizontal surfaces when viewed at normal viewing angles from a distance of not less than 39 inches.
 - c. Visible defects are evident on ceiling, soffit and other overhead surfaces when viewed at normal viewing angles.
 - d. When the final coat on any surface exhibits a lack of uniformity of color, sheen, texture, and hiding across full surface area.
- 3. Painted surfaces rejected by the Project Inspector shall be made good at the expense of the Contractor. Small affected areas may be touched up; large affected areas or areas without sufficient dry film thickness of paint shall be repainted. Runs, sags of damaged paint shall be removed by scraper or by sanding prior to application of paint.

3.5 CLEANING

- A. Clean in accordance with Specification Section - TEMPORARY FACILITIES AND CONTROLS and PROJECT CLOSEOUT.
 - 1. Remove all paint where spilled, splashed, splattered or sprayed as work progresses using means and materials that are not detrimental to affected surfaces.
 - 2. Keep work area free from unnecessary accumulation of tools, equipment, surplus materials and debris.
 - 3. Remove combustible rubbish materials and empty paint cans each day and safely dispose of same in accordance with requirements of authorities having jurisdiction.
 - 4. Clean equipment and dispose of wash water / solvents as well as all other cleaning and protective materials (e.g., rags, drop cloths, masking papers, etc.), paints, thinners, paint removers / strippers in accordance with the safety requirements of authorities having jurisdiction in the place where the Project is located.
 - 5. Protect and safeguard work of other trades.

3.6 PROTECTION

- A. Protection from Weather:
 - 1. Protect newly installed work from moisture for a period of time as recommended by the manufacturer after application.
- B. Protection from Traffic:
 - 1. Erect barriers or screens and post signs to warn of or limit or direct traffic away or around work area as required.

- C. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, which ensures the work of this section being without damage or deterioration until the time of Substantial Completion.

3.7 SCHEDULES

- A. Refer to Exterior and Interior Finish Schedules on Drawings for applicable finishes used. This is a guide only and paint sub-contractor is responsible to check all drawings and be responsible for all paint work required to cover the complete painting and finishing of the interior and exterior including specialty items.
- B. It is the intent of the specifications and drawings to cover the complete painting and finishing of the Project whether or not it is specifically called for in the Specifications, Schedule of Paint Finishes, or indicated on the Drawings. Surfaces not specified in Paint Finishes Schedule shall be in accordance with manufacturer's written recommendations.
- a. The following schedule was compliant with CARB Air Quality Standards at press time.
 - 1) Inform the Architect of any changes caused by stricter Air Quality Standards as part of the submittal process.
 - 2) Provide products compliant with CARB Air Quality Standards and Local Air Quality Control District requirements at the time of installation.
- C. Exception: When the Project involves remodel work, the scope of work is limited to the remodel area and adjacent existing substrates to minimize visible color incompatibility.
- D. Provide coating system minimum ODFT specified.
1. Provide DFT per coat specified.
 - a. Do not apply thicker coats than specified to achieve ODFT. Apply additional coats if necessary.
 2. "Ultra Color" Note: A fourth and/or fifth coat may be required to achieve uniform chromatic hue without ghosting from undercoat or substrate.
 - a. The Contractor shall consider all Metal Paint Finishes noted "Ultra-color" as requiring as many as five (5) total coats.
- E. INTERIOR PAINT FINISHES:
1. INTERIOR WOODWORK
 - a.

<u>W-1 Flat Latex</u>	<u>Minimum ODFT 4.3 MILS.</u>
1) 1st Coat PVA HighHide Primer-Sealer	GP 1000-1200 DFT 1.3 mils.
2) 2nd Coat Flat Latex Velvet Sheen Finish	GP 1200N DFT 1.5 mils.
3) 3rd Coat Flat Latex Velvet Sheen Finish	GP 1200N DFT 1.5 mils.
 - b.

<u>W-2 Semi-Gloss Acrylic Non-Blocking Enamel</u>	<u>Minimum ODFT 4.3 MILS.</u>
1) 1st Coat PVA HighHide Primer-Sealer	GP 1000-1200 DFT 1.3 mils.
2) 2nd Coat Acrylic Semi-Gloss Fin.	GP 1407V DFT 1.5 mils.
3) 3rd Coat Acrylic Semi-Gloss Fin.	GP 1407V DFT 1.5 mils.
 - c.

<u>W-3 Gloss Waterborne Acrylic Non-Blocking Enamel</u>	<u>Minimum ODFT 4.3 MILS.</u>
1) 1st Coat PVA HighHide Primer-Sealer	GP 1000-1200 DFT 1.3 mils.
2) 2nd Coat Gloss Acrylic Finish.	DEVOE 4208 DFT 1.5 mils.
3) 3rd Coat Gloss Acrylic Finish.	DEVOE 4208 DFT 1.5 mils.
 - d.

<u>W-4 Semi-Transparent Resin Stain</u>	<u>Minimum ODFT 2.0 MILS.</u>
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- 1) 1st Coat Resin Wiping Stain GEM CRAFTSMAN DFT 1.0 mils.
 - 2) 2nd Coat Clear Acrylic Finish GP 1808 DFT 1.0 mils.
- e. W-5 Semi-Transparent Resin Stain Minimum ODFT 3.0 MILS.
 - 1) 1st Coat Resin Wiping Stain GEM CRAFTSMAN DFT 1.0 mils.
 - 2) 2nd Coat Clear Acrylic Finish GP 1808 DFT 1.0 mils.
 - 3) 3rd Coat Clear Acrylic Finish GP 1808 DFT 1.0 mils.
- f. W-6 Stained and Velvet Water Clear Lacquer Minimum ODFT 4.0 MILS.
 - 1) 1st Coat Resin Wiping Stain GEM CRAFTSMAN DFT 1.0 mils.
 - 2) 2nd Coat Lacquer Sanding Sealer GEMINI 200-0013 DFT 1.0 mils.
 - 3) 3rd Coat Velvet Lacquer Finish GEMINI 500-0062 DFT 1.0 mil.
 - 4) 4th Coat Velvet Lacquer Finish GEMINI 500-0062 DFT 1.0 mil.
- g. W-6a: A Stained and Pre-Catalized Lacquer below which can achieve higher protection for heavily used wood doors, cabinets and trim.
 - 1) Pre-Catalized Lacquer Minimum ODFT 4.0 MILS.
 - 2) 1st Coat Resin Wiping Stain GEM CRAFTSMAN DFT 1.0 mils.
 - 3) 2nd Coat Lacquer Sanding Sealer GEMINI 210-0222 DFT 1.0 mils.
 - 4) 3rd Coat Velvet Lacquer Finish GEMINI 510-0276 DFT 1.0 mil.
 - 5) 4th Coat Velvet Lacquer Finish GEMINI 510-0276 DFT 1.0 mil.
- h. W-7 Filled and Sealed Floor Finish Minimum ODFT 3.0 MILS.
 - 1) 1st Coat Paste Filler As recommended by Flooring Manufacturer
 - 2) 2nd Coat Satin Varnish GP1802 DFT 1.5 mils.
 - 3) 3rd Coat Satin Varnish GP 1802 DFT 1.5 mils.
- i. W-8 Velvet Lacquered Finish Minimum ODFT 4.0 MILS.
 - 1) 1st Coat Lacquer Sanding Sealer GEMINI 200-0027 DFT 1.0 mils.
 - 2) 2nd Coat Velvet Lacquer Finish GEMINI 500-0082 DFT 1.0 mils.
 - 3) 3rd Coat Velvet Lacquer Finish GEMINI 500-0082 DFT 1.0 mils.
 - 4) 4th Coat Velvet Lacquer Finish GEMINI 500-0082 DFT 1.0 mils.
- 2. INTERIOR GYPSUM BOARD
 - a. DW-1 Flat Latex Minimum ODFT 4.3 MILS.
 - 1) 1st Coat PVA High Hide Primer-Sealer GP 1000-1200 DFT 1.3 mils.
 - 2) 2nd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
 - 3) 3rd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
 - b. DW-2 Semi-Gloss Acrylic Non-Blocking Enamel Minimum ODFT 4.3 MILS.
 - 1) 1st Coat PVA High Hide Primer-Sealer GP 1000-1200 DFT 1.3 mils.
 - 2) 2nd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
 - 3) 3rd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
 - c. DW-3 Gloss Acrylic Non-Blocking Enamel Minimum ODFT 5.3 MILS.
 - 1) 1st Coat PVA High Hide Primer-Sealer GP 1000-1200 DFT 1.3 mils.
 - 2) 2nd Coat Acrylic Gloss Finish GP 4208 DFT 2.0 mils.
 - 3) 3rd Coat Acrylic Gloss Finish GP 4208 DFT 2.0 mils.
 - d. DW-4 Gloss Epoxy Polyamide (Corrosion Resistant) Minimum ODFT 7.6 MILS.
 - 1) 1st Coat Acrylic Primer SEAL GRIP 17-921 DFT 1.6 mils.
 - 2) 2nd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
 - 3) 3rd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
 - e. DW-4 WB Semi-Gloss Epoxy (Corrosion Resistant) Minimum ODFT 7.6 MILS.
 - 1) 1st Coat Acrylic Primer SEAL GRIP 17-921 DFT 1.6 mils.
 - 2) 2nd Coat Epoxy Semi-Gloss Finish PITT-GLAZE 16-510 DFT 3.0 mils.
 - 3) 3rd Coat Epoxy Semi-Gloss Finish PITT-GLAZE 16-510 DFT 3.0 mils.
- 3. INTERIOR CEMENT PLASTER, VENEER PLASTER OR GYPSUM PLASTER
 - a. P-1 Flat Latex Minimum ODFT 4.5 MILS.

- 1) 1st Coat Acrylic Primer-Sealer GP 3210 DFT 1.5 mils.
- 2) 2nd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
- 3) 3rd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
- b. P-2 Semi-Gloss Acrylic Non-Blocking Enamel Minimum ODFT 5.0 MILS.
 - 1) 1st Coat Acrylic Primer-Sealer GP 3210 DFT 2.0 mils.
 - 2) 2nd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
 - 3) 3rd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
- c. P-3 Gloss Acrylic Non-Blocking Enamel Minimum ODFT 6.0 MILS.
 - 1) 1st Coat Acrylic Primer-Sealer GP 3210 DFT 2.0 mils.
 - 2) 2nd Coat Acrylic Gloss Finish GP 4208 DFT 2.0 mils.
 - 3) 3rd Coat Acrylic Gloss Finish GP 4208 DFT 2.0 mils.
- d. P-4 Gloss Epoxy Polyamide (Corrosion Resistant) Minimum ODFT 7.6 MILS.
 - 1) 1st Coat Acrylic Primer SEAL GRIP 17-921 DFT 1.6 mils.
 - 2) 2nd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
 - 3) 3rd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
- e. P-4 Water Base S/G Epoxy (Corrosion Resistant) Minimum ODFT 7.6 MILS.
 - 1) 1st Coat Acrylic Primer SEAL GRIP 17-921 DFT 1.6 mils.
 - 2) 2nd Coat WB Epoxy Semi-Gloss Fin. PITT-GLAZE 16-510 DFT 3.0 mils.
 - 3) 3rd Coat WB Epoxy Semi-Gloss Fin. PITT-GLAZE 16-510 DFT 3.0 mils.
4. INTERIOR CONCRETE OR CONCRETE MASONRY UNITS
 - a. CB-1 Clear Water Repellent Sealer
 - 1) One Coat Alkyltrialkoxysilane
 - a) EVONIK DEGUSSA "Aqua-Trete®CONCENTRATE".
 - 2) Follow manufacturer's recommended coverage rate and installation recommendations for type of substrate to be covered.
 - 3) Provide manufacturer's 10 year warranty for Concrete Masonry Units and Split Faced Concrete Masonry Units.
 - b. CB-2 Flat Latex - Fine Texture Minimum ODFT 9.5 MILS.
 - 1) 1st Coat Acrylic Block Filler GP 3010 DFT 6.5 mils.
 - a) Omit at concrete surfaces.
 - 2) 2nd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
 - 3) 3rd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
 - c. CB-3 Semi-Gloss Acrylic Enamel:
 - 1) Concrete Masonry Units: Minimum ODFT 9.5 MILS.
 - a) 1st Coat Acrylic Block Filler GP 3010 DFT 6.5 mils.
 - b) 2nd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
 - c) 3rd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
 - 2) Concrete Surfaces: Minimum ODFT 5.0 MILS.
 - a) 1st Coat Acrylic Primer-Sealer GP 3210 DFT 2.0 mils.
 - b) 2nd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
 - c) 3rd Coat Acrylic Semi-Gloss Finish GP 1407V DFT 1.5 mils.
 - d. CB-4 Color High-Gloss Polyamide Epoxy:
 - 1) Concrete Masonry Units: Minimum ODFT 14.6 MILS.
 - a) 1st Coat W/B Epoxy Block Filler SPEEDHIDE 6-15 DFT 7.0 mils.
 - b) 2nd Coat Acrylic Primer SEAL-GRIP 17-921 DFT 1.6 mils.
 - c) 3rd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
 - d) 4th Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
 - 2) Concrete Surfaces: Minimum ODFT 7.6 MILS.
 - a) 1st Coat Epoxy Primer SEAL-GRIP 17-921 DFT 1.6 mils.
 - b) 2nd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.

- c) 3rd Coat Epoxy Gloss Finish AQUAPON 98-1 DFT 3.0 mils.
- e. CB-4 Color Water Base Semi-Gloss Epoxy:
- 1) Concrete Masonry Units: Minimum ODFT 11.6 MILS.
 - a) 1st Coat W/B Epoxy Block Filler SPEEDHIDE 6-15 DFT 7.0 mils.
 - b) 2nd Coat Epoxy Primer SEAL-GRIP 17-921 DFT 1.6 mils.
 - c) 3rd Coat Epoxy S/G Finish PITT-GLAZE 16-510 DFT 1.5 mils.
 - d) 4th Coat Epoxy S/G Finish PITT-GLAZE 16-510 DFT 1.5 mils.
 - 2) Concrete Surfaces: Minimum ODFT 4.6 MILS.
 - a) 1st Coat Epoxy Primer SEAL-GRIP 17-921 DFT 1.6 mils.
 - b) 2nd Coat Epoxy S/G Finish PITT-GLAZE 16-510 DFT 1.5 mils.
 - c) 3rd Coat Epoxy S/G Finish PITT-GLAZE 16-510 DFT 1.5 mils.
- f. CB-5 Clear High-Gloss Polyamide Epoxy Minimum ODFT 5.0 MILS.
- 1) 1st Coat Epoxy Gloss Fin. MONOPOLE Permashield 200 DFT 2.5 mils.
 - 2) 2nd Coat Epoxy Gloss Fin. MONOPOLE Permashield 200 DFT 2.5 mils.
5. INTERIOR METALS
- a. PRIMER NOTE: Metals that are shop primed shall be considered "un-primed" and shall be primed with appropriate primer and thicknesses listed below:
 - 1) Ferrous Metal:
 - a) DEVOE 4020 "Red" Multi-Purpose Metal Primer DFT 3.0 mils.
 - 2) Non-Ferrous Metal, Galvanized Metal or Aluminum:
 - a) DEVOE 4020 "White" Multi-Purpose Metal Primer DFT 3.0 mils.
 - b. COIL-COATED PRODUCTS NOTE: Metal products primed with coil-coated products are to be assumed to be "un-primed" products and shall be additionally coated (or primed again) as follows:
 - 1) Coil-Coated Products:
 - a) Field apply manufacturer's recommended primer coat and mil thickness over entire surface compatible with substrate finish and finish coats indicated on paint schedule.
 - c. M-1 Flat Latex Minimum ODFT 6.0 MILS.
 - 1) 1st Coat Primer See primer note above.
 - 2) 2nd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
 - 3) 3rd Coat Latex Velvet Sheen Flat Finish GP 1200N DFT 1.5 mils.
 - d. M-2 Semi-Gloss "Ultra Color" Industrial Acrylic Minimum ODFT 7.0 MILS.
 - 1) 1st Coat Primer See primer note above.
 - 2) 2nd Coat Acrylic Semi-Gloss Finish DEVOE 4216 DFT 2.0 mils.
 - 3) 3rd Coat Acrylic Semi-Gloss Finish DEVOE 4216 DFT 2.0 mils.
 - e. M-3 Gloss "Ultra Color" Waterborne Acrylic Minimum ODFT 7.0 MILS.
 - 1) 1st Coat Primer See primer note above.
 - 2) 2nd Coat Gloss Acrylic Finish DEVOE 4208 DFT 2.0 mils.
 - 3) 3rd Coat Gloss Acrylic Finish DEVOE 4208 DFT 2.0 mils.
 - f. M-4 Semi-Gloss Epoxy Polyamide Minimum ODFT 6.0 MILS.
 - 1) 1st Coat Satin Epoxy Primer PITT-GLAZE 90-712 DFT 3.0 mils.
 - 2) 2nd Coat Epoxy Semi-Gloss Finish PITT-GLAZE 16-510 DFT 1.5 mils.
 - 3) 3rd Coat Epoxy Semi-Gloss Finish PITT-GLAZE 16-510 DFT 1.5 mils.
 - g. M-5 Gloss Epoxy Polyamide Minimum ODFT 9.0 MILS.
 - 1) 1st Coat Satin Epoxy Primer PITT-GLAZE 90-712 DFT 3.0 mils.
 - 2) 2nd Coat Epoxy Gloss Finish AQUAPON 98-1 3.0 mils.
 - 3) 3rd Coat Epoxy Gloss Finish AQUAPON 98-1 3.0 mils.
 - h. M-5 Water Base S/G Epoxy (Corrosion Resistant) Minimum ODFT 7.6 MILS.
 - 1) 1st Coat Acrylic Primer SEAL GRIP 17-921 DFT 1.6 mils.

- 2) 2nd Coat WB Epoxy S/G Fin. PITT-GLAZE 16-510 DFT 3.0 mils.
- 3) 3rd Coat WB Epoxy S/G Fin. PITT-GLAZE 16-510 DFT 3.0 mils.
- i. M-6 Flat Waterborne Paint Minimum ODFT 3.0 MILS.
 - 1) 1st Coat Waterborne Flat Dry Fall Prime GP 1280 DFT 1.5 mils.
 - 2) 2nd Coat Waterborne Flat Dry Fall Finish GP 1280 DFT 1.5 mils.
- j. M-7 Semi-Gloss Waterborne Paint Minimum ODFT 3.0 MILS.
 - 1) 1st Coat Waterborne Semi-Gloss Dry Fall Primer GP 1486 DFT 1.5 mils.
 - 2) 2nd Coat Waterborne Semi-Gloss Dry Fall Finish GP 1486 DFT 1.5 mils.
- 6. INTERIOR ACOUSTICAL TILE
 - a. A-1 Matte Flat Vinyl Acrylic Minimum ODFT 1.2 MILS.
 - 1) 1st Coat Vinyl Acrylic Matte Flat Fin. GP 1251 DFT 1.2 mils.

F. EXTERIOR PAINT FINISHES

- 1. EXTERIOR WOOD
 - a. EW-1 Flat 100 percent Acrylic Minimum ODFT 4.5 MILS.
 - 1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
 - 2) 2nd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
 - 3) 3rd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
 - b. EW-2 Semi-Gloss percent Acrylic Minimum ODFT 4.5 MILS.
 - 1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
 - 2) 2nd Coat 100 percent Acrylic Semi-Gloss GP 2406V DFT 1.5 mils.
 - 3) 3rd Coat 100 percent Acrylic Semi-Gloss GP 2406V DFT 1.5 mils.
 - c. EW-3 100 percent Acrylic Resin (A/R) Stain Minimum ODFT 3.0 MILS.
 - 1) 1st Coat 100 percent A/R Stain Coat FLOOD SWF DFT 1.5 mils.
 - 2) 2nd Coat 100 percent A/R Stain Coat FLOOD SWF DFT 1.5 mils.
- 2. EXTERIOR SOFFIT BOARD
 - a. ESB-1 Lo-Sheen 100 percent Acrylic Resin (A/R)-Heavy Stipple Minimum ODFT 19.0 MILS.
 - 1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
 - 2) 2nd Coat*100 percent A/R Heavy Stipple GP 2290 DFT 15.0 mils.
 - 3) 3rd Coat: 100 percent A/R Lo Sheen GP 2402V DFT 1.5 mils.
 - 4) *Note: 2nd Coat to have medium size aggregate added to achieve heavy stipple texture.
- 3. EXTERIOR CEMENT PLASTER
 - a. EP-1 Flat 100 percent Acrylic Minimum ODFT 4.5 MILS.
 - 1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
 - 2) 2nd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
 - 3) 3rd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
 - b. EP-2 Semi-Gloss 100 percent Acrylic Minimum ODFT 9.5 MILS.
 - 1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
 - 2) 2nd Coat 100 percent Acrylic Semi-Gloss Finish GP 2406V DFT 4.0 mils.
 - 3) 3rd Coat 100 percent Acrylic Semi-Gloss Finish GP 2406V DFT 4.0 mils.
 - c. EP-3 Gloss Acrylic Minimum ODFT 9.5 MILS.
 - 1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
 - 2) 2nd Coat Gloss Acrylic Finish DEVOE 4208 DFT 4.0 mils.
 - 3) 3rd Coat Gloss Acrylic Finish DEVOE 4208 DFT 4.0 mils.
 - d. EP-4 Smooth Elastomeric, Lo Sheen Acrylic/Resin (A/R) - Minimum ODFT 18 MILS.
 - 1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
 - 2) 2nd Coat Smooth Elastomeric Finish GP 2260 DFT 15.0 mils.

