

DOCUMENT 00 01 01

PROJECT MANUAL
FOR THE
COLLEGE OF SAN MATEO
MARIE CURIE PARKING LOT RENOVATION

Specifications – Volume 1 of 1
Project No. 471G
Bid Number 86720

SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT
3401 CSM DRIVE
SAN MATEO, CALIFORNIA 94402

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NOT USED

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Section	Title
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NOT USED

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Section	Title
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NOT USED

Division 05 – Metals

Section Title

NOT USED

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Section Title

NOT USED

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NOT USED

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NOT USED

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NOT USED

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NOT USED NOT USED

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NOT USED

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NOT USED

Division 08 – Openings

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NOT USED	

END OF DOCUMENT

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ADVERTISEMENT FOR BIDS

NOTICE IS HEREBY GIVEN that the San Mateo County Community College District (“**District**”) of San Mateo, California, acting through its Governing Board, hereinafter referred to as the District, will accept sealed bids for the award of the contract for the following public work:

BID NUMBER 86720
College of San Mateo Marie Curie Parking Lot Renovation Project
College of San Mateo, San Mateo, California

Each bid must conform to and be responsive to the contract documents and be submitted on a form furnished by the District. Bids can only be submitted by those B, contractors who have been pre-qualified with the District, as reflected on the District’s website: <http://www.smccd.edu/facilities/prequalcc.php>.

DESCRIPTION OF THE WORK. The Work generally consists of site improvements to repair and upgrade two faculty / staff parking lots. The scope of work includes installation of three new LED light fixtures, new speed bumps that align with San Mateo County requirement for fire department access, and new striping. Construction is scheduled to begin May 16, 2016, and complete before the start of the Fall term in mid-August. The construction window for this project is approximately May 16, 2016 – August 5, 2016.

BIDS DUE: Sealed Bids will be received by the District at their office located at 3401 CSM Drive, San Mateo, CA 94402 **no later than** 2:00 pm, on Thursday, March 24, 2016. Main contact for this project is Project Manager Johnnie Fudge, telephone 650-378-7341, facsimile 650-574-6574, and email: fudgej@smccd.edu.

PREVAILING WAGE: The successful bidder shall be required to pay its workers on this project a sum not less than the general prevailing wage rate of per diem wages and not less than the general prevailing rate for holiday and overtime work for work of a similar character in the locality in which the project is performed as provided under California Labor Code section 1770 et sec. The District has determined the prevailing rate of per diem wages and the general prevailing rate for holidays and overtime work in the locality in which this project is to be performed for each craft, classification or type of work needed to execute the work.

Contractor shall be required to post job site notices, at each job site, including a copy of such prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations, prescribed by regulations.

CONTRACTOR REGISTRATION. Each Firm submitting a proposal to complete the work, labor, materials and/or services (“**Work**”) subject to this proposal must be a Department of Industrial Relations registered contractor pursuant to Labor Code §1725.5 (“**DIR Registered Contractor**”). A Firm who is not a DIR Registered Contractor when submitting a proposal for the Work is deemed “not qualified” and the proposal of such a Firm will be rejected for non-responsiveness. Pursuant to Labor Code §1725.5, all Subcontractors identified in a Firms’ Subcontractors’ List shall be DIR Registered Contractors. If awarded the Contract for the Work, at all times during performance of the Work, the Firm and all Subcontractors, of any tier, shall be DIR Registered Contractors. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code Section 1771.5.

SUBSTITUTION OF SECURITIES. District will permit successful Bidder to substitute securities for retention monies withheld to ensure performance of Contract, as set forth in Document 00 43 45 (Escrow Agreement for Security Deposits in Lieu of Retention), in accordance with California Public Contract Code, Section 22300. By this reference, Document 00 43 45 (Escrow Agreement for Security Deposits in Lieu of Retention) is incorporated in full in this Document 00 11 13.

RESTRICTIONS ON SUBSTITUTIONS AND SOLE SOURCE ITEMS. As a limitation on Bidder's privilege to substitute "or equal" items, District has found that certain items are designated as District standards and certain items are designated to match existing items in use on a particular public improvement either completed or in the course of completion or are available from one source. As to such items, District will not permit substitution. Such items are described in the Bidding Documents.

PROCUREMENT OF BIDDING DOCUMENTS: Bidders may obtain copies of bid documents upon payment of a non-refundable fee to American Reprographics Company starting Monday, February 29, 2016, by calling (415) 495-8700 or through their internet website through copy and paste of the following link:

https://order.e-arc.com/arcEOC/x_project.asp?de=0A13535F-E04C-49D5-886C-43AAA4DCFC5E

Request "CSM Marie Curie Parking Lot Renovation Project" documents for printing.
Bidders may access bid documents through the project web site,

<https://smccd-public.sharepoint.com/fpo/SitePages/Home.aspx?RootFolder=%2Ffpo%2FProjects%2FFPMO%2FCSM%20Marie%20Curie%20Parking%20Lot%20Renovation%20Project%2FBid%20Plans%20and%20Specifications&FolderCTID=0x012000A4ACA71DCC991B409AC6DBA360514349&View=%7BCB69A40B%2DEB1F%2D4A59%2D8A53%2D66DFB8005A3A%7D>

MANDATORY PRE-BID CONFERENCE: Two conferences will be held for this project on Friday, March 4, at 2:00 pm, College of San Mateo, Building 1, Rm 244, and Thursday, March 10th, 11:00 am, College of San Mateo, Building 1, Rm 244. Attendance at ONE conference is mandatory. Prospective subcontractors and vendors are encouraged to attend. Interested parties are advised to arrive early in order to park. Parking pass will be available on the SharePoint site, link above. At the conference the project presentation will be followed by a walk of the project site.

The San Mateo County Community College District is an equal opportunity employer.

Board of Trustees
San Mateo County Community College District
Thomas Mohr, Vice President-Clerk

Published: February 29, 2016
March 7, 2016

END OF DOCUMENT

DOCUMENT 00 11 19

INSTRUCTIONS TO BIDDERS

Bids are requested for a general construction contract, or work described in general, as follows:

MARIE CURIE PARKING LOT RENOVATION

1. **RECEIPT OF BIDS.** Sealed Bids will be received by the District at their office (see paragraph 2 below) **no later than 2:00 pm, on Thursday, March 24, 2016.** District will receive Bids from pre-qualified contractors in a sealed envelope that is clearly labeled with the name and number of the bid. All Bids will be time stamped to reflect their submittal time. District will reject all Bids received after the specified time and will return such Bids to Bidders unopened. Bidders must submit Bids in accordance with this DOCUMENT 00 11 19.

2. **CONTACT INFORMATION:**

Bid Submittal and Mailing address:
San Mateo County Community College District
c/o Facilities Planning Department
3401 CSM Drive
San Mateo, CA 94402

Contact Name:
Johnnie Fudge

Telephone:
(650) 378-7341

Fax:
(650) 574-6574

Email (acceptable for informal communication, but not legal notice): fudgej@smccd.edu

3. **BID SUBMISSION.** Bidder should mark its Bid envelope as BID FOR THE DISTRICT, BID NUMBER 86720, MARIE CURIE PARKING LOT RENOVATION PROJECT. Bids shall be deemed to include the written responses of the Bidder to any questions or requests for information of District made as part of Bid prior to submission of Bid. Bidder's failure to submit all required documents strictly as required entitles District to reject the Bid as non-responsive.
4. Not used.
5. Not used.
6. **REQUIRED BID FORMS.** All Bidders must submit Bids using, where applicable, documents supplied in this Project Manual, including without limitation:
 - Document 00 41 00 (Bid Form)
 - Document 00 43 10 (Indemnity and Release Agreement)
 - Document 00 43 13 (Bond Accompanying Bid)
 - Document 00 43 36 (Subcontractors List)
 - Document 00 43 33 (Schedule of Major Equipment and Material Suppliers)
 - Document 00 45 00 (Bidder Certifications)
 - Document 00 45 01 (Verification of Contractor/Subcontractors' DIR Registration)
 - Document 00 45 14 (Key Personnel)
 - Document 00 45 19 (Non-collusion Affidavit).

District will reject as non-responsive any Bid not submitted on the required forms. Bids must be full and complete. Bidders must complete all Bid items and supply all information required by Bidding Sections. District reserves the right in its sole discretion to reject any Bid as non-responsive as a result of any error or omission in the Bid. Bidders may not modify the Bid Form or qualify their Bids. Bidders must submit clearly and distinctly written Bids. Bidders must clearly make any changes in their Bids by crossing out original entries, entering new entries, and initialing new entries. District reserves the right to reject any Bid not clearly written.

7. **REQUIRED BID SECURITY.** Bidders must submit with their Bids either cash, a cashier's check, or certified check from a responsible bank in the United States, or corporate surety bond furnished by a surety authorized to do business in the State of California, of not less than ten percent of amount of total Bid, including Owner's Allowance, payable to District. All Bidders choosing to submit a surety bond must submit it on the required form, Document 00 43 13 (Bond Accompanying Bid). District will reject as non-responsive any Bid submitted without the necessary Bid security.

The District may retain Bid securities and Bid bonds of other than the Apparent Low Bidder for a period of ninety (90) Days after award or full execution of the Contract, whichever first occurs. Upon full execution of the Contract, and upon request by Bidder, District will return to the respective unsuccessful Bidders their Bid securities and Bid bonds.

8. **REQUIRED SUBCONTRACTORS LIST.** All Bidders must submit with their Bids the required information on all Subcontractors in Document 00 43 36 (Subcontractors List) for those Subcontractors who will perform any portion of the Work, including labor, rendering of service, or specially fabricating and installing a portion of the Work or improvement according to detailed drawings confined in the plans and specifications, in excess of one half of one percent of total Bid. Violation of this requirement may result in Bid being deemed non-responsive and not being considered.

A. **SUBCONTRACTORS LIST.** Public Contract Code Section 4104 is hereby incorporated in full by this reference. In compliance with PCC 4104 as of July 1, 2014, bidders **must list all SUBCONTRACTORS, AND THEIR ADDRESS**, that will fabricate and install a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor's total bid.

9. **PREVAILING WAGE and CONTRACTOR REGISTRATION.** The successful bidder shall be required to pay its workers on this project a sum not less than the general prevailing wage rate of per diem wages and not less than the general prevailing rate for holiday and overtime work for work of a similar character in the locality in which the project is performed as provided under California Labor Code section 1770 et sec. The District has determined the prevailing rate of per diem wages and the general prevailing rate for holidays and overtime work in the locality in which this project is to be performed for each craft, classification or type of work needed to execute the work.

Contractor shall be required to post job site notices, at each job site, including a copy of such prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations, prescribed by regulation.

Each Bidder submitting a bid to complete the work, labor, materials and/or services ("Work") subject to this project must be a Department of Industrial Relations registered contractor pursuant to Labor Code §1725.5 ("DIR Registered Contractor"). A Bidder who is not a DIR Registered Contractor when submitting a bid for the Work is deemed "not qualified" and the bid of such a Bidder will be rejected for non-responsiveness. Pursuant to Labor Code §1725.5, all Subcontractors identified in a Bidder's Subcontractors' List shall be DIR Registered Contractors. If awarded the Contract for the Work, at all times during performance of the Work, the Bidder and all Subcontractors, of any tier, shall be DIR Registered Contractors. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code Section 1771.5.

10. **MANDATORY PRE-BID CONFERENCE and SITE VISIT.** District will conduct two (2) Mandatory Pre-Bid Conferences and Site Visits, per Document 00 11 13 (Advertisement for Bids). District reserves the right to schedule and organize the Site Visit to minimize congestion and disruption to college operations and instructional

activities Bidders shall submit questions resulting from the Site Visit in writing as a bid period RFI. District will transmit responses to such RFI's as Bid Addenda. Such addenda shall be distributed to all parties recorded as Plan Holders, and / or to all attendees listed on the pre-bid conference sign in sheets, who provided legible contact information. Bidders shall not rely on verbal statements made at the pre-bid conference or in any other venue. Verbal statements will not be legally binding. Other Pre-Bid Site visits may be scheduled at District's sole discretion, depending on staff availability. **Attendance at ONE pre-bid conference is mandatory. Any bid received from a Contractor who did not attend one of the two mandatory pre-bid conferences shall be considered a non-responsive bid.**

- 11. OTHER REQUIREMENTS PRIOR TO BIDDING.** Submission of Bid signifies Bidder's careful examination of Bidding Documents and complete understanding of the nature, extent, and location of Work to be performed. As a condition to Bidding, Bidder must complete tasks listed in Document 00 52 00 (Agreement), Article 5. Submission of Bid shall constitute Bidder's express representation to the District that Bidder has fully completed these tasks.
- 12. EXISTING DRAWINGS AND GEOTECHNICAL DATA.** Once a request to review documents has been received, digital copies will be made available. Nevertheless, by submitting a Proposal, Contractor accepts full responsibility for reviewing, knowing and understanding the contents of all of these materials.
- 13. ADDENDA.** Bidders must direct all questions about the meaning or intent of Bidding Documents to District Representative in writing. Interpretations or clarifications considered necessary by District in response to such questions will be issued by Addenda mailed, emailed, or delivered to all parties recorded by District as having received Bidding Documents. Addenda will be written and will be issued to each bidder to the address or email address supplied District by Bidder. District may not answer questions received after 4:00pm on Monday, March 14, 2016. Only questions answered by formal written Addenda will be binding. Verbal and other interpretations or clarifications will be without legal effect.
 - A. Addenda may also be issued to modify the Bidding Documents as deemed advisable by District.
 - B. Addenda shall be acknowledged by number with signature in Document 00 41 00 (Bid Form) and shall be part of the Contract Documents. A complete listing of Addenda may be secured from District.
- 14. SUBSTITUTIONS.** Bidders must base Bids on products and systems specified in Contract Documents or listed by name in Addenda.
 - A. Except as provided in paragraph 14.c below, District will consider substitution requests on for "or equal items." Bidders requesting to use "or equal" item(s) must submit Document 00 43 25 (Substitution Request Forms) items no later than thirty (30) days after the date of the Notice to Proceed. After that date, the District will not accept "or equal" substitution requests. To assess "or equal" acceptability of product or system, submittals of substitutions shall contain the information required in Document 00 43 25 (Substitution Request Forms) and set forth in Section 01 60 00 (Product Requirements). Insufficient information will be grounds for rejection of substitution. District shall, within a reasonable period of time after having received a request for substitution, issue in writing its decision as to whether the proposed substitute item is an "or equal" item. District's decision shall be conclusive on all Bidders.
 - B. Approved substitutions shall be listed in Addenda and become part of contract Documents.
 - C. Substitutions may be requested after submitting Bids and Award of contract only in accordance with requirements specified in Section 01 60 00 (Product Requirements).
 - D. As further limitation on Bidder's privilege to substitute items, District has found that certain items are designated as District standards and certain items are designated to match existing items in use on a particular public improvement, either completed or in the course of completion, and/or are only available from one source. As to such items, District will not permit substitution. District will not permit substitutions for the following items:
- 15. WAGE RATES.** Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the contract, as determined by Director of the State of California Department of Industrial Relations, are available through the Department of Industrial Relations and are deemed included in the Bidding Documents. See <http://www.dir.ca.gov/dir/databases.html>. Upon request, District will make available copies to any interested party. In addition, Contractor shall post the applicable prevailing wage rates at the Site.

- 16. EQUAL EMPLOYMENT OPPORTUNITY.** Contractor shall comply with all applicable federal, state, and local laws, rules, and regulations in regard to nondiscrimination in employment because of race, color, ancestry, national origin, religion, sex, marital status, age, medical conditions, disability, or any other reason.
- 17. BID OPENING.** District will open all bidders' envelopes, initially evaluate them for responsiveness, and determine an Apparent Low Bidder as specified herein.
- 18. DETERMINATION OF APPARENT LOW BID.** Apparent Low Bid will be based solely on the total amount of all Bid items (including any alternates) based on assumptions contained in Document 00 41 00 (Bid Form). All Bidders are required to submit Bids on all Bid items (including any alternates).
- 19.** Not used.
- 20. BID EVALUATION.** District may reject any or all Bids and waive any informalities or minor irregularities in the Bids. District also reserves the right, in its discretion, to reject any or all Bids and to re-bid the Project. District reserves the right to reject any or all nonconforming, non-responsive, unbalanced, or conditional Bids, and to reject the Bid of any Bidder if District believes that it would not be in the best interest of Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by District. For purposes of this paragraph, an "unbalanced Bid" is one having nominal prices for some work items and enhanced prices for other work items.
- A. In evaluating Bids, District will consider Bidders' qualifications, whether or not the Bids comply with the prescribed requirements, omit prices and other data, as may be requested in Document 00 41 00 (Bid Forms) or prior to the Notice of Award.
 - B. District may conduct reasonable investigations and reference checks of Bidder, proposed Subcontractors, suppliers and other persons and organizations as District deems necessary to assist in the evaluation of any Bid; ability qualifications, financial ability proposed Subcontractors, suppliers, and to establish Bidder's responsibility, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to District's satisfaction within the prescribed time. Submission of a Bid constitutes Bidder's consent to the foregoing. District shall have the right to consider information provided by sources other than Bidder. District shall also have the right to communicate directly with Bidder's surety regarding Bidder's bonds.
 - C. Discrepancies between the multiplication of units of Work and limit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between written words and figures will be resolved in favor of the words.
 - D. Quantities stated in the Bidding Documents are approximate only and are subject to correction upon final measurement of the Work, and are subject further to the rights reserved by the District to increase or diminish the amount of work under any classification as advantages to design or construction needs require.
 - E. District may determine whether a Bidder is qualified in its sole discretionary judgment.
- 21. AWARD.** If the contract is to be awarded, it will be awarded to the lowest responsible responsive Bidder. Following completion of all required District procedures and receipt of all District approvals, District will issue Document 00 51 00 (Notice of Award) to successful Bidder.
- 22. BID PROTEST.** Any Bid protest must be submitted in writing to the District's offices, before 2:00pm of the fifth (5) day following opening of Bidder's Envelopes.
- A. The initial protest document must contain a complete statement of the basis for the protest.
 - B. The protest must refer to the specific portion of the document that forms the basis for the protest.
 - C. The protest must include the name, address, and telephone number of the person representing the protesting party.
 - D. Only Bidders who the District otherwise determines are responsive and responsible are eligible to protest a Bid; protests from any other Bidder will not be considered. In order to determine whether a protesting Bidder is responsive and responsible, District may conduct the same investigation and evaluation as District is entitled to take regarding an Apparent Low Bidder.
 - E. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached

documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.

- F. The procedure and time limits set forth in this paragraph are mandatory and are Bidder's sole and exclusive remedy in the event of Bid protest. Bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the Bid protest, including filing a Government Code Claim or legal proceedings. A Bidder may not rely on a protest submitted by another Bidder, but must timely pursue its own protest.
- G. Bid protests shall be submitted directly to the district at their offices located at:

San Mateo County Community College District
c/o José D. Nuñez, Vice Chancellor, Facilities Planning, Maintenance & Operations
3401 CSM Drive
San Mateo, CA 94402

* A copy of this protest shall be sent to Johnnie Fudge, Project Manager, Facilities Planning Department.

23. POST-NOTICE OF AWARD REQUIREMENTS. After Notice of Award, the successful Bidder must execute and submit the following documents as indicated below.

- A. Submit the following documents to District by 4:00 p.m. of the tenth (10) day following Notice of Award. Execution of Contract by District depends upon approval of these documents:
 - 1) Document 00 52 00 (Agreement): To be executed by successful Bidder. Submit two originals, each bearing an original signature.
 - 2) Document 00 61 00 (Construction Performance Bond): To be executed by successful Bidder and surety, in the amount set forth in Document 00 61 00 (Construction Performance Bond). Submit one original.
 - 3) Document 00 62 00 (Construction Labor and Material Payment Bond): To be executed by successful Bidder and surety, in the amount set forth in Document 00 62 00 (Construction Labor and Material Payment Bond). Submit one original.
 - 4) Insurance certificates and endorsements required by Section 00 71 00 (General Conditions) Article 4. Submit one original set.
 - 5) The Guaranty in the form set forth in Document 00 65 36 (Guaranty). Submit one original, bearing an original signature.
 - 6) OCIP Insurance Enrollment Forms as set forth in Section 00 73 17 (Insurance). Submit one original.
- B. District shall have the right to communicate directly with Apparent Low Bidder's proposed performance bond surety, to confirm the performance bond. District may elect to extend the time to receive performance and labor and material payment bonds.
- C. Successful Bidder's failure to submit the documents required herein, in a proper and timely manner, entitles District to rescind its award, and to cause Bidder's Bid security to be forfeited as provided herein.

24. FAILURE TO EXECUTE AND DELIVER DOCUMENTS. If Bidder to whom contract is awarded shall, within the period described in paragraph 23A of this Document 00 11 19, fail or neglect to execute and deliver all required Contract Documents and file all required bonds, insurance certificates, and other documents, District may, in its sole discretion, foreclose on Bidder's deposit surety bond, or deposit Bidder's cashier's check or certified check for collection, and retain the proceeds thereof as liquidated damages for Bidder's failure to enter into the Contract Documents. Bidder agrees that calculating the damages District may suffer as a result of Bidder's failure to execute and deliver all required Contract Documents would be extremely difficult and impractical and that the amount of Bidder's required Bid security shall be the agreed and presumed amount of District's damages. In addition, upon such failure District may determine the next Apparent Low Bidder and proceed accordingly.

25. MODIFICATION OF COMMENCEMENT OF WORK. District expressly reserves the right to modify the date for the Commencement of Work under the Contract and to independently perform and complete work related to the Project.

26. WITHDRAWAL OF BIDS. Bidders may withdraw their Bids at any time prior to the Bid opening time fixed in this Document 00 11 19, only by written request for the withdrawal of Bid filed with the District's representative. Bidder or its duly authorized representative shall execute request to withdraw Bid. The submission of a Bid does not commit the District to award a contract for the Project, to pay costs incurred in the preparation of a Bid, or to procure or contract for any goods or services.

27. PUBLIC RECORDS ACT REQUESTS.

- A. Per the Public Records Act, District will make available to the public all correspondence and written questions submitted during the Bid period, all Bid submissions opened in accordance with the procedures of this Document 00 11 19, and all subsequent Bid evaluation information. All submissions not opened will remain sealed and eventually be returned to the submitter. Except as otherwise required by law, District will not disclose trade secrets or proprietary financial information submitted that has been designated confidential by Bidder. Any such trade secrets or proprietary financial information that a Bidder believes should be exempted from disclosure shall be specifically identified and identified as such. Blanket-type identification by designating whole pages or section shall not be permitted and shall be invalid. The specific information must be clearly identified as such.
- B. Upon a request for records regarding this Bid, District shall notify Bidder involved within ten (10) Days from receipt of the request of a specific date when the records will be made available for inspection. If the Bidder timely identifies any impropriety, trade secret, or confidential commercial or financial information that Bidder determines is not subject to public disclosure and requests District to refuse to comply with the records request, Bidder shall take all appropriate legal action and defend District's refusal to produce the information in all forums; otherwise, District will make such information available to the extent required by applicable law, without restriction.
- C. Information disclosed to the District and the attendant submissions are the property of District unless Bidder makes specific reference to data that is considered proprietary. Subject to the requirements in the Public Records Act, reasonable efforts will be made to prevent the disclosure of information except on a need-to-know basis during the evaluation process.

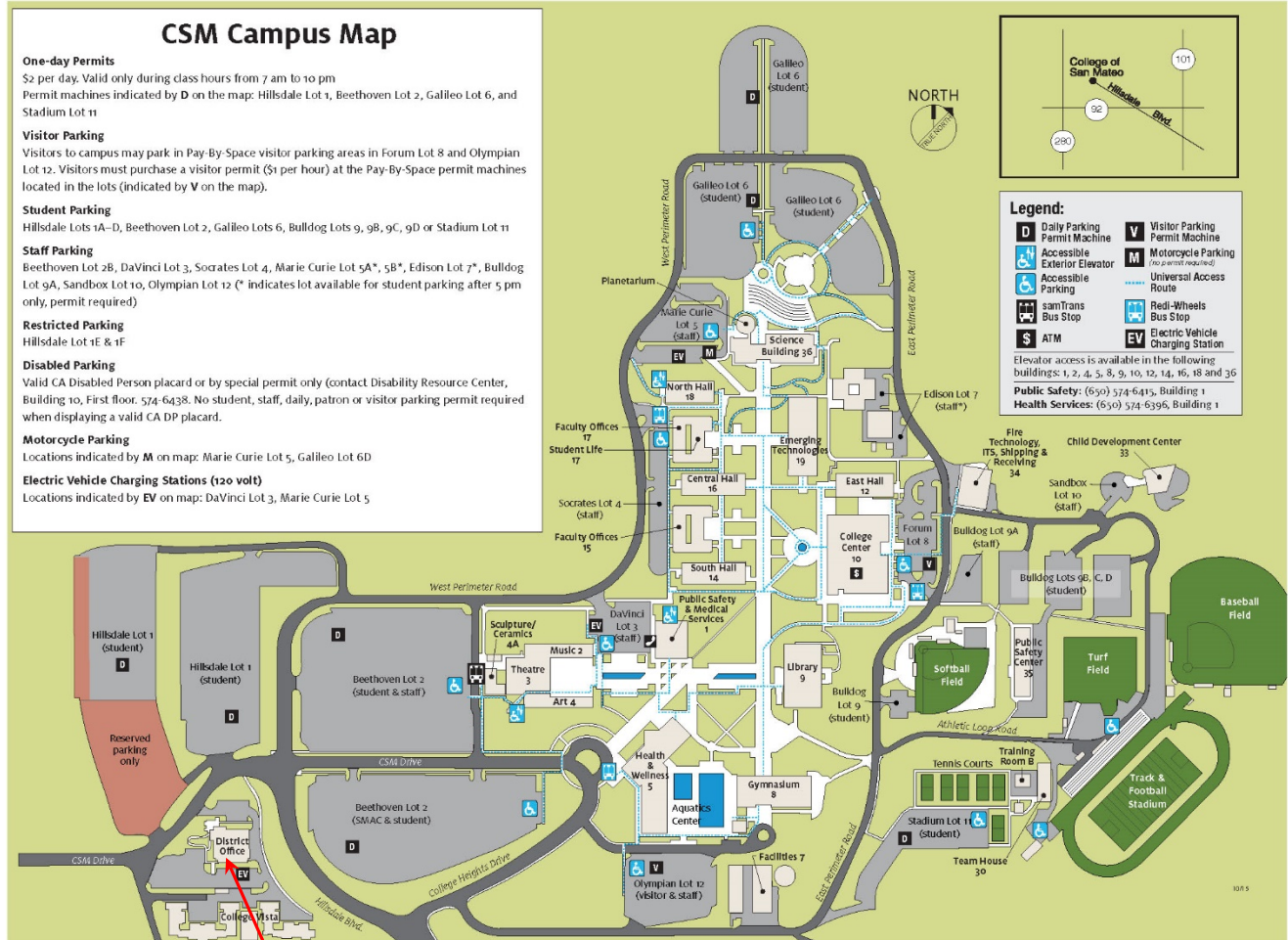
28. NOT USED.