- a) Spray and Backroll
 - 3) 3rd Coat 100 percent Acrylic Resin Satin Finish GP 2402V DFT 1.5 mils.
 - e. EP-5 Sand Float Elastomeric, S/G Acrylic/Resin (A/R) - Minimum ODFT 18 MILS.
 - 1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
 - 2) 2nd Coat Sand Float Elastomeric Finish GP 2270 DFT 15.0 mils.
 - a) Spray and Backroll
 - 3) 3rd Coat 100 percent Acrylic S/G Finish GP 2406 DFT 1.5 mils.
 - f. EP-6 Coarse Elastomeric, S/G Acrylic/Resin (A/R) Minimum ODFT 18.0 MILS.
 - 1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
 - 2) 2nd Coat Elastomeric Finish GP 2290 DFT 15.0 mils.
 - a) Spray and Backroll
 - 3) 3rd Coat 100 percent Acrylic S/G Finish GP 2406V DFT 1.5 mils.
- 4. EXTERIOR CONCRETE OR CONCRETE MASONRY UNITS:
 - a. ECB-1 Clear Water Repellent Sealer:
 - 1) One Coat Alkyltrialkoxysilane:
 - a) EVONIK DEGUSSA "Aqua-Trete® CONCENTRATE"
 - 2) Provide manufacturer's 10 year warranty for Concrete Masonry Units and Split Faced Concrete Masonry Units.
 - b. ECB-2 Flat 100 percent Acrylic Minimum ODFT 9.5 MILS.
 - 1) 1st Coat Acrylic Block Filler GP 3010 DFT 6.5 mils.
 - a) Omit at concrete surfaces
 - 2) 2nd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
 - 3) 3rd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
 - c. ECB-3 Flat 100 percent Acrylic Minimum ODFT 4.5 MILS.
 - 1) 1st Coat 100 percent Acrylic Primer-Sealer GP 6001 DFT 1.5 mils.
 - 2) 2nd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
 - 3) 3rd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
- 5. EXTERIOR METAL
 - a. PRIMER NOTE: Metals shop primed shall be considered "un-primed" and shall be primed with appropriate primer and thicknesses listed below:
 - 1) Ferrous Metal, Type 1 Typical:
 - a) DEVOE 4020 "Red" Multi-Purpose Metal primer DFT 3.0 mils.
 - 2) Ferrous Metal, Type 2 as specified in Specification Section – STEEL AND FABRICATIONS:
 - a) DIMETCOAT 302H Reinforced Inorganic Zinc-Rich Urethane Metal Primer DFT 3.0 mils.
 - 3) Ferrous Metal, Type 3 when Urethane is used as a finish.
 - a) AMERLOCK 2VOC/400 VOC Epoxy Metal Primer DFT 6.0 mils.
 - 4) Non-Ferrous Metal, Type 4 Galvanized Metal or Aluminum
 - a) DEVOE 4020 "White" Multi-Purpose Metal Primer DFT 3.0 mils.
 - 5) Non-Ferrous Metal, Type 5 Galvanized Metal or Aluminum, when Urethane is used as a finish.
 - a) AMERLOCK 2VOC/400 VOC Epoxy Metal Primer DFT 6.0 mils.
 - b. COIL-COATED PRODUCTS NOTE: Metal products primed with coil-coated products are to be assumed to be unprimed products and shall be re-primed as follows:
 - 1) Coil-Coated Products:

- a) Field apply manufacturer's recommended primer coat and mil thickness over entire surface compatible with substrate finish and finish coats indicated on paint schedule.
- c. EM-1 Flat 100 percent Acrylic Minimum ODFT 6.0 MILS.
 1) 1st Coat Primer See primer note above.
 2) 2nd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
 3) 3rd Coat 100 percent Acrylic Flat Finish GP 2200V DFT 1.5 mils.
- d. EM-2 Semi-Gloss "Ultra Color" 100 percent Acrylic Minimum ODFT 7.0 MILS.
 1) 1st Coat Primer See primer note above.
 2) 2nd Coat 100 percent Acrylic Semi-Gloss Finish GP 2406V DFT 2.0 mils.
 3) 3rd Coat 100 percent Acrylic Semi-Gloss Finish GP 2406V DFT 2.0 mils.
- e. EM-3 Gloss "Ultra Color" 100 percent Acrylic Waterborne Minimum ODFT 7.0 MILS.
 1) 1st Coat Primer See primer note above.
 2) 2nd Coat Gloss Acrylic Finish DEVOE 4208 DFT 2.0 mils.
 3) 3rd Coat Gloss Acrylic Finish DEVOE 4208 DFT 2.0 mils.
- f. EM-4 Gloss "Ultra Color" Aliphatic Acrylic Urethane (A/A/U) Finish, Spray Applied, Deep Tone, Custom Color Minimum ODFT 16.0 MILS.
 1) 1st Coat Primer See primer note above.
 2) 2nd Coat A/A/U Gloss Color Finish AMERSHIELD VOC DFT 5.0 mils.
 3) 3rd Coat A/A/U Gloss Color Finish AMERSHIELD VOC DFT 5.0 mils.
- g. EM-5 Gloss "Ultra Color" Aliphatic High Solids Finish, Spray Applied, Deep Tone, Custom Color with clear protective coats Minimum ODFT 18.0 MILS.
 1) 1st Coat Primer See primer note above
 2) 2nd Coat A/A/U Gloss Color Finish AMERSHIELD VOC DFT 3.0 mils.
 3) 3rd Coat A/A/U Gloss Color Finish AMERSHIELD VOC DFT 3.0 mils.
 4) 4th Coat A/A/U Gloss Clear Finish AMERSHIELD VOC DFT 3.0 mils.
 5) 5th Coat A/A/U Gloss Clear Finish AMERSHIELD VOC DFT 3.0 mils.
- h. EM-6 Semi-Gloss "Ultra Color" Aliphatic Urethane (A/U) Finish, Spray Applied, Deep Tone, Custom Color Finish Minimum ODFT 16.0 MILS.
 1) 1st Coat Primer See primer note above.
 2) 2nd Coat A/A/U Semi-Gloss AMERCOAT 450HSG A/U DFT 5.0 mils.
 3) 3rd Coat A/A/U Semi-Gloss AMERCOAT 450HSG A/U DFT 5.0 mils.

G. SPECIALTY PAINT FINISHES:

1. PROVIDE SPECIALTY PAINT FINISHES AS SHOWN OR AS FOLLOWS:

- a. Finish No. X-1: Minimum ODFT 15.0 MILS.
 1) Lines on Concrete or Asphaltic Concrete Paving Exit and Entrance Signs - 10" width lines, maximum. Reflectorize as required:
 2) Traffic Paint ENNIS-FLINT Traffic Paint DFT 15.0 mils.
- b. Finish No. X-2: Minimum ODFT 15.0 MILS.
 1) Lines on Walk Top. Colors as selected by Architect:
 2) Line Paint ENNIS-FLINT Traffic Paint DFT 15.0 mils.
- c. Finish No. X-3: Minimum ODFT 1.5 MILS.
 1) Space above Vents or Grilles:
 2) 1st Coat 100 percent Acrylic Flat Black GP 2200V DFT 1.5 mils.
- d. Finish No. X-4: Minimum ODFT 4.0 MILS.
 1) Piping Black Steel or Cast Iron:
 2) 1st Coat Multi-Purpose Metal Primer:
 a) DEVOE 4020 "Red" DFT 2.0 mils.
 3) 2nd Coat Acrylic Gloss Finish GP 2406V DFT 2.0 mils.

- e. Finish No. X-5: Minimum ODFT 5.0 MILS.
- 1) Piping Galvanized:
 - 2) 1st Coat General Purpose Metal Primer:
 - a) DEVOE 4020 "White" DFT 3.0 mils.
 - 3) 2nd Coat Gloss Enamel Finish:
 - a) DEVOE 4208 DFT 2.0 mils.
- f. Finish No. X-6: Minimum ODFT 7.0 MILS.
- 1) Machinery and Equipment (Coil Coated Products):
 - 2) 1st Coat General Purpose Metal Primer:
 - a) DEVOE 4020 "White" DFT 3.0 mils.
 - 3) 2nd Coat Gloss Enamel Finish DEVOE 4208 DFT 2.0 mils.
 - 4) 3rd Coat Gloss Enamel Finish DEVOE 4208 DFT 2.0 mils.
- g. Finish No. X-7: Minimum ODFT 5.0 MILS.
- 1) Sheet Metal Ducts:
 - 2) 1st Coat General Purpose Metal Primer:
 - a) DEVOE 4020 "White" DFT 3.0 mils.
 - 3) 2nd Coat Gloss Enamel Finish DEVOE 4208 DFT 2.0 mils.
- h. Finish No. X-8: Minimum ODFT 5.0 MILS.
- 1) Fire Hydrants:
 - 2) 1st Coat General Purpose Metal Primer:
 - a) DEVOE 4020 "White" DFT 3.0 mils.
 - 3) 2nd Coat Gloss Enamel Finish DEVOE 4208 DFT 2.0 mils.
- i. Finish No. X-9: Minimum ODFT 6.0 MILS.
- 1) Following items listed will receive Finish No. X-9 (including, but not limited to), Louvers, Grilles, or Access Panels:
 - 2) 1st Coat General Purpose Metal Primer:
 - a) DEVOE 4020 "White" DFT 2.0 mils.
 - 3) 2nd Coat 100 percent Acrylic Flat Fin. GP 2200V DFT 1.5 mils.
 - 4) 3rd Coat 100 percent Acrylic Flat Fin. GP 2200V DFT 1.5 mils.
- j. Finish No. X-10: Minimum ODFT 1.5 MILS.
- 1) Striping under Acoustical Board Surrounding Structure:
 - 2) 1st Coat 100 percent Acrylic Flat Black GP 2200V DFT 1.5 mils.
- k. Finish No. X-11: Minimum ODFT 1.5 MILS.
- 1) Acoustical Board and Exposed Striping and Structural:
 - 2) 1st Coat 100 percent Acrylic Flat Black GP 2200V DFT 1.5 mils.
- l. Finish No. X-12:
- 1) Minimum ODFT as recommended by graffiti coating manufacturer.
 - 2) Graffiti Coating, non-toxic, liquid, sacrificial wax-based Coating:
 - 3) 1st Coat Graffiti Coating:
 - a) Graffiti-Pruf by VISUAL POLUTION TECH, INC.
 - 4) 2nd Coat Graffiti Coating:
 - a) Only if recommended by manufacturer for substrate material type.
 - b) Graffiti-Pruf by VISUAL POLUTION TECH, INC.
- m. Finish No. X-13 (NOT APPLICABLE ANYMORE):
- n. Finish No. X-14 (NOT APPLICABLE ANYMORE):
- o. Finish No. X-15:
- 1) Clear Graffiti Coating, non-toxic, liquid, multi-polymer, non-sacrificial, single component sealer by BASF, or approved equivalent: One Coat

- a) **NOTE #1:** Test a small area of the existing substrate in an out-of-the-way spot, as determined by the Architect, for compatibility. Inform the Architect if an incompatibility is found for further direction. If found to be compatible, proceed as follows:
- 2) 1st Coat Clear, flat matte coat TAGGUARD by BASF
 - a) **NOTE #2:** Follow manufacturer's recommendations for proper installation over various substrates. Applicator must be certified by the manufacturer as an approved applicator for this product over various substrate materials. Protect at least 24 hours minimum the treated surface until manufacturer's recommended curing time has been achieved against graffiti.
- 3) REMOVAL COAT: TAGGUARD Cleaner
 - a) **NOTE #3:** Provide remover in small containers equal to 8-16 oz. containers of material for the Owner's use. Instruct the designated representative of the Owner as to proper application of the remover, and all procedures for removing graffiti.
- p. Finish No. X-16: Non-sacrificial, aqueous, silane chemistry, ready-to-use, zero VOC high performance anti-graffiti treatment for masonry, concrete and natural stone, dries clear and will not yellow.
 - 1) Follow manufacturer's printed recommendations prior to use.
 - 2) Do not apply to wet surfaces. If surface is wet, let dry for a minimum of 24 hours prior to application. Do not use if temperature is below 40 degrees F or above 100 degrees F.
 - 3) Protect non-porous surface substrates from overspray. Always do a test patch to confirm the treatment before using to determine if there are any problems prior to full coverage of the porous surfaces.
 - 4) Concrete shall be allowed to cure a minimum of 28 days. All pointing or re-pointing shall be completed and allowed to cure for at least 3 days prior to coverage. All patching materials, caulking, sealing materials and traffic paint shall be fully cured before application.
 - 5) 1st Coat Clear, flat matte coat PROTECTOSIL ANTIGRAFFITI
 - a) 175 to 250 sq. ft. per gallon, diluted by 14 parts of water, using a 1" nap roller.
 - 6) 2nd Coat Clear, flat matte coat PROTECTOSIL ANTIGRAFFITI
 - a) 175 to 250 sq. ft. per gallon, un-diluted, using a 1" nap roller.
 - 7) 3rd Coat Clear, flat matte coat PROTECTOSIL ANTIGRAFFITI
 - a) 175 to 250 sq. ft. per gallon, un-diluted, using a 1" nap roller.
 - b) 3rd Coat shall always be figured in as part of the Base Bid. 3rd Coat may be deleted if it is determined by all concerned that the two coats were sufficient to protect the surfaces. If not needed, then figure on a credit back to the Owner.
 - 8) Most graffiti removal can be achieved with standard non-hazardous cleaners and low-pressure waterblasting. Contact manufacturer for stubborn markings for removal.
- q. Finish No. X-17: Non-sacrificial, 100 percent active silane treatment with oleophobic additive, clear penetrating breathable VOC Compliant (400 g/L) surface treatment for use on concrete, brick masonry, concrete masonry units and natural stone.
 - 1) For flat (horizontal) concrete walks.

- a) Manufacturer's printed recommendations for rate of coverage, and type of application method to protect porous surfaces from graffiti and for ease of walk-way clean-up.
 - b) Follow manufacturer's printed recommendations prior to use.
 - c) Do not apply to wet surfaces. If surface is wet, let dry for a minimum of 24 hours prior to application. Do not use if temperature is below 40 degrees F or above 100 degrees F.
 - d) Protect non-porous surface substrates from overspray. Always do a test patch to confirm the treatment before using to determine if there are any problems prior to full coverage of the porous surfaces.
 - e) Concrete surfaces shall be allowed to cure a minimum of 28 days. All pointing or re-pointing shall be completed and allowed to cure for at least 3 days prior to coverage. All patching materials, caulking, sealing materials and paint shall be fully cured before application.
- 2) 1st Coat Clear, flat matte coat PROTECTOSIL BHN PLUS
- r. Finish No. X-18: Non-sacrificial, Graffiti Coating, non-toxic, liquid, semi-permanent, acrylic based Coating - Minimum ODFT as recommended by graffiti coating manufacturer.
- 1) For application on sealed surface, including but not limited to CMU scheduled to be sealed, verify compatibility with sealer manufacturer prior to application of Sealer.
 - a) Only if recommended by manufacturer for substrate material type.
 - b) For application on natural porous surface, thin first coat with 40 percent water. All other coats shall be full strength.
 - 2) 1st Coat Graffiti Coating TSW4
 - 3) 2nd Coat Graffiti Coating TSW4
 - 4) 3rd Coat Graffiti Coating TSW4
 - 5) 4th Coat Graffiti Coating TSW4
 - 6) Provide Manufacturer's recommended TSW2G Graffiti Removal Kit.

END OF SECTION

SECTION 100500 – MISCELLANEOUS SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Provision for and installation of specialty and built-in items required for this Work as indicated on the Drawings.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. DIVISION 00 SPECIFICATION SECTIONS.
 - 2. DIVISION 01 SPECIFICATION SECTIONS.
 - 3. 03 30 00 CAST-IN-PLACE CONCRETE
 - 4. 05 12 00 STEEL AND FABRICATIONS
 - 5. 07 60 00 SHEET METAL
 - 6. 09 11 00 METAL FRAMING
 - 7. 09 91 00 PAINTING
 - 8. SPECIFICATION SECTIONS IN THE FACILITY SERVICES SUBGROUP.
 - 9. SPECIFICATION SECTIONS IN THE SITE AND INFRASTRUCTURE SUBGROUP.

1.2 SYSTEM DESCRIPTION

- A. Performance Requirements: It is the intention of this section and the drawings to form a guide for a complete and operable system of all products or systems listed within this specification section. Any items not specifically noted but necessary for a complete and operable product or system shall be provided under this section.

SUBMITTALS

1.3

Submit in accordance with Specification Section - SUBMITTAL PROCEDURES:

- A.
 - 1. Shop Drawings:
 - a. Submit Shop Drawings and catalog cuts to the architect showing all details of installation and assembly and all requirements for work by other trades.
 - 2. Product Data:
 - a. Submit manufacturer's full color range (including any standard, premium and custom colors) for selection by the Architect.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Storage and protection:
 - 1. Use all means necessary to protect all specialty items before, during and after installation and to protect the installed work and materials of all other trades.
- B. Replacements:

1. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect at no additional cost to the Owner.

1.5 PROJECT CONDITIONS

A. Existing Conditions:

1. Surface Conditions:
 - a. Coordination: Coordinate with all other trades as required to ensure proper and adequate provision in framing and wall finish for the installation of the selected specialties in the locations required.
2. Inspection:
 - a. Prior to Installation, inspect all specific locations and verify that all necessary provisions have been made.
 - b. In the event of discrepancy, immediately notify the Architect.
 - c. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

1.6 WARRANTY

A. Contractor's General Warranty:

1. In accordance with Specification Section - WARRANTIES.

B. Manufacturer's Warranty:

1. In accordance with manufacturer's written standard warranty:
 - a. Warranty Period One (1) Year.

C. Installer's Warranty:

1. In accordance with the terms of the Specification Section - WARRANTIES:
 - a. Warranty period [Five (5) years.]

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install all specialty items where indicated on the Drawings and in full accordance with all pertinent regulations and the manufacturer's written recommendations, anchoring all components firmly in place for long life under hard use, and in accordance with IR (Interpretation of Regulations, "Division of the State Architect") Manual.

3.2

A.

3.3

A.

B.

ADJUSTING

Upon completion of the installation, and as a condition of its acceptance, visually inspect the entire work of this Section, adjust all components for proper alignment and use, and touch up all abrasions and scratches to make them completely invisible.

SCHEDULES

All items shall be as scheduled or approved equivalent items as set forth in the Substitution Section of these specifications, and all provisions of Division 01, and the General Conditions.

1. .

BComposite Cladding:

1. Manufacturer: Fiberon Composite Cladding for Rainscreen Applications, Product Line: Symmetry, Color: Warm Sienna.
 - a. Mockups: Erect project-site mockup incorporating materials and workmanship required. After mockup has been reviewed for acceptability, retain on site and suitably protected until the work has been completed. Accepted mockup will serve as quality control standards for judging acceptability of the installed work. Accepted mockups may be incorporated into the work.
 - b. Composition: Wood and plastic composite core boards with polyethylene-based capping material, faux wood grain texture and color.
 - c. Board Thickness: 0.935 inch total, 0.015 inch capping material.
 - d. Board Width: 5.4 inches.
 - e. Board Length: longest length to match pattern shown.
 - f. Board Edges: 1/8" radius.
 - g. Gapping: per manufacturer's requirements. Temperature at installation is an important factor in determining gap requirements.
 - h. Performance Criteria:
 - 1) Surface Burning Characteristics per ASTM E84: Class C, Max 200 Flame Spread Index, Max 350 Smoke Development Index.
 - 2) Self-Ignition Temperature per ASTM D 1929: 743 degrees F.
 - 3) Flash-Ignition Temperature per ASTM D1929: 698 degrees F.
 - 4) Specific Gravity, per ASTM D792: 1.10.

- 5) Coefficient of Thermal Expansion per ASTM D6341: 1.67×10^{-5} in/in/degree Fahrenheit.
 - 6) Modulus of Elasticity per ASTM 6109: 456,000 psi.
 - 7) Modulus of Rupture per ASTM D6109: 3500 psi.
 - 8) Flexural Rigidity per ASTM D7032 and D6109: 971 lbs ultimate load, 225 lbs load at L/180 deflection, and EI 116,200 lb-in².
 - 9) Creep Recovery per ASTM D7032: 84 percent average recovery with maximum unrecovered deflection not to exceed 1/16 inch for 151 lb test load.
 - 10) Maximum Load Deflection per ASTM D7032: Less than 0.120 inch.
 - 11) UV Resistance per D2561 Cycle 1: Successfully passed after 2000 hours of Xenon-Arc exposure.
 - 12) Fungus Decay Resistance per AWAPA E10: No significant decay.
 - 13) Termite Resistance per AWPA E1: Passes.
 - 14) Fastener Performance per ASTM D1761: Minimum 367 lbs.
 - 15) Delamination - Submersion Test: No delamination after 30 days when tested fully submerged in water at 70 deg F and 150 Degree F.
 - 16) Delamination - High Heat and Humidity Test: No delamination after 30 days suspended directly above, but not immersed into, 150 deg. F. water.
 - 17) Delamination - Soak/Freeze/Thaw Test: No delamination after 50 soak/freeze/thaw cycles. Soak in room temperature water, freeze for a minimum 4 hours, thaw, and repeat.
 - i. Performance Criteria for Mechanical Fasteners:
 - 1) Pull-through Resistance per ASTM D1761 and ASTM D7032: 167 lbs minimum.
 - 2) Withdrawal Capacity per ASTM D1761 and ASTM D7032: 196 lbs. Minimum.
 - j. Fasteners: Cortex Hidden Fastener System with matching plugs.
 - 1) Stainless steel or polymer-coated composite decking complying with ASTM C1002. Minimum #8 by 2 - 1/2 inch length for face fasteners and #8 by 2-3/4 inch length for WPC board ends.
 - k. Install per manufacturer's instructions.
- D. Dimensional Letters and Plaque:
1. Cast Metal Letters:
 - a. Provide and install, where shown on the drawings, Cast Letters as manufactured by GEMINI, or approved equivalent.
 - 1) Dimensional Cast Letters shall be fabricated from #514 Alloy.
 - 2) Letter style shall be a Cast 6" high by 3/4" thick Arial as indicated on the drawings.
 - 3) Letters shall have straight edges and buckle free faces.
 - 4) Cast Letters shall have #4 Satin Stainless Steel finish.
 - b. Letters shall be mounted with stud.
 - c. Coordinate metal backing at location receiving Dimensional Cast Letters.
 - 1) Submit a sample Dimensional Cast Letter and mounting device in the finish selected. Approval by the Architect is required prior to fabrication and installation of all other letters. Sample, upon approval of the Architect, may be incorporated into the work.

END OF SECTION

IRRIGATION SYSTEM

SECTION 328400 - IRRIGATION SYSTEM

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Provide all materials, labor, equipment and services necessary to furnish, install and maintain the Irrigation System, accessories and other related items necessary to complete the Project as indicated by the Contract Documents unless specifically excluded.
- B. Related Work Specified Elsewhere
 - 1. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 1 Specification Sections, apply to work of this section.
 - 2. Section 32 90 00 – Landscape Planting

1.02 CODES AND REGULATIONS

- A. All work and materials shall be in full accordance with the following codes adopted and amended by the authority having jurisdiction. Nothing in these drawings or specifications is to be construed to permit work not conforming to these codes. The work described in these specifications shall govern in the event that the drawings or specifications call for material or methods of construction of higher quality or standard than required by these codes.
 - 1. California Plumbing Code
 - 2. California Administrative Codes:
 - a. Title 8, Industrial Relations
 - b. Title 19, Public Safety
 - 3. California Electrical Code
 - 4. California Green Building Standards Code, Section 5.304.
 - 5. California Department of Water Resources, Model Water Efficient Landscape Ordinance (MWELO)
 - 6. Standards and Regulations of other agencies, water utility provider, or organizations as listed in this specification relating to products or procedures, e.g. American Society for Testing and Materials.