- 29. DEFINITIONS.** All abbreviations and definitions of terms used in this Document 00 11 19 are set forth in Section 01 42 00 (References and Definitions).

END OF DOCUMENT

DOCUMENT 00 21 14

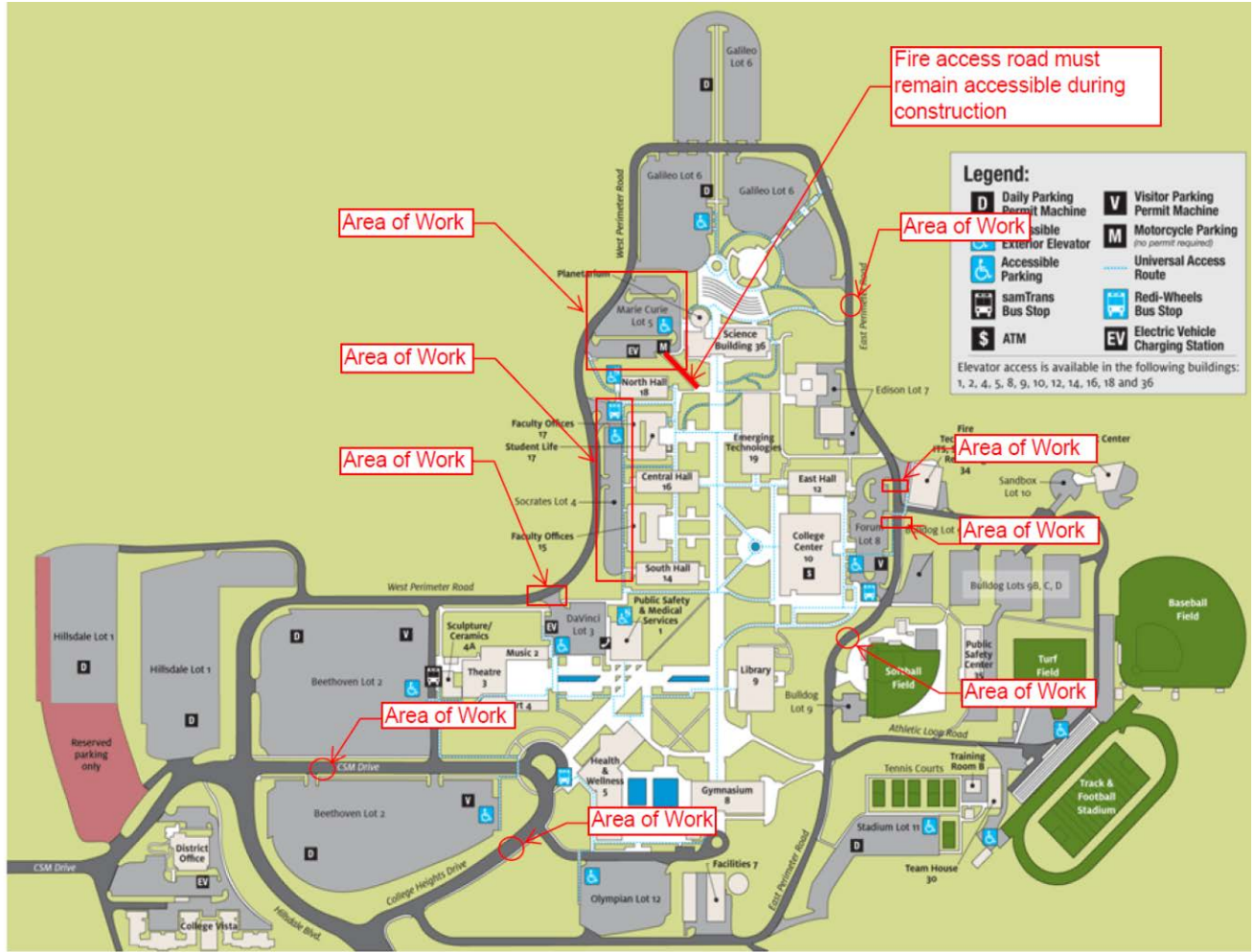
BID SUBMITTAL VICINITY MAP



SMCCC District Office
3401 CSM Drive
San Mateo, CA 94402
- Left turn off of W.
Hillsdale Blvd.

DOCUMENT 00 21 14

PROJECT SITE CAMPUS MAP



DOCUMENT 00 41 00

**BID FORM
TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID**

To be submitted as part of bid by the time and date specified in Section 00 11 19 (Instructions to Bidders), paragraph 1.

TO THE HONORABLE BOARD OF TRUSTEES OF THE SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT

THIS BID IS SUBMITTED BY:

(Firm/Company Name)

Re: BID NUMBER 86720, THE MARIE CURIE PARKING LOT RENOVATION PROJECT

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the San Mateo County Community College District ("District") in the form included in the Contract Documents, Section 00 52 00 (Agreement), to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Sum and within the Contract Time indicated in this Bid and in accordance with all other terms and conditions of the Contract Documents.

2. Bidder accepts all of the terms and conditions of the Contract Documents, Section 00 11 13 (Advertisement for Bids), and Section 00 11 19 (Instructions to Bidders), including, without limitation, those dealing with the disposition of Bid Security. This Bid will remain subject to acceptance for sixty (60) Days after the day of Bid opening.

3. In submitting this Bid, Bidder represents:

(a) Bidder has examined all of the Contract Documents and the following Addenda (receipt of all of which is hereby acknowledged).

Addendum No.	Addendum Date	Signature of Bidder

(b) Bidder has visited the Site and performed tasks, reviews, examinations, and analysis and given notices, regarding the Project and the Site, as set forth in Section 00 52 00 (Agreement), Article 5.

(c) NOT USED

(d) Bidder has given District prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and as-built drawings and actual conditions and the written resolution thereof through Addenda issued by District is acceptable to Contractor.

4. In submitting this Bid, Bidder represents that the value of its bid for the Work of the Contractor Documents reflects a credit for insurance coverage provided by the Owner Controlled Insurance Program.

Bidder's signature represents acknowledgement of OCIP credit in Bidder's bid	Signature of Bidder
--	---------------------

- Based on the foregoing, Bidder proposes and agrees to fully perform the Work within the time stated and in strict accordance with the Contract Documents for the following sums of money listed in the following Schedule of Bid Prices:

SCHEDULE OF BID

All Bid items must be filled in completely. Section 01 10 00 (Summary of Work) describes the scope of work to be performed under this contract. Quote in figures only, unless words are specifically requested.

ITEM	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL
1.	All Work of Contract Documents other than Work separately provided for under other Bid items		[Lump Sum]	XXXXXX	\$
2.	[Owner's Allowance]		10%	Item #1	\$[_____]
3.	Total Bid Amount (Sum of Items 1 – 2)			LUMP SUM	\$

Total Bid Price (in words): _____

- The low bid will be determined by the sum of Bid Items #1 and #2.
- Subcontractors for work included in all Bid items are listed on the attached Document 00 43 36 (Subcontractors List).
- The undersigned Bidder understands that District reserves the right to reject this Bid.
- If written notice of the acceptance of this Bid, hereinafter referred to as Notice of Award, is mailed or delivered to the undersigned Bidder within the time described in paragraph 2 of this Section 00 41 00 or at any other time thereafter before it is withdrawn, the undersigned Bidder will execute and deliver the documents required by Section 00 11 19 (Instructions to Bidders) within the times specified therein. These documents include, but are not limited to, Section 00 52 00 (Agreement), Section 00 61 00 (Construction Performance Bond), and Section 00 62 00 (Construction Labor and Material Payment Bond).
- Notice of Award or request for additional information may be addressed to the undersigned Bidder at the address set forth below.
- The undersigned Bidder herewith encloses cash, a cashier's check, or certified check of or on a responsible bank in the United States, or a corporate surety bond furnished by a surety authorized to do a surety business in the State of California, in form specified in Section 00 11 19 (Instructions to Bidders), in the amount of ten percent (10%) of the total of Bid items 1 and #2 and made payable to "San Mateo County Community College District".
- The undersigned Bidder agrees to commence Work under the Contract Documents on the date established in Section 00 71 00 (General Conditions) and to complete all work within the time specified in Section 00 52 00 (Agreement). The undersigned Bidder acknowledges that District has reserved the right to delay or modify the commencement date. The undersigned Bidder further acknowledges District has reserved the

right to perform independent work at the Site, the extent of such work may not be determined until after the opening of the Bids, and that the undersigned Bidder will be required to cooperate with such other work in accordance with the requirements of the Contract Documents.

12. The undersigned Bidder agrees that, in accordance with Section 00 71 00 (General Conditions), liquidated damages for failure to complete all Work in the Contract within the time specified shall be as set forth in Section 00 52 00 (Agreement).

13. The names of all persons interested in the foregoing Bid as principals are:

(IMPORTANT NOTICE: If Bidder or other interested person is a corporation, give the legal name of corporation, state where incorporated, and names of president and secretary thereof; if a partnership, give name of the firm and names of all individual co-partners composing the firm; if Bidder or other interested person is an individual, give first and last names in full).

NAME OF BIDDER: _____

Licensed in accordance with the act for the registration of Contractors, and with

License Number: _____

Expiration: _____

Where incorporated, if applicable

Principals

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

Signature of Bidder

NOTE: If Bidder is a corporation, set forth the legal name of the corporation together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

Business Address: _____

Officers authorized to sign contracts: _____

Telephone Number(s): _____

Fax Number(s): _____

E-Mail address: _____

Federal ID Number: _____

Date of Bid:

END OF DOCUMENT

DOCUMENT 00 43 10

INDEMNITY AND RELEASE AGREEMENT

Dated _____

POTENTIAL BIDDER: _____

DISTRICT: SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT

SITE: COLLEGE OF SAN MATEO

PROJECT: MARIE CURIE PARKING LOT RENOVATION PROJECT

In consideration of the above-referenced District's permitting the undersigned potential bidder ("Bidder") to have access to, and to conduct investigations, tests and/or inspections on, the Site, Bidder hereby agrees as follows:

1. To the greatest extent permitted by law, Bidder hereby releases, and shall defend, indemnify and hold harmless District, and its officers, employees, consultants (including without limitation Consulting Architect/Engineer), representatives, and District's Representatives, and all other parties having any other interest in the Site, against any claim or liability, including attorney's fees, arising from or relating to any Site-related access, investigation, test, inspection and/or other activity conducted by Bidder or any of Bidder's officers, employees, consultants, representatives, and/or agents, regardless of whether claim or liability is caused in part by the negligence of District or by any released and indemnified party.
2. Bidder hereby waives the provisions of California Civil Code Section 1542 which provides as follows: A general release does not extend to claims that the creditor does not now or suspect to exist in his favor at the time of executing the release, which if down by him, must have materially affected his settlement with the debtor.
3. Bidder shall repair any damage to the Site or adjacent property resulting from activities authorized hereunder, and comply with and be subject to all other requirements and obligations described or referenced in Document 00 31 19 (Reports, Surveys and Existing Conditions)
4. Attached hereto (or to be delivered separately before Bidder's visit to the Site) is a certificate for comprehensive general liability insurance satisfying the requirements of Section 00 71 00 (General Conditions)
5. Although this Indemnity and Release Agreement is not a Contract document (see Document 00 52 00, Agreement), it shall be fully effective and binding regardless of whether Bidder submits a Bid for the subject Project, is awarded a contract for the Project or otherwise.

Name of Bidder

By: _____
Signature

By: _____
Signature

Its: _____
Title (If Corporation: Chairman, President or Vice President)

Its: _____
Title (If Corporation: Secretary, Assistant Secretary, Chief Financial Officer or Assistant Treasurer)

END OF DOCUMENT

DOCUMENT 00 43 13

BOND ACCOMPANYING BID

KNOW ALL BY THESE PRESENTS:

That the undersigned _____ as Principal and the undersigned as Surety are held and firmly bound unto the SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT (“District”), as obligee, in the penal sum of _____ Dollars (\$ _____) lawful money of the United States of America being at least ten percent (10%) of the aggregate amount of said Principal _____’s base Bid, for the payment of which, well and truly to be made, we bind ourselves, our successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal is submitting a Bid for District Bid Number **86720, MARIE CURIE PARKING LOT RENOVATION.**

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Bid submitted by the said Principal be accepted and the Contract be awarded to said Principal and said Principal shall within the required periods enter into the Contract so awarded and provide the required Construction Performance Bond, Construction Labor and Material Payment Bond, insurance certificates, and all other endorsements, forms, and documents required under Section 00 11 19 (Instructions to Bidders), then this obligation for the Bid Bond shall be void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument this _____ day of _____, 201__.

(Corporate Seal)

By

Principal

(Corporate Seal)

By

Surety

Attorney in Fact

END OF DOCUMENT

DOCUMENT 00 43 25

SUBSTITUTION REQUEST FORM

To: San Mateo County Community College District

Project: **MARIE CURIE PARKING LOT RENOVATION PROJECT**

Contractor: _____

Subcontractor/Supplier: _____

Drawing Sheet Reference/Detail No: _____

The undersigned Bidder submits for consideration the following equipment instead of the specified item for the above project:

<u>Section</u>	<u>Paragraph</u>	<u>Specified Item</u>
_____	_____	_____
_____	_____	_____

Proposed Substitution: _____

The undersigned encloses the information required herein. If this Document 00 43 25 is being submitted by a Bidder requesting to use "or equal" item(s) as provided in Document 00 11 19 (Instructions to Bidders), the undersigned Bidder must also enclose the technical information (other than cost) otherwise required for a post-Award of Contract Request for Substitution ("RFS") under Section 01 60 00 (Product Requirements). However, if this Document 00 43 25 is being submitted under provisions of Contract Documents after Award of Contract, the undersigned Contractor must include all information required under Section 01 60 00 (Product Requirements).

The undersigned has (a) attached manufacturer's literature, including complete technical data and laboratory test results, if applicable, (b) attached an explanation of why proposed substitution is a true equivalent to specified item, (c) included complete information on changes to Drawings and Specifications that the proposed substitution will require for its proper installation, and (d) filled in the blanks below:

- A. Does the substitution affect dimensions shown on Drawings?

- B. Are the manufacturer's guarantees and warranties on the proposed substitution items identical to those on the specified items? If there are differences, please specify each and every difference in detail.

- C. What effect does the substitution have on other contractors, trades, or suppliers?

D. What are the differences between the proposed substitution and the specified item? If proposed substitution has a color or pattern, provide a color board showing proposed substitution in relation to the other adjacent colors and patterns.

E. Will granting the requested substitution cause any schedule delay? (If yes, please explain)

The undersigned Bidder certifies that the function, appearance, and quality of the proposed substitution are equivalent or superior to those of the specified item. The contractor shall be responsible for all engineering, permitting, coordination, construction, and costs to all subcontractors associated with the acceptance of the substitution regardless of when those additional costs are identified.

Submitted by:

Bidder/Contractor
[note applicable]

For Use by District:

_____ Accepted _____ Accepted as Noted

Signature

_____ Not Accepted _____ Received Too Late

Name

By: _____
District's Representative

Date: _____

Address

Remarks: _____

City/State/Zip

Telephone: _____

Date: _____

END OF DOCUMENT

DOCUMENT 00 43 33

**SCHEDULE OF MAJOR EQUIPMENT AND MATERIAL SUPPLIERS
TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID**

The undersigned Bidder represents that, if awarded the Contract, the items of major equipment and materials specified below will be supplied by the manufacturers or suppliers specified below. By so indicating, bidder warrants that the equipment and materials manufacturer and/or supplied by the named manufacturer or supplier will be provided on the Project.

Firm/Company: _____

<u>Item</u>	<u>Manufacturer or Supplier</u>
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____
11. _____	_____
12. _____	_____

Bidder: _____

SIGNATURE

DATE

END OF DOCUMENT

DOCUMENT 00 43 36

**SUBCONTRACTORS LIST
TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID**

Bidder submits the following information as to the subcontractors Bidder intends to employ if awarded the Contract.

Full Name of Subcontractor AND Address	Description of Work: Reference To Bid Items	Subcontractor's License No.	Subcontractor's DIR Registration No.

(Bidder to attach additional sheets if necessary)

- Public Contract Code Section 4104 is hereby incorporated in full by this reference. In compliance with PCC 4104 as of July 1, 2014, bidders **must list all SUBCONTRACTORS, AND THEIR ADDRESS**, that will fabricate and install a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor's total bid.
- No subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

END OF DOCUMENT

DOCUMENT 00 43 45

ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION
P.C.C. §22300

THIS ESCROW AGREEMENT (“Escrow Agreement”) is made and entered into this ____ day of _____, 200[], by and between the SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT (hereinafter called the “District”), whose address is 3401 CSM Drive, San Mateo, California 94402; _____ (“Contractor”), whose place of business is located at _____; and [District, as escrow agent ...OR... []], a state or federally chartered bank in the State of California, whose place of business is located at _____] (“Escrow Agent”).

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

1. Pursuant to Section 22300 of Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by District pursuant to Contract Number [] entered into between District and Contractor for **THE MARIE CURIE PARKING LOT RENOVATION PROJECT** in the amount of [] dated [] (the “Contract”). Alternatively, on written request of Contractor, District shall make payments of the retention earnings directly to Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, Escrow Agent shall notify District within ten (10) Days of the deposit. The market value of the securities at the time of substitution shall be at least equal to the cash amount then required to be withheld as retention under terms of Contract between District and Contractor. Securities shall be held in name of _____, and shall designate Contractor as the beneficial owner.
2. District shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to Contract provisions, provided that Escrow Agent holds securities in form and amount specified in paragraph 1 of this Document 00 43 45.
3. When District makes payment(s) of retention earned directly to Escrow Agent, Escrow Agent shall hold said payment(s) for the benefit of Contractor until the time that the escrow created under this Escrow Agreement is terminated. Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when District pays Escrow Agent directly.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses of District. Such expenses and payment terms shall be determined by District, Contractor, and Escrow Agent.
5. Interest earned on securities or money market accounts held in escrow and all interest earned on that interest shall be for sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to District.
6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from District to Escrow Agent that District consents to withdrawal of amount sought to be withdrawn by Contractor.
7. District shall have the right to draw upon the securities in event of default by Contractor. Upon seven (7) Days written notice to Escrow Agent from District of the default, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by District.
8. Upon receipt of written notification from District certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The

escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.

9. Escrow Agent shall rely on written notifications from District and Contractor pursuant to paragraphs 5 through 8, inclusive, of this Document 00 43 45 and District and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of securities and interest as set forth.

10. Names of persons who are authorized to give written notice or to receive written notice on behalf of District and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of District:

On behalf of Contractor:

Kathy Blackwood
Executive Vice Chancellor
Or

Signature

Name

Raymond Chow
Chief Financial Officer

Title

3401 CSM Drive
San Mateo, CA 94402

Address

City/State/Zip

On behalf of Escrow Agent:

Title

Name

Signature

Address

City/State/Zip

At the time the Escrow Account is opened, District and Contractor shall deliver to Escrow Agent a fully executed counterpart of this Document 00 43 45.

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

District:

Kathy Blackwood
Executive Vice Chancellor

Signature

or

Raymond Chow
Chief Financial Officer

Signature

3401 CSM Drive
San Mateo, CA 94402

Contractor:

Name
Title

Signature

Address

City/State/Zip

Escrow Agent:

Title

Name

Signature

Address

City/State/Zip

END OF DOCUMENT

DOCUMENT 00 45 00

**BIDDER CERTIFICATIONS
TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID**

The undersigned Bidder certifies to the San Mateo Community College District ("District"), as set forth in sections 1 through 7 below.

1. CERTIFICATE OF NON-DISCRIMINATION

By my signature hereunder, on behalf of the Bidder making this Bid, the undersigned certifies that there will be no discrimination in employment with regard to race, color, religion, gender, sexual orientation, or national origin; that all federal, state, and local directives and executive orders regarding non-discrimination in employment will be complied with; and that the principle of equal opportunity in employment will be demonstrated positively and aggressively.

2. STATEMENT OF CONVICTIONS

By my signature hereunder, I hereby swear, under penalty of perjury, that no more than 1 final, unappealable finding of contempt of court by a Federal Court has been issued against Bidder within the past 2 years because of failure to comply with an order of a Federal Court or to comply with an order of the National Labor Relations Board.

3. PREVIOUS DISQUALIFICATIONS

By my signature hereunder, I hereby swear, under penalty of perjury, that the below indicated Bidder, any officer of such Bidder, or any employee of such Bidder who has a proprietary interest in such Bidder, has never been disqualified, removed or otherwise prevented from bidding on, or completing a Federal, State, or local government project because of a violation of law or a safety regulation except as indicated on the separate sheet attached hereto entitled "Previous Disqualifications." If such exceptions are attached, please explain the circumstances.

4. CERTIFICATION OF WORKER'S COMPENSATION INSURANCE

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's 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 the work of this Contract.

5. CERTIFICATION OF PREVAILING WAGE RATES AND RECORDS

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 1773 of the Labor Code, which requires the payment of prevailing wage on public projects. Also, that the Contractor and any subcontractors under the Contractor shall comply with Section 1776, regarding wage records, and with Section 1777.5, regarding the employment and training of apprentices, of the Labor Code. It is the Contractor's responsibility to ensure compliance by any and all subcontractors performing work under this Contract.

6. CERTIFICATION OF ADEQUACY OF CONTRACT AMOUNT

By my signature hereunder, as the Contractor, pursuant to Labor Code Section 2810(a), I certify that, if awarded the Contract based on the undersigned's Bid, the Contract will include funds sufficient to allow the Contractor to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided. I understand that the District will be relying on this certification if it awards the Contract to the undersigned.

7. CERTIFICATION OF STATEMENT OF QUALIFICATIONS

Check and complete one:

_____ There are changes to my Statement of Qualifications submitted to the District on _____, 20__ , which are set forth on Attachment 7, attached hereto.

_____ There are no changes to any items in my Statement of Qualifications submitted to the District on _____, 20__ .

Bidder: _____
[Name of Bidder]

By: _____
[Signature]

Name: _____
[Printed Name]

Its: _____
[Title]

Dated: _____

END OF DOCUMENT

Attachment 7

Changes to Statement of Qualifications

[insert, if applicable]

DOCUMENT 00 45 01

**VERIFICATION OF CONTRACTOR/SUBCONTRACTORS' DIR REGISTRATION
TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID**

I am the _____ of _____
(Title/position) (Proper Name of Bidder)
("Bidder/Contractor") submitting the accompanying Bid for the Work on the Project described as:

BID 86720

COLLEGE OF SAN MATEO MARIE CURIE PARKING LOT RENOVATION

I hereby certify as follows:

1. Bidder/Contractor is currently registered as a contractor with the California Department of Industrial Relations ("DIR");
2. Bidder/Contractor's DIR Registration Number is: _____. The expiration date of the Bidder's DIR Registration is June 30, 20__;
3. If Bidder is awarded the Contract for the Work and the expiration date of the Bidder's/Contractor's DIR Registration will occur (i) prior to expiration of the Contract Time for the Work; or (ii) prior to the Bidder/Contractor completing all obligations under the Contract for the Work, the Bidder/Contractor will take all measures necessary to renew Bidder/Contractor's DIR Registration so that there is no lapse in Bidder's/Contractor's DIR Registration while performing Work under the Contract;
4. The Bidder, if awarded the Contract for the work, will remain a DIR registered contractor for the entire duration of the Work;
5. Bidder/Contractor has independently verified that each subcontractor listed in the Bid is currently registered with the DIR;
6. Bidder has provided the DIR Registration number for each listed subcontractor or will do so within twenty-four (24) hours of the bid opening for the Project;
7. Bidder's solicitation of subcontractor bids includes notice to prospective subcontractors that: (i) all sub-tier subcontractors must be registered with the DIR at all times during performance of Work on the Project; and (ii) prospective subcontractors may only solicit sub-bids from and contract with lower -tier subcontractors who are registered with the DIR;
8. I have personal first-hand knowledge of the foregoing.

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

Executed this ____ day of _____, 20____, at _____.

By: _____
[Signature]

Name: _____
[Printed Name]

➤ If any of the statements in this Verification are false or omit material facts rendering a statement to be false or misleading, the Bidder's Bid is subject to rejection as non-responsive.

END OF DOCUMENT

DOCUMENT 00 45 14

**KEY PERSONNEL
TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID**

The Contractor for the Project has committed the following personnel to the Project. All of these personnel were prequalified with the Contractor (in Contractor's Statement of Qualifications, upon which the Contractor's status of "Prequalified to Bid on Projects with San Mateo County Community College District" is based) except as otherwise indicated. Resumes are attached for all non-prequalified personnel. All non-prequalified personnel are subject to approval from the District. Also, the Contractor acknowledges that any changes from the committed personnel are subject to pre-approval from the District. Contractor understands that Notice to Proceed may not be issued until all applicable personnel have been approved.

Project Manager: _____
(Please print)

Superintendent: _____
(Please print)

END OF DOCUMENT

DOCUMENT 00 45 19

**NON-COLLUSION AFFIDAVIT
TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID
PUBLIC CONTRACT CODE §7106**

NON-COLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

STATE OF CALIFORNIA)
) ss.
COUNTY OF _____)

[_____], being first duly sworn, deposes and says that he or she is _____ **[Office of Affiant]** of _____ **[Name of Bidder]**, the party making the foregoing Bid, that the Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the Bid is genuine and not collusive or sham; that 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 bidder or anyone else to put in a sham Bid, or that anyone shall refrain from bidding, and that the Bidder has not in any manner, directly or indirectly, sought by agreement, communication or conference with anyone to fix the Bid price of Bidder or any other bidder, or to fix any overhead, profit or cost element of the Bid price, or of that of any other bidder, or to secure any advantage against the San Mateo County Community College District, or anyone interested in the proposed contract; that all statements contained in the Bid are true; and further, that Bidder has not, directly or indirectly, submitted its 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 corporation, partnership, company association, organization, Bid depository, or to any member or agent thereof to effectuate a collusive or sham Bid.

Executed under penalty of perjury under the laws of the State of California:

(Name of Bidder)

(Signature of Principal)

Subscribed and sworn before me _____

This _____ day of _____, 20____

Notary Public of the State of _____
In and for the County of _____
My Commission expires _____

(Seal)

(If Bidder is a partnership or a joint venture, this affidavit must be signed and sworn to by every member of the partnership or venture.)

(If Bidder [including any partner or venturer of a partnership or joint venture] is a corporation, this affidavit must be signed by the Chairman, President, or Vice President and by the Secretary, Assistant Secretary, Chief Financial Officer, or Assistant Treasurer.)

(If Bidder's affidavit on this form is made outside the State of California, the official position of the person taking such affidavit shall be certified according to law.)

END OF DOCUMENT

**DOCUMENT 00 50 00
NOTICE TO PROCEED**

Dated: _____, 2016

To: _____
(Contractor)

Address: _____

CONTRACT FOR:

**BID NUMBER 86720
MARIE CURIE PARKING LOT RENOVATION PROJECT**

You are notified that the Contract Time under the above Contract will commence upon written notice to the Contractor by the District's Representative. Contractor shall achieve Substantial Completion of the entire Work within **84** calendar days from the date when the Contract Time commences. Contractor shall achieve Final Completion within **45** days from the date of acceptance of Substantial Completion.

Before you may start any Work at the Site, you must:

1. Submit certified Safety Program and related information, and comply with all requests of/by **José Nuñez**, the District's safety officer.
2. Submit copies of applicable permits.
3. Submit approved fire protection plan, as required. (Required for all modernization and remodel projects.)
4. Attend preconstruction conference. The preconstruction conference shall be arranged by the District's Project Manager.
5. Per Section 01 32 16 (Progress Schedule and Reports), Contractor shall submit to the District:
 - a. The name and the address of the proposed consultant (see Section 01 32 16 (Progress Schedule and Reports), paragraph 1.5).
 - b. Information sufficient to show that the proposed consultant or Contractor's own organization has staff and computer facilities meeting the requirements set forth in Section 01 32 16 (Progress Schedule and Reports).
 - c. A list of prior projects, with District telephone contact numbers for which the proposed consultant or Contractor's own organization, or staff thereof, has performed services similar to those required for this Contract as set forth in Section 01 32 16 (Progress Schedule and Reports)

SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT

By : _____
Johnnie Fudge, Project Manager
Facilities Planning Department

END OF DOCUMENT

DOCUMENT 00 51 00

NOTICE OF AWARD

Dated _____

TO: _____

ADDRESS: _____

CONTRACT NO.: _____

CONTRACT FOR:

BID NUMBER 86720

MARIE CURIE PARKING LOT RENOVATION PROJECT

The Contract Sum of your contract is _____ Dollars (\$_____).

1. Three copies of each of the proposed Contract Documents (except Specifications and Drawings) accompany this Notice of Award. Three sets of Specifications and Drawings will be delivered separately or otherwise made available to you immediately.
2. You must comply with the following conditions by 4:00 p.m. on [__day____], [__date____].
 - a. Deliver to District two fully executed counterparts of Document 00 52 00 (Agreement).
 - b. Deliver to District one original Document 00 61 00 (Construction Performance Bond), executed by you and your surety.
 - c. Deliver to District one original Document 00 62 00 (Construction Labor and Material Payment Bond), executed by you and your surety.
 - d. Deliver to District one original set of the insurance certificates with endorsements required under Section 00 71 00 (General Conditions) and Section 00 73 17 (Insurance), along with one original copy of the OCIP Contractor Enrollment Form.
 - e. Deliver to District two original copies of Document 00 65 36 (Guaranty), each executed by you.
 - f. Per Section 01 32 16 (Progress Schedule and Reports), Contractor shall submit to the District:
 - (a) Paragraph 1.2.B, submit initial Contract Schedule.
 - g. Submittals and shop drawings.
3. Failure to comply with these conditions within the time specified will entitle District to consider your Bid abandoned, to annul this Notice of Award, and to declare your Bid security forfeited.
4. Within ten (10) Days after you comply with the conditions in paragraph 2 of this Document 00 51 00, District will return to you one fully signed counterpart of Document 00 52 00 (Agreement) with the Contract Documents.
5. Upon commencement of the Work, you and each of your Subcontractors shall certify and make available for inspection payroll records on forms provided by the Division of Labor Standards Enforcement, in accordance with Section 1776 of the California Labor Code.
6. Send all of the required above listed items to San Mateo County Community College District, 3401 CSM Drive, San Mateo, CA 94402, to the attention of Johnnie Fudge.

SAN MATEO COUNTY COMMUNITY COLLEGE
DISTRICT ("District")

BY: _____
Johnnie Fudge, Project Manager
Facilities Planning Department

END OF DOCUMENT

DOCUMENT 00 51 01

NOTICE OF INTENT TO AWARD FOR CONSTRUCTION

DATE POSTED: _____

BID NUMBER: **86720**

PROJECT TITLE: **MARIE CURIE PARKING LOT RENOVATION PROJECT**

Ron Galatolo, the Chancellor of the San Mateo County Community College District, intends to recommend to the Board of Trustees of the San Mateo County Community College District on [date __] the award of the above-referenced project to (Name of Contractor)[_____].

If approved, a formal Notice of Award will be issued.

SIGNATURE _____ DATE _____

SIGNATURE _____ DATE _____

Johnnie Fudge
Project Manager
Facilities Planning Department

END OF DOCUMENT

DOCUMENT 00 52 00

AGREEMENT

THIS AGREEMENT, dated this _____ day of _____, 20____, by and between _____ [Name of Contractor] whose place of business is located at _____, _____ [Address of Contractor] (“Contractor”), and the SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT (“District”) acting under and by virtue of the authority vested in the District by the laws of the State of California.

WHEREAS, District, by action of its Board of Trustees on the _____ day of _____, 2016, awarded to Contractor the following contract:

BID NUMBER 86720
CSM MARIE CURIE PARKING LOT RENOVATION PROJECT

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth, Contractor and District agree as follows:

Article 1. Work

- 1.1 Contractor shall complete all Work specified in the Contract Documents, in accordance with the Specifications, Drawings, and all other terms and conditions of the Contract Documents.

Article 2. District’s Representative, Architect/Engineer and Construction Manager

- 2.1 District has designated Johnnie Fudge to act as District’s Representative(s), who will represent District in performing District’s duties and responsibilities and exercising District’s rights and authorities in Contract Documents. District may change the individual(s) acting as District’s Representative(s), or delegate one or more specific functions to one or more specific District’s Representatives, including without limitation engineering, architectural, inspection and general administrative functions, at any time with notice and without liability to Contractor. Each District’s Representative is the beneficiary of all Contractor obligations to District, including without limitation, all releases and indemnities.
- 2.2 District has designated Johnnie Fudge to act as Project Manager. District may assign all or part of the District Representative’s rights, responsibilities and duties to Construction Manager. District may change the identity of the Construction Manager at any time with notice and without liability to Contractor.
- 2.3 District has designated Noll and Tam Architects to act as Architect/Engineer. District may change the identity of the Architect/Engineer at any time with notice and without liability to Contractor.
- 2.4 All notices or demands to District under the Contract Documents shall be submitted to the District’s Representative at:

Johnnie Fudge, Project Manager
San Mateo County Community College District
1700 W. Hillsdale Blvd., Building 1, Rm. 213
San Mateo, CA 94402

or to such other person(s) and address(es) as District shall provide to Contractor.

Article 3. Contract Time and Liquidated Damages

3.1 Contract Time.

Contractor shall commence Work at the Site on the date established in the Notice to Proceed. District reserves the right to modify or alter the Commencement Date of the Work.

Contractor shall achieve Substantial Completion of the entire Work within **84 calendar** days from the date when the Contract Time commences to run as provided in Section 00 71 00 (General Conditions). Contractor shall achieve Final Completion of the entire Work and be ready for Final Payment in accordance with Section 01 77 00 (Contract Closeout) within **5** calendar days from the date of acceptance of Substantial Completion to run as provided in Section 00 71 00 (General Conditions).

3.2 Liquidated Damages.

District and Contractor recognize that time is of the essence of this Agreement and that District will suffer financial loss in the form of contract administration expenses (such as project management and consultant expenses), if all or any part of the Work is not completed including consequential loss of use and disruption of normal operations within the times specified above, plus any extensions thereof allowed in accordance with the Contract Documents. Consistent with Article 15 of Section 00 71 00 (General Conditions), Contractor and District agree that because of the nature of the Project, it would be impractical or extremely difficult to fix the amount of actual damages incurred by District because of a delay in completion of all or any part of the Work. Accordingly, District and Contractor agree that as liquidated damages for delay Contractor shall pay District:

3.2.1 **\$1000** for each Day that expires after the time specified herein for Contractor to achieve Substantial Completion of the entire Work, until achieved.

3.2.2 **\$500** for each Day that expires after the time specified herein for Contractor to achieve Final Completion of the entire Work, until achieved.

These measures of liquidated damages shall apply cumulatively and except as provided below, shall be presumed to be the damages suffered by District resulting from delay in completion of the Work.

3.3 Liquidated damages for delay shall only cover administrative, overhead, interest on bonds, and general loss of public use damages suffered by District as a result of delay or costs of substitute facilities. Liquidated damages shall not cover the cost of completion of the Work, damages resulting from defective Work, lost revenues or damages suffered by others who then seek to recover their damages from District (for example, delay claims of other contractors, subcontractors, tenants, or other third-parties), and defense costs thereof.

Article 4. Contract Sum

4.1 District shall pay Contractor the Contract Sum for completion of Work in accordance with Contract Documents as follows:

[PM- WILL ENTER FINAL CONTRACT AWARD PRICE HERE]

Article 5. Contractor's Representations

In order to induce District to enter into this Agreement, Contractor makes the following representations and warranties:

5.1 Contractor has visited the Site and has examined thoroughly and understood the nature and extent of the Contract Documents, Work, Site, locality, actual conditions, as-built conditions, and all local conditions, and federal, State and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto.

- 5.2 Contractor has examined thoroughly and understood all reports of exploration and tests of subsurface conditions, as-built drawings, drawings, products specifications or reports, available for Bidding purposes, of physical conditions, including Underground Facilities, which are identified in Document 00 31 19 (Reports, Surveys and Existing Conditions), or which may appear in the Drawings. Contractor accepts the determination set forth in these Sections and Section 00 71 00 (General Conditions) of the extent of the information contained in such materials upon which Contractor may be entitled to rely.
- 5.3 Contractor has correlated its knowledge and its review of those items with the terms and conditions of the Contract Documents.
- 5.4 Contractor has given District prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and the written resolution thereof through Addenda issued by District is acceptable to Contractor.
- 5.5 Contractor is duly organized, existing and in good standing under applicable state law, and is duly qualified to conduct business in the State of California.
- 5.6 Contractor has duly authorized the execution, delivery and performance of this Agreement, the other Contract Documents and the Work to be performed herein. The Contract Documents do not violate or create a default under any instrument, agreement, order or decree binding on Contractor.
- 5.7 Contractor and all Subcontractors identified in Contractor’s Subcontractors’ List are a Department of Industrial Relations registered contractor pursuant to Labor Code §1725.5. At all times during the performance of all Work, the Contractor and all Subcontractors, of any tier, shall be DIR Registered Contractors.
- 5.8 Contractor has listed the following Subcontractors pursuant to the Subcontractor Listing Law, California Public Contracting Code §4100 et seq.

[PM- TYPE IN SUBCONTRACTOR LIST USING TABLE BELOW]

Name of Subcontractor and Location of Mill or Shop	Description of Work: Reference To Bid Items	Subcontractor’s License No.	Subcontractor’s DIR Registration No.

Article 6. Contract Documents

- 6.1 Contract Documents consist of the following Sections, including all changes, addenda, and modifications thereto:

PROCUREMENT AND CONTRACTING REQUIREMENTS

- Document 00 01 01 Title Page
- Document 00 01 07 Seals Page
- Document 00 01 10 Table of Contents
- Document 00 11 13 Advertisement for Bids
- Document 00 11 19 Instruction to Bidders
- Document 00 21 14 Bid Submittal Vicinity Map
- Document 00 21 14 Project Site Campus Map

BIDDING REQUIREMENTS

- Document 00 41 00 Bid Form

Document 00 43 25	Substitution Request Form
Document 00 43 33	Schedule of Major Equipment and Material Suppliers
Document 00 43 36	Subcontractors List
Document 00 43 45	Escrow Agreement for Security Deposit in Lieu of Retention
Document 00 45 00	Bidder Certifications
Document 00 45 01	Verification of Contractor/Subcontractors' DIR Registration
Document 00 45 14	Key Personnel
Document 00 45 19	Non-Collusion Affidavit

CONTRACTING REQUIREMENTS

Document 00 45 14	Key Personnel
Document 00 50 00	Notice to Proceed
Document 00 51 00	Notice of Award
Document 00 51 01	Notice of Intent to Award
Document 00 52 00	Agreement
Document 00 61 00	Construction Performance Bond
Document 00 62 00	Construction Labor and Material Payment Bond
Document 00 65 36	Guaranty
Document 00 65 73	Agreement and Release of Any and All Claims

CONDITIONS OF THE CONTRACT

Section 00 71 00	General Conditions
Section 00 73 00	Supplementary Conditions
Section 00 73 17	Insurance
Section 00 73 17	Insurance- Attachment A
Section 00 91 01	Addenda
Section 01 10 00	Summary of Work
Section 01 21 00	Allowance

SPECIFICATIONS

Section 01 26 00	Modification Procedures
Section 01 29 00	Measurement and Payment
Section 01 31 19	Project Meetings
Section 01 32 16	Progress Schedules and Reports
Section 01 32 19	Submittal Procedures
Section 01 35 00	Special Procedures
Section 01 41 00	Regulatory Requirements
Section 01 41 01	Regulatory Requirements – Hazardous Materials
Section 01 42 00	References and Definitions
Section 01 51 00	Temporary Facilities and Controls
Section 01 56 00	Site Security and Safety
Section 01 60 00	Product Requirements
Section 01 74 00	Cleaning
Section 01 76 01	Existing Underground Facilities
Section 01 77 00	Contract Closeout
Section 01 78 39	Project Record Documents

TECHNICAL REQUIREMENTS

Division 25 – Integrated Automation	
Section 25 55 00	Building Management and Control System (BMS)

Division 26 – Electrical	
Section 26 05 19	Low-Voltage Electrical Power Conductors and Cables
Section 26 05 26	Grounding and Bonding for Electrical Systems

Section 26 05 33	Raceways and Boxes for Electrical System
Section 26 08 10	Commissioning of Lighting Control Systems
Section 26 09 43	Network Lighting Controls Section
Section 26 56 00	Exterior Lighting

Division 28 – Security

Section 28 00 00	Basic Security Requirements
Section 28 05 13	Security Cabling
Section 28 05 53	Security Labeling
Section 28 08 00	Security System Acceptance Testing
Section 28 23 00	Video Surveillance System

Division 31 – Earthwork

Section 31 10 00	Site Preparation
Section 31 13 00	Tree Protection and Trimming

- 6.2 There are no Contract Documents other than those listed in this Document 00 52 00, Article 6. The Contract Documents may only be amended, modified or supplemented as provided in Section 00 71 00 (General Conditions).

Article 7. Miscellaneous

- 7.1 Terms used in this Agreement are defined in Section 00 71 00 (General Conditions) and Section 01 42 00 (References and Definitions) and will have the meaning indicated therein.
- 7.2 It is understood and agreed that in no instance are the persons signing this Agreement for or on behalf of District or acting as an employee, agent, or representative of District, liable on this Agreement or any of the Contract Documents, or upon any warranty of authority, or otherwise, and it is further understood and agreed that liability of the District is limited and confined to such liability as authorized or imposed by the Contract Documents or applicable law.
- 7.3 Contractor shall not assign any portion of the Contract Documents, and may subcontract portions of the Contract Documents only in compliance with the Subcontractor Listing Law, California Public Contracting Code §4100 *et seq.*
- 7.4 In entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, Contractor or Subcontractor offers and agrees to assign to the awarding body all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. §15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time District tenders final payment to Contractor, without further acknowledgment by the parties.
- 7.5 Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are available through the Department of Industrial Relations and are deemed included in the Contract Documents by reference. See <http://www.dir.ca.gov/dir/databases.html>. Upon request, District will make available copies to any interested party.
- 7.6 Contractor shall be required to pay its workers on this project a sum not less than the general prevailing wage rate of per diem wages and not less than the general prevailing rate for holiday and overtime work for work of a similar character in the locality in which the project is performed as provided under California

Labor Code section 1770 et sec. The District has determined the prevailing rate of per diem wages and the general prevailing rate for holidays and overtime work in the locality in which this project is to be performed for each craft, classification or type of work needed to execute the work.

- 7.7 Contractor shall be required to post job site notices, at each job site, including a copy of such prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations, prescribed by regulation.
- 7.8 Pursuant to Section 1861 of the Labor Code, Contractor represents that it is aware of the provisions of Section 3700 of the Labor Code which 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 Contractor shall comply with such provisions before commencing the performance of the Work of the Contract Documents.
- 7.9 Contractor and each of Contractor's subcontractors agrees to complete and verify construction reports on a form prescribed by the Division of the State Architect and to file the reports no less than quarterly during construction as required by Title 24; at the completion of the Work; at the suspension of work for a period of more than one month; whenever the services of Contractor or any of Contractor's subcontractors are terminated for any reason; and at any time a special verified report is required by the Division of the State Architect.
- 7.10 Should any part, term or provision of this Agreement or any of the Contract Documents, or any document required herein or therein to be executed or delivered, be declared invalid, void or unenforceable, all remaining parts, terms and provisions shall remain in full force and effect and shall in no way be invalidated, impaired or affected thereby. If the provisions of any law causing such invalidity, illegality or unenforceability may be waived, they are hereby waived to the end that this Agreement and the Contract Documents may be deemed valid and binding agreements, enforceable in accordance with their terms to the greatest extent permitted by applicable law. In the event any provision not otherwise included in the Contract Documents is required to be included by any applicable law, that provision is deemed included herein by this reference (or, if such provision is required to be included in any particular portion of the Contract Documents, that provision is deemed included in that portion).
- 7.11 This Agreement and the Contract Documents shall be deemed to have been entered into in the County of San Mateo, State of California, and governed in all respects by California law (excluding choice of law rules). The exclusive venue for all disputes or litigation hereunder shall be in San Mateo County. Contractor accepts the Claims Procedure in Section 00 71 00, Article 12, established under the California Government Code, Title 1, Division 3.6, Part 3, Chapter 5.

IN WITNESS WHEREOF the parties have executed this Agreement in duplicate the day and year first above written.

DISTRICT:

CONTRACTOR:

SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT

[Contractor's name]

By: _____
Kathy Blackwood
Executive Vice Chancellor

By: _____
Signature

END OF DOCUMENT

DOCUMENT 00 61 00

CONSTRUCTION PERFORMANCE BOND

THIS CONSTRUCTION PERFORMANCE BOND ("Bond") is dated _____, is in the penal sum of

_____ [which is one hundred percent of the Contract Price], and is entered into by and between the parties listed below to ensure the faithful performance of the Construction Contract listed below. This Bond consists of this page and the Bond Terms and Conditions, paragraphs 1 through 12, attached to this page. Any singular reference to _____ ("Contractor"), _____ ("Surety"), San Mateo County Community College District ("District") or other party shall be considered plural where applicable.

CONTRACTOR:

SURETY:

Name

Name

Address

Principal Place of Business

City/State/Zip

City/State/Zip

CONSTRUCTION CONTRACT:

**THE MARIE CURIE PARKING LOT RENOVATION PROJECT
BID NUMBER 86720**

at San Mateo, California.

DATED _____, 20__ in the Amount of \$ _____ (the "Penal Sum")

CONTRACTOR AS PRINCIPAL
Company: (Corp. Seal)

SURETY
Company: (Corp. Seal)

Signature: _____

Signature: _____

Name and Title: _____

Name and Title: _____

BOND TERMS AND CONDITIONS

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to District for the complete and proper performance of the Construction Contract, which is incorporated herein by reference.
2. If Contractor completely and properly performs all of its obligations under the Construction Contract, Surety and Contractor shall have no obligation under this Bond.
3. If there is no District Default, Surety's obligation under this Bond shall arise after:
 - 3.1 District has declared a Contractor Default under the Construction Contract pursuant to the terms of the Construction Contract; and
 - 3.2 District has agreed to pay the Balance of the Contract Sum:

- 3.2.1 To Surety in accordance with the terms of this Bond and the Construction Contract; or
 - 3.2.2 To a contractor selected to perform the Construction Contract in accordance with the terms of this Bond and the Construction Contract.
4. When District has satisfied the conditions of paragraph 3, Surety shall promptly (within 30 days) and at Surety's expense elect to take one of the following actions:
 - 4.1 Arrange for Contractor, with consent of District, to perform and complete the Construction Contract (but District may withhold consent, in which case the Surety must elect an option described in paragraphs 4.2, 4.3 or 4.4, below); or
 - 4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; provided, that Surety may not select Contractor as its agent or independent contractor without District's consent; or
 - 4.3 Undertake to perform and complete the Construction Contract by obtaining bids from qualified contractors acceptable to District for a contract for performance and completion of the Construction Contract, and, upon determination by District of the lowest responsible bidder, arrange for a contract to be prepared for execution by District and the contractor selected with District's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract; and, if Surety's obligations defined in paragraph 6, below, exceed the Balance of the Contract Sum, then Surety shall pay to District the amount of such excess; or
 - 4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances, and, after investigation and consultation with District, determine in good faith its monetary obligation to District under paragraph 6, below, for the performance and completion of the Construction Contract and, as soon as practicable after the amount is determined, tender payment therefore to District with full explanation of the payment's calculation. If District accepts Surety's tender under this paragraph 4.4, District may still hold Surety liable for future damages then unknown or unliquidated resulting from the Contractor Default. If District disputes the amount of Surety's tender under this paragraph 4.4, District may exercise all remedies available to it at law to enforce Surety's liability under paragraph 6, below.
5. If Surety does not proceed as provided in paragraph 4, above, then Surety shall be deemed to be in default on this Bond ten (10) days after receipt of an additional written notice from District to Surety demanding that Surety perform its obligations under this Bond. At all times District shall be entitled to enforce any remedy available to District at law or under the Construction Contract including, without limitation, and by way of example only, rights to perform work, protect work, mitigate damages, advance critical work to mitigate schedule delay, or coordinate work with other consultants or contractors.
6. Surety's monetary obligation under this Bond is limited by the Amount of this Bond identified herein as the Penal Sum. This monetary obligation shall augment the Balance of the Contract Sum. Subject to these limits, Surety's obligations under this Bond are commensurate with the obligations of Contractor under the Construction Contract. Surety's obligations shall include, but are not limited to:
 - 6.1 The responsibilities of Contractor under the Construction Contract for completion of the Construction Contract and correction of defective work;
 - 6.2 The responsibilities of Contractor under the Construction Contract to pay liquidated damages, and for damages for which no liquidated damages are specified in the Construction Contract, actual damages caused by non-performance of the Construction Contract including, but not limited to, all valid and proper back charges, offsets, payments, indemnities, or other damages;

- 6.3 Additional legal, design professional and delay costs resulting from Contractor Default or resulting from the actions or failure to act of the Surety under paragraph 4, above (but excluding attorney's fees incurred to enforce this Bond).
7. No right of action shall accrue on this Bond to any person or entity other than District or its successors or assigns.
8. Surety hereby waives notice of any change, alteration or addition to the Construction Contract or to related subcontracts, purchase orders and other obligations, including changes of time. Surety consents to all terms of the Construction Contract, including provisions on changes to the Contract. No extension of time, change, alteration, modification, deletion, or addition to the Contract Documents, or of the work required there under, shall release or exonerate Surety on this Bond or in any way affect the obligations of Surety on this Bond.
9. Any proceeding, legal or equitable, under this Bond shall be instituted in any court of competent jurisdiction where a proceeding is pending between District and Contractor regarding the Construction Contract, or in the courts of the County of San Mateo, or in a court of competent jurisdiction in the location in which the work is located. Communications from District to Surety under paragraph 3.1 of this Bond shall be deemed to include the necessary agreements under paragraph 3.2 of this Bond unless expressly stated otherwise.
10. All notices to Surety or Contractor shall be mailed or delivered (at the address set forth on the signature page of this Bond), and all notices to District shall be mailed or delivered as provided in Document 00 52 00 (Agreement). Actual receipt of notice by Surety, District or Contractor, however accomplished, shall be sufficient compliance as of the date received at the foregoing addresses.
11. Any provision in this Bond conflicting with any statutory or regulatory requirement shall be deemed deleted here from and provisions conforming to such statutory requirement shall be deemed incorporated herein.
12. Definitions.
- 12.1 Balance of the Contract Sum: The total amount payable by District to Contractor pursuant to the terms of the Construction Contract after all proper adjustments have been made under the Construction Contract, for example, deductions for progress payments made, and increases/decreases for approved modifications to the Construction Contract.
- 12.2 Construction Contract: The agreement between District and Contractor identified on the signature page of this Bond, including all Contract Documents and changes thereto.
- 12.3 Contractor Default: Material failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract including, but not limited to, "default" or any other condition allowing a termination for cause as provided in Section 00 71 00 (General Conditions).
- 12.4 District Default: Material failure of District, which has neither been remedied nor waived, to pay Contractor progress payments due under the Construction Contract or to perform other material terms of the Construction Contract, if such failure is the cause of the asserted Contractor Default and is sufficient to justify Contractor termination of the Construction Contract.