1.03 DEFINITIONS

- A. Piping: All pipe fittings, valves, and accessories as required for a complete piping system.
- B. PVC: Polyvinyl Chloride.
- C. Agencies and Organizations:
 - 1. ASTM- American Society for Testing and Materials
 - 2. AWWA- American Water Works Association
 - 3. IAPMO- International Association of Plumbing and Mechanical Officials
 - 4. CEC - California Electrical Code
 - 5. UL - Underwriter's Laboratories
 - 6. SSPWC – Standard Specifications for Public Works Construction, by the American Public Works Assoc./Associated General Contractors of California.

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D. Owner: An authorized representative of the Owner or the Owner's authorized consultant.

1.04 QUALITY ASSURANCE

- A. The work of this section shall be performed by a single firm experienced in irrigation work and holding a current California Contractor's A or C27 License.
- B. Qualifications of Workers
 - 1. The Contractor shall employ skilled workers who are thoroughly trained and experienced in irrigation system installation and who are completely familiar with the specified requirements and methods needed for proper performance of this work.
 - 2. The Contractor shall provide adequate supervision by a qualified foreman fluent in English that will be continuously onsite during the performance of this work.

1.05 SUBMITTALS

- A. An operational assessment report of any existing irrigation system in the area of work shall be submitted prior to the start of the project's work, including demolition and clearing. See Subsection 1.07.
- B. The Contractor shall submit complete lists of proposed materials and equipment per the Division 01 Submittal Section, including manufacturer's name and model numbers. Only provide additional product data and/or catalog cut sheets if a substitute material or equipment is proposed. No substitution will be allowed without prior written approval.
- C. Shop drawings shall be provided for the layout and description of all equipment assemblies, including dimensions, capacities, and other characteristics as listed in product specifications. Shop drawings for booster pump assemblies shall clearly and neatly indicate the layout of the assemblies and proposed piping in the pump yard, and shall show adjacent equipment, required clearances, walls, fences, piping and other existing permanent improvements affecting the layout. Materials and equipment shall not be ordered until given written acceptance. Equipment or materials installed or furnished without prior approval or acceptance may be rejected and the Contractor shall be required to remove such materials from the site at his own expense.
- D. When specific name brands of equipment and materials are used, they are intended as preferred standards only. This does not imply any right upon the part of the Contractor to furnish other materials unless specifically approved in writing as equal in quality and performance by the Owner. Decisions by the Architect/Engineer shall govern as to what name brands of equipment and materials are equal to those specified on the plans and his decisions shall be final. It shall be the responsibility of the Contractor to furnish proof as to equality of any proposed equipment or material.
- E. Approval of any item, alternate or substitute indicates only that the products apparently meet the requirements of the drawings and specifications on the basis of the information or samples submitted. Manufacturer's warranties shall not relieve the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.
- F. Acceptance of any submittals, deliverables, or other work product of the Contractor shall not be construed as assent that the Contractor has complied with, nor in any way relieved the

IRRIGATION SYSTEM

Contractor of compliance with (i) the applicable standard of care, and/or (ii) applicable statutes, regulations, rules, guidelines, and contract requirements.

- G. Irrigation Equipment: When the Contractor desires to transfer salvaged irrigation equipment and/or new spare equipment and/or parts to the Owner, he must submit along with the equipment an itemized list. The Contractor is solely responsible to obtain a written confirmation by the Owner that all materials received by the Owner matches his material list. The transfer of materials will not be considered executed without written confirmation of same.
- H. Submit any required or requested testing data and/or Certificates, including but not limited to the backflow prevention assembly testing Certificate after the assembly is installed prior to regular system operation.

1.06 EXPLANATION OF DRAWINGS

- A. The intent of the drawings and specifications is to indicate and specify a complete and efficient sprinkler irrigation system ready for use in accordance with the manufacturer's recommendations, and all applicable local codes and ordinances. Interpretation of irrigation plans and specifications shall be the responsibility of the Landscape Architect or Owner.
- B. All existing systems and improvements are shown in their approximate locations. Before proceeding with any work, the Contractor shall carefully check and verify all dimensions and shall report any variations to the Owner.
- C. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings, etc., which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all his work, and plan his work accordingly, furnishing such fittings, etc., as may be required to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed in the most direct and workmanlike manner, so that conflicts between sprinkler systems, planting, utilities, and architectural features will be avoided. Locate pipe, valves and other equipment in planting areas unless specifically noted otherwise.
- D. All work called for on the drawings by notes shall be furnished and installed whether or not specifically mentioned in the specifications.

1.07 EXISTING CONDITIONS

- A. The Contractor shall not install the irrigation system and equipment as shown on the Drawings when it is obvious in the field that obstructions or differences in existing conditions and/or systems are present. Such obstructions or differences should be immediately brought to the attention of the Owner. Failure to provide notification prior to the start of this work shall make the Contractor liable for any and all repairs and/or corrections necessary for proper functioning and coverage of the system without any additional cost to the Owner.
- B. The Contractor shall examine carefully the site of work contemplated and the proposal, plans, specifications, and all other contract documents. By submitting a bid, the Contractor attests that he has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantity of work to be performed and materials to be furnished, and the requirements of the specifications. The Contractor shall take necessary precautions to

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protect existing site conditions that are to remain. Should damage be incurred, the Contractor shall make the necessary repair or replacement to bring it back to its original condition at his own expense.

- C. Prior to cutting into the soil, the Contractor shall coordinate with the Owner to locate all cables, conduits, sewers, septic tanks, and other such underground utilities as are commonly encountered and he shall take proper precaution not to damage or disturb such improvements. If a conflict exists between such obstacles, notify the Owner who will consider realignment of the proposed work. The Contractor will proceed in the same manner if a rock layer or any other condition encountered underground makes change advisable. Should utilities not shown on the plans be found during excavations, Contractor shall promptly notify the Owner for instructions as to further action. Failure to do so will make Contractor liable for any and all damage thereto arising from his operations subsequent to discovery of such utilities not shown in plans.
- D. The Contractor shall verify the correctness of all finish grades within the work area in order to insure the proper soil coverage (as specified) of the sprinkler system pipes. The Contractor shall verify and be familiar with location and size of the proposed water supply (P.O.C.). He shall make approved type connection and install new work.
- E. The Contractor shall be responsible for notifying the Owner prior to installation that equipment or methods indicated on the drawings or in the specifications conflict with local codes, are incompatible or an error is apparent. If the event the Contractor neglects to do this, he will accept full responsibility for any revisions necessary.

1.08 PERMITS

- A. The Contractor shall obtain and pay required fees to any governmental or public agency. Any permits for the installation or construction of any of the work included under this contract, which are required by any of the legally constituted authorities having jurisdiction, shall be obtained and paid for by the Contractor, each at the proper time. He shall also arrange for and pay all costs in connection with any inspections and examination required by these authorities.

1.09 TESTING

- A. General: Unless otherwise directed, tests shall be witnessed by the Owner. Work to be concealed shall not be covered until prescribed tests are made. Should any work be covered before such tests, the Contractor shall, at his expense, uncover, test and repair his work and that of other contractors to original conditions. Leaks and defects shown by tests shall be repaired and entire work re-tested. Tests may be made in sections, however, all connections between sections previously tested and new section must be included in the test.
- B. Main Line Piping: Hydrostatically test main line pipe segments after a minimum of twenty-four (24) hours after any solvent connections. Purge any free air in the test pipe sections. Partially backfill pipe but keep all joints exposed. Maintain 125 psi water pressure in new main line piping for a minimum duration of two (2) hours. There can be a maximum +/- 5psi change in pressure during the test.
- C. After being installed at the project site, any newly installed Backflow Prevention unit must be tested and approved as functioning properly per the local water agency requirements.

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Approval of the backflow prevention unit must precede any final inspection of the irrigation system. All costs for testing shall be the responsibility of the Contractor.

1.10 OBSERVATION

A. General:

1. Installation and operations must be approved by the Owner.
2. In no event shall the Contractor cover up or otherwise remove from view any work under this contract without prior approval of the Owner. Any work covered prior to inspection shall be opened to view by the Contractor at his expense.
3. In all cases, where inspection/observation of the irrigation system work is required and/or where portions of the work are specified to be performed under the direction and/or review of the Owner, the Contractor shall notify the Owner at least 72 hours in advance of the time when such review and/or direction is required. Any necessary re-excavation or alterations to the system needed because of failure of the Contractor to provide the required notification and/or to obtain the review/observation, shall be performed at the Contractor's own expense.

B. Periodic observations shall be required for basic operations and installations during progression of the project. The Owner, or Project Inspector shall perform the observations and shall record the observation on the Irrigation System Observation Log form on the As Built Record Drawings. Such observations will include but not necessarily be limited to the following items as included in the scope of work:

1. Layout and flagging of sprinkler heads.
2. Trenching.
3. Main line installation.
4. Main line sustained pressure check.
5. Wire placement.
6. Partial fill compaction of trenches.
7. Control valve installation.
8. Drip line installation prior to backfilling.
9. Irrigation controller installation and operation.
10. Sprinkler/emitter coverage prior to the start of planting operations.
11. Overall system operation and primary/secondary communication.

C. Coverage & Operations Review:

1. When the irrigation system is operational and prior to soil conditioning operations, the Contractor in the presence of the Owner shall perform a coverage test of the irrigation system. The Contractor shall furnish all materials and labor required to perform the coverage test and to correct any minor inadequacies of coverage disclosed. The Contractor shall inform the Owner and Owner of any deviation from the plan required due to wind, planting, soil, or site conditions that bear on proper coverage. If such notification of necessary corrections or additions to the irrigation system is not provided prior to or during the coverage test, the Contractor shall make all subsequent adjustments and corrections needed for proper coverage without any extra cost to the Owner.
2. Prior to the start of the maintenance period, the irrigation system shall be reviewed by the Owner for proper operations, and a review of and training on equipment and associated controls performed. Any corrections and/or adjustment shall be made as a condition for the start of the maintenance period and subsequent Final Acceptance.

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- D. Final Acceptance: The work will be accepted in writing when the entire project improvements have been completed to the satisfaction of the Owner. In judging the work, no allowance for deviation from the original plans and specifications will be made unless already approved in writing at proper time. Should it become necessary for the Owner to occupy any portion of the work area before the contract is fully completed, such occupancy shall not constitute acceptance. The Contractor will not be responsible for any damage caused by the Owner's separate work forces.
- 1.11 REJECTION OF NON-CONFORMING MATERIAL OR WORK
- A. The Owner reserves the right to reject any material or work which does not conform to the contract documents. The rejected material or work shall be removed or corrected by the Contractor at no additional cost to the Owner.
- 1.12 OPERATIONS AND MAINTENANCE INSTRUCTIONS & RECORD DOCUMENTS
- A. The Contractor shall prepare and deliver to the Owner's Representative within ten (10) calendar days prior to completion of the maintenance period, all required and necessary descriptive material in complete detail and sufficient quantity, properly prepared in two individually bound sets of Operating and Maintenance Manuals. These manuals shall describe the material installed and shall be in sufficient depth to permit operating personnel to understand, operate and maintain all equipment. Spare part lists and related manufacturer identification shall be included for each installed equipment item. Each complete, bound manual shall contain the following information:
1. Cover sheet stating Contractor's address and telephone number, duration of guarantee period, and a list of equipment, with names and addresses of local manufacturer representatives and warranty periods.
 2. The Contractor to issue a "CERTIFICATE OF CONSTRUCTION COMPLIANCE" which indicates that all work done, materials and equipment used and installed are in compliance with the approved plans, specifications and all authorized revisions and that the system functions properly.
 3. Complete operating and maintenance instructions and warranties on all major equipment.
 4. Complete set of manufacturer's literature and specifications of material installed, including parts list.
 5. A list of the controller station number for each control valve if different than the control valve number shown on the drawings.
 6. Initial electrical data on each control valve:
 - a. Ohms reading for each valve taken at the controller (circuit is OFF).
 - b. Voltage reading for each valve taken both at the controller and at the valve (circuit is ON).
- B. The contractor shall furnish one set of As-Built full-scale drawings on bond, and two compact disks with complete sets of digital PDF files of all close-out documents after the As-Built Record Drawings have been reviewed and accepted by the Landscape Architect.
1. Label first page of each document, or set of documents, "AS-BUILT PROJECT RECORD" in neat large printed letters on lower right hand corner. Record information concurrently with construction progress. Prints for this purpose may be obtained from the Owner. This set of drawings shall be kept on the site and shall be used only as a record set. Do not conceal any work until required information is recorded. These drawings shall also serve as work in progress sheets, and the Contractor shall make **neat and legible** annotations thereon daily as the work progresses, showing the work as actually installed.

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These drawings shall be available at all times for inspection and shall be kept in a location designated by the Owner.

2. Drawings: Legibly mark to record actual construction:
 - a. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements. Give sufficient horizontal and vertical dimensions to accurately trace route and depth of each concealed line or item. Accurately locate each capped, plugged or stubbed line.
 - b. Field changes of dimension and detail.
 - c. Changes made by Field Order, Addenda, or other change document.
 - d. Show the final controller station number for each control valve if different than the control valve number shown on the drawings.
 3. Deliver all Close-out Documents (As-Builts) to the Owner. Accompany submittal with transmittal letter in duplicate, containing:
 - a. Date.
 - b. Project title.
 - c. Contractor's name and address.
 - d. Title and number of each Record Document (As-Built).
 - e. Signature of Contractor or his authorized representative.
 - C. The Contractor shall provide controller chart(s) as follows:
 1. The Contractor shall provide two controller charts for each controller's area of work.
 2. The chart shall show the area of work controlled by the automatic controller and shall be the maximum size that the controller door will allow.
 3. Show the controller station number for each control valve if different than the control valve number shown on the drawings.
 4. The chart may be a reduced drawing of the actual as-built system. However, in the event the valve numbering is not legible when the drawing is reduced, it shall be enlarged to a size that will be readable when reduced.
 5. The chart shall be colored with a different permanent color for each station.
 6. The chart shall be enclosed in a waterproof envelope or laminated.
 - D. Per MWELo Section 492.9, upon completion of the landscape planting and irrigation system, and as a condition of Final Acceptance and/or the issuance of a Certificate of Occupancy, the licensed landscape contractor shall submit to the approving agency and/or Owner, the following items in a form acceptable to the approving agency and/or Owner:
 1. Project information and contact information for the Owner and Applicant (Contractor).
 2. Certification that the installation complies with the approved Landscape Documentation Package.
 3. Irrigation scheduling parameters used in programming the controller during the establishment and maintenance periods.
 4. A Schedule of Irrigation System Maintenance.
 5. A Landscape Irrigation Audit Report per MWELo Section 492.12. Provide the Audit Report unless the report is not required by the approving agency or Owner.
- 1.13 SPARE PARTS AND EQUIPMENT
- A. Prior to the conclusion of the maintenance period, furnish the Owner with the following spare parts and equipment:
 1. One quick coupler key with attached hose swivel for each set of four quick coupler valves installed.
 2. Ten spare nozzles for each different sprinkler head arc and/or radius nozzle installed.

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3. One valve key for the 2" operating nut and/or hand wheel isolation valve.
4. One hundred feet of in-line emitter tubing with ten straight and ten ninety degree compression fittings.

1.14 WORK AREA AND SAFETY

- A. The Contractor shall furnish, erect, and maintain all temporary facilities; perform all temporary work during the period of construction, including those herein specified. All facilities shall be maintained in proper and safe operating and sanitary conditions at all times.
- B. The Contractor shall comply with the provisions of the Construction Safety Orders, and General Safety Orders issued by the State Division of Industrial Safety, as well as all other applicable laws, ordinances and regulations.
- C. The project site shall be maintained in a neat and safe condition at all times. Cleanup shall be accomplished as the work progresses and upon completion of the work. The Contractor shall provide adequate safety measures to protect workers and the public from injury.

1.15 GUARANTEE

- A. Irrigation system consisting of materials, equipment and workmanship shall be guaranteed for proper operation a minimum of one year from date of Final Acceptance of the Work or the Notice of Substantial Completion of the Project, whichever is later. Manufacturer's warranty periods may be longer, and shall be noted in the close-out documents.
- B. The Contractor shall be held responsible for repair and/or replacement of damages to new or existing improvements resulting from the defects of materials, equipment or workmanship one year from the date of Final Acceptance of the Work or the Notice of Substantial Completion of the Project, whichever is later.
- C. The Owner reserves the right to make temporary repairs as necessary to keep the irrigation system equipment in operating condition. The exercise of this right by the Owner shall not relieve the Contractor of his responsibilities under the terms of the Guarantee as herein specified.

PART 2 - PRODUCTS

2.01 PIPE AND FITTINGS

- A. Schedule rated white rigid PVC Pipe shall be made from NSF approved Type 1, Grade I, PVC compound conforming to ASTM D-1785.
- B. Class rated (Standard Dimension Ratio) white rigid PVC Pipe shall be made from NSF approved Type 1, Grade I, PVC compound conforming to ASTM D-1784.
- C. PVC pipe shall be of the Class or Schedule as follows:
 1. PVC pipe shall meet ASTM D-2241 for solvent weld, plain end, ASTM D-2672 for solvent weld, bell end, and ASTM D-3139 for gasketed bell end. Pipe shall be of the Schedule and/or Class as indicated herein.
 2. Pipe sleeves under paving shall be PVC Schedule 40 for 3-inch and smaller or SDR 35 for 4-inch and larger pipes.

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3. Riser and/or manifold pipe connecting valves to main line fittings shall be Schedule 80 PVC.
4. Pressurized main line pipe shall be Schedule 40, belled end with solvent welds for pipe sizes less than 2 inches. Pipe sized 2 inches and greater shall be Class 200, SDR 21, with gasketed bell ends.
5. Non-pressurized lateral line pipe shall be Schedule 40, belled end with solvent welds.
- D. All pipes shall be continuously and permanently marked and conform with the following information: manufacturer's name or trademark, nominal pipe size, Schedule or Class of pipe, pressure rating in PSI, ASTM designation and (NSF) seal of approval.
- E. Rigid polyvinyl chloride (PVC) Fittings:
 1. White Schedule 40 type I and II grade 1, solvent weld socket fittings ASTM D-2466 for all lateral lines 2-1/2 inches and smaller.
 2. Gray Schedule 80 type I and II grade 1 solvent weld socket fittings ASTM D-2464 for all main line less than 2 inches diameter, and lateral lines 3 inches and larger.
 3. All fittings shall bear the manufacturer's name or trademark, material designation, size, applicable (IPS) schedule, and (NSF) seal of approval.
 4. All plastic fittings and connectors shall be injection molded of an improved polyvinyl chloride compound featuring high tensile strength, high chemical resistance and high impact strength in terms of current ASTM standards for such fittings. Where threads are required in plastic fittings, these shall be injection molded also.
- F. PVC Solvent Weld Adhesive: All socket and bell type connections shall be joined with primer and PVC solvent cement which shall meet the requirements of ASTM F656 for primer and ASTM D2564, "Standard Specification for Solvent Cements for Polyvinyl Chloride (PVC) Plastic Pipe and Fittings." Solvent cement joints for plastic pipe and fittings will be made as prescribed by manufacturer. The high chemical resistance of the pipe and fitting compounds specified in the foregoing sections makes it mandatory that an aggressive colored primer, which is a true solvent for PVC be used in conjunction with a solvent cement designed for the fit of pipe and fittings specified. A heavy bodied, medium set solvent cement, e.g. Weld-On 711 gray, shall be used for all classes and schedules of pipe and fittings.
- G. PVC Pipe Thread Sealant: A non-hardening all purpose sealant and lubricant similar to Permatex #51 or Lasco blue pipe thread sealant which is certified by the manufacturer to be harmless to PVC pipe and fittings. Apply sealant to clean male threads, brushing into grooves and to the first three threads of the female threads. A good quality grade of teflon tape recommended by the manufacturer for use with plastics may be used in lieu of sealant. Minimum width of tape to be used is 3/4". A minimum of two wraps and a maximum of three wraps shall be used.
- H. PVC Swing Joints: Connections to sprinkler heads from lateral lines shall be made with swing joints as detailed. Pre-assembled swing joints from Hunter, King Brothers or Spears are acceptable.
 1. Use 6" length nipples for 1/2 inch inlet heads.
 2. Use 12" length nipples for 3/4 or 1 inch inlet heads.
- I. Coated Ductile Iron pipe and fittings:

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1. Ductile Iron pipe shall be centrifugally cast pipe conforming to ANSI/AWWA C150/A21.50 and ANSI/AWWA C151/A21.51, thickness Class 50, with cement - mortar lining and seal coating per ANSI/AWWA C104/A21.4.
 2. Ductile Iron flanged pipe shall conform to ANSI/AWWA C115/21.15.
 3. Ductile Iron flanged fitting to PVC pipe shall use a 'Megalug' mechanical joint restraint Series 2000PV by EBAA Iron per either ANSI/AWWA C111/A21.11 or ANSI/AWWA C153/A21.53, or equal.
 4. Joints shall comply with the following standards:
 - a. Rubber gasketed/mechanical joints: ANSI/AWWA C111/A21.11.
 - b. Flanged joints: ANSI/AWWA C110/A21.10, B16.1, B16.2.
- J. Coated ductile iron push-on fittings meeting ANSI/AWWA C110 or C153/A21.10 shall be used for:
1. Main line connections for pipe 3 inches and greater in diameter.
 2. New main line service tee at valve connections where a service saddle is not acceptable.
 3. Self-restrained fittings or joint restraints (Leemco LH or equal) shall be used for all elbows, tees, bends, etc fittings.
- K. Coated ductile iron service saddles with stainless steel double straps, Smith-Blair 317, Romac Industries 202NS, or equal, shall be used for remote control/quick coupler valve service connections on main lines 1.25 inch or greater, and where the available outlet size can match the largest lateral line size downstream of the remote control valve.
- L. Galvanized pipe and fittings:
1. Galvanized Pipe shall be hot dip galvanized continuous welded, seamless steel SCH 40 pipe conforming to current ASTM A53 standards.
 2. Galvanized Fittings shall be galvanized, threaded malleable iron SCH 40 conforming to current ASTM A865 standards.
- 2.02 BACKFLOW PREVENTION ASSEMBLY
- A. The backflow prevention assembly is existing and shall remain in place.
- 2.03 VALVES
- A. Electric Control Valves:
1. Globe valves operated by low-power solenoid, normally closed, manual flow adjustment. Sizes and types as shown on drawings.
 2. Provide a pressure regulating module on all control valves, or other pressure regulating components as part of the operating spray head or low volume head zones when the dynamic system pressure is, or may be greater than 45 psi.
- B. Electric Master Valves:
1. The master valve is existing and shall remain in place.
- C. Control Valve Marking: Christy's valve identification tag (or equal), yellow color (purple color for recycled water) with text designating controller and valve station number, e.g. "A12", or equivalent.
- D. Isolation Valves:

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1. Cast bronze, coated ductile iron or coated cast iron gate valve with resilient wedge, non-rising stem and two inch operating nut for main line 2 inch size or greater. Match size of mainline.
 2. Cast bronze threaded gate valve with bronze cross handle for main line less than 2 inch size.
- E. Quick Coupling Valve: Two piece quick coupling valve as shown on the Drawings.
- 2.04 VALVE BOXES
- A. Control Valve/Master Valve/Flow Sensor boxes:
1. Shrub/Ground Cover areas: Carson 1419 body with lockable tan plastic cover, or equivalent. Drip Valve Kits shall use a Jumbo body with lockable tan plastic cover.
- B. Quick Coupler Valve boxes:
1. Shrub/Ground Cover areas: Carson 910 body with lockable tan plastic cover, or equivalent.
- C. Isolation Valve boxes:
1. Gate Valve box in hardscape: Christy G05 round concrete valve box (10.375" ID) with cast iron G05C lid, or equivalent.
 2. Gate Valve box in planting areas: Christy F08 round concrete valve box (8" ID) with F08R concrete lid, or equivalent. Use F14 ADS adapter and extension for sizes 2.5 inches and larger.
 3. Ball Valve box: Same as 2.04, A.
- D. Control Valve box marking: Plastic lids shall have branded markings, and concrete lids shall have painted markings on the top of lid with minimum 2 inch high stenciled letters showing controller letter and station number.
- 2.05 CONTROLLER
- A. The existing irrigation Controller shall remain in place. Verify open stations and spare wire, if any, in the area of work.
- B. Solid state microcomputer controller, completely automatic in operation, which shall electrically start the sprinkler cycle and program and time the individual stations. Controller shall have attached instruction booklet, integral 24V transformer, clock indicating time of day and day of week, 24V master valve circuit and terminal connection strip. See Drawings for manufacturer and model.
- C. Controller enclosure shall be specified on the Drawings.
- D. Upgrade components, sensors, flow meters and other accessories shall be a model type compatible with the controller and as specified on the Drawings. Controller assembly shall include boards and/or connections for sensor inputs. Weather sensors shall be located over a planting area.
- E. Grounding materials shall conform to ASIC Guideline 100-2002 and manufacturer's specifications.