END OF DOCUMENT

DOCUMENT 00 62 00

CONSTRUCTION LABOR AND MATERIAL PAYMENT BOND

THIS CONSTRUCTION LABOR AND MATERIAL PAYMENT BOND ("Bond") is dated _____, is in the penal sum of

_____ [one hundred percent of the Contract Price], and is entered into by and between the parties listed below to ensure the payment of claimants under the Construction Contract listed below. This Bond consists of this page and the Bond Terms and Conditions, paragraphs 1 through 13, attached to this page. Any singular reference to _____ ("Contractor"), _____ ("Surety"), the San Mateo County Community College District ("District") or other party shall be considered plural where applicable.

CONTRACTOR:

SURETY:

Name

Name

Address

Principal Place of Business

City/State/Zip

City/State/Zip

CONSTRUCTION CONTRACT:

**THE MARIE CURIE PARKING LOT RENOVATION PROJECT
BID NUMBER 86720**

at San Mateo, California.

DATED _____, 20____ in the Amount of \$_____ (the "Penal Sum")

CONTRACTOR AS PRINCIPAL
Company: (Corp. Seal)

SURETY
Company: (Corp. Seal)

Signature: _____

Signature: _____

Name and Title: _____

Name and Title: _____

BOND TERMS AND CONDITIONS

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to District and to Claimants, to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.
2. With respect to District, this obligation shall be null and void if Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants; and
 - 2.2 Defends, indemnifies and holds harmless District from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Construction Contract, provided District has promptly notified Contractor and Surety (at the address set forth on the signature page of this Bond) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to Contractor and Surety, and provided there is no District Default.

3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly through its Subcontractors, for all sums due Claimants. If Contractor or its Subcontractors, however, fail to pay any of the persons named in Section 3181 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to Work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Contractor or Subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such Work and labor, then Surety shall pay for the same, and also, in case suit is brought upon this Bond, a reasonable attorney's fee, to be fixed by the court.
4. Consistent with the California Mechanic's Lien Law, Civil Code §3082, *et seq.*, Surety shall have no obligation to Claimants under this Bond unless the Claimant has satisfied all applicable notice requirements.
5. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety under this Bond.
6. Amounts due Contractor under the Construction Contract shall be applied first to satisfy claims, if any, under any Construction Performance Bond and second, to satisfy obligations of Contractor and Surety under this Bond.
7. District shall not be liable for payment of any costs, expenses, or attorney's fees of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
8. Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations. Surety further hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Construction Contract, or to the Work to be performed there under, or materials or equipment to be furnished there under or the Specifications accompanying the same, shall in any way affect its obligations under this Bond, and it does hereby waive any requirement of notice or any such change, extension of time, alteration or addition to the terms of the Construction Contract or to the Work or to the Specifications or any other changes.
9. Suit against Surety on this Bond may be brought by any Claimant, or its assigns, at any time after the Claimant has furnished the last of the labor or materials, or both, but, per Civil Code §3249, must be commenced before the expiration of six months after the period in which stop notices may be filed as provided in Civil Code §3184.
10. All notices to Surety or Contractor shall be mailed or delivered (at the address set forth on the signature page of this Bond), and all notices to District shall be mailed or delivered as provided in Document 00 52 00 (Agreement). Actual receipt of notice by Surety, District or Contractor, however accomplished, shall be sufficient compliance as of the date received at the foregoing addresses.
11. This Bond has been furnished to comply with the California Mechanic's Lien Law including, but not limited to, Civil Code §§3247, 3248, *et seq.* Any provision in this Bond conflicting with said statutory requirements shall be deemed deleted here from and provisions conforming to such statutory or other legal requirements shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
12. Upon request by any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.
13. Definitions.
 - 13.1 Claimant: An individual or entity having a direct contract with Contractor or with a Subcontractor of Contractor to furnish labor, materials or equipment for use in the performance of the Contract,

as further defined in California Civil Code §3181. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's Subcontractors, and all other items for which a stop notice might be asserted. The term Claimant shall also include the Unemployment Development Department as referred to in Civil Code §3248(b).

- 13.2 Construction Contract: The agreement between District and Contractor identified on the signature page of this Bond, including all Contract Documents and changes thereto.
- 13.3 District Default: Material failure of District, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract, provided that failure is the cause of the failure of Contractor to pay the Claimants and is sufficient to justify termination of the Construction Contract.

END OF DOCUMENT

DOCUMENT 00 65 36

GUARANTY

TO THE SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT for construction of

THE MARIE CURIE PARKING LOT RENOVATION PROJECT

SAN MATEO, CALIFORNIA.

The undersigned guarantees all construction performed on this Project and also guarantees all material and equipment incorporated therein.

Contractor hereby grants to District for a period of one year following the date of Notice of Completion, or such longer period specified in the Contract Documents, its unconditional warranty of the quality and adequacy of all of the Work including, without limitation, all labor, materials and equipment provided by Contractor and its Subcontractors of all tiers in connection with the Work.

Neither final payment nor use or occupancy of the Work performed by the Contractor shall constitute an acceptance of Work not done in accordance with this Guaranty or relieve Contractor of liability in respect to any express warranties or responsibilities for faulty materials or workmanship. Contractor shall remedy any defects in the Work and pay for any damage resulting therefrom, which shall appear within one year, or longer if specified, from the date of Final Completion.

If within one year after the date of Final Completion, or such longer period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents, any Work is found to be defective, Contractor shall promptly, without cost to District and in accordance with District’s written instructions, correct such defective Work. Contractor shall remove any defective Work rejected by District and replace it with Work that is not defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, District may have the defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct defective Work, or defects are discovered outside the correction period, District shall have all rights and remedies granted by law.

Inspection of the Work shall not relieve Contractor of any of its obligations under the Contract Documents. Even though equipment, materials, or Work required to be provided under the Contract Documents have been inspected, accepted, and estimated for payment, Contractor shall, at its own expense, replace or repair any such equipment, material, or Work found to be defective or otherwise not to comply with the requirements of the Contract Documents up to the end of the guaranty period.

All abbreviations and definitions of terms used in this Agreement shall have the meanings set forth in the Contract Documents, including, without means of limitation, Section 01 42 00 (References and Definitions). The foregoing Guaranty is in addition to any other warranties of Contractor contained in the Contract Documents, and not in lieu of, any and all other liability imposed on Contractor under the Contract Documents and at law with respect to Contractor’s duties, obligations, and performance under the Contract Documents. In the event of any conflict or inconsistency between the terms of this Guaranty and any warranty or obligation of the Contractor under the Contract Documents or at law, such inconsistency or conflict shall be resolved in favor of the higher level of obligation of the Contractor.

Firm/Company

Address

Signature

City/State/Zip

Name and Title

Date

END OF DOCUMENT

WARRANTY REPORTING LOG FOLLOWS ON NEXT PAGE

EXHIBIT A

WARRANTY REPORTING LOG

COLLEGE OF SAN MATEO MARIE CURIE PARKING LOT RENOVATION PROJECT

Bid/Contract Number **86720** Project Number **471G**
To: The San Mateo County Community College District
Attention: Michele Rudovsky, Facilities Manager
c/o Johnnie Fudge, Project Manager
1700 W. Hillsdale Blvd. Building 1, Rm. 213, San Mateo, CA 94402
Telephone: (650) 378-7341 **Fax:** (650) 574-6203

From: _____

ITEM	WARRANTY LENGTH	WARRANTY START DATE	WARRANTY END DATE	WARRANTY GRANTOR	WARRANTY GRANTOR CONTACT INFORMATION

➤ Complete this log for all work completed as part of contract. The data shall be summarized by warranty grantor and shall be submitted to the District’s Representative as part of the contract closeout.

DOCUMENT 00 65 73

AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS

THIS AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS (“Agreement and Release”), made and entered into this [_____] day of [_____] , 20__, by and between the SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT (“District”), and _____ (“Contractor”), whose place of business is at _____.

RECITALS

- A. District and Contractor entered into Contract Number **86720** (the “Contract”).
- B. The Work under the Contract has been completed.

Now, therefore, it is mutually agreed between District and Contractor as follows:

AGREEMENT

- 1. Contractor will not be assessed liquidated damages except as detailed below:

Original Contract Sum	\$ _____
Modified Contract Sum	\$ _____
Payment to Date	\$ _____
Liquidated Damages	\$ _____
Payment Due Contractor	\$ _____

- 2. Subject to the provisions of this Agreement and Release, District will forthwith pay to Contractor the sum of \$ _____ Dollars and _____ Cents (\$ _____) under the Contract, less any amounts withheld under the Contract or represented by any Notice to Withhold Funds on file with District as of the date of such payment.
- 3. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against District arising from the Contract, except for the claims described in paragraph 4 of this DOCUMENT 00 65 73. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against District, District’s Representative and all if its agents, employees, consultants (including without limitation Consulting Engineer), inspectors, representatives, assignees and transferees except for the Disputed Claims set forth in paragraph 4 of this Document 00 65 73. Nothing in this Agreement and Release shall limit or modify Contractor’s continuing obligations described in paragraph 6 of this Document 00 65 73.
- 4. The following claims are disputed (hereinafter, the “Disputed Claims”) and are specifically excluded from the operation of this Agreement and Release:

<u>Claim No.</u>	<u>Date Submitted</u>	<u>Description of Claim</u>	<u>Amount of Claim</u>
------------------	-----------------------	-----------------------------	------------------------

[Insert information, including attachment if necessary]

5. Consistent with California Public Contract Code Section 7100, Contractor hereby agrees that, in consideration of the payment set forth in paragraph 2 of this Document 00 65 73, Contractor hereby releases and forever discharges District, District's Representative, and all of its agents, employees, consultants, inspectors, assignees and transferees from any and all liability, claims, demands, actions or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract
6. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.
7. Contractor shall immediately defend, indemnify and hold harmless the San Mateo County Community College District, District's Representative, any of its Representatives, Architects/Engineers, and all of their agents, employees, consultants, inspectors, assignees and transferees, from any and all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities that may be asserted against them by any of Contractor's suppliers and/or Subcontractors of any tier and/or any suppliers to them for any and all labor, materials, supplies and equipment used, or contemplated to be used in the performance of the Contract, except for the Disputed Claims set forth in paragraph 4 of this Document 00 65 73.
8. Contractor hereby waives the provisions of California Civil Code Section 1542, which provides as follows:

A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him, must have materially affected his settlement with the debtor.
9. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable, and if any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal or other law, ruling, or regulation, then such provision, or part thereof shall remain in force and effect only to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.
10. Contractor represents and warrants that it is the true and lawful owner of all claims and other matters released pursuant to this Agreement and Release, and that it has full right, title and authority to enter into this instrument. Each party represents and warrants that it has been represented by counsel of its own choosing in connection with this Agreement and Release.
11. All rights of District shall survive completion of the Work or termination of the Contract, and execution of this Agreement and Release.

* * * CAUTION: THIS IS A RELEASE - READ BEFORE EXECUTING * * *

SAN MATEO COUNTY COMMUNITY COLLEGE DISTRICT

By: _____
Kathy Blackwood

Its: Executive Vice Chancellor

[CONTRACTOR]

By: _____

Name: _____

Its: _____

END OF DOCUMENT

DOCUMENT 00 71 00

GENERAL CONDITIONS

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GENERAL CONDITIONS**1. GENERAL****A. Documents**

Contract Documents are complementary; what is called for by one is as binding as if called for by all. Contract Documents shall not be construed to create a contractual relationship of any kind between (1) Architect/Engineer or any District Representative and Contractor; (2) District and/or its representatives and (except as provided in Article 13 below) a Subcontractor, sub-Subcontractor, or supplier of any Project labor, materials, or equipment; or (3) between any persons or entities other than District and Contractor.

B. Exercise of Contract Responsibilities

In exercising its responsibilities and authorities under the Contract Documents, District does not assume any duties or responsibilities to any Subcontractor or supplier and does not assume any duty of care to Contractor, Contractor's Subcontractors or suppliers. Except as expressly set forth in the Contract Documents, in exercising their respective responsibilities and authorities under the Contract Documents, neither Architect/Engineer nor any District Representative assume any duties or responsibilities to any Subcontractor, sub-Subcontractor or supplier nor assume any duty of care to Contractor or any Subcontractor, sub-Subcontractor or suppliers.

C. Defined Terms

Administration of construction shall include the following delineations of responsibilities pursuant to Part 1, Title 24, California Code of Regulations. Contractor shall perform as required under Section 4-343, including, but not limited to verified reports per sections 4-336 and 4-343. All abbreviations and definitions of terms used and not otherwise defined in this Document 00 71 00 are set forth in Section 01 42 00 (References and Definitions). This Document 00 71 00 subdivides at first level into Articles, then into paragraphs, and then into subparagraphs.

D. Description Of Work

1. Contractor shall provide a complete, operable and maintainable Project in accordance with the Contract Documents, including providing, furnishing, and performing all Services and providing and furnishing all necessary supplies, housing, materials and equipment, and all necessary supervision, labor, and services required for the engineering, design, procurement, quality assurance and inspection, construction, installation, startup, checkout, testing, site cleanup and for the training of District's personnel, all in conformity with the requirements, legal requirements, criteria, performance guarantees, and warranties set forth in the Contract Documents, for a complete and fully operable Project in full conformance with Contract requirements.

E. All-Inclusive Contractor Obligation

1. Without limiting the generality of paragraph 1.D hereof, Contractor shall provide, at a minimum, the following Services and materials and equipment as further specified and described in Section 01 10 00 (Summary of Work) provided, however, that these sections shall not be construed in any way to limit Contractor's obligations hereunder to furnish, construct, checkout, startup, and (except as otherwise provided in the Contract Documents) test a complete, operable and maintainable Project in accordance with the provisions of the Contract Documents.
2. Contractor shall provide all equipment and materials and furnish the services of all supervision, buyers, inspectors, expeditors, and other personnel necessary to procure all materials and equipment for the construction of the Project. Contractor shall provide, install, complete and pay for all labor, materials and equipment, tools, supplies, construction equipment and machinery, construction utilities (including all water, power and sanitary facilities), transportation (including road or other infrastructure and improvements on and off the Site), customs clearance, quality assurance, and other facilities and services (including any temporary or consumable materials, water, fuels, and electricity necessary for the proper execution and completion of the Work, including any of the utilities, as required). Contractor shall maintain all materials and equipment in accordance with manufacturer's requirements while such materials and equipment are in transit or care and custody of the Contractor. Without limiting the generality of the foregoing, Contractor shall provide any and all construction required for

- the temporary upgrading of any public or private road which is inadequate for the performance of the Work, temporarily relocate any interference in public or private roadways necessary for the transportation of equipment and materials, and repair all excessive damage to, or deterioration (other than fair wear and tear) of, any public or private road which arises out of the performance of the Work.
3. Contractor shall supervise and direct the Work, and shall furnish the services of all supervisors, foremen, skilled and unskilled labor, and all other personnel in sufficient quantities and with sufficient skills necessary to perform the Services in accordance with the Contract Documents. At District's request, Contractor shall replace, at Contractor's expense, any individual if it is determined by District and Contractor that such individual's continued presence would jeopardize the quality or timely completion of the Work.
 4. Contractor shall be responsible for all labor relations matters relative to the Work on the Site and shall at all times use all reasonable efforts to maintain harmony among all workers employed in connection with the Work on the Site. Contractor shall adopt and implement reasonable policies and practices designed to avoid work stoppage, slow downs, disputes and strikes.
 5. Contractor shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work under the Contract Documents, and District shall not be responsible for or exercise any control over the actions or omissions of Contractor, any supplier, or any of their employees or agents performing any of the Work or Contractor's warranty obligations. Contractor shall prosecute the Work continuously and diligently and complete the Work in accordance with all requirements of the Contract Documents.
 6. Contractor shall coordinate ingress and egress to and from the Site so as to minimize disruption to the Work and to traffic in the vicinity of the Site.
 7. Contractor shall be responsible for the layout of the Work and shall perform all necessary surveying during the construction of the Projects. The accuracy of all grades, elevations, alignments, and plumbing of any structures and the location of all facilities described in the final plans and specifications shall be the responsibility of the Contractor. Contractor shall preserve all permanent survey construction monuments and benchmarks. Prior to the final completion date, Contractor shall accurately correct all Project documents to as-built conditions and deliver to District these as-built documents in accordance with the Contract Documents. Such documents shall show the location of the Project and shall show all related easements, improvement, utilities and rights of way above and below ground, on and off the Site, as of the date of delivery of such documents. Such documents shall also show the dimensions and the distances to the nearest benchmarks.
 8. Contractor shall provide appropriate installation and startup representatives from suppliers of major equipment and control systems, all necessary supervising personnel, all equipment, tools, construction and temporary material, and all labor for checkout, startup and testing. Contractor shall be responsible for checkout, startup and testing of the Project and shall carry out those activities in accordance with all applicable codes and legal requirements, startup and checkout requirements and procedures as set forth in the Contract Documents.
 9. Except for safety and warning signs, Contractor shall not install any signs on the Site without the express written consent of District.
 10. Contractor shall be responsible for Site security until Final Completion, or termination of the Work. Such security shall include, to the extent reasonably necessary, barriers, lighting, controlled access, and other measures required to prevent vandalism, theft, and danger to personnel, the Project, materials and equipment.
 11. Contractor shall prepare or cause to be prepared and shall furnish to District all drawing logs, drawings, manufacturer's drawings and data, supplier manuals and operating manuals in accordance with the Contract Documents.
 12. Contractor shall ensure that District and its representatives shall, at all times, have access to the Project for all purposes. In order to allow District and its representatives to be present, Contractor shall give District at least three (3) days advance notice of any system or equipment checkout or testing. If District desires access to any places where work is being performed or from which materials and equipment are being obtained, Contractor shall provide or arrange reasonable access thereto and shall provide District reasonable advanced notice of any factory tests or other off site tests. Contractor shall maintain the Site in a safe condition to permit District and any person authorized in writing by District

- to inspect and review all field work during working hours, including materials and equipment, installation, calibration, startup and testing.
13. As part of the procurement of equipment, Contractor shall provide to District a list of recommended operating spare parts, which list shall include all relevant costs and ordering lead time information with terms and conditions. If requested, Contractor shall procure such operating spare parts from Suppliers, as requested by District, on behalf of District. The cost of such operating spare parts shall be covered by change order.
 14. When any equipment or portion of the Work is damaged, Contractor shall inform District as soon as possible and provide District a damage report detailing such occurrence, any required repairs, and the estimated duration of such repairs.
 15. Contractor shall provide to District all tests and measurements, laboratory analyses, and reports made or prepared in connection with the Work.

2. BID PERIOD INVESTIGATIONS AND SUBCONTRACTORS

A. Investigation Prior To Bidding

1. Prior to submitting its Bid, Contractor must investigate fully the Work of the Contract. Contractor must visit the Site, examine thoroughly and understand fully the nature and extent of the Contract Documents, Work, Site, locality, actual conditions and as-built conditions, and all other information made available for preparing Bids. Contractor's investigation shall include, but is not limited to, a thorough examination of all reports of exploration and tests of subsurface conditions, as-built drawings, drawings, product specification(s) or reports, available for Bidding purposes, of physical conditions, including Underground Facilities and information identified in Document 00 31 19 (Reports, Surveys and Existing Conditions) or which may appear in the Contract Documents, and all local conditions, and federal, state and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto. Contractor shall completely and thoroughly correlate all such information and consider such information fully, prior to and as a condition of submitting its Bid. Contractor shall make inquiry as required in Document 00 31 19 (Reports, Surveys and Existing Conditions).
2. Prior to submitting its Bid, Contractor shall take care to note the existence and potential existence of Underground Facilities, in particular, above and below grade structures, drainage lines, storm drains, sewers, water, gas, electrical, chemical, hot water, and other similar items and utilities. Contractor shall carefully consider all supplied information, request additional information Contractor may deem necessary, and visually inspect the Site for above ground indications of Underground Facilities (such as, for example not by way of limitation, the existence of existing service laterals, appurtenances or other types of utilities, indicated by the presence of an underground transmission main or other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site.)
3. Prior to submitting its Bid, Contractor must correlate its experience, knowledge and the results of its required investigation with the terms and conditions of the Contract Documents, and must give District prompt written notice of all conflicts, errors, ambiguities, or discrepancies of any type, that it may discover in or among the Contract Documents, as-built drawings (if any) and/or actual conditions. Contractor shall give this notice during the Bid period and submission of a Bid indicates Contractor's agreement that District responded to the notice through Addenda issued by District which is acceptable to Contractor.
4. Prior to submitting its Bid, Contractor must consider fully the fact that information supplied regarding existing Underground Facilities at or contiguous to the Site is in many cases based on information furnished to District by others (e.g., the builders of such Underground Facilities or others), and that due to their age or their chain of custody since preparation, may not meet current industry standards for accuracy. Contractor must also consider local underground conditions and typical practices for Underground Facilities, either through its own direct knowledge or through its subcontractors, and fully consider this knowledge in assessing the existing information and the reasonableness of its reliance.

5. Prior to submitting its Bid, Contractor shall conduct (or request that District have conducted) any such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise, which may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto or which Contractor deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of Contract Documents.
6. Prior to submitting its Bid, Contractor may rely on District supplied information regarding existing conditions only where such conditions are underground and not subject to reasonable verification. If existing information supplied by District indicates a discrepancy or a substantial risk of inaccuracy or omission, then Contractor must request specific additional information. Contractor shall advise District in writing during the Bid period of any questions, suppositions, inferences or deductions Contractor may have, for District's review and response by Addenda, and may not assert any such matters later that were not brought forth during the Bid period.
7. During performance of the Contract, Contractor will be charged with knowledge of all information that it should have learned in performing this required pre-Bid investigation, and shall not be entitled to change orders (time or compensation) due to information or conditions that Contractor should have known as a part of this pre-Bid investigation.

B. Supplied Information on Underground Existing Conditions

1. Regarding Underground Facilities shown in the Contract Documents or supplied through Document 00 31 19, District has compiled this information in good faith, relying on its records and third party records. Because of the nature and location of District and the Project, the existence of Underground Facilities is deemed inherent in the Work of the Contract, as is the fact that Underground Facilities are not always accurately shown or completely shown on as-built records, both as to their depth and location. In Article 14 of this Document 00 71 00, this Contract establishes a heightened standard for claims involving Underground Facilities. Contractor shall consider this fact in its Bid and in its planning and execution of the Work involving Underground Facilities.
2. Regarding subsurface conditions other than Underground Facilities, shown on the Contract Documents or supplied in Document 00 31 19 (Existing Conditions), Contractor may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated in the Contract Documents. District is not responsible for the completeness of any subsurface condition information for preparing its Bid, Contractor's conclusions or opinions drawn from any subsurface condition information, or subsurface conditions that are not specifically shown. (For example, District is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown.)

C. Supplied Information on Above Ground Existing Conditions

1. Regarding aboveground and as-built conditions shown on the Contract Documents or supplied through Document 00 31 19 (Reports, Surveys and Existing Conditions), such information has been compiled in good faith, however, Contractor must independently verify such information. District does not expressly or impliedly warrant or represent that information as to aboveground conditions or as-built conditions indicated in the Contract Documents or Document 00 31 19, is correctly shown or indicated, or otherwise complete for construction purposes.
2. As a condition to submitting its Bid, Contractor shall verify by independent investigation all such aboveground and as-built conditions, and bring any discrepancies to District's attention through written question. In submitting its Bid, Contractor shall rely on the results of its own independent investigation and shall not rely on District-supplied information regarding aboveground conditions and as-built conditions, and Contractor shall accept full responsibility for its verification work sufficient to complete the Work as intended.