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2.06 CONTROL AND TRACER WIRE, COMMUNICATION CABLE

- A. Connections between the automatic controllers and the electric control valves, and tracer wire shall be made with direct burial AWG – UF 600 volt copper wire manufactured for irrigation system use.
- B. Hot control wires for the first controller shall be red. If multiple controllers are installed, the hot wire color shall be orange, yellow, purple in order for each controller. Common ground wire shall be white, with a color stripe corresponding to the hot control wire color when multiple controllers are installed. Spare control wires shall be black and spare common wire blue. Tracer wire shall be green.
- C. Install in accordance with valve manufacturer's specifications and wire chart. In no case shall wire size be less than #14. Common wire shall be a minimum #12 size.
- D. All control wire splices/caps shall be made with direct bury rated, waterproof wire connectors with silicone sealant, Spears DS-500 Dri-Splice, 3M DBR/DBY or approved equal. Use one splice per connector sealing pack.
- E. Apply waterproof numbered wire markers or sleeves at both sides of all splices and at the controller terminal board corresponding to the controller (A, B, etc.) and station number (02, 14, etc.). If multiple valves are connected to one station, add a single digit identifier (1, 2, etc.) to the station number (XX), e.g. A02-1, A02-2, etc.
- F. Communication/flow sensor cable shall be a shielded and jacketed, minimum 16 gauge twisted pair with drain wire, Paige P7162D or equal compliant with the controller manufacturer's specifications.
- G. Below-grade conduit for control wires and/or cables shall be PVC for electrical use with long radius sweeps at direction changes and at valve/splice/pull box terminations.

2.07 IRRIGATION HEADS

- A. Spray/Bubbler Pop-up Head: Molded plastic body with pop-up plastic riser and nozzle. Manufacturer's model numbers are listed with description on the Drawings.

2.08 DRIP IRRIGATION EQUIPMENT

- A. Flexible distribution tubing shall be 0.66" – 0.70" OD (17mm nominal) fabricated from virgin polyethylene resin specifically designed for subsurface drip irrigation use and conforming to ASTM D 1248 for Type I, Class C, Category 4 Grade P14, and to ASTM D-3350 for PE 122111C. Provide all fittings, connectors and accessories compliant with the tubing for a complete, properly functioning system.
- B. Pressure rating of tubing shall be as defined in Standard ASAE S435. Burst strength shall be minimum 50 psi at 176 degrees F for 4,200 hours.
- C. In-line wye filters shall be type as noted on the Drawings. Filter element shall be molded polyester screen cylinder with minimum 150 mesh screen (blue).

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- D. Preset pressure regulators shall be type as noted on the Drawings for above or below ground application.
 - E. In-line emitter tubing shall be a below grade product with self-cleaning emitters. Manufacturer as noted on the Drawings.
 - F. Flush valve assembly as noted on the Drawings.
 - G. Operation indicator shall be a 6 inch pop-up sprinkler body with built-in check valve. Install a bubbler or variable arc nozzle that can be adjusted to a no-flow condition, Hunter ECO-INDICATOR, or equal.
- 2.09 CONCRETE
- A. Cast-in-place Portland cement concrete used for pipe encasement, cover, thrust blocks, pipe support or other below-grade use shall at minimum comply with 2,800 psi 28 day strength.
- 2.10 OTHER MATERIALS
- A. Materials not specifically indicated but necessary for the proper execution of this work shall be of first quality as selected by the Contractor subject to the acceptance of the Owner.
 - B. All materials appearing in the legend and details of the irrigation drawings are to be furnished and installed by the Contractor unless specifically noted to the contrary. Contractor is responsible for installation according to plans and details. The system shall efficiently and uniformly irrigate all areas and perform as required by these plans and specifications.
 - C. Granular bedding material shall be clean natural occurring sand, free from clay, salt, sea shells or organic material, suitable for the purpose intended, and shall be of such size that 90 percent to 100 percent will pass a No. 4 sieve and not more than 5 percent will pass a No. 200 sieve.

PART 3 - EXECUTION

3.01 SYSTEM DESIGN AND VERIFICATION

- A. Contractor shall verify existing pressure and any existing irrigation equipment, and shall inform the Owner of any discrepancies between the existing systems' make and model of equipment, such as sprinkler heads, control valves, etc., and those indicated in the Drawings in writing prior to the start of irrigation system installation. Failure to inform the Owner of any discrepancy within seven working days prior to beginning of system installation will place the responsibility of any and all corrective action on the Contractor at no expense to the Owner.

3.02 PIPING INSTALLATION

- A. General:
 - 1. Any equipment installed by the Contractor and deemed to be for the use of the Owner in various situations (i.e., control valves, control panels, etc.) shall be so installed to be readily accessible and quickly operable. Equipment deemed by the Owner to be inoperable for its intended purpose shall be reinstalled by the Contractor in an operable

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- position before approval will be given. Any changes made by the Contractor shall be done without any additional cost to the Owner.
2. The Contractor shall be responsible for layout of proposed facilities and any minor adjustments required due to differences between existing conditions and the Drawings. Any such deviations in layout shall be within the intent of the original drawings, and without additional costs to the Owner. The Owner will indicate the proposed precise location of the control panels. Head spacing on drawings is diagrammatic. Head spacing and patterns shall be adjusted to provide complete and adequate coverage with a minimum spray on non-planted areas. Where head spacing is not specifically noted, Contractor shall install sprinkler heads evenly along the irrigation area's perimeter. Flush all lines prior to installation of heads.
 3. Support piping without strain on joints or fittings and allow for piping expansion and contraction. "Snake" pipe into trench in accordance to manufacturer's recommendations to allow for expansion. Lay on solid bedding, at uniform depth.
- B. The Contractor shall examine all other portions of working drawings and plan trenching and pipe layout so that no conflict will arise between irrigation and any other work. Any corrective action will be the Contractors responsibility at no further expense to the Owner.
- C. Excavations:
1. Excavations shall be open vertical construction, sufficiently wide to provide clear working space around the work installed and to provide ample space for backfilling and tamping.
 2. The use of a vibratory plow or methods other than open vertical trenching will not be allowed without the written approval of the Owner. To obtain such approval, a field test must be performed, at the proposed site, with the equipment to be used in the presence of the Owner and Owner. The field test is to indicate if the proposed site is favorable to the plowing method. Approval for plowing at one location does not allow the use of plowing at another location. Approval for plowing must be obtained for each location where the use of plowing is proposed. If, at previously approved plowing locations, conditions for plowing become unfavorable as determined by the Owner, plowing shall be terminated.
 3. Trenches for pipe and equipment shall be cut to required grade lines, and compacted to provide an accurate grade and uniform bearing for the full length of the line.
 4. Unless written approval for using native soils as bedding material is given by the Owner, main line pipe shall be placed on a minimum 6 inch depth of granular bedding material.
 5. Excess trench soil with rocks greater than ½ inch diameter shall be removed from the planted area and spread as directed by the Owner.
 6. When two pipes/conduit are to be placed in the same trench, it is required to maintain a minimum six inch (6") horizontal separation between pipes/conduit.
 7. Depth of trenches shall be sufficient to provide a minimum cover above the top of the pipe as follows:
 - a. 24-inch minimum over main lines and wire conduit.
 - b. 18-inch minimum over non-pressure (rotary pop-up) lateral lines.
 - c. 12-inch minimum over non-pressure (pop-up spray head) lateral lines.
 - d. 24-inch minimum from subgrade over any lines located in a paved vehicle area.
 - e. Maximum cover above the top of the pipe shall not exceed twelve inches (12") greater than the required minimum cover.
 - f. 12-inch minimum cover over drip line non-pressure lateral and manifold pipe, and main distribution tubing.
 - g. 3-inch minimum cover over in-line emitter tubing.

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D. Assemblies:

1. Routing of pressure supply lines as indicated on drawings is diagrammatic. Install lines (and various assemblies) in such a manner as to conform with details on plans.
2. Install all assemblies specified herein according to the respective detail drawings or specifications pertaining to specific items required to complete the work. Perform work according to best standard practice.
3. Install no multiple assemblies on plastic lines. Provide each assembly with its own outlet.
4. All threaded pipe and fittings shall be assembled using an approved teflon tape, or equivalent, applied to the male threads only. A minimum of two (2) wraps and a maximum of three (3) wraps of an approved teflon tape will be required.
5. No main line elbows, branch tees or isolation valves are to be located closer than five (5) feet to each other without prior approval of the Owner.

E. Line Clearance: All lines shall have a minimum clearance of four inches (4") from each other, and six inches (6") from lines of other trades. Parallel lines shall not be installed directly over one another.

F. Plastic to Steel Connections:

1. At all plastic (PVC) pipe connections, the Contractor shall work the steel connections first. Connections shall always be plastic into steel, never steel into plastic. An approved teflon tape shall be used on all threaded (PVC) to steel, never steel into plastic. An approved teflon tape shall be used on all thread (PVC) to steel pipe joints applied to the male threads only, and light wrench pressure is to be applied. A minimum of two (2) wraps and a maximum of three (3) wraps of an approved 3/4" wide teflon tape will be required.
2. A non-hardening sealant and lubricant similar to Permatex #51 or LASCO blue pipe sealant may be used in lieu of teflon tape. Apply sealant to clean male threads brushing into grooves and to the first three threads of the female threads.

G. Plastic Pipe:

1. The Contractor shall exercise care in handling, loading, unloading, and storing plastic pipe and fittings. All plastic pipe and fittings shall be stored under a weatherproof roofed structure before using and shall be transported in a vehicle with a bed long enough to allow the length of pipe to lie flat so as not to be subject to undue bending or concentrated external load at any point.
 - a. All lumber, rubbish, rubble, concrete and rocks shall be removed from the trenches by the Contractor. Pipe shall have a firm uniform bearing for the entire length of each pipe line to prevent uneven settlement. Wedging or blocking under riser tees shall be done only if specified on the plans. Pad trenches with soil as necessary to provide uniform bearing surfaces.
 - b. Where extensive lengths of pipe are installed, snake pipe in trench from side to side to allow for expansion and contraction. One additional foot per one hundred (100) feet of pipe is the minimum allowance for snaking. Never lay pipe when there is water in the trench or when the temperature is 32 degrees F or below.
 - c. All changes in direction of pipe shall be made with fittings, not by bending. No main line fittings for changes in direction shall be greater than 45 degrees. Provide a minimum five (5) feet between changes in direction fittings.
 - d. Safely handle primers and cements per ASTM F-402. Make solvent weld joints per ASTM D-2855 with a non-synthetic bristle brush in the following sequence:

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- 1) Make sure pipe is cut square and all rough edges and burrs are removed. All connecting surfaces are properly cleaned and dry prior to application of pipe primer.
 - 2) Apply an even coat of colored primer to pipe and fitting prior to application of solvent.
 - 3) Apply an even coat of solvent to the outside of the pipe, making sure that the coated area is equal to the depth of the fitting socket.
 - 4) Apply an even light coat of solvent to the inside of the fitting.
 - 5) Apply a second coat of solvent to the pipe.
 - 6) Insert the pipe quickly into the fitting and turn pipe approximately one-eighth to one-quarter turn to distribute the solvent and remove air bubbles. Hold the joint for approximately fifteen seconds so the fittings do not push off the pipe.
 - 7) Using a clean rag, make sure to wipe off all excess solvent to prevent weakening at joint.
 - 8) Exercise care in going to the next joint so that pipe is not twisted, thereby disturbing the last completed joint.
 - 9) Allow at least fifteen minutes setup time for each welded joint before moving.
 - 10) Repairing plastic pipe when damaged shall be done by replacing the damaged portion of pipe.
- H. Concrete Thrust Blocks: Concrete anchors or thrust blocks shall be provided on pressure main pipelines 2 inches or greater in diameter at abrupt changes in pipeline grade, changes in horizontal alignment (bends, tees and crosses), reduction in pipe size (reducers, reducing tees or crosses), end-line caps or plugs, and/or in-line isolation valve to absorb any axial thrust of the pipeline. The pipe manufacturer's recommendation for thrust control shall be followed. Thrust blocks must be formed against solid unexcavated earth (undisturbed). Do not enclose entire joint in concrete. Provide a minimum of three cubic feet of concrete for each thrust block.
- I. Concrete thrust blocks may be eliminated if the main line piping system uses self-restrained fittings and bell joint restraints per manufacture's specifications throughout.
- 3.03 PIPE DEPTH AND BACKFILL
- A. Backfill shall not be placed until the installed system has been inspected, pressure tested and approved by the Owner.
- B. Backfill for first 6 inches underneath, and 4 inches around and above main line pipe and control wires shall be granular bedding material, unless the Owner approves in writing that native soil may be used for initial backfill in lieu of granular bedding material. Backfill material for the upper portion of the trench shall be approved soil. Unsuitable material, such as pipe remnants and wire including clods and rocks over two inches (2") in size, shall be removed from the premises and disposed of legally at no cost to the Owner.
- C. Backfilling for all pipe shall be carried out in two basic stages.
1. Stage One Backfilling: This shall be accomplished as soon as possible after the pipe is laid. A bedding of uniform depth with no voids must be provided along the entire length of the pipe. The bedding material should be placed in the trench and tamped into the areas under the pipe, using a suitable tool. Joints should be left exposed until hydrostatic tests are completed. Cover only those portions of the pipe necessary to prevent movement or damage.

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2. Stage Two Backfilling: This shall be completed after all hydrostatic tests are completed and the piping system has been thoroughly checked for leaks or other defects. Continue to add backfill material in four inch (4") layers and hand tamp to achieve density similar to adjacent soil. After twelve inches (12") in main line trenches and eight inches (8") in lateral line trenches of hand tamped soil is in place over the pipe and fittings, backfilling can be continued, using light machinery to place dirt in the trenches in six inch (6") layers and to compact the dirt to conform to adjacent soil. Extreme care should be taken to avoid damage to the pipe from machinery that is too heavy. All trenches shall then be water jetted to assure uniform settling and compaction. Backfilling operations will not be considered complete until the top surface has been graded to conform to the adjacent soil. All rocks uncovered and not used as backfill must be collected and removed from the site.
 - D. All backfilling shall be done carefully and shall be properly tamped. All soil shall be tamped and puddled to eliminate any voids.
 - E. Surplus earth remaining after backfilling shall be disposed of as directed by the Owner.
 - F. PVC piping and fittings shall not be backfilled during periods of extreme heat or when a sudden lowering of temperature of the pipe may cause separation of joints or fittings.
 - G. Contractor shall fill with properly amended topsoil any irrigation trench that subsides during the warranty period. Contractor shall assume all cost associated with the trench repair, including but not limited to plant replacement of a size of plant disturbed at the time of the repair.
- 3.04 BACKFLOW PREVENTION ASSEMBLY
- A. Check the existing backflow assembly for leaks or any improper condition. Notify the Owner as such if found.
- 3.05 CONTROL AND TRACER WIRE, AND COMMUNICATION CABLE
- A. Do not tape wires together when encased in sleeve or conduit. Minimum cover shall be 24 inches. Crimp wires together at valve manifold with Scotchlok connector. Conventional valve wire splices shall use a 3M DBY splice kit. Tag all control wire at splices with approved control wire markers.
 - B. Wire size shall be determined by the number of valves operating on a given wire and the distance from the controller to the farthest valve, as specified by the charts furnished by the remote control valve manufacturer. Splices are only allowed when rerouting or repairing existing wire. All splice connections must be provided in a valve box.
 - C. Communication/sensor cable shall be installed in electrical conduit with long radius sweeps at direction changes and at valve/splice/pull boxes. Maintain a minimum six inch clearance to adjacent pipe. Minimum cover shall be 24 inches.
 - D. Install tracer wire along the top of pipe at the following locations:
 1. All pipe sleeves.
 2. Main line pipe without adjacent control wire.

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3.06 VALVES

- A. The Contractor shall make all necessary connections for operation, and shall be connected and aligned to provide the most efficient flow of water to the irrigation heads. Where pressure regulating electric control valves are specified, the Contractor shall adjust the valve so a uniform distribution of water is applied by the heads, and that the most remote heads operate at the pressure recommended by the head manufacturer.
- B. Each valve is to be enclosed in a separate valve box. The valve box shall be secured on firm soil clear of valves and wiring connections. Valve boxes and lids shall be set to finished grade or as indicated on the Drawings. Use valve box extensions of the same material as the box to the proper depth below the pipeline. Valve boxes shall be supported by common bricks at each corner and at the long side of the box. Use a minimum of six bricks to support rectangular boxes and four bricks to support round boxes. Backfill carefully and properly compact in order to prevent settlement and subsequent damage.
- C. Install a concrete collar around valve boxes when located in asphaltic concrete pavement or in turfgrass areas.
- D. Remote control valve boxes within the field of play at sports venues shall be buried with a minimum of 8 inches of cover over the box lid in turfgrass, and a minimum 3 inches in skinned infield or warning track surfacing.
- E. When existing valve and/or splice boxes are within the area of work, replace in kind any damaged boxes and/or lids, unless noted otherwise. Adjust the elevation of all existing boxes within the area of work to final grade per the drawings.
- F. Locate valve boxes in ground cover/shrub planting areas instead of turfgrass areas whenever possible. Locate valve boxes 18" from and perpendicular to adjacent paving. When grouped together, provide equal spacing of at least 36" between boxes.
- G. Permanently attach the plastic valve identification tag to the remote control valve body and locate so it's clearly visible in an open valve box.
- H. Permanently secure the control valve identification label to the top of concrete valve box lids with non-corrosive connectors.

3.07 AUTOMATIC CONTROLS

- A. Install the controller and/or associated equipment, enclosure, sensors, and accessories per the manufacturer's details and installation requirements, and the construction documents.
- B. Where the controller is not connected to a building's electrical grounding system, install a grounding circuit for controller and associated equipment with either a ground rod or ground plate per ASIC Guideline 100-2002.
- C. Where the new controllers are a site satellite controller in a central control system, the site satellite controller equipment and installation shall be reviewed for system compliance by an authorized central system distributor/installer.

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- D. Connect operational control wires or accessory components to the controller, and program valve schedules appropriately for the new planting.
- E. The Owner shall review the fully functional operation of the irrigation control system prior to acceptance of the system, and as a requirement for the start of maintenance.
- F. Install automatic controller chart in laminated or watertight plastic envelope inside controller cover showing which valves are connected to which stations on controller in the work area.

3.08 DRIP IRRIGATION SYSTEM

- A. Install control valves, wye strainer, pressure regulator and rigid PVC lateral distribution lines or manifolds prior to planting soil conditioning operations.
- B. Install in-line emitter tubing as follows:
 - 1. After planting soil has been amended, tilled and rough graded, remove and stockpile the planting soil to the required depth of the in-line tubing, and install and stake drip tubing taking into account adjustments needed in the tubing location based on the planting layout. Stake in-line tubing at every-other emitter. Install flush and air relief valves, and operation indicator. Install the operation indicator on the supply manifold with a swing joint in a location easily visible by maintenance personnel.
 - 2. After system flushing, verification of proper operation and inspection, reinstall the stockpiled planting soil and finish grade to final elevation.
- C. Operate the system to moisten the planting soils to a minimum 8 inch depth prior to planting operations.
- D. Program the controller to operate the drip system using the controller's "cycle and soak" feature in order to apply the required daily watering amount in three equal cycles with a one hour delay between cycles.

3.09 CONCRETE

- A. Concrete shall be installed in accordance with the relevant portions of the Site Concrete specification section.

3.10 COMPLETION AND MAINTENANCE

- A. After the system has been completed but prior to the start of maintenance, the Contractor shall operate the automated system with the Owner, shall instruct the Owner in the operations and maintenance of the system and controls, and shall program the controller for each station.
- B. If site satellite controller(s) for a central control system is installed, an authorized central control distributor/installer shall program the central base station to communicate with the site satellite controller(s), and shall verify that proper communication protocols are operational.
- C. The irrigation system shall be maintained and adjusted as required to provide proper coverage throughout the maintenance period or until Final Acceptance of the project, whichever is greater. Irrigation system maintenance shall commence upon an acceptable review following the completion of irrigation installation, planting operations and general clean-up.

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- D. The maintenance period shall not terminate until the close-out documents and as-builts record drawings have been submitted and accepted.