D. Subcontractors

1. Consistent with Public Contract Code Sections 4101 *et seq.*, Contractor shall not substitute any other person or firm in place of any Subcontractor listed in the Bid. Subcontractors shall not assign or transfer their subcontracts or permit them to be performed by any other contractor without District's

written approval. At District's request, Contractor shall provide District with a complete copy of all executed subcontracts or final commercial agreements with Subcontractors and/or suppliers.

2. Subcontract agreements shall preserve and protect the rights of District under the Contract Documents so that subcontracting will not prejudice such rights. To the extent of the Work to be performed by a Subcontractor, Contractor shall require the Subcontractor's written agreement (1) to be bound to the terms of Contract Documents and (2) to assume vis-à-vis Contractor all the obligations and responsibilities that Contractor assumes toward District under the Contract Documents. (These agreements include for example, and not by way of limitation, all warranties, claims procedures and rules governing submittals of all types to which Contractor is subject under the Contract Documents.)
3. Contractor shall provide for the assignment to District of all rights any Subcontractor may have against any manufacturer, supplier, or distributor for breach of warranties and guarantees relating to the Work performed by the Subcontractor under the Contract Documents.
4. District shall be deemed to be an intended third-party beneficiary of all Subcontracts (of any tier) for the provision of labor, services, supplies or material to the Project, and each such agreement shall so provide.

3. CONTRACT AWARD AND COMMENCEMENT OF THE WORK

A. Award of Contract

District will make the Award of Contract by issuing a Notice of Award. As a condition to District signing Section 00 52 00 (Agreement), however, Contractor shall deliver to District the executed agreements, forms, bonds and insurance documents required by Section 00 11 19 (Instructions to Bidders) in the required quantities and within the required times.

B. Commencement of Work

The Contract Time will commence upon issuance of a Notice to Proceed, on the date indicated in the Notice to Proceed. Contractor shall not do any Work at the Site prior to Contract commencement.

4. BONDS AND INSURANCE

A. Bonds

1. At or before the date indicated in Section 00 11 19 (Instructions to Bidders), Contractor shall file with District the following bonds:
 - a. Corporate surety bond, in the form of Document 00 61 00 (Construction Performance Bond), in the penal sum of 100% of the Contractor's Bid as accepted, to guaranty faithful performance of the Work; and
 - b. Corporate surety bond, in the form of Document 00 62 00 (Construction Labor and Material Payment Bond), in the penal sum of 100% of the Contractor's Bid as accepted, to guaranty payment of wages for services engaged and of bills contracted for materials, supplies, and equipment used in performance of Contract Documents.
2. Sureties shall be satisfactory to District. Corporate sureties on these bonds and on bonds accompanying Bids shall be duly licensed to do business in the State of California and shall have an A.M. Best Company financial rating of A-IX or better.

B. Insurance

Insurance 00 73 17 (Insurance) incorporated herein by this reference.

5. DRAWINGS AND SPECIFICATIONS

A. Intent

1. Drawings and Specifications are intended to describe a functionally complete and operable Project (and all parts thereof) to be constructed in accordance with the requirements of Contract Documents. Contractor shall perform any work, provide services and furnish any materials or equipment that may reasonably be inferred from the requirements of Contract Documents or from prevailing custom

or trade usage as being required to produce this intended result. Contractor shall interpret words or phrases used to describe work (including services), materials or equipment that have well-known technical or construction industry or trade meaning in accordance with that meaning. Drawings' intent specifically includes the intent to depict construction that complies with all applicable laws, codes and standards, including without limitation Title 24 of the California Code of Regulations. The Division and Sections of the Specifications and the identification on any Drawings shall not control the Contractor in dividing the Work among Subcontractors or suppliers or delineating the Work to be performed by any specific trade.

2. As part of the "Work," Contractor shall provide all labor, materials, equipment, machinery, tools, facilities, services, employee training and testing, hoisting facilities, shop drawings, storage, testing, security, transportation, disposal, the securing of all necessary or required field dimensions, the cutting or patching of existing materials, notices, permits, documents, reports, agreements and any other items required or necessary to timely and fully complete Work described and the results intended by Contract Documents and, in particular, Drawings and Specifications. Divisions and Specification Sections and the identification on any Drawings shall not control Contractor in dividing Work among Subcontractors or suppliers or delineating the Work to be performed by any specific trade.
3. Contractor shall perform reasonably implied parts of Work as "incidental work" although absent from Drawings and Specifications. Incidental work includes any work not shown on Drawings or described in Specifications that is necessary or normally or customarily required as a part of the Work shown on Drawings or described in Specifications. Incidental work includes any Work necessary or required to make each installation satisfactory, legally operable, functional, and consistent with the intent of Drawings and Specifications or the requirements of Contract Documents including required tasks to be performed under Division 1 of Specifications. Contractor shall perform incidental work without extra cost to District. Incidental work shall be treated as if fully described in Specifications and shown on Drawings, and the expense of incidental work shall be included in price Bid and Contract Sum.

B. Drawing Details and Specification Descriptions

A typical or representative detail on Drawings shall constitute the standard for workmanship and material throughout corresponding parts of Work. Where necessary, and where reasonably inferable from Drawings, Contractor shall adapt such representative detail for application to such corresponding parts of Work. The details of such adaptation shall be subject to prior approval by District. Repetitive features shown in outline on Drawings shall be in exact accordance with corresponding features completely shown.

C. Interpretation of Drawings and Specifications

Should any discrepancy appear or any misunderstanding arise as to the import of anything contained in the Drawings and Specifications prepared by the Architect/Engineer, the matter shall be referred to the Architect/Engineer in writing, with a copy to the Inspector and Project Manager. Architect/Engineer shall issue with reasonable promptness such written clarifications or interpretations of the requirements of the Drawings and Specifications as Architect/Engineer may determine necessary, which shall be consistent with the intent of and be reasonably inferable from Contract Documents. Such written clarifications or interpretations shall be binding upon Contractor. If Contractor believes that a written response, clarification or interpretation justifies an adjustment in the Contract Sum or Contract Time, Contractor shall give District prompt written notice as provided in Section 01 26 00 (Modification Procedures). If the parties are unable to agree to the amount or extent of the adjustment, if any, then Contractor shall perform the Work in conformance with District's response, clarification, or interpretation and may make a written claim for the adjustment as provided in Article 12 of this Document 00 71 00.

D. Checking of Drawings

Before undertaking each part of Work, Contractor shall carefully study and compare Contract Documents and check and verify pertinent figures shown in the Contract Documents and all applicable field measurements. Contractor shall be responsible for any errors that might have been avoided by such comparison. Figures shown on Drawings shall be followed; Contractor shall not scale measurements. Contractor shall promptly report to District, with copies to the Inspector, in writing, any conflict, error, ambiguity or discrepancy that Contractor may discover. Contractor shall obtain a written interpretation or clarification from District before proceeding

with any Work affected thereby. Contractor shall provide District and Inspector with a follow-up correspondence every ten days until it receives a satisfactory interpretation or clarification.

E. Standards to Apply Where Specifications are not Furnished

It is provided that the Contractor shall furnish materials or manufactured articles or shall do Work for which no detailed specifications are set forth by supplying materials or manufactured articles of the best grade, in quality and workmanship, obtainable in the market from firms of established good reputation. If not ordinarily carried in stock, the materials or manufactured articles shall conform to industry standards for first-class materials or articles of the kind required, with due consideration of the use to which they are to be put. Work shall conform to the usual standards or codes, such as those cited in Section 01 42 00 (References and Definitions), for first-class work of the kind required. The Contractor shall specify in writing to District the materials to be used or Work to be performed under this paragraph E no later than ten (10) work days prior to furnishing such materials or performance of such Work.

F. Deviation from Specifications and Drawings

1. As set forth in Part 1, Title 24, California Code of Regulations, no modification or deviation from the Contract Documents will be permitted. Contractor must perform Work in strict accordance with Contract Documents. No order for any alteration, modification or extra which shall increase or decrease the cost of Work shall be valid unless the resulting increase or decrease in price shall have been agreed upon in writing, and the order signed by the Contractor, and certified by the authorized officer representing District. As appropriate, Change Orders changing the approved drawings and technical specifications are subject to approval by the Division of the State Architect (DSA) under the procedures prescribed in Section 4-338, Part 1, Title 24, California Code of Regulations.
2. District and/or Architect/Engineer may order that locations, lines and grades for Work vary from those shown on Drawings. Changes may be made in location, lines or grades for Work under any item of Contract. No extra payment in addition to unit price fixed in Contract for Work under respective items will be allowed on account of variations from Drawings in unit price items. In lump sum contracts, or where there are no unit price items covering Work affected by variations of locations, lines or grades, all changes in the Contract Documents will be made in accordance with Article 14 of this Document 00 71 00.

G. Deviation from Specifications and Drawings

1. Contractor shall perform Work in accordance with the approved Drawings and Specifications. Contractor may deviate from Drawings or the dimensions given in the Drawings, and may deviate from the Specifications, only upon District's advance written approval of the proposed deviation.
2. District may order that locations, lines and grades for Work vary from those shown on Drawings. Changes may be made in locations, lines or grades for Work under any item of Contract Documents. No payment in addition to unit price fixed in the Contract Documents for Work under respective items will be allowed on account of variations from Drawings in unit price items. In lump sum contracts, or where there are no unit price items covering Work affected by variations of locations, lines or grades, all changes in the Contract Documents will be made as set forth in Article 14 of this Document 00 71 00.

H. Precedence of Documents

1. In the case of discrepancy or ambiguity in the Contract Documents, the following order of precedence shall prevail:
 - a. Modifications in inverse chronological order (i.e., most recent first), and in the same order as specific portions they are modifying;
 - b. Document 00 52 00 (Agreement), and terms and conditions referenced therein;
 - c. Document 00 73 00 (Supplementary Conditions) and any other Supplementary Conditions;
 - d. Document 00 71 00 (General Conditions);
 - e. Division 1 Specifications;
 - f. Division 2 through 60 Specifications;

- g. Drawings;
 - h. Written numbers over figures, unless obviously incorrect;
 - i. Figured dimensions over scaled dimensions;
 - j. Large-scale Drawings over small-scale Drawings.
2. Any conflict between Drawings and Division 2 through 60 Specifications will be resolved in favor of the document of the latest date (i.e., the most recent document), and if the dates are the same or not determinable, then in favor of Specifications.
 3. Any conflict between a bill or list of materials shown in the Contract Documents and the actual quantities required to complete Work required by Contract Documents, will be resolved in favor of the actual quantities.
 4. In the event the Specifications include divisions above Division 60 (e.g., Division 60 and above), then such divisions shall be included within the Contract Documents unless identified otherwise.

I. Ownership and Use of Drawings, Specifications and Contract Documents

1. Drawings and Specifications prepared under this Contract were prepared for use for Work of Contract Documents only. No part of the Contractor's drawings and specifications or of any other Contract Documents shall be used for any other construction or for any other purpose except with the written consent of District.
2. Any unauthorized use of said documents is prohibited. Consistent with Education Code Section 17316, any interest (including copyright interests) of Contractor or its contractors or sub-consultants (together, "Sub-consultants"), in studies, reports, memoranda, computational sheets, drawings, plans or any other documents (including electronic media) prepared by Contractor or its Sub-consultants in connection with the Services, shall become the property of District. To the extent permitted by Title 17 of the United States Code, work product produced under the Contract Documents shall be deemed works for hire and all copyrights in such works shall be the property of District. In the event that it is ever determined that any works created by Contractor or its Sub-consultants under this Agreement are not works for hire under U.S. law, Contractor hereby assigns to District all copyrights to such works. With District's prior written approval, Contractor may retain and use copies of such works for reference and as documentation of experience and capabilities. Contractor shall, however, retain the copyright in its standard details, and grants District an unlimited license to use such details for the purposes stated in the Contract Documents. Should District desire to reuse any of the items specified above and not use the services of Contractor, then the District agrees to assume any and all obligations for their reuse and, if applicable, process the same through the DSA, and District releases Contractor and its Sub-consultants from liability associated with the reuse.

6. CONSTRUCTION BY DISTRICT OR BY SEPARATE CONTRACTORS

A. District's Right To Perform Construction And To Award Separate Contracts

District may perform with its own forces, construction or operations related to the Project. District may also award separate contracts in connection with other portions of the Project or other construction or operations, on the Site or areas contiguous to the Site, under conditions similar to these Contract Documents, or may have utility owners perform other work. When separate contracts are awarded for different portions of the Project or other construction or operations on the Site, the term "Contractor" in these Contract Documents shall mean the Contractor herein.

B. Mutual Responsibility

1. Contractor shall afford all other contractors, utility owners and District (if District is performing work with its own forces), proper and safe access to the Site, and reasonable opportunity for the installation and storage of their materials. Contractor shall ensure that the execution of its Work properly connects and coordinates with others' work, and shall cooperate with them to facilitate the progress of the Work.
2. Contractor shall coordinate its Work with the work of other separate contractors, District, and utility owners. Contractor shall hold coordination meetings with other contractors, District and its representatives, and utility owners as required by Section 01 31 19 (Project Meetings).

3. Unless otherwise provided in the Contract Documents, Contractor shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. Contractor shall not endanger any work of other separate contractors, District or utility owners by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of District and the others whose work will be affected.
4. Contractor's duties and responsibilities under Article 6 of this Document 00 71 00 are for the benefit of District and also for the benefit of such other contractors and utility owners working at the Site to the extent that there are comparable provisions for the benefit of Contractor in the direct contracts between District and such other contractors and utility owners.
5. To the extent that any part of Contractor's Work is to interface with work performed or installed by other contractors or utility owners, Contractor shall inspect and measure the in-place work. Contractor shall promptly report to District in writing any defect in in-place work that will impede or increase the cost of Contractor's interface unless corrected. District will require the contractor responsible for the Defective Work to make corrections so as to conform to its contract requirements, or, if the defect is the result of an error or omission in the Contract Documents, issue a Change Order. If Contractor fails to measure, inspect and/or report to District in writing defects that are reasonably discoverable, Contractor shall bear all costs of accomplishing the interface acceptable to District. This provision shall be included in any and all other contracts or subcontracts for Work to be performed where such a conflict could exist.

C. District Authority Over Coordination

1. District will have authority over coordination of the activities of multiple contractors in cases where District performs work with its own forces or contracts with others for the performance of other work on the Project, or utilities work on the Site. District may at any time and in its sole discretion, designate a person or entity other than District to have authority over the coordination of the activities among the various contractors. District's authority with respect to coordination of the activities of multiple contractors and utility owners shall not relieve Contractor of its obligation to other contractors and utility owners to coordinate its Work with other contractors and utility owners as specified in paragraph 6.B of this Document 00 71 00. Contractor shall promptly notify District in writing when another Contractor on the Project fails to coordinate its work with the Work of Contract Documents.
2. Contractor shall suspend any part of the Work or carry on the same in such manner as directed by District when such suspension or prosecution is necessary to facilitate the work of other contractors or workers. No damages or claims by Contractor will be allowed if the suspension or Work change is due in whole or in part to Contractor's failure to perform its obligation to coordinate its Work with other contractors and utility owners. Damages or claims will be allowed only to the extent of fault by District if the suspension or Work change is due in whole or in part to another Contractor's failure to coordinate its work with Contractor, other contractors, and utility owners. District reserves the right to back charge Contractor for any damages or claims incurred by other contractors as a result of Contractor's failure to perform its obligations to coordinate with other contractors and utility owners. District may deposit the funds retained with a Court of competent jurisdiction pursuant to applicable interpleader procedures and Contractor releases District of further liability regarding such funds.

7. DISTRICT AND PAYMENT

A. District Representative(s)

District Representative(s) will have limited authority to act on behalf of District as set forth in the Contract Documents. Except as otherwise provided in these Contract Documents or subsequently identified in writing by District, District will issue all communications to Contractor through District Representative, and Contractor shall issue all communications to District through District Representative in a written document delivered to District. Should any direct communications between Contractor and District's consultants, architects or Architect/Engineers not identified in Article 2 of Document 00 52 00 (Agreement) occur during field visits or by telephone, Contractor shall immediately confirm them in a written document copied to District.

B. Means and Methods of Construction

Subject to those rights specifically reserved in the Contract Documents, District will not supervise, or direct, or have control over, or be responsible for, Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or Contractor's failure to comply with laws and regulations applicable to the furnishing or performance of Work. District will not be responsible for Contractor's failure to perform or furnish the Work in accordance with Contract Documents.

C. Receipt and Processing of Applications for Payment

As required by Section 01 29 00 (Measurement and Payment), Contractor shall prepare the schedules, submit Applications for Payment and warrant title to all Work covered by each Application for Payment. District will review Contractor's Applications for Payment and make payment thereon, and Contractor shall make payments to Subcontractors, suppliers and others, as required by Section 01 29 00.

8. CONTROL OF THE WORK**A. Subcontractors**

Contractor is fully responsible for Contractor's own acts and omissions. Contractor is responsible for all acts and omissions of its Subcontractors, suppliers, and other persons and organizations performing or furnishing any of the Work, labor, materials, or equipment under a direct or indirect contract with Contractor.

B. Supervision of Work by Contractor

1. During construction, reconstruction, repair, alteration of or addition to any school building, the DSA, as provided by the Field Act, sections 39140 -39159 and sections 81130 - 81147 of the Education Code, shall make such inspection as in its judgment is necessary or proper for enforcement of the Act, and the protection of the safety of pupils, teachers and the public. If at any time as the Work progresses, prior to the issuance of the certificate of compliance, it shall be found that modifications or changes are necessary to secure safety or to comply with code requirements, District or DSA may provide notice of the necessity for such modifications or changes, and Contractor shall perform all necessary modifications and changes. Additionally, if District or DSA finds that any construction work is being performed in a manner contrary to the provisions of Title 24, California Code of Regulations that would compromise the structural integrity of any building, and issues a stop work order, Contractor shall comply with the stop work order as required by law. Refer to sections 4-334 and 4-334.1, Part 1, Title 24, California Code of Regulations.
2. Contractor shall supervise, inspect, and direct Work competently and efficiently, devoting the attention and applying such personal skills and expertise as may be required and necessary to perform Work in accordance with Contract Documents. Contractor shall be solely responsible for and have control and charge of construction means, methods, techniques, sequences and procedures, safety precautions and programs in connection with the Work. Contractor shall be responsible to see that the completed Work complies accurately with Contract Documents.
3. Contractor shall designate and keep on the Site at all times during Work progress a competent resident Superintendent or Project Manager, who, once designated, shall not be replaced without District's express written consent. The Superintendent or Project Manager shall be Contractor's representative at the Site and shall have complete authority to act on behalf of Contractor. All communications to and from the Superintendent or Project Manager shall be as binding as if given to or by Contractor.

C. Observation of Work by District's Representative and Architect/Engineer

1. Work shall be performed under District's Representative's general observation and administration. Contractor shall comply with District's Representative's directions and instructions in accordance with the terms of Contract Documents, but nothing contained in these General Conditions shall be taken to relieve Contractor of any obligations or liabilities under the Contract Documents. District's Representative's failure to review or, upon review, failure to object to any aspect of Work reviewed, shall not be deemed a waiver or approval of any non-conforming aspect of Work.
2. District's Representative will provide administration of Contract and observation of the Work as hereinafter described.

3. District's Representative will advise and consult with Architect/Engineer and consult with District. District's Representative will have authority to act on behalf of District only to extent provided in the Contract Documents or as set forth in writing by District.
4. District's Representative will visit the Site at intervals appropriate to stage of construction to become familiar generally with the progress and quality of Work and to determine in general if Work is proceeding in accordance with Contract Documents. However, neither the District's Representative nor Architect/Engineer will be required to make exhaustive or continuous on-site inspections to check quality or quantity of Work. On the basis of on-site observations, the District's Representative and the Architect/Engineer will be informed of progress of Work, and will keep District informed of the Work's progress.
5. Neither the District's Representative nor Architect/Engineer will be responsible for or have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work.
6. Neither the District's Representative nor Architect/Engineer will be responsible for or have control over the acts or omissions of Contractor, Subcontractors or their agents or employees, or any other persons performing Work.
7. Architect/Engineer will review Contractor's submittals, such as Shop Drawings, Product Data, and Samples, but only for conformance with design concept of Work and with information given in the Contract Documents as set forth in this Section 00700. Such action will be taken within fourteen (14) days.
8. The District's Representative and the Architect/Engineer will observe to recommend to District the dates that Contractor has achieved Substantial Completion and Final Completion, and will receive and forward to District for review written warranties and related documents required by Contract Documents and assembled by Contractor.
9. Architect/Engineer will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings and Specifications or otherwise) as Architect/Engineer may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on the Contractor, unless District in its discretion directs otherwise.
10. Based on its observations, Architect/Engineer may recommend to District that it disapprove or reject Work that Architect/Engineer believes to be defective or will not produce a complete Project that conforms to Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. District will also have authority to require special inspection or testing of Work, whether or not the Work is fabricated, installed or completed.

D. Access To Work

1. During performance of Work, District and its agents, officers, consultants, and employees may at any time enter upon Work, shops or studios where any part of the Work may be in preparation, or factories where any materials for use in Work are being or are to be manufactured, and Contractor shall provide proper and safe facilities for this purpose, and shall make arrangements with manufacturers to facilitate inspection of their processes and products to such extent as District's interests may require. Other contractors performing work for District may also enter upon Work for all purposes required by their respective contracts. Subject to the rights reserved in the Contract Documents, Contractor shall have sole care, custody, and control of the Site and its Work areas.
2. District may, at any time, and from time to time, during the performance of the Work, enter the Work Site for the for the purpose of installing any necessary work by District labor or other contracts, and for any other purpose in connection with the installation of facilities. In doing so, District shall endeavor not to interfere with Contractor and Contractor shall not interfere with other work being done by or on behalf of District.
3. If, prior to completion and final acceptance of all the Work, District takes possession of any structure or facility (whether completed or otherwise) comprising a portion of the Work with the intent to retain possession thereof (as distinguished from temporary possession contemplating return to Contractor), then, while District is in possession of the same, Contractor shall be relieved of liability

for loss or damage to such structure other than that resulting from the Contractor's fault or negligence. Such taking of possession by District shall not relieve the Contractor from any provisions of the Contract respecting such structure, other than to the extent specified in the preceding sentence, nor constitute a final acceptance of such structure or facility. See also Section 01 10 00 (Summary of Work).

4. Not used.
5. If, following installation of any equipment or facilities furnished by Contractor, defects requiring correction by Contractor are found, District shall have the right to operate such unsatisfactory equipment or facilities and make reasonable use thereof until the equipment or facilities can be shut down for correction of defects without injury to District.

9. CONTRACTOR'S WARRANTY, GUARANTY, AND INSPECTION OF WORK

A. Warranty And Guaranty

1. General Representations and Warranties: Contractor represents and warrants that it is and will be at all times fully qualified and capable of performing every Phase of the Work and to complete Work in accordance with section 4-341, 4-343 and 4-344 of Part 1, Title 24, California Code of Regulations and terms of Contract Documents. Contractor warrants that all construction services shall be performed in accordance with generally accepted professional standards of good and sound construction practices and all requirements of Contract Documents. Contractor warrants that Work, including but not limited to each item of materials and equipment incorporated therein, shall be new, of suitable grade of its respective kind for its intended use, and free from defects in design, engineering, materials, construction and workmanship. Contractor warrants that Work shall conform in all respects with all applicable requirements of federal, state and local laws, applicable construction codes and standards, licenses, and permits, Drawings and Specifications and all descriptions set forth therein, and all other requirements of Contract Documents. Contractor shall not be responsible, however, for the negligence of others in the specification of specific equipment, materials, design parameters and means or methods of construction where that is specifically shown and expressly required by Contract Documents.
2. Extended Guarantees: Any guaranty exceeding one year provided by the supplier or manufacturer of any equipment or materials used in the Project shall be extended for such term. Contractor expressly agrees to act as co-guarantor of such equipment and materials and shall supply District with all warranty and guaranty documents relative to equipment and materials incorporated in the Project and guaranteed by their suppliers or manufacturers.
3. Environmental and Toxics Warranty: The covenants, warranties and representations contained in this subparagraph are effective continuously during Contractor's Work on the Project and following cessation of labor for any reason including, but not limited to, Project completion. Contractor covenants, warrants and represents to District that:
 - a. To Contractor's knowledge after due inquiry, no lead or asbestos-containing materials were installed or discovered in the Project at any time during Contractor's construction thereof. If any lead or asbestos-containing materials were discovered, Contractor made immediate written disclosure to District.
 - b. To Contractor's knowledge after due inquiry, no electrical transformers, light fixtures with ballasts or other equipment containing PCBs are or were located on the Project at any time during Contractor's construction thereof.
 - c. To Contractor's knowledge after due inquiry, no storage tanks for gasoline or any other toxic substance are or were located on the Project at any time during Contractor's construction thereof. If any such materials were discovered, Contractor made immediate written disclosure to District.
 - d. Contractor's operations concerning the Project are and were not in violation of any applicable environmental federal, state, or local statute, law or regulation dealing with hazardous materials substances or toxic substances and no notice from any governmental body has been served upon Contractor claiming any violation of any such law, ordinance, code or regulation, or requiring or calling attention to the need for any work, repairs, construction, alteration, or installation on or in connection with the Project in order to comply with any such laws, ordinances, codes, or

regulations, with which Contractor has not complied. If there are any such notices with which Contractor has complied, Contractor shall provide District with copies thereof.