3.11 REPAIR AND CLEAN-UP

- A. All areas shall be maintained in a neat and orderly condition at all times. All reasonable precautions shall be taken to avoid damage to new planting and improvements. Disturbed and/or damaged areas shall be restored to their original condition to the satisfaction of the Owner.
- B. Where trenching or other work disturbs existing and/or newly planted turfgrass and/or planting, the Contractor shall reinstall the existing sod if viable, or install a full width of new turfgrass sod or new planting to match the existing turfgrass/planting species, variety and size, after first conditioning the top 6 inches of soil per the Landscape Planting specification. Adjust finish grades to account for the new turfgrass sod's soil mat so that the new sod is flush to the adjacent turfgrass.
- C. After the irrigation operations are completed, the Contractor shall remove all trash, excess materials, empty containers or any other debris accumulated by the work from the site. All damage caused by the work shall be repaired or material replaced at the Contractor's expense. The site shall be left in a neat and orderly condition to the satisfaction of the Owner.

END OF SECTION

SECTION 328432 – UNDERGROUND SPRINKLERS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Provide all materials, labor, equipment and services necessary to furnish and install Irrigation System, accessories and other related items necessary to complete the Project as indicated by the Contract Documents unless specifically excluded. The extent of the underground irrigation system is shown on the drawings. Point of Connection (P.O.C) and controller location are shown on the drawings.

RELATED WORK SPECIFIED ELSEWHERE

1.2

32 93 00 - PLANTS

- A.
 - 1. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 1 Specification Sections, apply to work of this section.

1.3 CODES AND REGULATIONS

- A. All work and materials shall be in full accordance with the following codes adopted and amended by the authority having jurisdiction. Nothing in these drawings or specifications is to be construed to permit work not conforming to these codes. The specifications shall govern in the event that the drawings or specifications call for material or methods of construction of higher quality or standard than required by these codes.
 - 1. California Plumbing Code
 - 2. California Administrative Codes:
 - a. Title 8, Industrial Relations
 - b. Title 19, Public Safety
 - 3. California Electrical Code
 - 4. Standards and Regulations of other agencies or organizations as listed in this specification relating to products or procedures. For example, American Society for Testing and Materials.

1.4 EXPLANATION OF DRAWINGS

- A. The intent of the drawings and specifications is to indicate and specify a complete and efficient sprinkler irrigation system ready for use in accordance with the manufacturer's recommendations, and all applicable local codes and ordinances. Contractor shall provide all labor, materials, equipment and services to fully complete the irrigation system as deemed necessary by the Owner. Questions concerning interpretation of irrigation plans and specifications shall be the responsibility of the Landscape Architect.
- B. All plot dimensions are approximate. Before proceeding with any work, the Contractor shall carefully check and verify all dimensions and shall report any variations to the Project Inspector and Landscape Architect.

- C. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings, etc., which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all his work, and plan his work accordingly, furnishing such fittings, etc., as may be required to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed in the most direct and workmanlike manner, so that conflicts between sprinkler systems, planting, utilities, and architectural features will be avoided. Contractor shall provide and install any and all material, labor, operations necessary to provide a complete fully functional irrigation system as deemed acceptable by the Owner. No additional compensation will be given to the Contractor for work required by the Owner.
- D. All work called for on the drawings by notes shall be furnished and installed whether or not specifically mentioned in the specifications.
- E. The Contractor shall not willfully install the irrigation facilities as indicated on the drawings when it is obvious in the field that unknown obstructions might not have been considered in the engineering. Such obstructions or differences should be brought to the attention of the Project Inspector.
- F. The Contractor shall examine carefully the site of work contemplated and the proposal, plans, specifications, and all other contract documents. It will be assumed that the Contractor has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantity of work to be performed and materials to be furnished, and as to the requirements of the specifications. The Contractor shall take necessary precautions to protect existing site conditions that are to remain. Should damage be incurred, the Contractor shall make the necessary repair or replacement to bring it back to its original condition at his own expense.
- G. Prior to cutting into the soil, the Contractor shall coordinate with the Project Inspector locate all cables, conduits, sewers, septic tanks, and other such utilities as are commonly encountered underground and he shall take proper precaution not to damage or disturb such improvements. If a conflict exists between such obstacles, notify the Project Inspector who will consider realignment of the proposed work. The Contractor will proceed in the same manner if a rock layer or any other condition encountered underground makes change advisable. Should utilities not shown on the plans be found during excavations, Contractor shall promptly notify the Project Inspector for instructions as to further action. Failure to do so will make Contractor liable for any and all damage thereto arising from his operations subsequent to discovery of such utilities not shown in plans.
- H. The Contractor shall verify the correctness of all finish grades within the work area in order to insure the proper soil coverage (as specified) of the sprinkler system pipes. The Contractor shall verify and be familiar with location and size of the proposed water supply (P.O.C.). He shall make approved type connection and install new work.
- I. Within seven (7) working days after start of the irrigation system installation the Contractor shall be responsible for notifying in writing the Landscape Architect of any equipment or methods indicated on the drawings or in the specifications conflict with local codes or capabilities of specified equipment, are incompatible or an error is apparent prior to installing. In the event the Contractor neglects to do this, he will accept full responsibility for any revisions necessary. No additional compensation will be given to the Contractor for necessary revisions resulting from this event.

1.5 PERMITS AND INSPECTIONS

- A. The Contractor shall obtain and pay required fees to any governmental or public agency. Any permits for the installation or construction of any of the work included under this contract, which are required by any of the legally constituted authorities having jurisdiction, shall be obtained and paid for by the Contractor, each at the proper time. He shall also arrange for and pay all costs in connection with any inspections and examination required by these authorities.
- B. In all cases, where inspection of the irrigation system work is required and/or where portions of the work are specified to be performed under the direction and/or inspection of the Owner authorized Representative the Contractor shall notify the Owner's Authorized Representative, at least 48 hours in advance of the time when such inspection and/or direction is required. Any necessary re-excavation or alterations to the system needed because of failure of the Contractor to have the required inspection, shall be performed at the Contractor's own expense.

1.6 GUARANTEE

- A. Irrigation system shall be guaranteed for one year from date of final acceptance by the Architect.

OPERATIONS AND MAINTENANCE INSTRUCTIONS/RECORD DOCUMENTS

- 1.7
 - A. The Contractor shall prepare and deliver to the Owner Representative within ten (10) calendar days prior to completion of the construction, all required and necessary descriptive material in complete detail and sufficient quantity, properly prepared in two individually bound sets of Operating and Maintenance Manuals.
 - B. These manuals shall describe the material installed and shall be in sufficient depth to permit operating personnel to understand, operate and maintain all equipment. Spare part lists and related manufacturer identification shall be included for each installed equipment item. Each complete, bound manual shall contain the following information:
 - 1. Index sheet stating Contractor's address and telephone number, duration of guarantee period, and list of equipment, with names and addresses of local manufacturer representatives.
 - 2. The Contractor to issue a "CERTIFICATE OF CONSTRUCTION COMPLIANCE" to the Project Inspector which indicates that all work done, materials and equipment used and installed are in compliance with the approved plans, specifications and all authorized revisions.

1.8 SUBMITTALS

- A. When specific name brands of equipment and materials are used, they are intended as preferred standards only. This does not imply any right upon the part of the Contractor to furnish other materials unless specifically approved in writing as equal in quality and performance by the Landscape Architect. Decisions by the Landscape Architect shall govern as to what name brands of equipment and materials are equal to those specified on the plans and his decisions shall be final.
 - 1. It shall be the responsibility of the prospective bidder to furnish proof as to equality of any proposed equipment or material.
- B. Approval of any item, alternate or substitute indicates only that the products apparently meet the requirements of the drawings and specifications on the basis of the information or samples submitted.
- C. Manufacturer's warranties shall not relieve the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.
- D. Acceptance of any submittals, deliverables, or other work product of the Contractor shall not be construed as assent that contractor has complied, nor in any way relieved the Contractor of, compliances with (i) the applicable standard of care of (ii) applicable statutes, regulations, rules, guidelines, and contract requirements.

1.9 DEFINITIONS

- A. Agencies and Organizations:
 - 1. ASTM- American Society for Testing and Materials
 - 2. AWWA- American Water Works Association
 - 3. IAPMO- International Association of Plumbing and Mechanical Officials
 - 4. CEC - California Electrical Code.
 - 5. UL - Underwriter's Laboratories

1.10 REJECTION OF MATERIAL OR WORK

- A. The Owner reserves the right to reject any material or work which does not conform to the contract plans, specifications without any written approval from the Landscape Architect. The rejected material or work shall be removed or corrected by the Contractor at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

- A. The intent is to match existing piping, fittings, and drip line system. Extend existing drip line to the new planting areas around the new sign wall and bench area. Provide pipe sleeves as necessary under walks. See drawings.

- B. Piping:
 - 1. Drip irrigation piping to match existing adjacent drip irrigation and emitters.
 - 2. Sleeving under paving:
 - a. Solvent weld bell end PVC 1120 Schedule 40 high impact pipe (ASTM D1745 & ASTM D1785). Size appropriately to allow drip irrigation lines to be threaded through smoothly.
 - 3. All pipe shall be continuously and permanently marked.
- C. Fittings:
 - 1. Match existing fittings from Owner's adjacent system.

2.2 OTHER MATERIALS

- A. Materials not specifically indicated but necessary for proper execution of this work shall be of first quality as selected by the Contractor subject to the acceptance of Landscape Architect.
- B. All materials appearing in the legend and details of the irrigation drawings are part of this job. Contractor is responsible for installation according to plans and details. The system shall efficiently and uniformly irrigate all areas and perform as required by these plans and specifications.

PART 3 - EXECUTION

3.1 SYSTEM DESIGN

- A. Contractor shall verify design layout and specifications as specified on drawings and inform the Project Inspector and the Architect of discrepancies, errors or incompatibility in writing prior to installation of irrigation system. Failure to inform the Project Inspector or Architect of any discrepancy seven working days prior to beginning system installation will institute the responsibility of corrective action to the Contractor at no expense to the Owner.

TESTING

3.2

- A. General: Unless otherwise directed, tests shall be witnessed by the Project Inspector. Work to be concealed shall not be covered until prescribed tests are made. Should any work be covered before such tests, the Contractor shall, at his expense, uncover, test and repair his work and that of other contractors to original conditions. Leaks and defects shown by tests shall be repaired and entire work re-tested. Tests may be made in sections, however, all connections between sections previously tested and new section must be included in the test.

INSPECTION

3.3

Inspection of Work:

- A.
 - 1. Installation and operations must be approved by the Project Inspector.

2. In no event shall the Contractor cover up or otherwise remove from view any work under this contract without prior approval of the Project Inspector. Any work covered prior to inspection shall be opened to view by the Contractor at his expense.
- B. Coverage Test: When the irrigation system is completed, the Contractor in the presence of the Project Inspector shall perform a coverage test of water afforded in the planting and turf areas. The Contractor shall furnish all materials and labor required to correct any inadequacies of coverage disclosed. The Contractor shall inform the Project Inspector and the Landscape Architect of any deviation from the plan required due to wind, planting, soil, or site conditions, that bear on proper coverage. If such corrections or additions are required in the irrigation system, the Contractor shall make all adjustments and corrections without any extra cost to the Owner.
- C. Completion: The work will be accepted in writing when the entire project improvements have been completed satisfactorily to the Landscape Architect as stated in Section 329300 Plants Part 3.7. In judging the work, no allowance for deviation from the original plans and specifications will be made unless already approved in writing at proper time. Should it become necessary, due to developed conditions, to occupy any portion of the work before the contract is fully completed, such occupancy shall not constitute acceptance. The Contractor will not be responsible for any damage caused by the Owner's work forces.

END OF SECTION

**SECTION 32 90 00
LANDSCAPE PLANTING**

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all material, labor and equipment necessary to install all landscape work as indicated in the plans and specifications.
- B. The landscape work includes but is not necessarily limited to the following:
 - 1. Soil preparation including cross ripping of all planting soil.
 - 2. Weed control including an application of a pre-emergent herbicide.
 - 3. Providing import planting topsoil at raised grade planters and/or at planting areas needing fill.
 - 4. Fine grading, conditioning and amending planting topsoil.
 - 5. Planting new trees, plants and ground covers.
 - 6. Tree drainage sump boring and testing.
 - 7. Root Barriers.
 - 8. Installation of mulch.
 - 9. Sixty (60) day maintenance.
- C. Related Work Specified Elsewhere
 - 1. Contract Drawings, Addenda, general provisions of the Contract, including General and Supplemental Conditions, and Division 1 Sections apply to work of this section.
 - 2. Section 32 84 00 - Irrigation System

1.02 1.03 DEFINITIONS

- A. Unless noted otherwise, the term "approved" shall mean by the Owner in writing.
- B. Agencies and Organizations:
 - 1. ASTM- American Society for Testing and Materials
 - 2. ANSI – American National Standards Institute
 - 3. ISA – International Society of Arborists
 - 4. SSPWC – Standard Specifications for Public Works Construction, by the American Public Works Assoc./Associated General Contractors of California.
 - 5. TPI – Turfgrass Producers International
- C. Owner: The Owner's authorized representative or authorized consultant.

1.03 QUALITY ASSURANCE

- A. The work of this Section shall be performed by a single firm experienced in landscape planting and holding a current California Contractor's A or C27 License.
- B. Tree and plant quality and sizes shall conform to the current edition of "American Standard for Nursery Stock" for Number One nursery stock as adopted by the American Nursery & Landscape Association (ANSI Z60.1). Plants shall be of uniform, standard size for their listed container size, neither overgrown and root bound or encircling, nor so recently transplanted that the root system is not thoroughly well established throughout the container. Roots should reach the sides of the container and maintain a firm root ball. Pruning shall not be done prior to delivery except by prior approval.

- C. Related Work Specified Elsewhere
 - 1. Contract Drawings, Addenda, general provisions of the Contract, including General and Supplemental Conditions, and Division 1 Sections apply to work of this section.
 - 2. Section 32 84 00 - Irrigation System

- C. Trees shall also comply with quality characteristics described in “Guideline Specifications for Nursery Tree Quality” current edition, published by the Urban Tree Foundation. Trees not in compliance with any of the following characteristics may be subject to removal and replacement, whether planted or still in their containers.
 - 1. Acceptable caliper and height ranges for the Type, Form and Size of tree.
 - 2. An intact central leader, or after heading of an old leader, the new leader diameter is greater than one-half the diameter of the old leader. Co-dominant leaders are not acceptable.
 - 3. Scaffold branch diameters are less than two-thirds the diameter of the trunk, and without included bark at the attachment.
 - 4. Scaffold branches shall be balanced, well spaced vertically, and with a radially blank section no greater than one-third of the canopy circumference.
 - 5. Temporary branches on the lower trunk shall be less than three-eighths inch diameter, and the clear trunk height shall be no more than forty (40) percent of the overall tree height.
 - 6. The root collar and rootball shall be free of defects, including circling, kinked and girdling roots. Roots at the edge and bottom of the container shall be less than one-quarter inch diameter, and uniformly distributed throughout the container.
 - 7. The tree canopy width shall be a minimum of twenty-five percent of the standard form tree height, except for naturally columnar forms.
 - D. Botanical names shall take precedence over common names. Provide plants that are true to name. Tag one representative plant of each species and size with the botanical name and size.
 - E. Inspection:
 - 1. All landscape work and materials shall comply with applicable Federal, State, County and City regulations.
 - 2. All plant material shall be reviewed onsite or by providing photo submittals by the Owner’s Representative and/or Landscape Architect prior to positioning and planting. The lack of a review shall not limit the right of rejection during any stage of the work until Final Acceptance for any reason including condition of the foliage or root ball, size, variety, form, appearance, latent defects or injuries or location errors. Rejected or wrongly located plants shall be removed/relocated from/on the site and replaced/replanted immediately by the Contractor as directed at no additional cost to the Owner.
 - F. Qualifications of Workers
 - 1. Employ skilled workers who are thoroughly trained experienced in landscape planting and who are completely familiar with specified requirements and methods needed for proper performance of the work in this section.
 - 2. Provide adequate supervision by a qualified foreman fluent in English that will be continuously onsite during the performance of this work.
 - 3. Weed control pesticides shall only be applied by an individual holding a valid Qualified Applicator Certificate (Category A) issued by the Department of Pesticides Regulation. Submit a copy of the Certificate.
 - G. Any pruning of existing trees specified as part of this Work shall be performed under the direct supervision of an ISA Certified Arborist and in compliance with ANSI A300-Part 1 Standard Practices (Pruning).
- 1.04 SUBMITTALS
- A. In accordance with the Submittal section, submit:
 - 1. A complete materials list of all items proposed to be furnished including estimated

- quantities.
 2. Laboratory analyses of soil conditioning materials, e.g. organic compost, shall have been performed within three months of the submittal date.
 3. Quality Certificates and/or Certificates of Inspection required by government agencies (providing duplicate copies for the Owner's Representative).
 4. Qualified Applicator Certificate, and DPR Registration Certificates and Material Safety Data Sheets for all pesticides/herbicides proposed for use.
 5. Submit photos with a scale marker of all boxed trees, and a representative photo of each species/variety of ground plane plants proposed for use from the nursery source. Photos shall clearly show the individual tree or plant form without background greenery.
- B. Soil amendments: Submit one (1) pint sample and an analysis of organic compost and mulch.
- C. Other Samples: When requested by the Landscape Architect and/or Owner's Representative.
- D. Soil Fertility Analysis and Recommendations:
1. The Contractor shall provide and pay for a fertility analysis of the existing topsoil and any proposed import planting topsoil. After mass grading operations are completed, native soil samples shall be collected for the fertility analysis by collecting a minimum of 5 representative samples of the soil per acre throughout the area of work. Separate samples shall be produced for cut and fill areas, and for any other area composed of soils not similar to the existing soils. Each sample shall be a minimum of one pint each, and shall be thoroughly mixed together to prepare a homogenous sample. A one quart representative sample for cut, fill and any other special conditions shall be submitted to the soil testing laboratory as a representative sample for fertility analysis. The fertility analysis shall at a minimum provide the following data:
 - a. soil texture class and percent sands, silts and clays per ASTM D422
 - b. estimated soil infiltration and percolation rates
 - c. pH
 - d. organic matter (%)
 - e. total soluble salts (ECe)
 - f. Cation Exchange Capacity (CEC) and Percent Cation Saturation for K, Mg, Ca and Na
 - g. major and minor nutrients (ppm).
 2. Recommendations for improvement of the soil conditions for optimum plant growth shall be made by the testing laboratory, and at a minimum shall include the following:
 - a. A fertilizer and amendment application program (including macro and micro nutrients) for both pre-planting and maintenance fertility applications for broad area tillage and for planting pit backfill (pre-plant only).
 - b. Treatments to neutralize soil pH and to correct any adverse conditions as warranted.
 - c. Recommendations shall address soil conditioning for both planting area tillage and tree/plant planting pit backfill.
 3. The soil analysis and recommendations shall be performed by one of the following laboratories capable of providing the above analyses by a licensed soil scientist:
 - a. D&D Agricultural Laboratory. Contact Darrin Peters at 559-348-1818.
 - b. Wilber-Ellis Company. Contact Michael Cline at 209-442-1220.
 4. The Contractor shall submit the results of the soil testing investigations and shall receive written direction from the Landscape Architect before proceeding with any soil conditioning activities such as fertilizing and/or tillage of amendments.

- E. Within seven days from the start of the maintenance period, submit a calendar of maintenance activities, including scheduled dates for mowing, fertilizing, weed control and all other activities. Provide the quantities of maintenance fertilizer and any other materials scheduled to be used in each application during the maintenance period.
- F. Submit invoices and/or delivery tags from material suppliers for all amendments, fertilizer, seed, plants, mulch and any other materials provided for the landscape planting installation and applied during the maintenance period. Submit tags from seed packaging indicating seed varieties, percent purity and percent germination minimums. The invoices and/or delivery tags shall be provided directly to the Owner's Representative/Inspector of Record within 24 hours of delivery to the site, as well as to the normal submittal recipients per the Contract Documents.
- G. Close-out Documents: Submit prior to the end of the maintenance period. Acceptance of the Close-out documents in a condition for scheduling a Final Acceptance review. Provide two bound copies of the following:
 - 1. Cover sheet stating Contractor's address and telephone number, duration of guarantee period, and a list of plant nurseries, materials and equipment vendors with names and addresses of the vendor/manufacturer representatives and warranty periods.
 - 2. A "CERTIFICATE OF CONSTRUCTION COMPLIANCE" which indicates that all work done, materials and equipment used and installed are in compliance with the approved plans, specifications and all authorized revisions.
 - 3. Maintenance Manuals and Instructions: Submit a monthly schedule of procedures to be established by Owner for maintenance of landscapes (trees, mixed planting and turfgrass) for one full year and shall include recommendations for fertilizing, pest and disease control, weeding, mowing, aeration and top dressing.
 - 4. Soil Amendment and/or Seed/Stolon confirmation form noting the installed quantities of materials, tags or invoices from Subsection F. above, and the person who confirmed the delivery and installation of the materials.
 - 5. Operations and Maintenance Manuals and Warranty certificates for any maintenance equipment turned over to the Owner.
 - 6. As-built Record Drawings with all modifications to the Drawings noted in red ink, and the Landscape Planting Observation Log completed.

1.05 AVAILABILITY

- A. The Contractor shall confirm availability of plants, supplies, and materials prior to submitting his landscape bid. Plant variety substitutions are not desired.
- B. If a plant is found not to be suitable or available, the Contractor is to notify Landscape Architect before bidding. The Landscape Architect is then required to select a reasonable alternate and to inform all those bidding of the availability of the original plant. If a substitute is selected it must be of the same size, value and quality as the original plant. Failure to inform the Landscape Architect of unavailable plants prior to bidding will require that all plants specified shall be provided by the Contractor at time of installation.
- C. Plant container size listed on construction documents are minimum acceptable size. If plant material specified is not substituted prior to award of the contract the minimum container size specified shall be provided by the Contractor. If the Contractor can not provide the minimum specified size plant material at the time of installation, the Contractor shall be required to install a larger size container of the plant specified at no additional cost to the Owner.