B. Inspection Of Work

1. Contractor acknowledges DSA inspection requirements, frequency, protocols and practices, applicable to this Project, and shall schedule, coordinate, plan and execute the Work consistent with all such practices.
2. All materials, equipment, and workmanship used in Work shall be subject to inspection and testing at all times during construction and/or manufacture in accordance with the terms of Contract Documents. Work and materials, and manufacture and preparation of materials, from beginning of construction until final completion and acceptance of Work, shall be subject to inspection and rejection by District, its agents, representatives or independent contractors retained by District to perform inspection services, or governmental agencies with jurisdictional interests. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and program so that they may comply therewith as applicable. Upon request or where specified, District shall be afforded access for inspection at the source of supply, manufacture or assembly of any item of material or equipment, with reasonable accommodations supplied for making such inspections.
3. Contractor shall give District a minimum of two business days notice of readiness of Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
4. District will hire through separate contract, a DSA-certified Inspector of Record for this Project, and a Special Inspection and Materials Testing Laboratory. Upon advance notice per subparagraph 9.B.2 above, District will endeavor to schedule required inspections, but if resources are not available, Contractor may need to reschedule the Work at no additional cost to the District.
5. In the event that a scheduled inspection is canceled in less than 24 hours notice by Contractor and the District incurs costs associated with the cancellation, Contractor will reimburse District for the actual costs of the canceled inspections. The amount will be deducted from payment owed Contractor.
6. If applicable laws or regulations of any public body (other than DSA) having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, and furnish District with the required certificates of inspection, or approval. District will pay the cost of initial testing and Contractor shall pay all costs in connection with any follow-up or additional testing. Contractor shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for the acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.
7. If Contractor covers any Work, or the work of others, prior to any required inspection, test or approval without written approval of District, Contractor shall uncover the Work at District's request. Contractor shall bear the expense of uncovering Work and replacing Work.
8. In any case where Contractor covers Work contrary to District's request, Contractor shall uncover Work for District's observation or inspection at District's request. Contractor shall bear the cost of uncovering Work.
9. Whenever required by District, Contractor shall furnish tools, labor and materials necessary to make examination of Work that may be completed or in progress, even to extent of uncovering or taking down portions of finished Work. Should Work be found unsatisfactory, cost of making examination and of reconstruction shall be borne by Contractor. If Work is found to be satisfactory, District, in manner herein prescribed for paying for alterations, modifications, and extra Work, except as otherwise herein specified, will pay for examination.
10. District shall select testing agencies approved by DSA to conduct required tests and inspections for the Project. A list of required structural tests and inspections prepared by the Architect/Engineer and approved by the DSA shall be provided to the designated testing agency, District's representative and Inspector prior to the start of construction. Refer to section 4-335(a), Part 1, Title 24, California

Code of Regulations, provided that notwithstanding section 4-335(a) Contractor may not waive any tests without District consent.

11. The testing agency shall forward the test results to DSA, Contractor, District and the Project Inspector within fourteen (14) days of the date of the test. The testing agency shall forward to the Division of the State Architect a verified report covering all the tests required to be made by that agency during the progress of the Project.
12. Inspection of the Work by or on behalf of District, or District's failure to do so, shall not under any circumstances be deemed a waiver or approval of any non-conforming aspect of the Work. Contractor shall have an absolute duty, in the absence of a written Change Order signed by District, to perform Work in conformance with the Contract Documents.
13. Any inspection, evaluation, or test performed by or on behalf of District relating to the Work is solely for the benefit of District, and shall not be relied upon by Contractor. Contractor shall not be relieved of the obligation to perform Work in accordance with the Contract Documents, nor relieved of any guaranty, warranty, or other obligation, as a result of any inspections, evaluations, or tests performed by District, whether or not such inspections, evaluations, or tests are permitted or required under the Contract Documents. Contractor shall be solely responsible for testing and inspecting Work already performed to determine whether such Work is in proper condition to receive later Work.

C. Correction Of Defective Work

1. Contractor shall correct Defective Work promptly upon knowledge of it. If Contractor fails to supply sufficient skilled workers, suitable materials or equipment, or to furnish or perform the Work in such a way that the completed Work will conform to Contract Documents, District may order Contractor to replace any Defective Work, or stop any portion of Work to permit District (at Contractor's expense) to replace such Defective Work. These District rights are entirely discretionary on the part of District, and shall not give rise to any duty on the part of District to exercise the rights for the benefit of Contractor or any other party.
2. District may direct Contractor to correct any Defective Work or remove it from the Site and replace it with Work that is not defective and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting from the correction or removal. Contractor shall be responsible for any and all claims, costs, losses and damages caused by or resulting from such correction or removal. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, District may decide the proper amount or, in its discretion may elect to leave the Contract Sum unchanged and deduct from moneys due Contractor, all such claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with District's calculations, it may make a claim as provided in Article 12 of this Document 00 71 00. (District's exercise of its rights under this paragraph 9.C shall be entirely discretionary and, like all other District rights and remedies under the Contract Documents, in addition to any other rights and remedies it may have under the Contract Documents or by law.
3. Correction Period:
 - a. With respect to equipment and machinery supplied by Contractor and incorporated into the Work, if within one year after the date of Final Completion of the portion of the Work incorporating the equipment and/or machinery (or, to the extent expressed by Change Order or Certificate of Final Completion, one year after District's written acceptance of such equipment), or such longer period as may be prescribed by laws or regulations, or by the terms of the Contract Documents, any equipment or machinery is found to be defective, Contractor shall promptly, without cost to District and in accordance with District's written instructions, correct such Defective Work.
 - b. With respect to structures within the scope of Work, if within one year after the date of Final Acceptance of the Work, or the portion or Phase of the Work as provided in these Contract Documents, or such longer period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents, any Work is found to be defective, Contractor shall promptly, without cost to District and in accordance with District's written instructions, correct such Defective Work.

- c. Contractor shall remove any Defective Work rejected by District and replace it with Work that is not defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, District may have the Defective Work corrected or the rejected Work removed and replaced.
 - d. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, District shall have all rights and remedies granted by law.
4. Additionally, in special circumstances where a part of the Work is occupied or a particular item of equipment is placed in continuous service before Final Acceptance of all the Work, the correction period for that part of Work or that item may start to run from an earlier date if so provided by Change Order or as provided by elsewhere in these Contract Documents.
 5. Where Defective Work or rejected Work (and damage to other Work resulting therefrom) has been removed and replaced under this provision after the commencement of the correction period, the correction period hereunder with respect to such Work shall be extended for an additional period of one year after such removal and replacement has been satisfactorily completed.
 6. If following installation of any equipment, machinery, or facilities furnished by Contractor, defects requiring correction by Contractor are found, District shall have the right to operate such defective equipment or facilities and make reasonable use thereof until the equipment, machinery, or facilities can be shut down for correction of defects without causing injury to District.

D. Acceptance And Correction Of Defective Work By District

1. District may accept Defective Work. Contractor shall pay all claims, costs, losses and damages attributable to District's evaluation of and determination to accept such Defective Work. If District accepts any Defective Work prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, District may deduct from moneys due Contractor, all claims, costs, losses, damages, expenses and liabilities attributable to the Defective Work. If Contractor disagrees with District's calculations, Contractor may make a claim as provided in Article 12 of this Document 00 71 00. If District accepts any Defective Work after final payment, Contractor shall pay to District, an appropriate amount as determined by District.
2. District may correct and remedy deficiency if, after fifteen (15) Days' written notice to Contractor (or lesser notice if the deficiency poses a direct danger to persons or property at or about the Site or if required to comply with any DSA requirement), Contractor fails to correct Defective Work or to remove and replace rejected Work in accordance with paragraph 9.C of this Document 00 71 00; or provide a plan for correction of Defective Work acceptable to District; or perform Work in accordance with Contract Documents. In connection with such corrective and remedial action, District may, to the extent reasonably necessary: exclude Contractor from, and take possession of, all or part of the Site and Work and suspend Contractor's Work related thereto; take possession of all or part of Contractor's tools, appliances, construction equipment and machinery at the Site; and incorporate in Work any materials and equipment stored at the Site or for which District has paid Contractor but which are stored elsewhere. Contractor shall allow District, its representatives, agents, employees, and other contractors and District's consultants access to the Site to enable District to exercise the rights and remedies under this paragraph. Contractor shall be responsible for all claims, costs, losses, damages, expenses and liabilities incurred or sustained by District in exercising such rights and remedies. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, District may deduct from moneys due Contractor, all claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with District's calculations, Contractor may make a claim as provided in Article 12 of this Document 00 71 00.

3. District's decisions to accept Defective Work or correct Defective Work are subject to approval of DSA, and all other requirements of Title 24, California Code of Regulations.

E. Rights Upon Inspection Or Correction

1. Contractor shall not be allowed an extension of Contract Time because of any delay in the performance of Work attributable to the exercise by District of its rights and remedies under this Article 9. Where District exercises its rights under this Article 9, it retains all other rights it has by law or under the Contract Documents including, but not limited to, the right to terminate Contractor's right to proceed with the Work under the Contract Documents and/or make a claim or back charge where a Change Order cannot be agreed upon.
2. Inspection by District shall not relieve Contractor of its obligation to have furnished material and workmanship in accordance with Contract Documents. Payment for Work completed through periodic progress payments or otherwise shall not operate to waive District's right to require full compliance with Contract Documents and shall in no way be deemed as acceptance of the Work paid therefor. Contractor's obligation to complete the Work in accordance with Contract Documents shall be absolute, unless District agrees otherwise in writing.

F. Samples And Tests Of Materials And Work

1. Contractor shall furnish, in such quantities and sizes as may be required for proper examination and tests, samples or test specimens of all materials to be used or offered for use in connection with Work. Contractor shall prepare samples or test specimens at its expense and furnish them to District. Contractor shall submit all samples in ample time to enable District to make any necessary tests, examinations, or analyses before the time it is desired to incorporate the material into the Work.
2. Test samples or specimens of material for testing shall be taken by the Architect/Engineer, his or her representative, Project Inspector or representative of the testing agency. In no case shall Contractor or vendor select the sample. Refer to section 4-335, Part 1, Title 24, California Code of Regulations.

G. Proof Of Compliance Of Contract Provisions

In order that District may determine whether Contractor has complied or is complying with requirements of Contract Documents not readily enforceable through inspection and tests of Work and materials, Contractor shall at any time, when requested, submit to District properly authenticated documents or other satisfactory proofs of compliance with all applicable requirements.

H. Acceptance

Inspection by District or its authorized agents or representatives, any order or certificate for the payment of money, any payment, acceptance of the whole or any part of Work by District, any extension of time, any verbal statements on behalf of District or its authorized agents or representatives shall not operate as a waiver or modification of any provision of the Contract Documents, or of any power reserved to District herein or therein or any right to damages provided in the Contract Documents. Any waiver of any breach of the Contract Documents shall not be held to be a waiver of any other subsequent breach.

10. CONTRACTOR'S ORGANIZATION AND EQUIPMENT

A. Contractor's Legal Address

Address and facsimile number given in Contractor's Bid are hereby designated as Contractor's legal address and facsimile number. Contractor may change its legal address and facsimile number by notice in writing, delivered to District, which in conspicuous language advises District of a change in legal address or facsimile number, and which District accepts in writing. Delivery to Contractor's legal address or depositing in any post office or post office box regularly maintained by the United States Postal Service, in a wrapper with postage affixed, directed to Contractor at legal address, or of any drawings, notice, letter or other communication, shall be deemed legal and sufficient service thereof upon Contractor. Facsimile to Contractor's designated facsimile number of any letter, memorandum, or other communication on standard or legal sized paper, with proof of facsimile transmission, shall be deemed legal and sufficient service thereof upon Contractor.

B. Contractor's Office At The Work Site

Contractor shall maintain an office at the Site, which office shall be headquarters of a Contractor representative authorized to transmit to and receive from District, communications, instructions or Drawings. Communications, instructions, or Drawings given to Contractor's representative or delivered at the Site office in representative's absence shall be deemed to have been given to Contractor.

C. Contractor's Superintendents Or Forepersons

Contractor shall at all times be represented on Site by one or more superintendents, project managers or forepersons authorized and competent to receive and carry out any instructions that District may give, and shall be liable for faithful observance of instructions delivered to Contractor or to authorized representative or representatives on Site.

D. Proficiency In English

Supervisors, security guards, safety personnel and employees who have unescorted access to the Site shall possess proficiency in the English language in order to understand, receive and carry out oral and written communications or instructions relating to their job functions, including safety and security requirements.

E. Site Decorum: Contractor's And Subcontractors' Employees

1. Contractor shall employ, and shall permit its Subcontractors to employ, only competent and skillful personnel to do Work. If District notifies Contractor that any of its employees, or any of its Subcontractors' employees on Work is incompetent, unfaithful, disorderly, disruptive or profane, or fails to observe customary standards of conduct or refuses to carry out any provision of the Contract Documents, or uses threatening or abusive language to any person on Work representing District, or violates sanitary rules, or is otherwise unsatisfactory, and if District requests that such person be discharged from Work, then Contractor or its Subcontractor shall immediately discharge such person from Work and the discharged person shall not be re-employed on the Work except with consent of District.
2. Contractor shall control the conduct of its employees and subcontractors so as to prevent unwarranted interaction initiated by Contractor's employees or subcontractors with individuals, (except those associated with the Project) at the college campus. Without limitation, unwarranted interaction by Contractor's employees or subcontractors would include includes whistling at or initiating conversation with passers -by. In the event that any employee or subcontractor of the Contractor initiates such any unwarranted interaction, Contractor shall, either upon request of District's Representative or on its own initiative, replace said employee or subcontractor employee with another of equivalent technical skill at no cost to the District.
3. There shall be no smoking outside of the construction site or within any of the District's buildings, including those buildings under construction by the Contractor.
4. The playing of radios, televisions and other portable audio or video players on the Project Site is prohibited at all times.

F. Contractor To List Trades Working

Contractor shall list the trades working on the Site and their scheduled activities on a daily basis, and provide a copy of that list to District

G. Contractor's Use Of The Site

Contractor shall not make any arrangements with any person to permit occupancy or use of any land, structure or building within the limits of the Work, for any purpose whatsoever, either with or without compensation, in conflict with any agreement between District and any owner, former owner or tenant of such land, structure or buildings. Contractor may not occupy District-owned property outside the limit of the Work as indicated on the Drawings unless it obtains prior written approval from District.

11. PROSECUTION AND PROGRESS OF THE WORK**A. Contractor to Submit Required Schedules**

1. Contractor shall submit schedules and reports, Shop Drawings and Submittals in the appropriate quantity and within the required time, arrange conferences and meetings and proceed with the Work in accordance with Contract Documents, including Sections 01 31 19 (Project Meetings), 01 32 16 (Progress Schedules and Reports), and 01 32 19 (Submittal Procedures).
2. Contractor shall submit to District for review and discussion at the Preconstruction Conference documentation described in Section 01 31 19 (Project Meetings):
 - a. Progress schedules and reports as required by Sections 01 32 16 (Progress Schedules and Reports), and 01 32 19 (Submittal Procedures). Contractor shall utilize Progress Schedule in planning, scheduling, coordinating, performing and controlling Work (including all activities of Subcontractors, assigned contractors, equipment vendors and suppliers). Contractor shall update Progress Schedule on a monthly basis to depict accurately the actual progress of Work and for evaluating and preparing Contractor's monthly progress payments. Contractor's failure to submit and maintain an acceptable progress schedule may, in District's discretion, and without limiting the materiality of Contractor's other obligations under the Contract Documents, constitute grounds to declare Contractor in material breach of the Contract Documents
 - b. Prior to receiving a Notice to Proceed with Construction, a preliminary Schedule of Submittals that shall list each required submittal and the times for submitting, reviewing and processing such submittal, as required by Section 01 32 19 (Submittal Procedures). If no such schedule is agreed upon, then all Shop Drawings, Samples and product data submittals shall be completed and submitted within 30 Days after receipt of Notice to Proceed with Construction from District.
 - c. Within 10 Days after issuance of Notice of Award, a preliminary Schedule of Values for all the Work, including detailed breakdown of all work phases to serve as the basis for progress payments during project duration for review and approval by the Construction Manager. At least 5 Days before commencing construction, Contractor shall submit an updated Schedule of Values including additional detail regarding construction activities, as provided in Section 01 29 00 (Measurement and Payment), paragraph 1.7. The updated Schedule of Values shall include quantities and prices of items aggregating the Contract Sum and shall subdivide into component activities in sufficient detail to serve as the basis for progress payments during construction. Each Schedule of Values shall include an appropriate amount of overhead and profit applicable to each item of Work, a line item for Project Record Documents, and a line item for Project scheduling, and shall conform to Section 01 29 00.
3. Unless otherwise provided in the Contract Documents, at least 15 Days before submission of the first application for payment, a conference attended by Contractor, District, and others as appropriate, will be held to review for acceptability the schedules submitted in accordance with subparagraph 11.A.2 of this Document 00 71 00 and first reviewed at the Preconstruction Conference. Contractor shall have an additional seven Days to make corrections and adjustments and to complete and resubmit the schedules. Schedules shall be updated and completed as required by Sections 01 29 00 (Measurement and Payment), 01 32 16 (Progress Schedules and Reports) and 01 32 19 (Submittal Procedures). No progress payment shall be due or owing to Contractor until the schedules are submitted to and acceptable to District and/or Architect/Engineer as meeting the requirements of the Contract Documents, including Sections 01 29 00 (Measurement and Payment), 01 32 16 (Progress Schedules and Reports) and 01 32 19 (Submittal Procedures). District's acceptance of Contractor's schedules will not create any duty of care or impose on District any responsibility for the sequencing, scheduling or progress of Work nor will it interfere with or relieve Contractor from Contractor's full responsibility therefor.
4. Before commencing any phase of Work, Contractor shall inform District in writing as to time and place at which Contractor wishes to commence Work, and nature of Work to be done, in order that proper adjustments to College operations and notices to occupants may be made, proper provision for inspection of Work may occur, and to assure measurements necessary for record and payment. Information shall be given to District a reasonable time in advance of time at which Contractor proposes to begin Work, so that District may complete necessary preliminary work without inconvenience or delay to Contractor.

B. Contractor to Submit Submittals and Shop Drawings

1. Contractor shall submit submittals and shop drawings to District (or Architect/Engineer if District so designates) for review in strict accordance with Section 01 32 19 (Submittal Procedures). Submission of a Shop Drawing shall constitute Contractor's representation that all requirements of Section 01 32 19 (Submittal Procedures) have been complied with. All submittals will be identified as District may require and in the number of copies specified in Section 01 32 19 (Submittal Procedures).
2. Contractor shall not perform Work that requires submission of a Shop Drawing or Sample or other submittal prior to submission and favorable review of the Shop Drawing or Sample or submittal. Where a Shop Drawing or Sample or other submittal is required by Contract Documents or the final Schedule of Submittals accepted by District, any related Work performed prior to District's approval of the pertinent submittal shall be at the sole expense, responsibility and risk of Contractor.
3. District's review of shop drawings, samples and submittals shall not relieve Contractor of its responsibility for a complete design complying with the requirements of the Contract Documents; but rather, such review shall be in furtherance of District's monitoring and accepting the design as developed and issued by the Contractor, consistent with these Contract Documents.

C. Cost Data

1. Contractor shall maintain full and correct information as to the number of workers employed in connection with each subdivision of Work, the classification and rate of pay of each worker in form of certified payrolls, the cost to Contractor of each class of materials, tools and appliances used by Contractor in Work, and the amount of each class of materials used in each subdivision of Work. Contractor shall provide District with monthly summaries of this information. If Contractor maintains or is capable of generating summaries or reports comparing actual Project costs with Bid estimates or budgets, and if the actual cost comparisons become necessary (in District's sole judgment) in connection with claims or Contract Modifications, Contractor shall provide District with a copy of such report upon District's request.
2. Contractor shall maintain daily job reports recording all significant activity on the job, including the number of workers on Site, Work activities, problems encountered and delays. Contractor shall provide District with copies for each Day Contractor works on the Project, to be delivered to District either the same Day or the following morning before starting work at the Site. Contractor shall take monthly progress photographs of all areas of the Work. Contractor shall maintain copies of all correspondence with Subcontractors and records of meetings with Subcontractors.
3. District shall have the right to audit and copy Contractor's books and records of any type, nature or description relating to the Project (including but not limited to financial records reflecting in any way costs claimed on the Project), and to inspect the Site, including Contractor's trailer, or other job Site office, and this requirement shall be contained in the subcontracts of Subcontractors working on Site. By way of example, District shall have the right to inspect and obtain copies of all Contract Documents, planning and design documents, Bid and negotiation documents records and job cost variance reports, design modification proposals, value engineering or other cost reduction proposals, revisions made to the original design, job progress reports, photographs, and as-built drawings maintained by Contractor. District and any other applicable governmental entity shall have the right to inspect all information and documents maintained under this paragraph 11.C at any time during the Project and for a period of five years following Final Completion. This right of inspection shall not relieve Contractor of its duties and obligations under the Contract Documents. This right of inspection shall be specifically enforceable in a court of law, either independently or in conjunction with enforcement of any other rights in the Contract Documents.
4. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Contract Modifications, Change Orders, Work Directives, Force Account orders, and written interpretations and clarifications in good order and annotated to show all changes made during construction. These Project Record Documents, together with all approved Samples and a counterpart of all approved Shop Drawings, shall be maintained and available to District for reference. Upon completion of the Work, Contractor shall deliver to District, the Project Record Documents, Samples and Shop Drawings and as-built drawings.

D. Contractor To Supply Sufficient Workers And Materials

1. Unless otherwise required by District under the terms of Contract Documents, Contractor shall at all times keep on the Site materials and employ qualified workers sufficient to prosecute Work at a rate and in a sequence and manner necessary to complete Work within the Contract Time. This obligation shall remain in full force and effect notwithstanding disputes or claims of any type.
2. At any time during progress of Work should Contractor directly or indirectly (through Subcontractors) refuse, neglect, or be unable to supply sufficient materials or employ qualified workers to prosecute the Work as required, then District may require Contractor to accelerate the Work and/or furnish additional qualified workers or materials as District may consider necessary, at no cost to District. If Contractor does not comply with the notice within three (3) Business Days of date of service thereof, District shall have the right (but not a duty) to provide materials and qualified workers to finish the Work or any affected portion of Work, as District may elect. District may, at its discretion, exclude Contractor from the Site, or portions of the Site or separate work elements during the time period that District exercises this right. District will deduct from moneys due or which may thereafter become due under the Contract Documents, the sums necessary to meet expenses thereby incurred and paid to persons supplying materials and doing Work. District will deduct from funds or appropriations set aside for purposes of Contract Documents the amount of such payments and charge them to Contractor as if paid to Contractor. Contractor shall remain liable for resulting delay, including liquidated damages and indemnification of District from claims of others.
3. Exercise by District of the rights conferred upon District in this subparagraph is entirely discretionary on the part of District. District shall have no duty or obligation to exercise the rights referred to in this subparagraph and its failure to exercise such rights shall not be deemed an approval of existing Work progress or a waiver or limitation of District's right to exercise such rights in other concurrent or future similar circumstances. (The rights conferred upon District under this subparagraph are, like all other such rights, cumulative to District's other rights under any provision of the Contract Documents.)

E. Contractor to Locate Underground Facilities.

1. During construction, Contractor shall comply with Government Code Sections 4216 to 4216.9, and in particular Section 4216.2 which provides, in part: "Except in an emergency, every person planning to conduct any excavation shall contact the appropriate regional notification center at least two *working* days, but no more than 14 *calendar* days, prior to commencing that excavation, if the excavation will be conducted in an area which is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the excavator, and, if practical, the excavator shall delineate with white paint or other suitable markings the area to be excavated. The regional notification center shall provide an inquiry identification number to the person who contacts the center and shall notify any member, if known, who has a subsurface installation in the area of the proposed excavation."
2. Contractor shall contact USA, and schedule the Work to allow ample time for the center to notify its members and, if necessary, for any member to field locate and mark its facilities. Contractor is charged with knowledge of all subsurface conditions reflected in USA records. Prior to commencing excavation or trenching work, Contractor shall provide District with copies of all USA records secured by Contractor. Contractor shall advise District of any conflict between information provided in Document 00 31 19 (Reports, Surveys and Existing Conditions), Drawings and that provided by USA records. Contractor's excavation shall be subject to and comply with the Contract Documents, including without limitation Articles 2 and 8 of this Document 00 71 00.
3. Contractor shall also investigate the existence of existing service laterals, appurtenances or other types of utilities, indicated by the presence of an underground transmission main or other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site, even if not shown or indicated in Document 00 31 19 (Reports, Surveys and Existing Conditions), the Drawings or that provided by USA records. Contractor shall immediately secure all such available information and notify District and the utility owner, in writing, of its discovery.

F. Contractor to Protect Underground Facilities.

1. At all times during construction, all operating Underground Facilities shall remain in operation, unless the Contract Documents expressly indicate otherwise. Contractor shall maintain such

Underground Facilities in service where appropriate; shall repair any damage to them caused by the Work; and shall incorporate them into the Work, including reasonable adjustments to the design location (including minor relocations) of the existing or new installations. Contractor shall take immediate action to restore any in service installations damaged by Contractor's operations.