1.06 EXISTING CONDITIONS

- A. The Contractor is to visit the job site to verify existing conditions including soils, vegetative growth, subsurface conditions, existing grade and drainage, irrigation system etc. making allowances in his bid for any required work to provide the landscape installation as specified in the construction documents.
- B. The Contractor shall notify the Owner to locate underground lines prior to hole boring or trenching. Do not permit heavy equipment such as trucks, rollers, or tractors to damage utilities. Hand excavate as required to minimize possibility of damage to underground utilities. Maintain grade stakes set by others until removal is mutually agreed upon by all parties concerned. Prevent damage to temporary risers of underground irrigation system and similar obstructing work located in the landscape areas.
- C. If there is a conflict with existing utilities, improvements and/or planting and the proposed planting, Contractor shall promptly notify the Owner's Representative for instructions as to further action. Failure to do so will make Contractor liable for any and all damage or corrective actions arising from his operations.
- D. Prior to the start of this work, the Contractor and the Owner's Representative shall verify the operational condition of that portion of the existing irrigation system pertaining to the proposed planting area. The Contractor shall notify the Owner's Representative of any repairs and/or corrections necessary for proper functioning and coverage. The repairs and/or corrections shall be completed before any plant material is planted. Failure to perform system verification and provide notification prior to the start of this work will make the Contractor liable for any and all repairs and/or corrections necessary for proper functioning and coverage, as well as any required plant replacement, without any additional cost to the Owner.
- E. No plants shall be planted in situations that show poor drainage infiltration or low areas that result in standing water. Such situations shall be corrected by the Contractor as directed by the Landscape Architect or Civil Engineer. Failure by the Contractor to notify the Owner of poor drainage conditions prior to proceeding with the conditioning or planting operations shall place the responsibility for any plant removals, additional soil conditioning and replanting on the Contractor without any additional cost to the Owner. Any corrections of finish grading not in compliance with the Contract Documents including plant removal, soil conditioning and replanting shall be performed by the Contractor at no additional cost to the Owner.

1.07 PROTECTION

- A. The Contractor shall guarantee repair of damage to any part of the premises resulting from but not limited to leaks, defects in materials or workmanship, operation of equipment, storage of materials and/or equipment, installation of underground or overhead utilities. The Contractor shall be liable for any and all accidents resulting from his work, including open holes and trenches during construction.
- B. Protect new and existing landscape areas in the area of work from theft, loss, damage and deterioration during storage, installation and maintenance. Protect from unauthorized persons (trespassers) as well as from operations by other contractors and tradesmen, and landscape operations. Protect all planted turf and shrub areas from persons as well as operations of other contractors and the Owner. Cost of protection shall be born by the Contractor with means of protection such as temporary fencing as approved by Owner. Cost for protection shall be included in the Contractor's bid for the work.
- C. Contractor shall repair or replace damaged work and/or damage to existing

improvements/landscape as identified by the Owner's Representative to a condition acceptable to the Owner's Representative. No additional payment will be made to the Contractor for repair or replacement of damaged work and/or damage to existing improvements/landscape.

1.08 OBSERVATIONS

- A. General:
 - 1. Installation and operations must be approved by the Owner.
 - 2. In no event shall the Contractor cover up or otherwise remove from view any work under this contract without prior approval of the Owner. Any work covered prior to inspection shall be opened to view by the Contractor at his expense.
 - 3. In all cases, where inspection of the landscape planting work is required and/or where portions of the work are specified to be performed under the direction and/or review of the Owner, the Contractor shall notify the Owner at least 72 hours in advance of the time when such inspection and/or direction is required. Any necessary re-excavation or alterations to the planting needed because of failure of the Contractor to have the required inspection, shall be performed at the Contractor's own expense.
- B. The Owner or the Project Inspector shall perform periodic observations and shall record the observation on the Landscape Planting Observation Log form on the As Built Record Drawings. Field Reports by the Owner's Representative noting the observations may be acceptable if included in the Close-out Documents. Such observations shall include but are not necessarily be limited to:
 - 1. Weed control operations prior to other portions of work.
 - 2. Ripping and soil conditioning of the planting area.
 - 3. Layout of the plant material and trees at the site prior to planting in order to avoid conflicts and to meet the design intent.
 - 4. Condition and quality of plant material prior to planting.
 - 5. Auguring, digging and preparation of plant pits and drainage sumps for trees and shrubs.
 - 6. Planting and staking of trees.
 - 7. Planting of shrubs, ground cover and turfgrass.
- C. Any corrective action called for shall be immediately performed by the Contractor.
- D. Failure by the Contractor to obtain the above observations shall place the responsibility on the Contractor for any relocation and/or replacement of planted trees or shrubs.

1.09 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Plant label shall identify each species and variety. A label shall be attached to each individual plant or block of identical plants grouped together.
- B. Adequately protect plants from sun and wind prior to planting. Do not allow stored plant material to dry out at any time.
- C. Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at the site. Store materials and equipment in a location as directed by the Owner's Representative.

1.10 PESTICIDE NOTIFICATION

- A. A written notification of any and all pesticide/herbicide products scheduled for use by the Contractor or their representative on the Owner's property must be submitted to the Owner's Representative at least seven days prior to the scheduled application. Notification shall include the product name, manufacturer's name, the pesticide active ingredient, the U.S. EPA and CalDPR registration numbers, the scheduled date and application areas, and the reason (target species) for the application.

1.11 REPAIR OF DAMAGED EXISTING PLANTING AREAS

- A. The Contractor shall be responsible to repair all damage and/or distress to existing planting areas including turfgrass, shrubs, ground covers, perennials, etc., whether specifically shown on the Contract Documents or not, as a result of construction operations, material and/or equipment storage, site access, site offices, utility and/or irrigation line installations or other actions.
- B. Replacement shrubs shall be 15 gallon size, replacement ground cover and perennial plants shall be 5 gallon size, and turfgrass shall be full width sod. Damaged areas shall be amended and finish graded per the Contract Documents prior to planting. Damaged areas outside of the limit of work shall be returned to the pre-construction condition with new replacement plants and/or turfgrass sod. Non-turfgrass planting areas shall also receive wood mulch as specified herein. The limits of repair shall be determined by the Owner.

PART 2 - PRODUCTS

2.01 TOPSOIL

- A. Topsoil used in planting areas shall be a clean, friable soil with no noxious weeds, clods or stones larger than 0.5 inch in diameter, subsoil, hardpan, wood, debris, fine organic material greater than 5%, undesirable insects, plant disease or any other natural or extraneous objects detrimental to normal plant growth to a minimum depth of 18 inches from finish grade.
- B. The Contractor shall provide a particle size analysis, fertility testing and amendment recommendations of proposed native and/or import topsoil, and the Landscape Architect reserves the right to reject topsoil not conforming to the minimum specifications. Stockpiled onsite topsoil may be used if analysis and testing determines compliance with these requirements prior to placement. Failure to meet minimum specifications shall result in the removal of any unauthorized placed topsoil at the Contractors expense.
- C. Particle size distribution for topsoil shall meet the following per ASTM D422:
 - 1. 100% passing a 12.2 mm (1/2") screen.
 - 2. Minimum 95% passing a 9.5 mm (3/8") screen.
 - 3. Minimum 75% passing a 2.36 mm (No. 8) screen.
 - 4. Maximum 45% passing a No. 200 screen.
 - 5. Silt content shall be a maximum 35%.
 - 6. Clay content shall be a maximum 25%.
 - 7. Silt to Clay ratio shall be less than 2 and greater than 0.5.
- D. Other characteristics shall conform to the following:
 - 1. Permeability rate shall be not less than one (1.0) inch per hour or not more than 20 inches per hour.
 - 2. The sodium absorption ratio (SAR) shall not exceed 3.0 and the electrical conductivity (ECe) shall not exceed 2.5 milliohms per centimeter at 25 degrees centigrade.

3. Soluble boron shall be no greater than 1.0 part per million (mg/l).
4. Soil pH range shall be 6.5 – 7.9.
5. Maximum concentration of soluble chloride shall be 150 parts per million.
6. Maximum concentration of heavy metals shall not exceed the following when the pH is between 6 and 7:
 - a. Arsenic: 0.5 ppm
 - b. Cadmium: 0.5 ppm
 - c. Chromium: 5 ppm
 - d. Cobalt: 1 ppm
 - e. Lead: 15 ppm
 - f. Mercury: 0.5 ppm
 - g. Nickel: 2.5 ppm
 - h. Selenium: 1.5 ppm
 - i. Silver: 0.25 ppm
 - j. Vanadium: 1.5 ppm
7. Petroleum hydrocarbons shall not exceed 100 mg/kg dry soil.
8. Aromatic volatile organic hydrocarbons shall not exceed 2 mg/kg dry soil.

2.02 SOIL AMENDMENTS

- A. Organic Compost: "Harvest Premium" as supplied by Harvest Power (559) 435-1114; "WonderGrow Compost" by Grover, Inc. (866) 764-5765, or "Allgro Compost" by Synagro (559) 341-5158, or approved equal and conforming to the following minimums per the US Composting Council 'Compost Technical Data Sheet' report dated within three months of the submittal date:
 1. Certified as "Mature" or better
 2. Pass EPA Class A standards for pathogens and heavy metals.
 3. Particle size: 1/8" maximum
 4. pH: 6.0-7.5.
 5. Macro-nutrients: Minimum of 1.0% Nitrogen, 0.5% Phosphorus, 0.5% Potassium.
 6. AgIndex ratio (Nutrients/Salts) 10 or more.
 7. Ammonia N/Nitrate N ratio: rated Mature or Very Mature
 8. Organic matter content greater than 50% dry weight.
 9. Ash: equal or greater than 6%, not greater than 20%
 10. Carbon/Nitrogen ratio: less than or equal to 25.
 11. Salinity (ECe): less than 10.0 dS/m.
 12. Odor shall be soil-like (musty, earthy) without any sour, ammonia-like or putrid smell.
- B. Gypsum shall be mined agricultural grade gypsum composed of no less than 95% $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ hydrated calcium sulfate in a pelletized form. Elemental Sulfur shall be a minimum 95% pure agricultural grade.
- C. Dry Humate organic soil conditioner comprised of a minimum 70% humic acid from Leonardite.
- D. Endo 120 Mycorrhizae containing a minimum 60,000 living propagules per pound.
- E. Amendment material types and application rates may be subject to change based on the findings and recommendations of the horticultural soil testing lab, and as such may result in an increase or decrease in the Contract Amount.

2.03 FERTILIZER

- A. Trees and Shrubs: Fertilizer for all trees and shrubs to be BEST PAKS (20-10-5) controlled release fertilizer in a biodegradable 10 gram packet. The BEST PAKS shall be applied at

the following rates:

1. 1 Gallon Can: 1 Best-Pak
 2. 2 Gallon Can: 2 Best-Paks
 3. 5 Gallon Can: 5 Best-Paks
 4. 15 Gallon Can: 10 Best-Paks
 5. 24" Box: 16 Best-Paks
 6. 36" Box: 24 Best-Paks
- B. The pre-plant fertilizer shall be a commercial homogeneous, granular pellet:
1. Pre-plant fertilizer for turfgrass shall be:
 - a. BEST 6-24-24-5S XB+ with Avail
 2. Pre-plant fertilizer for mixed plantings shall be:
 - a. BEST Landscape Color 14-14-14 (14-6-11.6-3S and micronutrients) with 9.9% slow release N, or equal.
- C. The maintenance fertilizer shall be a commercial homogeneous, granular pellet:
1. Maintenance fertilizer for turfgrass shall be one or more of the following:
 - a. Urea 46-0-0
 - b. BEST Ammonia Sulfate 21-0-0-24S, standard grade, or equal
 - c. BEST Nitra King 21-2-4-14S-2Fe, or equal.
 - d. BEST Nitex 20-2-3-12S-5Fe, or equal.
 2. Maintenance fertilizer for mixed plantings shall be the pre-planting fertilizer.
- D. Fertilizer material types and analysis may be subject to change based on the findings and recommendations from the horticultural soil testing lab, and as such may result in an increase or decrease in the Contract Amount.

2.04 MULCH

- A. Mulch for on-grade or raised native soil planters shall be a walk-on type of chipped and aged greenwaste woody material without leaves, green wood, sticks, dirt, stones, dust and other non-organic debris as accepted by the Landscape Architect. Particle size 1/2" to 3" in general size.

2.05 STAKING & GUYING MATERIALS

- A. Stakes: 2" Diameter lodgepole pine, pressure treated and pointed one end.
- B. Ties: V.I.T. Cinch Tie, 32 inches long, V.I.T. Products, Inc. (619) 673-1760, or equivalent.

2.06 PLANTS

- A. Plants shall be typical of their species and variety, shall have normal growth habits, well developed branches and be densely foliated, and shall have fibrous root systems. No substitutions will be allowed unless approved in writing by the Landscape Architect.
- B. Plants shall be free from defects and injuries including disease, insects, insect eggs and larvae and girdled or matted roots.
- C. Quality and size of plants shall be in accordance with ANSI Z60.1-2004, "American Standard for Nursery Stock", and as described in Quality Assurance.
- D. Plants shall not be pruned before planting.
- E. Plant material must be selected from nurseries that have been inspected by State or Federal Agencies.

- F. Plants shall be nursery grown and shall have been transplanted or root pruned at least once in the past three (3) years. Plants shall have been grown under climatic conditions similar to those in the locality of the project.
 - G. Each bundle of plants shall be properly identified by weatherproof labels securely attached thereto before delivery to the project site. Label shall identify plant by name.
 - H. Nomenclature shall be in accordance with Sunset Western Garden Book, current edition.
 - I. No plants shall be removed from their container until a review has been made in the field or at the nursery, or except when specifically authorized in writing by the Owner.
 - J. Collected plant material may be used only when approved. Approval shall not limit the right of rejection during work progress for conditions of the root ball, latent defects or injuries.
 - K. Where shown a "MULTI" provide trees with a minimum of three trunks.
 - L. Plant sizes listed on the planting plan are minimum acceptable sizes. The quantities listed are the Landscape Architect's estimate only. The Contractor is responsible for the quantities of plant symbols shown on the plan, and/or the quantities in hatched planting areas at the specified triangular spacing.
- 2.07 ROOT BARRIER
- A. A ribbed polyethylene panel of minimum 0.080" thickness equal to Deep Root Partners #UB 24-2 PANEL, (800) 458-7668..
- 2.08 HERBICIDES
- A. Herbicide products for removal of unwanted grass and broad-leafed weeds shall be registered and approved for use by the U.S. EPA and CalDPR, and shall comply with the Owner's Standards and with the "Healthy Schools Act" with current amendments, and with the current list of prohibited herbicides at Schools and Child Care facilities per California Assembly Bill 405.
 - B. Provide pre-emergent and post-emergent, selective herbicide formulations for use on turfgrass areas and/or ornamental shrub/ground cover areas that are not injurious to the proposed plantings and turfgrasses.
 - C. Provide a non-selective contact herbicide formulation only for use to remove existing established weeds prior to new plantings. The herbicide shall be certified for organic use, broad-spectrum with systemic function, 'Weed Slayer' by Agro Research International, or equal.
- 2.09 OTHER MATERIALS
- A. Materials not specifically indicated, but necessary for proper execution of the work, shall be of first quality as selected by the Contractor subject to approval of the Landscape Architect.
- PART 3 - EXECUTION
- 3.01 EXAMINATION & PREPARATION
- A. General: Verify that existing site conditions are as specified and indicated before beginning this work.

- B. Damaged Earth: Verify that earth rendered unfit to receive planting due to concrete water, mortar, limewater, hydrocarbons or any other contaminant dumped on it has been removed and replaced with clean earth from a source approved by the Owner's Representative.
- C. Examine the area and conditions under which the work in this section is to be performed. Verify that any existing irrigation system within the limit of work is in proper working order with full coverage. Correct conditions detrimental to the timely and proper completion of the work. Do not proceed until unsatisfactory conditions have been corrected. Commencement of the work signifies acceptance of the existing conditions.
- D. Protection:
 - 1. Locate sewer, water, irrigation, gas, electric, phone and other pipelines or conduits and equipment within the area of work prior to commencing work.
 - 2. Mark existing irrigation heads, valves, valve boxes and other below grade equipment or components that are scheduled to remain. Protect in place.
- E. Runoff and Erosion Control: Furnish equipment, materials and labor necessary to control the flow, drainage, and accumulation of excess water running off the work area and prevent soil erosion, blowing soil and accumulation of wind-deposited material on the site per the approved SWPPP.

3.02 ROUGH GRADING, SOIL PREPARATION, PLANTER BACKFILL

- A. Rough grading shall be performed by other subcontractors to the extent of establishing rough pads, slopes and drainage patterns. The Contractor is responsible for placement of topsoil and grading required to ensure positive drainage in all turfgrass and planting areas. All planting areas shall have a minimum topsoil depth of 18 inches from on-site native and/or approved import sources. Rough grading shall be completed prior to weed control, cross ripping or rock removal operations.
- B. After the completion and acceptance of the weed control operations outlined below, and unless directed otherwise by the Landscape Architect or noted on the Drawings, and except for the area under the canopy of existing trees, the Contractor shall cross rip and till (break up large clumps and clods in excess of 2 inch diameter) the existing soil within all planting areas outside the canopy drip line of existing trees until the soil is loose and friable. Ripping shall be to a minimum depth of twelve inches (12") in turfgrass areas and eighteen inches (18") in shrub/ground cover areas, with ripping tines a maximum 18" apart performed in a minimum of two passes total in different perpendicular directions. The Contractor shall review the completed ripping operation with the Owner's Representative and Landscape Architect to determine compliance. The first 6 inches of any new topsoil fill shall be tilled into the existing soil to a minimum depth of 6 inches prior to placing any further topsoil fill. The Contractor shall provide any additional work as directed by the Owner's Representative after the review to obtain compliance. Do not proceed with the addition of topsoil and/or amendments, or commence rock picking or fine grading until the completed ripping operation is accepted in writing by the Owner's Representative.
- C. Planting area soil under the canopy drip line of existing trees, or in planting beds not accessible by motorized equipment, shall be ripped to a minimum depth of 12 inches using manual spading shovels, forks and/or broadforks and working around major tree roots and/or utilities. In areas receiving new mulch, rip to a minimum depth of 4 inches while protecting any existing plants and their root system. Break up and/or remove rocks and clods as indicated below.
- D. Do not work soil when moisture content is so great that excessive compaction will occur, or when it is so dry that dust will form in air or clods will not break up readily, or when a full ripping depth cannot be achieved. Apply water, if necessary, to bring soil to an optimum

moisture content for tilling and dust control. Maintain within 2 percent above or below optimum moisture content for the existing soil type at all times during the work.

- E. After soil ripping and preliminary finish grading is completed, the topsoil shall be cleared of all concrete, wire, sticks, roots, debris and foreign materials. Remove native stones and clods as follows:
 - 1. In shrub/ground cover areas, remove stones and clods greater than one (1.0) inches in diameter from the top 3 inches of finish grade.
 - 2. In general, non-play or sport turfgrass areas, remove stones and clods greater than three-quarter (0.75) inch in diameter from the top 2 inches of finish grade.
 - 3. In designated play or sports field turfgrass areas, remove stones and clods greater than one-half (0.50) inch in diameter from the top 4 inches of finish grade using a mobile tractor pulled, PTO powered, hydraulic controlled rock picker, Cherrington Model 4500 or similar.
- F. Add clean planting topsoil where needed to bring grade to elevation to promote positive drainage. Spread approved planting topsoil over ripped subgrade prior to incorporating amendments.
- G. Backfill all raised grade planters with a minimum depth of 18 inches of imported clean sandy loam planting topsoil conforming to Subsection 2.02 and approved prior to import and/or placement. Failure to obtain import approval prior to backfilling raised grade planters shall result in the removal of any planting and non-approved backfill, and the reinstallation of the work with approved materials.

3.03 WEED CONTROL

- A. Weed control pesticides shall only be applied by an individual holding a valid Qualified Applicator Certificate (Category A) issued by the Department of Pesticides Regulation.
- B. The Contractor shall treat any weeds in proposed new turfgrass and planting areas with a non-selective contact weed killer at the manufacturer's approved rates and procedures prior to any commencement of work at the site including any irrigation work, ripping of soils or fine grading. Areas planned for turfgrass seed/stolon planting shall in addition receive "grow and kill" weed removal as outlined below.
- C. Weed eradication shall be ongoing throughout the course of the landscape installation. The Contractor shall apply a pre-emergent herbicide after shrub/ground cover planting and prior to mulch installation. Manually remove weed seed heads. At no time will weeds be allowed to become established. Contractor shall provide all weed control operations as directed by the Owner's Representative.
- D. All weed control operations using pesticides/herbicides shall comply with the CalDPR and Owner Standards as well as AB2260 "Healthy Schools Act". The Contractor shall comply with the notification and posting requirements of the "Healthy Schools Act".
 - 1. The Contractor shall notify the Owner per Subsection 1.11, A.
 - 2. The Contractor shall post highly visible signs around the treatment area in conformance with the "Healthy Schools Act" warning of a scheduled pesticide/herbicide application a minimum of 24 hours before to 72 hours after a pesticide application.
- E. A non-selective contact herbicide for grassy weeds, '20% Vinegar Weed Slayer' by Good Natured, CA DPR Reg# 85208-1-AA-42177, shall be applied directly to the weed foliage. Only apply to dry surfaces, and a minimum of 8 hours before a rain event. Allow a minimum of 14 days from herbicide application to commence any planting.

- F. Perform pre-plant clearing and weed control for native open ground areas planned to receive planting as follows:
 - 1. Apply irrigation to encourage weed growth prior to ripping, and to maintain moisture in the soil.
 - 2. Apply a contact herbicide to weed foliage. Remove weeds and expose bare soil.
 - 3. Lightly disk/till to a depth of three-inches.
 - 4. Perform a "grow and kill" operation after the first disking/tillage:
 - a. Water and lightly fertilize to encourage weed germination.
 - b. Follow with a second application of a contact herbicide.
 - c. Remove weeds and perform a light harrowing or disking.
 - 5. Apply irrigation to encourage weed growth. If additional weeds germinate, perform a second "grow and kill" operation.
 - 6. Once existing weeds are completely removed, obtain authorization from the Owner's Representative to proceed with deep ripping, rock removal, soil conditioning and finish grading operations. Allow a minimum of 14 days from herbicide application to commence any planting.
 - G. After the shrub/ground cover planting is complete and prior to mulch installation, apply an approved pre-emergent herbicide per the manufacturer's recommended rates.
- 3.04 SOIL CONDITIONING
- A. Before commencement of any soil conditioning, weed and rock removal shall be completed as outlined above.
 - B. Uniformly amend the entire area of topsoil in turfgrass and mixed planting areas per the following bid rates and per the approved modifications as a result of the soils analysis recommendations:
 - 1. Turf and Non-Sloped (less than 4h:1v) Planting Area Soil Conditioning (per 1,000 square feet).
 - a. Compost at a rate of six (6.0) cubic yards (a 2.0 inch thick layer).
 - b. Gypsum at a rate of 100 pounds, or Sulfur at 19 pounds, or an equivalent combination.
 - c. Humate soil conditioner at a rate of twenty (20) pounds.
 - d. A pre-planting fertilizer to turfgrass areas at a rate of 1.25 pounds of actual P and K.
 - e. A pre-planting fertilizer to mixed planting areas at a rate of 1.5 pound of actual N.
 - f. Mycorrhizae per Subsection 3.06, Mycorrhizae Application.
 - C. Till soil amendments into the entire planting area soil to a minimum depth of six (6) inches. Perform the cultivation in at least two passes, one in each perpendicular directions to the first, so that the amendments are homogeneously incorporated into the topsoil. All cultivation inside the dripline of existing trees shall be preformed manually with minimal disturbance to the root system.
 - D. Planting backfill for trees and shrubs shall be a mix of three parts native soil and one part Compost by volume. Add Humate at 2.0 pounds, and Mycorrhizae at 0.5 pounds per cubic yard of backfill.
 - E. Amendment material types and application rates may be subject to change based on the findings and recommendations of the horticultural soil testing lab, and as such may result in an increase or decrease in the Contract Amount.

3.05 FINE GRADING

- A. Upon completion of soil preparation, fine grade all planting and turfgrass areas to a smooth and even slope conforming to and establishing drainage patterns per the approved Grading Plan. Grading shall eliminate all humps and hollows and promote positive drainage in all planting and turfgrass areas.
- B. Where hardscape is installed in existing mixed planting areas, a minimum transition grade width of 2 feet adjacent to the edge of hardscape shall be constructed unless noted otherwise. The maximum slope of any transition grade in mixed planting areas shall be 20 percent (1v:5h). The area of transition grading shall be planted or repaired as specified herein.
- C. Tolerance of grade differential for planting and general turfgrass areas shall be plus or minus 0.04 foot. If requested, the Contractor shall water test all turf and planting areas after the grading operations are completed in the presence of the Owner's Representative and/or Landscape Architect. The water test shall consist of applying water to the turf and planting areas to the point where water begins to run over the soil to show the drainage pattern. Make all corrections to the finish grading as required by the Owner's Representative to re-established positive drainage patterns. Acceptance of the finish grading shall be obtained in writing from the Owner's Representative and/or Landscape Architect prior to proceeding with soil conditioning and planting operations.
- D. Turfgrass sports fields shall be fine graded using a laser controlled machine capable of producing final grades within 0.02 foot plus or minus from the proposed elevations. The Contractor shall provide an as-graded topographical survey with finish elevations shot on a 25' grid and along transition edges to confirm that the finish grading complies with the design grades with allowances for sod soil mat thicknesses, etc. The Contractor shall allow seven (7) working days in their contract schedule for the as-graded survey to be evaluated and returned to the Contractor and Owner. Acceptance of the finish grading shall be obtained in writing from the Owner's Representative and/or Landscape Architect prior to proceeding with soil conditioning and planting operations.
- E. After the finish grading process, relative compaction of the soil in turf and planting areas shall range between 82% and 85% relative density. Compaction/moisture levels are generally acceptable if an Oakfield probe is able to penetrate a minimum of six inches into the cultivated planting topsoil with moderate pressure. The Owner reserves the right to require the Contractor to test for over compaction. If the compaction is within the acceptable range, the test will be paid for by the Owner. All testing due to non-compliance will be paid for by the Contractor.
- F. Remove all rocks produced as a result of the soil conditioning and finish grading operations per the requirements of Subsection 3.02.
- G. Finish grades shall be one-half inch (1/2") to three-quarter inch (3/4") for turfgrass sod areas, flush (0.0") for turfgrass seed/stolon areas and two inches (2") for shrub/ground cover planting areas below the finish surface of all adjacent walks, curbs, mowstrips and utility/valve boxes or collars. Transition any non-compliant grade in existing turfgrass areas at a maximum 12h:1v slope to meet finish grades above, unless shown otherwise on the grading plan.

3.06 MYCORRHIZAE APPLICATION

- A. In turfgrass planting areas, after fine grading is completed broadcast Mycorrhizae at a rate of one and one half (1.5) pounds per 1,000 square feet (65 lbs. per acre). Lightly rake into the top one inch (1") of topsoil immediately prior to turfgrass installation.

- B. In shrub and/or ground cover planting areas, the Mycorrhizae inoculant shall be incorporated into the soil with the other soil amendments at five (5.0) pounds per 1,000 square feet (218 lbs. per acre) per Subsection 3.04, Soil Conditioning. Inoculant shall also be incorporated into the planting backfill per Subsection 3.04, E.

3.07 PLANTING

A. General Requirements

1. Obtain written approval from the Landscape Architect or Owner's Representative to begin planting operations. The irrigation system shall be fully automated and operational, all weeding, soil conditioning and finish grading completed, and the tree and plant layout approved.
2. Planting shall be performed by workmen familiar with planting procedures and under the supervision of a qualified foreman. The planting foreman shall be on the job site at all times when planting is in progress.
3. Planting operations shall not occur under unfavorable weather conditions.
4. Boxed trees shall be planted first. Shrub planting shall be completed before groundcover is planted.
5. Proceed and complete the landscape work as rapidly as portions of the site become available, working within the seasonal limitations for each kind of planting required.
6. Cooperate with other contractors and trades working in and adjacent to the planting work areas. Examine drawings which show the development of the entire site and become familiar with the scope of other work required.

B. Planting Preparation and Operations

1. Planting material shall be provided with adequate protection of root system and balls from drying winds and sun. Do not bend or bind trees or shrubs in such a manner as to damage bark, break or destroy natural shape. Provide protective covering during delivery.
2. Deliver trees and shrubs after preparations for planting have been completed, and plant immediately. If planting is delayed more than six (6) hours after delivery, set trees and shrubs in shade, protect from weather and mechanical damage and keep roots moist. Do not remove container grown stock from containers until planting time.
3. All planting areas shall be smooth and even. Finish grades shall be done prior to any placement of plants.
4. Place all trees and shrubs in locations shown on the planting plan and obtain written field approval of the Landscape Architect before planting or digging planting pits. Inform the Landscape Architect seven (7) days prior to placing the plants. Maintain a minimum 15 foot clearance from trees to any light pole, unless specifically noted otherwise.
5. Carefully remove all canned stock from containers with tin snips or approved cutter. Cut away and remove any girdled or matted roots.
6. Excavate holes of circular outline with vertical sides for all plants 15 gallon or less. Boxed trees shall have square planting holes. The vertical sides and bottom of the holes shall be thoroughly scarified to promote union of backfill with existing soils. All trees shall have two drainage sump holes drilled with a twelve inch (12") diameter auger penetrating hardpan layers to a minimum one (1) foot into a sand/gravel layer or to a minimum depth of ten (10) feet below the planting pit bottom. Precautions shall be exercised to avoid smooth sides on the holes. Offset augured holes a minimum of eighteen inches (18") from planned tree location to avoid settling of tree after planting.
7. After cleaning out the sump holes, the Contractor shall test the sumps for drainage by flooding with water. If the water does not drain out within twenty-four (24) hours, auger down as required to achieve such drainage by breaking through the hardpan layer, or by extending the drainage sumps to a minimum depth of 15 feet below the

bottom of the planting pit. After obtaining approval of the sump holes, fill the augured drainage sump holes with coarse concrete sand.

8. Tree and shrub planting pits shall be at least two and one half (2.5) times the width of the plant container, but a minimum of 36" wide for trees and 18" wide for container shrubs. Planting pits shall be as deep as the soil depth in the container or box, less the additional height of the crown above the finish grade.
 9. Set each plant in the center of the pit, plumb and straight. Set the crown of the plant at one inch (1") for shrubs, two inches (2") for trees above finish grade. When 1/2 of the backfill mix has been placed, tamp-in, insert fertilizer (BEST PAKS as per Section 2.1B1) and allow no air pockets as remainder of backfill is added.
 10. Compact soil around the rootball of all plants and thoroughly water in the entire backfill depth.
 11. Excess soil from plant holes shall be cultivated and raked to a smooth outline.
 12. Shrubs and groundcovers shall be installed in relation to walks and paving to allow for future growth without obstructing traffic with clearance as shown on the drawings.
 13. All plants shall be set in watering basin which shall be as wide as the planting pit, but at least four feet (4') in diameter and four inches (4") deep for trees and two feet (2') in diameter and three inches (3") deep for shrubs and vines.
 14. Ground cover plants shall be planted at the spacing noted on the drawings. Not more than fifteen minutes shall elapse from the time any groundcover plant is planted until it is watered.
- C. Pruning: Prune plants in accordance with established horticultural practice. Shearing of any plants will not be acceptable. Tree pruning shall only be performed with the written approval of the Landscape Architect and under the direction of a certified arborist, and shall comply with ISA Pruning Standards (ANSI 300).

3.08 MULCH

- A. Prior to any mulch application, perform weed control operations as specified herein.
- B. Where mulch is to be installed in an existing planting area, breakup/till the existing soil in open areas around existing plantings to a minimum 4" depth per section 3.02, and adjust finish grade adjacent to hardscape elements per section 3.05 where not prohibited by existing plantings.
- C. Install a minimum 3" layer of mulch in all non-turf planting areas, except for slopes greater than 3h:1v and seeded areas. Install a minimum 2" layer of mulch in all areas receiving flatted plants.
- D. Install a minimum 3" layer of wood mulch at a minimum 3' radius from the tree trunk of all trees located in turfgrass areas. Provide a smooth finish grade transition to a 2 inch depth where the mulch meets the turfgrass, so that the top elevation of the mulch is flush to the turfgrass soil. Keep mulch off the trunk. For new trees in turfgrass areas, remove the watering berm just prior to the turfgrass planting but maintain the mulched area within the planting pit.

3.09 STAKING & GUYING

- A. Trees shall be supported by two (2) tree stakes as shown on the drawings. Cut off the top of stakes damaged by installation or where the stake conflicts with canopy branches.
- B. Stakes shall be set firmly in the ground outside the rootball and where possible set stakes perpendicular to the prevailing northwest wind.
- C. Trees shall be tied to upright stakes loosely with tree ties (see planting detail). Remove the

- nursery stake.
 - D. Multi-trunked trees shall be guyed, or individual branches may be staked and loosely tied as shown on the Drawings.
- 3.10 ROOT BARRIER
- A. Install root barrier along hardscape edges whenever the distance from the center of the trunk to the hardscape edge is less than eight (8) feet. Install per the planting details and manufacturers recommendations.
- 3.11 ARBOR GUARD
- A. Install ArborGard+ on all newly planted tree trunks in turfgrass areas per manufacturer's recommendations.
- 3.12 CLEAN-UP AND REPAIR
- A. All areas shall be maintained in a neat and orderly condition at all times. All reasonable precautions shall be taken to avoid damage to existing planting and structures. Disturbed and/or damaged areas, whether a part of this work or from the work of other trades, shall be restored to their original condition.
 - B. Plants and/or turfgrass shown to remain and damaged or removed by construction operations and/or utility/electrical/drainage lines shall be replaced with plants that match as closely as possible to the existing plant species, variety and size. The replacement turfgrass sod variety shall be the same as shown in the Planting Legend if for new work, or shall match the existing turfgrass variety where the turfgrass is existing. Adjust the finish grade so that the new turfgrass sod abuts flush to the existing turfgrass or to hardscape. The replacement plants and/or turfgrass sod shall be maintained as part of the original scope of work.
 - C. After the planting operations are completed, the Contractor shall remove all trash, excess soil, empty containers or any other debris accumulated by the work from the site. All damage caused by the work shall be repaired at the Contractor's expense and the site shall be left in a neat and orderly condition to the satisfaction of the Owner.
- 3.13 PRE-MAINTENANCE REVIEW
- A. A general review will be held prior to the start of the maintenance period upon conclusion of the planting operations, irrigation system installation and after clean-up has occurred. The Owner's Representative shall be informed in writing a minimum of seven (7) working days prior to the time the work is ready for review in order to arrange a suitable time and date for such review.
 - B. At the time of review, Contractor shall have all planting areas free of weeds and neatly cultivated and fine graded. All plant basins shall be in good repair. All trees shall be properly staked and tied. All planting areas shall be clear of weeds.
 - C. The establishment of turfgrass is herein defined as being all work necessary to grow a full, healthy, uniform stand of smooth and even texture and grade with clean straight edges without weeds, distressed areas or bare spots, and has been mowed at least twice per the specifications. The establishment of turfgrass is further defined as being all work necessary to develop a minimum rooting depth of 2 inches into site soil.
 - D. Work requiring corrective action or replacement in the judgment of the Owner's

Representative shall be performed within five (5) days after the inspection. Corrective work and materials replacement shall be in accordance with the drawings and specifications and shall be made by the Contractor at no cost to the Owner. A subsequent review shall then be arranged.

- E. If after the review, the Landscape Architect is of the opinion that all the work has been performed as per the Contract Documents, and a uniform stand of healthy dense turfgrass has been established without weeds or bare spots, the Contractor will be given written notice that the maintenance period may begin.

3.14 MAINTENANCE - GENERAL

- A. After all work indicated on the drawings or herein specified has been completed, reviewed, and approved, and the turfgrass has been successfully established per the requirements below, the Contractor shall commence a sixty (60) calendar day maintenance period in which the Contractor shall continuously maintain all areas included in the contract during the progress of the work and throughout the maintenance period, or until Final Acceptance of the project, whichever is greater.
- B. Establishment and maintenance work includes monitoring the site to control all watering, replanting, fertilizing, mulching, weeding, cultivating and mowing necessary to bring the planted areas to a healthy and vigorous growing condition, and any additional work needed to keep the areas neat, edged, weed and trash free, and attractive.
- C. All trees, shrubs, ground cover shall be kept at optimum growing condition by watering, weeding, replanting, fertilizing, cultivating, tree stake repair, spraying for diseases and insects, replace dead or dying materials, pruning as directed, maintaining proper grades of plants, and providing any other reasonable operations of maintenance and protection required for successful completion of the project.
- D. Any date when the Contractor fails to adequately water, replace unsuitable planted areas and other work determined to be necessary by the Owner, will **NOT** be credited as part of the establishment/maintenance period.
- E. No additional payment will be made for additional time necessary for turfgrass establishment. The maintenance period shall not start until all contract work has been completed and all close-out documents and materials have been submitted. Turfgrass will be considered weed-free if there is a maximum of one percent undesirable turfgrass species, and nine weeds or less per 50 square yards (one per 50 square feet).
- F. During the progress of the maintenance period, the Contractor and the Owner's Representative shall conduct reviews at no less than 21 day intervals to determine that ongoing maintenance activities have been conducted by the Contractor. If in the opinion of the Owner, ongoing maintenance has not been conducted by the Contractor in a satisfactory manner the maintenance period shall be suspended. The Contractor shall provide remedial work as directed by the Owner's Representative to correct the found deficiencies and schedule another review. If after the subsequent review the work is deemed acceptable, the maintenance period shall resume.

3.15 MAINTENANCE - FERTILIZATION

- A. The Contractor shall fertilize the non-turf planted areas during the last week of the maintenance period with the mixed pre-planting fertilizer (14-6-11.6) at a rate of six (6.0) lbs./1,000 s.f. and as modified by the soil fertility recommendations and approved by the Landscape Architect. The Contractor shall allow for at least two separate fertilizer formulation applications in each fertilization operation.

3.16 MAINTENANCE – REPAIR AND WEEDING

- A. Visible weeds shall be removed at least weekly during the maintenance period. At the end of the maintenance period, all planting areas shall be without weeds. If weeds are present, the Contractor shall manually remove the weeds and shall then apply a granular, selective pre-emergent herbicide at manufacturer's approved rates. Coordinate application with the Owner's Representative and provide certificates of application to Owner's Representative. The turfgrass will be considered weed-free if there are 9 weeds or less per 50 square yards (one per 50 square feet).

3.17 FINAL REVIEW

- A. A Final Review will not be scheduled until all Close-out Documents and materials have been submitted and accepted.
- B. A Final Review will be performed before the end of the Maintenance Period or upon the pending Final Acceptance of the work, whichever is earlier, provided all deficiencies revealed during the maintenance period have been corrected. If deficiencies have not been corrected by the end of the stated maintenance period, the Contractor shall continue to fully maintain the project at his own expense. After all deficiencies have been corrected, a Final Review will be held with the Landscape Architect, Owner's Representative, and Contractor.
- C. If after the Final Review, the Landscape Architect and Owner's Representative are of the opinion that the work is acceptable and complete, the Contractor's maintenance responsibility shall terminate on an agreed upon date.

3.18 WARRANTY AND REPLACEMENT

- A. All trees and plants provided under this Contract shall be guaranteed to be in good, healthy, disease/pest free and in a flourishing condition one growing year from the date of Final Acceptance of the work, provided the Owner maintains the plants properly and in accordance with accepted horticultural practices. Species and size of any tree and/or plant replacements, either prior to or after Final Acceptance, shall be equal to that of the same adjacent trees and/or plants at the time of replacement as determined by the Landscape Architect.
- B. The Contractor shall be responsible to replace all lost plants due to theft, vandalism or any other preventable causes till Final Acceptance of the work by the Owner. Replacement trees and plants shall be planted as originally specified and detailed. Replacement trees and plants shall be guaranteed as specified above from the date of replacement. The maintenance period may be extended for a duration of not more than the original maintenance period duration for the establishment of replacement plants.
- C. The Contractor shall be held responsible for repair and/or replacement of damages to new or existing improvements resulting from the defects or actions of trees, plants, materials, equipment or workmanship one year from the date of Final Acceptance or the Notice of Completion, whichever is later.

END OF SECTION

SECTION 329300 - PLANTS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Provide all material, labor, equipment and services necessary to do all Landscape Work and other related items necessary to complete the Project as indicated by the Contract Documents unless specifically excluded.
- B. The landscape work includes, but is not necessarily limited to the following:
 - 1. Fine grading, cross-ripping of compacted soil, soil preparation, topsoil and weed control.
 - 2. Planting and staking as per drawings and specifications.
 - 3. Decomposed Granite Surfacing.
- C. All other requirements appear in the following sections: Part 1, Part 2 and Part 3.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. 32 84 32 – UNDERGROUND SPRINKLERS
- B. Drawings and general provisions of the Contract, including General and Supplemental Conditions and Division 1 Specification Sections, apply to work of this section.

DEFINITIONS

1.3

The term "approved" shall mean by the Architect, and only in writing.

- A.

1.4 QUALITY ASSURANCE

- A. Landscape work shall be performed by a single firm specializing in landscape work.
- B. Plant measurements shall be as follows: 36" box size caliper shall be at least two and one half inches (2 ½") in diameter, measured six inches (6") from container soil level, 24" box size caliper shall be at least one and one half inches (1-1/2") in diameter, measured six inches (6") from container soil level, 15 gallon size caliper shall be at least three quarters inch (3/4") in diameter measured six inches (6") from container soil level. Where not shown, plants shall be of uniform, standard size, neither overgrown and root bound, nor too recently canned so that the root system is not thoroughly established through can. Pruning shall not be done prior to delivery except by prior approval.
- C. Inspection:
 - 1. All landscape work and materials shall comply with applicable Federal, State, County and City regulations. All plant material shall conform to State of California Grading Code of Nursery Stock, No. 1 grade for quality and size and also ISA Standards. Use only nursery grown stock.

2. All plant material shall be subject to inspection upon delivery to the project site by the Owner and Architect. Approval shall not limit the right of rejection during progress of the work for condition of the root ball, size, variety, latent defects or injuries. Rejected plants shall be removed from the site and replaced immediately by the Landscape Contractor at no additional cost to the Owner.

D. Qualifications of Workmen

1. Employ skilled workmen who are thoroughly trained experienced in landscaping and who are completely familiar with specified requirements and methods needed for proper performance of the work in this section.
2. Provide adequate supervision by a qualified foreman.

E. Soil Fertility Analysis

1. The Contractor shall provide, and pay for, a fertility analysis of the existing soil on the project site after rough grading operations have been completed, but before any top soil is imported and placed on site. The samples shall be collected for the fertility analysis by collecting a minimum of 10 representative samples of the soil throughout the site. Each sample shall be a minimum of .25 cubic foot each, and shall be thoroughly mixed together to prepare a homogenous 2.5 cubic foot sample. A one cubic foot sample shall be submitted to the soil testing laboratory as a representative sample for fertility analysis. The Contractor shall submit to the Landscape Architect for review, the results of the soil testing investigations before proceeding with any soil improvement activities such as fertilizing, and/or adding of amendments.
2. Recommendations for improvement of the soil conditions for plant growth shall be made by the testing laboratory, and at a minimum, shall include the following:
 - a. A fertilizer and amendment application program (including macro and micro nutrients).
 - b. Treatments to improve soil PH for optimum plant growth.

F. Bidding Allowance

1. The Contractor shall prepare his bid for the project based upon the type and quantities of soil amendment and fertilizer specified herein. The Contractor's bid price shall also include a \$100.00 bidding allowance for additional work and amendments / fertilizer required by the Owner to be provided for the project after review of the fertility analysis. If the soil analysis reveals that the amendment program is sufficient and does not need altering the Contractor shall credit back the Owner the full bidding allowance. If a minor amendment adjustment is made and the Owner considers the change has a value less than the bidding allowance amount the Contractor shall provide a credit to the Owner for a portion of the bidding allowance in the amount agreed upon by the Contractor and Owner.

1.5 SUBMITTALS

A. Submit six (6) copies of:

1. A complete materials list of all items proposed to be furnished.
2. Certificates of inspection as may be required by government agencies (providing duplicate copies for the Architect).

- B. Maintenance Instructions: Submit two (2) copies typewritten instructions recommending procedures to be established by the District for maintenance of landscape work of one full year. Submit prior to 180 day maintenance period. Maintenance instructions shall be a bound manual.
 - 1. Maintenance Instruction shall include the following:
 - a. Detailed chart, graph or written description of monthly maintenance procedures for turf, shrubs and trees specific to the types called to be provided.
 - b. Description shall include detailed directions for pruning, fertilizing, pest and disease control for shrubs and trees; directions for fertilizing, pest and disease control, mowing, pre-emergent and post-emergent herbicide applications for turf.
- C. Soil amendment: Submit one (1) pint sample and analysis of soil amendment and mulch.
- D. Samples: When requested by the Owner.
- E. Submit invoices from material suppliers for all amendments, fertilizer, seed, plants, mulch and any other materials provided for the landscape installation to the Architect. Contractor shall submit invoices at any stage of installation as requested by the Architect.

AVAILABILITY

- 1.6
 - A. The Landscape Contractor shall confirm availability of plants, supplies, and materials prior to submitting his landscape bid. Variety substitutions are not desired.
 - B. If a plant is found not to be available, the Landscape Contractor is to notify the Architect before bidding. The Architect will then select a reasonable alternate and inform all those bidding of the availability of the original plant. If a substitute is selected it must be of the same size, value and quality as the original plant. Failure to inform the Architect of unavailable plants prior to bidding will result in assumption that all plants specified will be provided by the Landscape Contractor at time of installation. No substitution will be allowed after award of contract.
 - C. Plant size listed on construction documents are minimum acceptable sizes. If plant material specified is not substituted prior to award of contract the minimum specified size shall be provided by the Contractor. If the Contractor can not provide the minimum specified size plant material at the time of installation, the Contractor shall be required to install a larger sized container of the plant specified at no additional cost to the Owner.