2. Prior to performing Work at the Site, Contractor shall lay out the locations of Underground Facilities that are to remain in service and other significant known underground installations indicated by the Underground Facilities Data. Contractor shall further locate, by carefully excavating with small equipment, potholing and principally by hand, all such utilities or installations that are to remain and that are subject to damage. If additional utilities whose locations are unknown are discovered, Contractor shall immediately report to District for disposition of the same. Additional compensation or extension of time on account of utilities not shown or otherwise brought to Contractor's attention, including reasonable action taken to protect or repair damage, shall be determined as provided in this Document 00 71 00.
3. The cost of all of the following will be included in the Contract Sum and Contractor shall have full responsibility for (a) reviewing and checking all available information and data including, but not limited to, Document 00 31 19 (Reports, Surveys and Existing Conditions) and information on file at USA; (b) locating all Underground Facilities shown or indicated in the Contract Documents, available information, or indicated by visual observation including, but not limited to, and by way of example only, engaging qualified locating services and all necessary backhoeing and potholing; (c) coordination of the Work with the owners of such Underground Facilities during construction; and (d) the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

G. Contractor to Not Disrupt District Operation.

1. Contractor shall schedule and execute all Work in a manner that does not interfere with or disrupt District operations, including but not limited to, parking, utilities (electricity, gas, water), noise, access by students, faculty, other employees and administration, access by vendors and any other person or entity using District facilities or doing business with District. Contractor shall produce and supply coordination plans and requests to District, following District procedures, for all necessary interference of construction with District, which District will reasonably cooperate with.
2. Academic Calendar/Events: Without limiting the foregoing, the academic dates/events are furnished for Contractor's information. Construction activities which may be disrupted due to these events are to be accounted for in all applicable Schedules, and Contract Time shall not be extended thereby. Contractor is advised to consult District's website for any updates to the academic calendar. Refer to Section 01 10 00 Summary of Work for additional information.

12. CLAIMS BY CONTRACTOR/NON-JUDICIAL SETTLEMENT PROCEDURE

A. Scope

1. The claim notice and documentation procedure described in this Article 12 applies to all claims and disputes arising under the Contract Documents, including without limitation any claim or dispute by any Subcontractor or material supplier, and any claims arising under tort law as well as contract law. All Subcontractor and supplier claims of any type shall be brought only through Contractor as provided in this Article 12. Under no circumstances shall any Subcontractor or supplier make any direct claim against District.
2. "Claim" means a written demand or written assertion by Contractor seeking, as a matter of right, the payment of money, the adjustment or interpretation of Contract Documents terms, or other relief arising under or relating to Contract Documents. In order to qualify as a "claim," the written demand must state that it is a claim submitted under this Article 12. A voucher, invoice, proposed change, Application for Payment, cost proposal, RFI, change order request, or other routine or authorized form of request for payment is not a claim under the Contract Documents. If such request is disputed as to liability or amount, then the disputed portion of the submission may be converted to a claim under the Contract Documents by submitting a separate notice and claim in compliance with claim submission requirements herein.
3. The provisions of this Article 12 constitute a non-judicial claim settlement procedure, and also step one of a two step claim presentment procedure by agreement under Section 930.2 of the California

Government Code. Specifically, step one is compliance with this contract claims procedure and filing/administering timely contract claims in accordance with the Contract Documents. Step two is filing a timely Government Code Section 910 claim in accordance with the California Government Code. Any Government Code Section 910 claims shall be presented in accordance with the Government Code and shall affirmatively indicate Contractor's prior compliance with the claims procedure herein and previous dispositions under this Article.

4. The provisions of this Article 12 shall survive termination, breach or completion of the Contract Documents. Contractor shall bear all costs incurred in the preparation and submission of a claim.

B. Procedure

1. **Disputed Work.** Should any clarification, determination, action or inaction by District or Architect/Engineer, Work, third party, or any other event whatsoever, in the opinion of Contractor, exceed the requirements of or not comply with Contract Documents in any way, or otherwise result in Contractor seeking additional compensation in time or money or damages for any reason (collectively "Disputed Work"), then Contractor shall so notify District. Contractor and District shall make good faith attempts to resolve informally any and all such issues, claims and/or disputes.
2. **Duty to Work During Disputes.** Notwithstanding any dispute or Disputed Work, Contractor shall continue to prosecute the Work and the Disputed Work in accordance with the determinations of District. Contractor's sole remedy for Disputed Work is to pursue the remedies in this Article 12 and follow the determinations of District.
3. **Timely Notice of Disputed Work Required.** Before commencing any Disputed Work, or within ten (10) Days after Contractor's first knowledge of the Disputed Work, whichever is earlier, Contractor shall file a written notice and preliminary cost proposal for the Disputed Work with District stating clearly and in detail its objection and reasons for contending the Disputed Work is outside or in breach of the requirements of Contract Documents. The written notice must identify the subcontractors, vendors, suppliers effected, if any, sufficient for District to visit the site to inspect the work and/or conduct a telephonic interview of the persons involved, and/or to photograph the work in question; and Contractor is encouraged to supply digital photographs by email if possible. The preliminary cost proposal must provide a good faith preliminary estimate of the labor (workers, crews), equipment and/or materials involved, and a corresponding good faith preliminary estimate of cost. If a written notice and preliminary cost proposal for Disputed Work is not issued within this time period, or if Contractor proceeds with the Disputed Work without first having given the notice of the Disputed Work, Contractor shall waive its rights to further claim on the specific issue.
4. **Timely Notice of Potential Claims Required.** District will review Contractor's timely notice and preliminary cost proposal for Disputed Work and provide a decision. If, after receiving the decision, Contractor disagrees with it or still considers the Work required of it to be outside of the requirements of Contract Documents, then Contractor shall so notify District, in writing, within ten (10) Days after receiving the decision, by submitting a notice of potential claim, stating that a formal claim will be issued. (If District should fail to provide a decision on a notice and preliminary cost proposal within thirty (30) days, then Contractor shall submit a notice of potential claim within ten days following the thirtieth (30th) day, i.e., or by the 40th day following the notice and preliminary cost proposal.) Contractor shall continue to prosecute the Disputed Work to completion.
5. **Quarterly Claims Required.** At the end of each calendar year quarter (March 31, June 30, September 30 and December 31) of each year, for each and every notice of potential claim that Contractor may have submitted in that quarter, Contractor shall submit a formal claim in the form specified herein. Contractor may file a single consolidated claim each quarter, or may file separate claims each quarter, as Contractor sees fit, provided Contractor complies with the requirements below. (Contractor may defer until the next reporting period the filing of a formal claim for any notices of potential claim timely issued within the last 15 days of the prior quarter.) The formal claim(s) shall include all arguments, justification, cost or estimates, schedule analysis, and detailed documentation supporting the Contractor's position, for each notice of potential claim that Contractor intends to pursue as a formal claim (further described below).
6. **Claim Updates Required.** If Disputed Work persists longer than a single calendar quarter, then Contractor shall, every quarter until the Disputed Work ceases, submit to District a document titled "Claim Update" that shall update and quantify all elements of the claim as completely as possible. Contractor's failure to submit a Claim Update or to quantify costs every quarter shall result in waiver

of the claim for that period. Claims or Claim Updates stating that damages, total damages (direct and indirect), schedule impact and/or any time extension will be determined at a later date shall not comply with this subparagraph and shall result in Contractor waiving its claim(s). Contractor shall also maintain a continuing "claims log" that shall list all outstanding claims and their value, and provide such log to District quarterly.

7. Claim Negotiations Required. Upon receipt of Contractor's formal claim(s) including all arguments, justifications, cost or estimates, schedule analysis, and documentation supporting its position as required herein, District or its designee will review the issue and render a final determination. Contractor and District may mutually agree upon a claims resolution protocol, a neutral facilitator or mediator, or other alternative dispute resolution procedures, as appropriate. District may in its discretion conduct an administrative hearing on Contractor's claim, in which case Contractor shall appear, participate, answer questions and inquiries, and present any further document, schedules or analysis requested by District to evaluate and decide Contractor's claim.

C. Claim Format

1. Contractor shall submit the formal claim(s) with a cover letter and certification of the accuracy of the formal claim.
2. The formal claim(s) shall list separately each notice of potential claim that Contractor intends to pursue as a formal claim(s), and for each such item separately, Contractor shall provide the following:
 - a. Summary of the claim, including underlying facts, entitlement, schedule analysis, quantum calculations, contract provisions supporting relief;
 - b. List of documents relating to claim including Specifications, Drawings, clarifications/requests for information, schedules, notices of delay, and any others;
 - c. Chronology of events and correspondence;
 - d. Analysis of claim merit;
 - e. Analysis of claim cost; and
 - f. Attach supporting cost and schedule documents as required in this Article and elsewhere in the Contract Documents (e.g., Section 01 32 16).
3. For each notice of potential claim that Contractor intends to pursue as a formal claim, Contractor shall establish in the formal claim a direct causal link between the separate item of cost/time requested, the separate notices of potential claim timely issued, and the specific changed Work asserted. Total cost claims shall not be allowed.
4. Claims shall be calculated in the same manner as Change Orders per Section 01 26 00 (Modification Procedures). EXCEPT WHERE PROVIDED BY LAW, OR ELSEWHERE IN THESE CONTRACT DOCUMENTS (IF APPLICABLE), DISTRICT SHALL NOT BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES, AND CONTRACTOR SHALL NOT INCLUDE THEM IN ITS CLAIMS. CONTRACTOR SHALL BE LIMITED IN ITS RECOVERY ON CLAIMS TO THE CHANGE ORDER CALCULATIONS SET FORTH IN SECTION 01 26 00 (MODIFICATION PROCEDURES).

D. Mediation

1. If Contractor's claims submitted in accordance with this Article 12 at Project completion total less than \$375,000, then claims resolution shall first proceed in the manner prescribed by Article 1.5, Chapter 1, Part 3 of Division 2 of the California Public Contract Code, found in Section 01 41 00 (Regulatory Requirements).
2. If Contractor's claims submitted in accordance with this Article 12 at Project completion exceed \$375,000, then, as a condition precedent to litigation (or if otherwise permitted by the Contract Documents, arbitration) thereon, such claims must first be mediated. Mediation shall be non-binding and utilize the services of a mediator mutually acceptable to the parties and, if the parties cannot agree, a mediator selected by the American Arbitration Association from its panel of approved mediators trained in construction industry mediation, having a minimum of twenty (20) years experience in the construction industry. All statutes of limitation shall be tolled from the date of the demand for mediation until a date two weeks following the mediation's conclusion. All unresolved Contractor claims shall be submitted to the same mediator. The cost of mediation shall be equally shared.

E. Subcontractor Claims

1. Contractor shall present as its claims all Subcontractor, sub-Subcontractor and supplier claims of any type, and prove them under the terms of the Contract Documents. District shall not be directly liable to any Subcontractor, any supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages or extra costs of any type arising out of or resulting from the Project.

F. Waiver.

1. If Contractor fails to comply with this Article 12 as to any claim, then Contractor shall waive its rights to such claim.
2. All claim(s), Disputed Work items or issue(s) not raised in a timely notice, timely notice of potential claim and then timely claim submitted under this Article 12, may not be asserted in any subsequent Government Code section 910 claim, litigation or legal action.
3. Contractor may request an extension of time to comply with the claims procedure herein, but must do so in advance of time periods expiring and District must give its approval in writing (which approval may be withheld in District discretion.) As to any other feature of the claim procedure herein (and its claims waiver feature), it may not be waived or altered absent a written change order signed by both parties and approved as to form by their legal counsel.
4. District shall not be deemed to waive or alter any provision under this Article 12, if at District's sole discretion, a claim is administered in a manner not in accord with this Article 12.

13. LEGAL AND MISCELLANEOUS**A. Laws And Regulations**

1. Contractor shall keep fully informed of and shall comply with all laws, ordinances, regulations and orders of any properly constituted authority affecting the Contract Documents, Work and persons connected with Work, and shall, to the greatest extent permitted by law, protect and indemnify District and its officers, employees, consultants and agents against any claim or liability, including attorney's fees, arising from or based on violation of law, ordinance, regulation or order, whether by Contractor or by Subcontractors, employees or agents. Authorized persons may at any time enter upon any part of Work to ascertain compliance of all applicable laws, ordinances, regulations and orders.
2. Contractor shall comply with applicable portions of Title 19 and Title 24, California Code of Regulations (Uniform Building Code) (most recent edition), and Public Contract Code. Whenever Contract Documents require larger sizes or higher standards than are required by any applicable law, ordinance, regulation or order, Contract Documents shall govern. Whenever Contract Documents require something that will violate such laws, ordinances, regulations or orders, then such laws, ordinances, regulations or orders shall govern.
3. Contractor shall maintain in the Project Office a current copy of Title 19 and 24 of the California Code of Regulations at all times during construction.

B. Permits And Taxes

Contractor shall procure all permits and licenses applicable to the Work (including environmental matters to the extent applicable), pay all charges and fees, including fees for street opening permits, comply with, implement and acknowledge effectiveness of all permits, initiate and cooperate in securing all required notifications or approvals therefore, and give all notices necessary and incident to due and lawful prosecution of Work, unless otherwise provided herein. District will pay applicable building permits, school, sanitation and water fees, except as otherwise provided in the Contract Documents. If, under federal excise tax law, any transaction hereunder constitutes a sale on which a federal excise tax is imposed, and the sale is exempt from such excise tax because it is a sale to a state or local government for its exclusive use, the District, upon request, will execute a certificate of exemption which will certify (1) that the District is a political subdivision of the state for the purpose of such exemption, and (2) that the sale is for the exclusive use of the District. No excise tax for such materials shall be included in any bid price. Contractor shall pay all sales and/or use taxes levied on materials, supplies, or equipment purchased and used on or incorporated into Work, and all other taxes properly

assessed against equipment or other property used in connection with Work, without any increase in the Contract Sum. Contractor shall make necessary arrangements with proper authorities having jurisdiction over roads, streets, pipelines, navigable waterways, railroads, and other works in advance of operations, even where District may have already obtained permits for the Work.

C. Responsibility Of Contractor And Indemnification

1. Except to the extent caused by their sole negligence, willful misconduct or active negligence, District and each of its officers, employees, consultants and agents including, but not limited to the Board, Architect/Engineer, and each District Representative, shall not be liable or accountable in any manner for loss or damage that may happen to any part of the Work; loss or damage to materials or other things used or employed in performing the Work; injury, sickness, disease, or death of any person; or damage to property resulting from any cause whatsoever, attributable to performance or character of the Work, and Contractor releases all of the foregoing persons and entities from any and all such claims.
2. To the furthest extent permitted by law (including without limitation California Civil Code Section 2782 and, if and to the extent applicable, California Civil Code Section 2782.8, Contractor shall assume defense of (with counsel approved by District), and indemnify and hold harmless, District and each of its officers, employees, consultants and agents, including but not limited to the Board, Architect/Engineer, and each District representative, from claims, suits, actions, and liability of every kind, nature and description, including but not limited to claims and fines of regulatory agencies and attorney's fees and consultant's fees, directly or indirectly arising out of, connected with or resulting from performance of the Work, failure to perform the Work, or condition of the Work which is caused in whole or part by any act or omission of Contractor, Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether it is caused in part by the negligence of District or by any person or entity required to be indemnified hereunder.
3. With respect to third-party claims against Contractor, Contractor waives any and all rights to any type of express or implied indemnity against District and each of its officers, employees, consultants and agents including, but not limited to District, the Board, Architect/Engineer and each District representative.
4. Approval or purchase of any insurance contracts or policies shall in no way relieve from liability nor limit the liability of Contractor, its Subcontractors of any tier, or the officers or agents of any of them.
5. To the furthest extent permitted by law (including, without limitation, Civil Code Section 2782 and, if and to the extent applicable, Civil Code Section 2782.8, the indemnification provisions, releases of liability and limitations of liability, claims procedures, and limitations of remedy expressed throughout Contract Documents shall apply even in the event of breach of contract, negligence (active or passive), fault or strict liability of the party(is) indemnified, released, or limited in liability, and shall survive the termination, rescission, breach, abandonment, or completion of the Work or the terms of the Contract Documents. If Contractor fails to perform any of these defense or indemnity obligations, District may in its discretion back charge Contractor for District's costs and damages resulting therefrom and withhold such sums from progress payments or other contract moneys which may become due.
6. The indemnification provisions of this Contract as reflected in the Contract Documents shall not apply to any indemnified party to the extent of its sole negligence or willful misconduct; nor shall they apply to District or other indemnified party to the extent of its active negligence.

D. Suspension Of Work

1. District may, without cause, order Contractor in writing to suspend, delay or interrupt Work in whole or in part for such period of time as District may determine. An adjustment shall be made for increases in cost of performance of Work of the Contract Documents caused by any such suspension, delay or interruption, calculated using the measures set forth in Section 01 26 00 (Modification Procedures). No adjustment shall be made to extent that:
 - a. Performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible; or
 - b. An equitable adjustment is made or denied under any other provision of Contract Documents; or

- c. The suspension of Work was the direct or indirect result of Contractor's failure to perform any of its obligations hereunder. Adjustments made in cost of performance may have a mutually agreed fixed or percentage fee; if the parties cannot agree, Contractor may file a claim under Article 12 of this Document 00 71 00.
2. In addition to the foregoing, if applicable, Contractor shall receive a time extension for the actual period of time Contractor proves it was delayed by District's order to suspend, delay or interrupt Work. For example, and not by way of limitation, if precipitation exceeding the specified parameters does not in fact delay Contractor's progress on the critical path, then no time extension shall be recognized; and conversely, if Contractor proves to District's satisfaction that precipitation exceeding the specified parameters causes delay to Contractor for a period longer than the number of precipitation days incurred (e.g., if it rains or snows during grading work), then Contractor shall be entitled to a time extension equal to the actual period of such delay.

E. Termination Of Contract For Cause

1. District may declare Contractor in default of Contract Documents and District may terminate Contractor's right to proceed under the Contract Documents for cause:
 - a. Should Contractor make an assignment for the benefit of creditors; admit in writing its inability to pay its debts as they become due; file a voluntary petition in bankruptcy; be adjudged a bankrupt or insolvent; be the subject of an involuntary petition in bankruptcy which is not dismissed within sixty (60) Days; file a petition or answer seeking for itself any reorganization, arrangement, composition, readjustment, liquidation, dissolution, or similar relief under any present or future statute, law, or regulation; file any answer admitting or not contesting the material allegations of a petition filed against Contractor in any such proceeding; or seek, consent to, or acquiesce in, the appointment of any trustee, receiver, custodian or liquidator of Contractor or of all or any substantial part of its properties or if Contractor, its directors or shareholders, take action to dissolve or liquidate Contractor; or
 - b. Should Contractor commit a material breach of the Contract Documents. If District declares Contractor in default due to material breach, however, District must allow Contractor an opportunity to cure such breach within ten (10) Days of the date of notice from District to Contractor providing notice of the default; or, if such breach is curable but not curable within such ten-Day period, within such period of time as is reasonably necessary to accomplish such cure. (In order for Contractor to avail itself of a time period in excess of ten (10) Days, Contractor must provide District within the ten-Day period with a written plan ("cure plan") acceptable to District to cure said breach which includes, for example, evidence of necessary resources, actual Subcontractor commitments, actual labor commitments, schedules and recovery schedules meeting Contract Document requirements and showing a realistic and achievable plan to cure the breach. Contractor must then diligently commence and continue such cure according to the written cure plan); or
 - c. Should Contractor violate or allow (by a Subcontractor or other person or entity for which Contractor is responsible) a violation of any valid law, statute, regulation, rule, ordinance, permit, license or order of any governmental agency applicable to the Project or Work and does not cure (or cause to be cured) such violation within ten (10) Days of the date of the notice from District to Contractor demanding such cure; or, if such violation is curable but not curable within such ten-Day period, within such period of time as is reasonably necessary to accomplish such cure. (In order for Contractor to avail itself of a time period in excess of ten (10) Days, Contractor shall provide District within the ten-Day period with a written plan to cure said violation acceptable to District, and then diligently commence and continue performance of such cure according to the written plan.)
2. If District at any time reasonably believes that Contractor is or may be in default under the Contract Documents as provided above, then District may in its sole discretion notify Contractor of this fact and request written assurances from Contractor of performance of Contract Documents and a written plan from Contractor to remedy any default under the terms of Contract Documents which District may advise Contractor of in writing. Contractor shall, within ten (10) Days of District's request, deliver a written cure plan which meets the requirements of the written cure plan as defined above. Failure of Contractor to provide such written assurances of performance and the required written cure plan within ten (10) Days of request will constitute a material breach of Contract Documents sufficient to justify termination for cause.

3. In event of termination for cause, District will immediately serve written notice thereof upon Surety and Contractor. Surety shall have the rights and obligations set forth in Document 00 61 00 (Construction Performance Bond). Subject to the Surety's rights under the Performance Bond (which rights are waived upon a default there under), District may take over the Work and prosecute it to completion by contract or by any other methods it may deem advisable.
4. In the event of termination by District for cause:
 - a. District will compensate Contractor for the value of the Work delivered to District upon termination as determined in accordance with the Contract Documents, subject to all rights of offset and back charges, and provided that Contractor provides District with updated as-builts and Project Record Documents showing the Work performed up to the date of termination. However, District will not compensate Contractor for its costs in terminating the Work or any cancellation charges owed to third parties.
 - b. Contractor shall deliver to District possession of the Work in its then condition including, but not limited to, all designs, engineering, Project records, Project Record Documents, cost data of all types, Drawings and Specifications and contracts with vendors and Subcontractors, all other documentation associated with the Project, and all construction supplies and aids dedicated solely to performing the Work which, in the normal course of construction, would be consumed or only have salvage value at the end of the construction period. Contractor shall remain fully liable for the failure of any Work completed and materials and equipment provided through the date of such termination to comply with the provisions of the Contract Documents. The provisions of this subparagraph shall not be interpreted to diminish any right which District may have to claim and recover damages for any breach of Contract Documents or otherwise, but rather, Contractor shall compensate District for all loss, cost, damage, expense, and/or liability suffered by District as a result of such termination and failure to comply with Contract Documents.
 - c. District's rights under this subparagraph shall be specifically enforceable to the greatest extent permitted by law. District shall, to the extent applicable, have all other rights and remedies set forth in any Bidding Document.
5. District may terminate portions or parts of the Work for cause, provided these portions or parts (1) have separate geographic areas from parts or portions of the Work not terminated or (2) are limited to the work of one or more specific trades or Subcontractors. In such case, Contractor shall cooperate with a completing Contractor as required under Article 6 of this Document 00 71 00.
6. In the event a termination for cause is later determined to have been made wrongfully or without cause, then Contractor shall have no greater rights than if a termination for convenience had been effected (to include, as appropriate, the recovery rights specified therefore. Any Contractor claim arising out of a termination for cause, however, shall be made in accordance with Article 12 of this Document 00 71 00. No other loss cost, damage, expense or liability may be claimed, requested or recovered by Contractor.

F. Termination Of Contract For Convenience

1. District may terminate for convenience performance of the Work under the Contract Documents in accordance with this clause in whole, or from time to time in part, whenever District shall determine that termination is in District's best interest. Termination for convenience may only be effected by District delivering to Contractor written "Notice of Termination for Convenience" specifying the extent to which performance of the Work under the Contract Documents is terminated and the effective date of the termination.
2. After receiving a notice of termination for convenience under this subparagraph, and except as otherwise directed by District, Contractor shall:
 - a. Stop Work under the Contract Documents on date and to extent specified in notice of termination for convenience;
 - b. Place no further orders or subcontracts for materials, services, or facilities except as necessary to complete portion of Work under the Contract Documents which is not terminated;
 - c. Terminate all orders and subcontracts to extent that they relate to performance of Work terminated by the notice of termination;
 - d. Assign to District in manner, at times, and to extent directed by District, all right, title, and interest of Contractor under orders and subcontracts so terminated. District shall have the right,

- in its sole discretion, to settle or pay any or all claims arising out of termination of orders and subcontracts;
- e. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with approval or ratification of District to extent District may require. District's approval or ratification shall be final for purposes of this subparagraph;
 - f. Transfer title to District, and deliver in the manner, at the times, and to the extent, if any, directed by District, all fabricated or unfabricated parts, Work in process, completed Work, supplies, and all other material produced as part of, or acquired in connection with performance of, Work terminated by the notice of termination, and completed or partially completed drawings, drawings, specifications, information, and other property which, if the Project had been completed, would have been required to be furnished to District;
 - g. Use its best efforts to sell, in manner, at times, to extent, and at price or prices that District directs or authorizes, any property of types referred to in subparagraph, but Contractor shall not be required to extend credit to any purchaser, and may acquire any such property under conditions prescribed and at price or prices approved by District. Proceeds of transfer or disposition shall be applied to reduce payments to be made by District to Contractor under the Contract Documents or shall otherwise be credited to the price or cost of Work covered by Contract Documents or paid in such other manner as District may direct;
 - h. Complete performance of the part of the Work which was not terminated by the notice of termination; and
 - i. Take such action as may be necessary, or as District may direct, to protect and preserve all property related to Contract Documents which is in Contractor's possession and in which District has or may acquire interest.
3. After receipt of a notice of termination for convenience, Contractor shall submit to District its termination for convenience claim, in form and with all certifications required by Article 12 of this Document 00 71 00. Contractor's termination claim shall be submitted promptly, but in no event later than 6 months from effective date of the termination. Contractor and District may agree upon the whole or part of the amount or amounts to be paid to Contractor because of a total or partial termination of Work for convenience. If Contractor and District fail to agree on the whole amount to be paid to Contractor because of the termination of the Work under this subparagraph, District's total liability to Contractor by reason of the termination shall not exceed the total (without duplication of any items) of:
- a. The reasonable cost to Contractor, without profit, for all Work performed prior to the effective date of the termination, including Work done to secure the Project for termination. Reasonable cost may not exceed the applicable percentage completion values derived from the progress schedule and the schedule of values. Deductions shall be made for cost of materials to be retained by Contractor, cost of Work defectively performed, amounts realized by sale of materials, and for other appropriate credits against cost of Work. Reasonable cost will include reasonable allowance for Project overhead and general administrative overhead not to exceed a total of ten percent of direct costs of such Work. When, in District's opinion, the cost of any item of Work is excessively high due to costs incurred to remedy or replace defective or rejected Work, reasonable cost to be allowed will be the estimated reasonable cost of performing the Work in compliance with requirements of Contract Documents and excessive actual cost shall be disallowed.
 - b. A reasonable allowance for profit on actual and allowable cost of Work performed as determined under this subparagraph, provided that Contractor establishes to District's satisfaction that Contractor would have made a profit had the Project been completed, and provided further that the profit allowed shall not exceed 5 percent of cost.
 - c. Reasonable costs to Contractor of handling material returned to vendors, delivered to District or otherwise disposed of as directed by District.
 - d. A reasonable allowance for Contractor's internal administrative costs in preparing termination claim.
 - e. Except as provided in this subparagraph, District shall not be liable for costs incurred by Contractor or Subcontractors after receipt of a notice of termination. Such non-recoverable costs include, but are not limited to, anticipated profits on Work not performed as of the date of termination, post-termination employee salaries, post-termination general administrative expenses, post-termination overhead or unabsorbed overhead, costs of preparing and submitting

Contractor's Bid, attorney's fees of any type, and all costs relating to prosecution of claim or lawsuit.