PROJECT CONDITIONS

- 1.7
 - Existing Conditions
 - A.
 - 1. The Landscape Contractor is to visit the job site to verify existing conditions including soils, vegetative growth, existing grade, subsurface conditions, drainage, etc. making allowances in his bid for any required work to provide the landscape installation as specified in the construction documents.

2. The Landscape Contractor shall notify the General Contractor to locate underground lines prior to hole boring or trenching. Do not permit heavy equipment such as trucks, rollers, or tractors to damage utilities. Hand excavate as required to minimize possibility of damage to underground utilities. Maintain grade stakes set by others until removal is mutually agreed upon by all parties concerned. Prevent damage to temporary risers of underground irrigation system and similar obstructing work located in the landscape areas.
3. If there is a conflict with the utilities and the planting, Contractor shall notify the Owner for instructions as to further action. Failure to do so will make Contractor liable for any and all damages thereto arising from his operation.

B. Environmental Requirements

1. No plants shall be planted in situations that show obvious poor drainage. Such situations shall be corrected by the Landscape Contractor as directed by the Architect and the Owner. Corrections shall be provided by the Landscape Contractor at no additional cost to the Owner.

C. Protection

1. The Landscape Contractor shall guarantee repair of damage to any part of the premises resulting from leaks, defects in materials, equipment or workmanship. The Landscape Contractor shall be liable for any and all accidents resulting from his work, including open holes and trenches during construction.
2. During landscape work, store materials and equipment where directed. Keep pavements clean and work area in an orderly condition.
3. Protect landscape work from theft, loss, damage and deterioration during storage, installation and maintenance periods. Protect from unauthorized persons (trespassers) as well as from operations by other contractors and tradesmen, and landscape operations. Protect all planted turf and shrub areas from persons as well as operations of other contractors and the Owner. Cost for protection shall be borne by the Contractor. Means of protection such as temporary fencing shall be approved by the Owner.
4. Contractor shall repair or restore damaged work as identified by the Landscape Architect to an acceptable condition. No additional payment will be made to the Contractor for repair of unprotected material.

1.8 INSPECTION

- A. Periodic inspections will be made by the, Landscape Architect during the installation for the project. Such inspections will include but not necessarily be limited to:
1. Stockpiled imported soil and soil amendments prior to installation.
 2. Weed control operations prior to other portions of work.
 3. Placement of plant material at the site prior to planting.
 4. Condition of plant material prior to placement.
 5. Auguring, digging and preparation of plant pits for trees and shrubs.
 6. Planting of shrubs and ground cover.
- B. Any corrective action called for by any of the above listed authorities shall be immediately performed by the Contractor.

1.9 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Plant label shall identify each specie and variety. A label shall be attached to each individual plant or block of identical plants grouped together.
- B. Adequately protect plants from sun and wind prior to planting. Do not allow stored plant material to dry out at any time.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Soil Amendment
 - 1. Planting Areas: "Harvest Premium as supplied by Harvest, 6943 N. Golden State Blvd. Fresno, CA (559) 977-1510 or equivalent and conforming to the following:
 - a. Derivative material – Mixture of 50% composted / decomposed, shredded, chipped greenwaste organic matter and 50% composted dairy manure.
 - b. Particle size - 3/8".
 - c. PH Value - 5.9/6.7.
 - d. Macro-nutrients – 1.3% Nitrogen, 0.47% Phosphorus, 1.7% Potassium.
 - e. Moisture holding capacity - 4 times by volume.
 - f. Composted to provide carbon: nitrogen ratio -11:1 to 13:1 maximum.
 - g. Salinity / Cation Exchange -13% / 541%.
 - 2. Planting Areas: Super Cal 75 gypsum as supplied by Harvest, 6943 N. Golden state Blvd. Fresno, CA (559) 977-1510. Gypsum shall be mined gypsum composed of no less than 75% pure CAS042H20 hydrated calcium sulfate or equivalent.
 - 3. Planting Areas: Tri-C Enterprises P. O. Box 1367, Chino, CA 91708-1367 (800) 927-3311. Tri-C Humate containing 40% Humic Acid derived from Leonardite measured by CDFA testing methods or equivalent.
 - 4. Planting Areas: Tri-C Enterprises P. O. Box 1367, Chino, CA 91708-1367 (800) 927-3311. Tri-C Endo 120 Mycorrhizae containing 60,000 living propagules of glomus intraradices per one pound, or equivalent.
- B. Fertilizer
 - 1. Trees and Shrubs:
 - a. Fertilizer for all trees and shrubs to be Best-Paks (20-10-5) with Polyon by Simplot Turf (800) 992-6066 or equivalent. The Best-Pak tablets shall be applied at the following rates:

1)	Gallon Can	-	1 Paks
	5 Gallon Can	-	3 Paks
2)	Gallon Can	-	9 Paks
	24" Boxes	-	18 Paks
	36" Boxes	-	24 Paks
- C. Mulch

1. Shredded / chipped orchard cuttings greenwaste, free of sticks, dirt, dust and other debris, as provided by ALW (559) 275-2828 or equivalent and accepted by Landscape Architect.
 2. Particle size: ½ " to 1" in general size.
- D. Staking Material
1. 2 inch diameter lodgepole pine, pressure treated, pointed one end.
 2. V.I.T. Cinch Tie, 32 inches long, V.I.T. Products, Inc. (619) 673-1760 or equivalent.
- E. Plants
1. Plants shall be typical of their species and variety, shall have normal growth habits, well developed branches and be densely foliated, and shall have fibrous root systems. No substitutions will be allowed unless approved in writing by the Landscape Architect.
 2. Plants shall be free from defects and injuries including disease, insects, insect eggs and larvae and girdled roots.
 3. Quality and size of plants, spread or roots, caliper and size of balls shall be in accordance with ANSI Z60.1-1969, "American Standard for Nursery Stock".
 4. Plants shall not be pruned before planting.
 5. Plant material must be selected from nurseries that have been inspected by State or Federal Agencies.
 6. Plants shall be nursery grown and shall have been transplanted or root pruned at least once in the past three (3) years. Plants shall have been grown under climatic conditions similar to those in the locality of the project.
 7. Each bundle of plants shall be properly identified by weatherproof labels securely attached thereto before delivery to the project site. Label shall identify plant by name.
 8. Nomenclature shall be in accordance with Hortus III.
 9. No plants shall be delivered to the project site, except for required samples, until inspection has been made in the field or at the nursery, or unless specifically authorized in writing by the Architect.
 10. Collected plant material may be used only when approved. Approval shall not limit the right of rejection during work progress for conditions of the root ball, latent defects or injuries.
 11. Where shown as "MULTI" provide trees with branching starting close to the ground in the manner of a shrub.
 12. Plants are listed on the planting plan as the minimum acceptable sizes. The quantities listed are the Architect's estimate only. The Landscape Contractor is responsible for all material shown on the plan.
- F. Decomposed Granite Surfacing
1. ¼" to fine chipped angular granite from local sources. Color to be light gray unless specified otherwise. As distributed by Rosenbalm Rockery, Inc. (559) 256-3900. Finish depth of material shall be 3" deep after compacting to a minimum of 85%. Submit sample of granite and source for review before purchasing and delivery to the job site.
 2. Filter Fabric shall be three (3) ounce weight Spunbond Polypropylene professional landscape fabric as supplied by Fabri Scape (708) 728-7180 or equivalent.
- G. Organic "Stabilizer"

1. Organic, non toxic, colorless, odorless organic binder derived from natural sources of Psyllium as distributed by Rosenbalm Rockery Inc. (559) 256-3900, and known as "Stabilizer", or approved equal. "Stabilizer" shall be applied to the decomposed granite areas as designated on the plans which will receive the organic "Stabilizer".
2. Blend 12 lbs. of "Stabilizer" as distributed by Rosenbalm's Rockery (559) 256-3900 per ton (2,000 lbs.) of decomposed granite per manufacturer's recommendations to stabilize subject surfacing to a depth of no less than three (3) inches below finish grade. The decomposed granite areas shown to receive the "Stabilizer" shall be graded, prepared, mixed, wetted, and finished as further recommended by the manufacturer of the stabilizer so that the granite is uniformly hardened and the particles bound tightly together. Decomposed Granite areas shall be uniformly level, compacted and brought to smooth level finish. Decomposed granite areas which are crusted over and/or loosely compacted will be considered unacceptable by the Owner.

H. Other Materials

1. Materials not specifically indicated, but necessary for proper execution of the work, shall be of first quality as selected by the Contractor subject to approval of Architect.
2. Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at the site.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine the area and conditions under which the work in this section is to be performed. Correct conditions detrimental to the timely and proper completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 ROUGH GRADING/SOIL COMPACTION

- A. Rough grading has been performed by others to the extent of establishing drainage patterns. The Contractor is responsible for placement of topsoil and rough grading required to ensure positive drainage in all turf and planting areas. Rough grading shall accommodate the addition of soil amendments in anticipation of proposed finish grades.
- B. During the course of earth work required in the project, compaction of soil in the turf and planting areas will exceed an acceptable density. The Landscape Contractor is required to cross rip and cultivate (break up large clumps and clods) the soil within these areas so the soil is loose and friable. Ripping shall be to a depth of twelve inches (12") and shall be accomplished by approved means and methods as directed by the District. The Landscape Contractor shall review the completed ripping operation with the Architect to determine compliance. The Contractor shall provide additional work as directed by the after review.

- C. Do not work soil when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in air or that clods will not break readily. Apply water, if necessary, to bring soil to an optimum moisture content for tilling and planting. Maintain within 2 percent above or below optimum moisture content for soil type present at all times during the work.
- D. The soil shall be cleared of all construction materials, concrete, stones, rocks, roots, wire, sticks, foreign material and similar objects larger than one half inch (1/2") in general size .
- E. Spread approved type topsoil over accepted subgrade prior to incorporating amendments. Add topsoil where needed to bring grade to required elevation as referenced on the plans and specifications.

3.3

SOIL PREPARATION

- A. Throughout the entire project duration and before commencement of any soil preparation, all existing grasses and weeds on the site shall be killed by application of herbicide. All dead vegetation shall be removed from the site and disposed of in a lawful manner. The Contractor shall use and apply all weed control chemicals in accordance with the manufacturer's recommendations and all local codes and ordinances. The chemicals applied shall be done by a licensed applicator.
- B. Planting pits, prior to planting trees and shrubs mix 50% native soil and 50% "Harvest Premium" as backfill mix.
- C. Pre blended soil amendments will not be accepted. The Contractor shall provide soil amendments in individual containers delivered to the site separately and identified by the manufacturer's product label.

3.4

A. FINE GRADING

- B. Upon completion of soil preparation, grade all planting and turf areas to smooth and even slope reestablishing drainage patterns. Grading shall eliminate all humps and hollows and promote positive drainage in all planting and turf areas.

Tolerance of grade differential shall be plus or minus 0.05 foot from existing and design elevation. The Contractor shall water test all turf and planting areas after the grading operations are completed in the presence of the Architect. The water test shall consist of applying water to the turf and planting areas to the point where water runs over the soil to show the drainage pattern. Make all corrections to the grading as required by the Architect and certify that fine grading has re-established drainage patterns. Submit written certification of grade to the Architect. Certification shall be approved in writing by the Architect prior to proceeding with planting.

C.

During the finish grading process no relative compaction of the soil in turf and planting areas shall exceed 85% relative density. The Owner reserves the right to require the Contractor to test for over compaction. The first test will be paid for by the Owner, all subsequent testing will be paid for by the Contractor.

- D. Finish grades shall be one half inch (½") for turf areas, and two inches (2") for planting areas, below all walks and curbs.

3.5 WEED CONTROL

- A. The Contractor shall treat all proposed turf and planting areas with a post emergent contact systemic herbicide weed killer at manufacturer's approved rates prior to any commencement of work at the site. Desiccated and dead weed growth shall then be removed from the entire project site by scraping the vegetation growth off of the existing dirt. Dispose of removed vegetation matter lawfully. Disking in of vegetative material is not acceptable.
- B. Weed eradication shall be ongoing from first day of project work, throughout the course of the project life and continue until final acceptance of the entire project. The Contractor shall apply a post-emergent systemic herbicide contact weed killer to eradicate all weeds throughout the project life up to and throughout the 180 day maintenance period for all areas of the project site. This includes but is not necessarily limited to open dirt areas, parking lots, concrete paving areas, etc. At no time will weeds be allowed to become established. Contractor shall provide all weed control operations as directed by the District.

PLANTING

3.6 Planting Procedures

- A.
 - 1. Planting shall be performed by workmen familiar with planting procedures and under the supervision of a qualified foreman. The planting foreman shall be on the job site at all times when planting is in progress.
 - 2. Planting operations shall not occur under unfavorable weather conditions.
 - 3. Proceed and complete the landscape work as rapidly as portions of the site become available, working within the seasonal limitations for each kind of landscape work required.
 - 4. Cooperate with other contractors and trades working in and adjacent to the landscape work areas. Examine drawings which show the development of the entire site and become familiar with the scope of other work required.
- B. Planting Preparation and Operations
 - 1. Planting material shall be provided with adequate protection of root systems and balls from drying winds and sun. Do not bend or bind trees or shrubs in such a manner as to damage bark, break or destroy natural shape. Provide protective covering during delivery.
 - 2. Deliver trees and shrubs after preparations for planting have been completed, and plant immediately. If planting is delayed more than six (6) hours after delivery, set trees and shrubs in shade, protect from weather and mechanical damage and keep roots moist. Do not remove container grown stock from containers until planting time.
 - 3. All planting areas shall be smooth and even. Finish grades shall be established as indicated on the plans. Approval of shall be secured before digging of holes.
 - 4. Place all trees and shrubs in locations shown on the planting plan and obtain written field approval of the before planting or digging planting pits. Inform the seven (7) days prior to placing the plants.

5. Carefully remove all canned stock from containers with tin snips or approved cutter. After removing plant from container, scarify the sides of the rootball to a depth of 1 inch at four to six equally spaced locations around the perimeter of the ball or at 12 inch intervals on sides of boxed materials. Cut and remove circling roots over 3/8 inch diameter.
 6. Excavate holes of circular outline with vertical sides for all plants. The vertical sides and bottom of the holes shall be thoroughly scarified to promote union of backfill with existing soils. All trees shall be installed with drainage holes. Prior to drilling drainage holes, Contractor shall "pothole" each tree hole boring location to verify there are no underground obstructions or utilities. The drainage hole shall be drilled with a twenty-four inch (24") diameter auger penetrating soil layers to sand or to a minimum depth of six (6) feet but in no case further than ten (10) feet. Precautions shall be exercised to avoid smooth sides on the holes. Offset augured hole eighteen inches (18") from the center of the planned tree location to avoid settling of tree after planting.
 7. The Contractor shall test plant holes for drainage by flooding with water. If the water does not drain out within two (2) hours, excavating shall be carried down as required to achieve such drainage by breaking through the hardpan layer. In no case further than ten feet (10').
 8. Tree and shrub holes shall be at least twice the width and depth of the plant container.
 9. Set each plant in the center of the hole, plumb and straight. Set the crown of the plant at one inch (1") above finish grade (after settling). When 1/2 of the backfill mix has been placed, tamp-in, insert fertilizer and allow no air pockets as remainder of backfill is added.
 10. Compact soil around the rootball of all plants and water in thoroughly.
 11. Excess soil from plant holes shall be cultivated and raked to a smooth outline.
 12. Shrubs and groundcovers shall be installed in relation to walks and paving to allow for future growth without obstructing traffic.
 13. All plants shall be set in watering basin which shall be four feet (4') in diameter and three inches (3") deep for trees and two feet (2') in diameter and three inches (3") deep for shrubs and vines. Remove watering basins at end of maintenance.
 14. Ground cover plants shall be planted at the spacing noted on the drawings in a triangular pattern. Not more than one hour shall elapse from the time any groundcover plant is planted until it is watered.
 15. Upon completion of planting, the Landscape Contractor shall topdress the entire planting area with three inch (3") mulch and treat area with pre-emergent at a rate recommended by the manufacturer. Contractor shall coordinate application with the Landscape Architect and provide certificates of application to Landscape Architect. Provide one final application of pre-emergent seven (7) days prior to final acceptance.
- C. Pruning
1. Prune plants in accordance with established horticultural practice and only when necessary. Shearing of any plants will not be acceptable.
- D. Root Barrier
1. Install root barrier per planting details.
- E. Decomposed Granite Surfacing
1. Place decomposed granite after mixing in "Stabilizer" over compacted subgrade and filter fabric in areas designated on plans. Add light application of water to moisten material and roll to compact to 85% relative density. Provide smooth grade to drain.

3.7 CLEAN-UP

- A. All areas shall be maintained in a neat and orderly condition at all times. All reasonable precautions shall be taken to avoid damage to existing planting and structures.
- B. Damaged areas shall be restored to their original condition.
 - 1. After the planting operations are completed, the Landscape Contractor shall remove all trash, excess soil, tree protection barriers, empty containers or any other debris
 - 2. accumulated by the work from the site. All damage caused by the work shall be repaired at the Contractor's expense and the ground shall be left in a neat and orderly condition to the satisfaction of the Landscape Architect.
- C. A general inspection will be held upon conclusion of the planting operations, irrigation system installation and after clean-up has occurred. The Owner shall be informed in writing a minimum of seven (7) working days prior to the time the work is ready for inspection in order to arrange a suitable time and date for such inspection.
- D. At the time of inspection, Contractor shall have all planting areas free of weeds and neatly cultivated and top dressed with mulch. All plant basins shall be in good repair. All trees shall be properly staked.
- E. Work requiring corrective action or replacement in the judgment of the District shall be performed within five (5) days after the inspection. Corrective work and materials replacement shall be in accordance with the drawings and specifications and shall be made by the Contractor at no cost to the Owner. A subsequent inspection shall then be arranged.
- F. If, after the inspection, the Owner is of the opinion that all the work has been performed as per drawings and specifications, the Contractor will be given written notice of substantial completion.

3.8 MAINTENANCE

- A. The Contractor shall continuously maintain all areas included in the contract during the progress of the work, through the establishment period and until final acceptance of the work.
 - 1. Maintenance work includes monitoring the site to control all watering, replanting, fertilizing, mulching, cultivating and mowing necessary to bring the planted areas to a healthy growing condition, and any additional work needed to keep the areas neat, edged and attractive. Any date when the Contractor fails to adequately water, replace unsuitable planted areas and other work determined to be necessary by the District, will NOT be credited as part of the Maintenance Period.
- B. During the progress of the maintenance period, the Contractor and the District shall conduct inspections at no less than 30 day intervals to determine that ongoing maintenance activities have been conducted by the Contractor. If in the opinion of the District, ongoing maintenance has not been conducted by the Contractor in a satisfactory manner the maintenance period shall be suspended. The Contractor shall provide remedial work as directed by the District to correct the found deficiencies and schedule another inspection. If after the reinspection the work is deemed acceptable the maintenance period shall resume.

- C. The first mowing of turf shall not commence until the grass is generally at least one and one half inches (1-1/2") in height. For the first mowing and all subsequent mowings for the turf, the mower shall be set to cut at a height of three inches (3"). The turf shall be maintained by mowing and edging at least once every seven (7) calendar days after the initial mowing. The Contractor shall mow the site a minimum of twenty (20) times. The turf shall be mowed and edged prior to final inspection.
1. Between the fifteenth (15th) day and the twentieth (20th) day of the maintenance period the Contractor shall replant the spots or areas in which normal growth of the turf is not evident. The Contractor shall do the following: replant all spots or areas where normal growth is not evident; remove all rocks or other debris that would constitute a hindrance to mowing; repair all damaged done by his operations; fill all depressions and eroded channels with sufficient sandy loam top soil to raise to proper grade, compact lightly and replant the filled areas; and roll all planted and replanted areas with a one hundred twenty-five (125) pound weight roller to compact the soil around the seed and to provide a smooth and even mowing surface.
 2. The Contractor shall fertilize the planted turf area every three weeks with (15-15-15) fertilizer with minors at a rate of 5 lbs./1,000 sq. ft. The Contractor shall continue the fertilizer application until the planted turf is accepted.
 3. At no time will broadleaf and annual weeds be allowed to become established in the turf. At the earliest time possible the Contractor shall eradicate all weeds in the turf area by application of herbicides and/or mechanical or hand labor means. The Contractor shall not proceed with any weed eradication without the written consent of the District.
- D. A final inspection of the turf and planting areas shall be made by the District in the presence of the Contractor at the end of the ninety (90) day maintenance period to determine if the planted areas are well established and healthy throughout the entire site. If the areas are determined by the Owner as being unacceptable, the maintenance period will be extended to such time as the areas are brought up to the acceptable level.
- E. All trees, shrubs, ground cover shall be kept at a optimum growing condition by watering, weeding, replanting, fertilizing, cultivating, tree stake repair, spraying for diseases and insects, replace dead or dying materials, pruning as directed, maintaining proper grades of plants, and providing any other reasonable operations of maintenance and protection required for successful completion of the project.
- F. The Contractor shall be responsible to replace all loss of plants due to theft, vandalism or any other causes till final acceptance of the work by the District.

3.9 FINAL ACCEPTANCE

- A. Final inspection will be made at the end of the maintenance period, provided all deficiencies brought out during that time have been corrected. If these deficiencies have not been corrected by the end of the stated maintenance period, the Contractor shall continue to maintain the project at his own expense beyond the specified time. When all deficiencies have been corrected, the final inspection will be held with the Project Inspector, and Contractor.
- B. If, after the final inspection, the owner is of the opinion that the work is acceptable, the Contractor will be given written acceptance of the project.

3.10 WARRANTY AND REPLACEMENT

- A. All plants provided under this Contract shall be in good, healthy and flourishing condition one growing year from the date of final acceptance. If deemed necessary for replacements; Quality, species and size of replacements to be determined by the Architect.
- B. Except for loss beyond control of the Landscape Contractor, replacement of trees and plants of comparable quality and size shall be made by the Landscape Contractor. Replacement trees and plants shall be installed and guaranteed as specified for original planting.
- C. The Landscape Contractor shall be held responsible for repair of damages resulting from the defects, materials equipment or workmanship during the execution of his contract.
- D. All shrubs and groundcover shall be guaranteed for a period of one calendar year after acceptance by the Architect.

END OF SECTION