- f. District shall have no obligation to pay Contractor under this subparagraph unless and until Contractor provides District with updated and acceptable as-builts and Project Record Documents for Work completed prior to termination.
4. In arriving at the amount due Contractor under this clause, there shall be deducted in whole (or in the appropriate part[s] if the termination is partial):
- a. All unliquidated advances or other payments on account previously made to Contractor, including without limitation all payments applicable to the terminated portion of Contract Documents;
 - b. Any claim which District may have against Contractor in connection with Contract Documents; and
 - c. The agreed price for, or proceeds of sale of, any materials, supplies, or other things kept by Contractor or sold under provisions of this subparagraph, and not otherwise recovered by or credited to District.

G. Contingent Assignment Of Subcontracts

1. Contractor hereby assigns to District each Subcontract for a portion of the Work (including Services), provided that:
 - a. The assignment is effective only after District's termination of Contractor's right to proceed under the Contract Documents (or portion thereof relating to that Subcontract) pursuant to the termination for cause subparagraphs herein.
 - b. The Assignment is effective only for the Subcontracts which District expressly accepts by notifying the Subcontractor in writing;
 - c. The assignment is subject to the prior rights, if any, of the Surety, obligated by Document 00 61 00 (Construction Performance Bond) provided under the Contract Documents, where the Surety exercises its rights to complete the Contract;
 - d. After the effectiveness of an assignment, Contractor shall, at its sole cost and expense, sign all instruments and take all actions reasonably requested by District to evidence and confirm the effectiveness of the assignment in District; and
 - e. Nothing in this subparagraph shall modify or limit any of Contractor's obligations to District arising from acts or omissions occurring before the effectiveness of any Subcontract assignment, including but not limited to all defense, indemnity and hold-harmless obligations arising from or related to the assigned Subcontract.

H. Remedies and Contract Integration

1. Subject to Contract Documents provisions regarding Contractor claims, claim review, and claim resolution, and subject to the limitations therein, the exclusive jurisdiction and venue for resolving all claims, counter-claims, disputes and other matters in question between District and Contractor arising out of or relating to Contract Documents, any breach thereof or the Project shall be the applicable court of competent jurisdiction located in the County of San Mateo. All District remedies provided in the Contract Documents shall be taken and construed as cumulative and not exclusive; that is, in addition to each and every other remedy herein provided; and in all instances District shall have any and all other equitable and legal rights and remedies which it would have according to law.
2. The Contract Documents, any Contract Modifications and Change Orders shall represent the entire and integrated agreement between District and Contractor regarding the subject matters hereof and thereof and shall constitute the exclusive statement of the terms of the parties' agreement. The Contract Documents, and any Contract Modifications and Change Orders, shall supersede any and all prior negotiations, representations or agreements, written or oral, express or implied, that relate in any way to the subject matter of the Contract Documents or written modifications. District and Contractor represent and agree that, except as otherwise expressly provided in the Contract Documents, they are entering into the Contract Documents and any subsequent written modification in sole reliance upon the information set forth or referenced in the Contract Documents or Contract Modifications and the parties are not and will not rely on any other information.
3. In any proceeding to enforce the Contract Documents, Contractor and District agree that the finder of fact shall receive detailed instructions on the meaning and operation of the Contract Documents, including their conditions, limitations of liability, claims and time extension procedures and any

other provisions impacting major defenses and theories of liability of the parties. Detailed findings of fact shall be requested, to verify Contract enforcement.

4. Either party's waiver of any breach or failure to enforce any of the terms, covenants, conditions or other provisions of the Contract Documents at any time shall not in any way affect, limit, modify or waive that party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision hereof, any course of dealing or custom of the trade or oral representations notwithstanding.

I. Patents

Fees or claims for any patented invention, article or arrangement that may be used upon or in any manner connected with performance of the Work or any part thereof shall be included in the Bid price for doing the Work. To the greatest extent permitted by law, Contractor shall defend, indemnify and hold harmless District and each of its officers, employees, consultants and agents, including, but not limited to, the Board, Architect/Engineer and each District representative, from all damages, claims for damages, costs or expenses in law or equity, including attorney's fees, arising from or relating to any claim that any article supplied or to be supplied under the Contract Documents infringes on the patent rights, copyright, royalties, trade name, trademark, service mark, trade secret or other intellectual property right of any person or persons or that the person or entity supplying the article does not have a lawful right to sell the same. Such costs or expenses for which Contractor agrees to indemnify and hold harmless the above indemnities include but are not limited to any and all license fees, whether such fees are agreed by any indemnitee or ordered by a court or administrative body of any competent jurisdiction.

J. Substitution For Patented And Specified Articles

Except as noted specifically in Specifications, whenever in Specifications, material or process is designated by patent or proprietary name or by name of manufacturer, such designation shall be deemed to be used for purpose of facilitating description of material and process desired, and shall be deemed to be followed by the words "or equal." Contractor may offer any substitute material or process that Contractor considers equal in every respect to that so designated and if material or process offered by Contractor is, in opinion of District, equal in every respect to that so designated, its use will be approved. However, Contractor may utilize this right only by timely submitting Document 00 43 25 (Substitution Request Form) as provided in Section 00 11 19 (Instructions to Bidders). A substitution will be approved only if it is a true "equal" item in every aspect of its design and quality, including but not limited to its dimensions, weights, service requirements, durability, functioning, impact on contiguous construction elements, overall schedule and design.

1. The foregoing limited right to an "or equal" substitution shall not apply to any material or process which is designated in the approved Drawings and Specifications by patent or proprietary name or by name of manufacturer. Any such substitution is a deviation subject to District's advance written approval as provided in subparagraph 5.F.1 above.
2. Additionally, any substitution under this paragraph may require DSA approval.

K. Interest Of Public Officers

No representative, officer, or employee of District, no member of the governing body of the locality in which the Project is situated, no member of the locality in which District was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the Project, during the tenure of the official or for one year thereafter, shall, as principal, agent, attorney or otherwise, be directly or indirectly interested, in the Contract Documents or the proceeds thereof.

L. Limit Of Liability

DISTRICT, AND EACH OF ITS OFFICERS, BOARD MEMBERS, EMPLOYEES, CONSULTANTS AND AGENTS INCLUDING, BUT NOT LIMITED TO, ARCHITECT/ENGINEER AND EACH OTHER DISTRICT REPRESENTATIVE, SHALL HAVE NO LIABILITY TO CONTRACTOR FOR SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, EXCEPT TO THE LIMITED EXTENT THAT THESE CONTRACT DOCUMENTS OR APPLICABLE PUBLIC CONTRACTING STATUTES MAY SPECIFY THEIR RECOVERY.

M. Severability

Any provisions or portions thereof of Contract Documents that are prohibited by, unlawful, or unenforceable under any applicable law of any jurisdiction shall as to such jurisdiction be ineffective without affecting other provisions or portions thereof in the Contract Documents.

N. Ownership Of Results/Works For Hire

Any and all artwork, copy, posters, billboards, photographs, videotapes, audiotapes, systems designs, software, reports, diagrams, surveys, source codes or any original works of authorship created by Contractor or its Subcontractors or designers in connection with services performed under this Contract shall be works for hire as defined under Title 17 of the United States Code, and all copyrights in such works are the property of District. In the event that it is ever determined that any works created by Contractor or its Subcontractors or designers under this Contract are not works for hire under U.S. law, Contractor hereby assigns all copyrights to such works to District. With the prior written approval of District, Contractor may retain and use copies of such works for reference and as documentation of its experience and capabilities.

14. MODIFICATIONS OF CONTRACT DOCUMENTS**A. Alterations, Modifications And Force Account Work**

1. As provided in the latest edition of Part 1 of Title 24, California Code of Regulations, no modification or deviation from the DSA approved Drawings and Specifications will be permitted except by written addenda, written Change Order or written Supplemental Instruction. As appropriate, Change Orders are subject to approval by the Division of State Architect. Refer to section 4-338, Part 1, Title 24, California Code of Regulations. Contractor shall aggressively plan and schedule its work, and coordinate with District and DSA, schedule RFI's and work inspections and progress, to avoid any delays or disruptions to the Work resulting from DSA requirements.
2. District may, without notice to the sureties, make alterations, deviations, additions to, or deletions from Contract Documents; increase or decrease the quantity of any item or portion of the Work; expand, contract or otherwise change the Contract Time; delete any item or portion of the Work; and require extra Work. Contractor shall perform such Work under applicable provisions of the Contract Documents, unless specifically provided otherwise at the time the change is ordered. As appropriate, such Change Orders are subject to approval by DSA. Refer to Section 4-338, Part 1, Title 24, California Code of Regulations. In the case of any ordered extra Work, District reserves the right to furnish all or portions of associated labor, material, and equipment, which Contractor shall accept and use without payment for costs, markup, profit, or otherwise for such District-furnished labor, materials, and equipment.
3. District may make changes to the Work during the course of construction to bring the Work into compliance with environmental requirements or standards established by state and federal statutes and regulations enacted after the Contract has been awarded. Contractor shall be compensated for changes affecting the Contract Time or Contract Sum of the Work as set forth in this Article 14 and in Section 01 26 00 (Modification Procedures).
4. Changes affecting the Contract Time or Contract Sum of the Work shall be set forth in a written Change Order that shall specify:
 - a. The Work performed in connection with the change to be made;
 - b. The amount of the adjustment of the Contract Sum, if any, and the basis for compensation for the Work ordered; and
 - c. The extent of the adjustment in the Contract Time, if any.
5. A Change Order will become effective when signed by District. If District exercises its right to decide disputed issues pertaining to changed Work as set forth in Articles 12 and 14 of this Document 00 71 00, then the resulting Change Order shall be effective when signed by District, notwithstanding that Contractor has not signed it.
6. Changes not affecting the Contract Time or Contract Sum of the Work, in District's discretion, may be set forth in a written RFI-Reply executed by District. Execution of such an RFI-Reply constitutes Contractor's agreement to make the specified change without change to the Contract Sum or the Contract Time.

7. Changes or deviations from Contract Documents affecting the Contract Time or Contract Sum of the Work shall not be made without the authority of an effective Change Order or Construction Change Directive as provided in Section 01 26 00 (Modification Procedures), except in cases of emergency discussed in this Document 00 71 00.
8. If changes ordered in design, workmanship or materials are of such a nature as to increase or decrease the cost of any part of the Work, the price fixed in the Contract Documents shall be increased or decreased by the amount that Contractor and District may agree upon as a reasonable and proper allowance for the cost increase or decrease. If an agreement cannot be reached, then District will reach a determination, which shall be final, subject to Contractor's rights under Article 12 of this Document 00 71 00. In all cases Contractor shall perform the changed Work as directed by District subject to Contractor's rights under Article 12 of this Document 00 71 00.
9. Contractor shall, upon District's request, permit inspection of the original unaltered Bid estimate, subcontract agreements, purchase orders relating to the change, and documents substantiating all costs associated with its cost Bid or claims arising from changes in the Work.
10. Changes in the Work made pursuant to this Article 14 and extensions of Contract Time necessary by reason thereof shall not in any way release the guarantees and warranties given by Contractor pursuant to provisions of the Contract Documents, nor shall such changes in the Work relieve or release the Sureties of bonds executed pursuant to said provisions. The Sureties, in executing such bonds, shall be deemed to have expressly agreed to any such change in the Work and to any extension of time made by reason thereof.
11. Procedures for Modifications of Contract Documents and for calculating the cost of extra Work are given in Section 01 26 00 (Modification Procedures). Regarding delay and impact costs of any nature, Contractor may not seek delay compensation for on-Site or off-Site costs based on formulas, e.g., "Eichlay" or other formula. Rather, Contractor shall prove actual costs resulting from such delays. If Contractor requests compensation for delay to the construction, then Contractor shall prove and document actual costs plus markup per the cost categories and procedures in Section 01 26 00 (Modification Procedures) in order to request, claim or prove compensation for delay.
12. A performance bond rider covering changed Work must be executed before proceeding with the changed Work.

B. Entitlement to Change Of Contract Time

1. Contract Time may only be changed by Change Order or by Contract Modification, and all time limits stated in the Contract Documents are of the essence of Contract Documents.
2. Contract Time will be adjusted in an amount equal to the time lost due to:
 - a. Changes in the Work ordered by District;
 - b. Acts or neglect by District, Architect/Engineer, any District representative, utility owners or other contractors performing other work, provided that Contractor has fully and completely performed its responsibilities under the Contract Documents;
 - c. District ordered suspension, delay or interruption of Work which is otherwise compensable as provided in paragraph 13.D above; or
 - d. Fires, floods, epidemics, abnormal weather conditions beyond the parameters otherwise set forth in this subparagraph, earthquakes, civil or labor disturbances, strikes or acts of God, provided damages resulting therefrom are not the result of Contractor's failure to protect the Work as required by Contract Documents.
3. Contract Time shall not be extended for any cause identified immediately above, however, unless:
 - a. Contractor actually has been prevented from completing any part of the Work within the Contract Time due to delay that is beyond Contractor's control and due to reasons for which Contractor is not responsible (delays attributable to and within the control of a Subcontractor, or its subcontractors, or supplier shall be deemed to be delays within the control of Contractor);
 - b. A claim for delay is made as provided herein; and
 - c. Contractor submits a Time Impact Evaluation as required under Section 01 32 16 (Progress Schedules and Reports) that demonstrates actual delay to critical Work activities that actually delay the progress of the Work in the amount of time requested.

C. Notice Of Delay

Within seven Days of the beginning of any delay, Contractor shall notify District in writing, by submitting a notice of delay, describing all anticipated delays resulting from the delay event in question. Any request for extension of time include a written schedule document that demonstrates delay to the critical path using a Time Impact Evaluation as specified in Section 01 32 16 (Progress Schedules and Reports). District will determine all claims and adjustments in the Contract Time. No claim for an adjustment in the Contract Time will be valid and such claim will be waived if not submitted in accordance with the requirements of this subparagraph.

D. Non-Compensable Time Extensions; Adverse Weather Parameters

1. Where Contractor is prevented from completing any part of the Work within the Contract Time due to delay beyond the control of both District and Contractor (including, but not limited to, adverse weather conditions exceeding Contract Documents parameters, earthquakes, Acts of God, epidemics, and acts of other contractors or utilities) an extension of Contract Time, in an amount equal to the time lost due to such delay (without compensation) shall be Contractor's sole and exclusive remedy for such delays.
2. Delays due to abnormal or adverse weather conditions will not be allowed for weather conditions that fall within the parameters listed or referenced in this subparagraph. Adverse weather delays may be allowed only if the number of workdays of adverse weather exceeds these parameters first on a monthly basis and second on a cumulative annual basis, and Contractor proves that the adverse weather actually caused delays to work on the critical path. Contractor shall give written notice of intent to claim an adverse weather day within one Day of the adverse weather day occurring. Rain parameters are identified in Document 00 73 00 (Supplementary Conditions), pro-rated in the individual month Contractor starts and finishes Work.
3. In order to qualify as an adverse weather delay with respect to the foregoing parameters, daily rainfall must exceed .1 of an inch or more at the station identified in Document 00 73 00, as measured by the National Oceanic & Atmospheric Administration, and Contractor shall prove that the rain actually caused delay to the Work, following the procedures in this subparagraph and the Contract Documents. Notwithstanding the foregoing allowances, Contractor shall at all times employ all available mitigation measures to enable Work to continue. Delays due to abnormal or adverse weather conditions will not be allowed for weather conditions that fall within the parameters listed above.
4. Contractor shall include the foregoing precipitation parameters as a monthly activity in its progress schedule. As Work on the critical path is affected by precipitation, Contractor shall notify District and request that the days be moved to the affected activities. Any adverse weather days remaining shall be considered Project float.
5. Adverse weather delay for precipitation shall be recognized for the actual period of time Contractor proves it was delayed by precipitation exceeding the specified parameters. For example, and not by way of limitation, if precipitation exceeding the specified parameters does not in fact delay Contractor's progress on the critical path, then no time extension shall be recognized; and conversely, if Contractor proves to District's satisfaction that precipitation exceeding the specified parameters causes delay to Contractor for a period longer than the number of precipitation days incurred (e.g., if it rains or snows during grading work), then Contractor shall be entitled to a time extension equal to the actual period of such delay.
6. Contractor shall take reasonable steps to mitigate potential weather delays, such as dewatering the Site, and covering Work and material that could be affected adversely by weather. Failure to do so shall be cause for District to not grant a time extension due to adverse weather, where Contractor could have avoided or mitigated the potential delay by exercising reasonable care.

E. Compensable Time Extensions

1. Contractor may receive a time extension and be compensated for delays caused directly and solely by District or, except as provided in subparagraph 3.b below, DSA. Provided Contractor provides proper notice and documentation under Section 01 32 16, such compensation may include extended field or home office overhead, field supervision, escalation charges, acceleration costs and extended subcontractor costs.

2. Contractor shall not be entitled to any time extension or compensation, however, for any delays caused in whole or in part by Contractor's failure to perform its obligations under the Contract Documents, or during periods of delay concurrently caused by Contractor and either District or others.
3. Contractor shall not be entitled to damages for delay to the Work caused by the following reasons:
 - a. District's right to sequence the Work in a manner which would avoid disruption to District's tenants and their contractors or other prime contractors and their respective subcontractors, exercised as a result of Contractor's failure to perform its cooperation and coordination responsibilities required by Contract Documents; District's enforcement of any government act or regulation; or the provisions of the Contract Documents;
 - b. Extensive requests for clarifications to Contract Documents or Contract Modifications thereto, provided such clarifications or Contract Modifications are processed by District or its consultants in a reasonable time commensurate with Contract Documents requirements.

F. Liquidated Damages

1. Time is of the essence. Execution of Contract Documents by Contractor shall constitute acknowledgement by Contractor that Contractor understands, has ascertained and agrees that District will actually sustain damages in the amount fixed in the Contract Documents for each and every Day during which completion of Work required is delayed beyond expiration of time fixed for completion or extensions of time allowed pursuant to provisions hereof. Contractor and District agree that specified measures of liquidated damages shall be presumed to be the damages actually sustained by District as defined below, and that because of the nature of the Project, it would be impracticable or extremely difficult to fix the actual damages.
2. Liquidated damages shall be considered not as a penalty but as agreed monetary damage sustained by District for increased Project administration expenses, including extra inspection, construction management and architectural and engineering expenses related to the Project and Contract Documents because Contractor failed to perform and complete Work within time fixed for completion or extensions of time allowed pursuant to provisions hereof. Except as otherwise provided in Document 00 73 00 (Supplementary Conditions), liquidated damages shall also include lost revenues, interest expenses and cost of substitute facilities. However, liquidated damages shall not be deemed to include within their scope additional damages or administrative costs arising from Defective Work, cost of completion of the Work, claims and fines of regulatory agencies, damages suffered by others or other forms of liability claimed against District as a result of delay (e.g., delay or delay related claims of other contractors, subcontractors or tenants), and defense costs thereof. Contractor shall be fully responsible for the actual amount of any such damages it causes, in addition to the liquidated damages otherwise due District.
3. District may deduct from any money due or to become due to Contractor subsequent to time for completion of entire Work and extensions of time allowed pursuant to provisions hereof, a sum representing then-accrued liquidated damages. Should Contractor fall behind the approved Progress Schedule in circumstances where it is substantially likely that District will be entitled to assess liquidated damages, District may deduct liquidated damages based on its estimated period of late completion. District need not wait until Final Completion to withhold liquidated damages from Contractor's progress payments. Should money due or to become due to Contractor be insufficient to cover aggregate liquidated damages due, then Contractor forthwith shall pay the remainder of the assessed liquidated damages to District.

G. Differing Site Conditions

1. In the event that Contractor encounters underground conditions that exceed the scope of the Work, then Contractor shall promptly give District written notice of the condition, and shall give such notice before the conditions are disturbed, to include: (1) material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law, and is not within the scope of Work; (2) subsurface or latent physical conditions at the Site differing from those indicated by information about the Site made available to Contractors prior to the deadline for submitting Bids, that Contractor did not and could not have

known about by performing its required pre-Bid investigations; or (3) unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for the contract, that Contractor did not and could not have known about by performing its required pre-Bid investigations.

- a. District shall promptly investigate the conditions, and if it finds that (i.) the conditions do materially so differ in a manner Contractor did not anticipate and could not have anticipated, or do involve hazardous waste outside the scope of the Work, and (ii.) cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work, then (iii.) District shall initiate a change order under the procedures described in the Contract, including but not limited to, issuing either a Request for Proposal or a Construction Change Directive under the procedures described in the Contract Documents, including without limitation Section 01 26 00 (Modification Procedures).
 - b. If District determines that physical conditions at the Site are not Latent or are not materially different from those indicated in Contract Documents or do not involve hazardous waste, or that Contractor should have anticipated the same through its required pre-Bid investigations, or for any other reason that that no change in terms of the Contract Documents is justified, District will so notify Contractor in writing, stating reasons.
 - c. In the event that a dispute arises between District the Contractor whether the conditions do materially so differ, or involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all Work to be performed under the Contract. The Contractor shall retain any and all rights provided either by Contract or by law which pertain to the resolution of disputes and protests between contracting parties.
2. Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed hazardous waste or materials, claimed Latent or materially different Site conditions (whether above or below grade) if:
- a. Contractor knew of the existence of such conditions at the time Contractor submitted its Bid; provided, that this requirement shall not apply if the condition results from the District's failure to timely address a known condition which is expressly outside the scope of Contractor's Work;
 - b. Contractor should have known of the existence of such conditions at the time Contractor submitted its Bid, or should have learned of such conditions and mitigated their impact, as a result of having complied with the requirements of Contract Documents, including without limitation, the investigation requirements herein at Articles 2 and 10 of Document 00 71 00;
 - c. The information or conditions claimed by Contractor to be Latent or materially different consist of information, conclusions, opinions or deductions made from underground conditions reports, of the kind that this Document 00 71 00 precludes reliance upon; or,
 - d. Contractor was required to give written notice and failed to do so within the time required.
3. If, because of a differing site condition as defined herein, Contractor does not agree to continue with the Work based on a reasonable belief that it is unsafe, or does not agree to resume Work under special conditions, District may order the disputed portion of Work deleted from the Work, or performed by others, or District may invoke its right to terminate Contractor's right to proceed under the Contract Documents in whole or in part, for convenience or for cause as the facts may warrant. If Contractor does not agree with District's determination of any adjustment in the Contract Sum or Contract Time as a result, Contractor may make a claim as provided in Article 12 of this Document 00 71 00.

H. Change Orders Related to Underground Facilities.

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated in the materials supplied by District or in information on file at USA or is not otherwise reasonably known to Contractor by performing its obligations in Articles 2 and 10 of this Document 00 71 00, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby (and in no event later than seven Days), and prior to performing any Work in connection therewith (except in an emergency as required by Article 15 of this Document 00 71 00), identify the owner of such Underground Facility and give written notice to that owner and to District. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. Contractor shall be allowed an increase in the Contract Sum or an extension of the Contract Time, or both, for Underground Facilities either not shown or inaccurately shown in the Contract Documents, the information supplied pursuant to Document 00 31 19 (Reports, Surveys and Existing Conditions) or in information on file at USA, only where the inaccuracy was (i.) material and outside of the normal experience on projects of this nature, (ii.) was not reasonably inferable from existing information, and (iii.) directly results in a material, justifiable and actual increase in the cost of Contractor's work. For example, if surface conditions such as pavement repairs, valve covers, or other markings, indicate the presence of an Underground Facility, or if the Underground Facility could be determined or its cost impact mitigated by performing the obligations in Articles 2 and/or 10 of this Document 00 71 00, then an increase in the Contract Price or an extension of the Contract Time will not be due, even if the Underground Facility was not indicated or was shown at a different place or a different elevation in the Contract Documents, in the information supplied to Contractor pursuant to Document 00 31 19 (Reports, Surveys and Existing Conditions), or in information on file at USA.
3. Main Line and Trunk Line Utilities (Government Code Section 4215). Consistent with Government Code Section 4215, as between District and Contractor, District will be responsible for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Site only if such utilities are not identified in the Contract Documents or Document 00 31 19 (Reports, Surveys and Existing Conditions). District will compensate for the cost of locating and repairing damage not due to Contractor's failure to exercise reasonable care, removing and relocating such main or trunk line utility facilities not indicated in the Contract Documents or Document 00 31 19 (Reports, Surveys and Existing Conditions) with reasonable accuracy, and equipment on the Project necessarily idled during such work.

15. WORKING CONDITIONS AND PREVAILING WAGES

A. Use Of Site/Sanitary Rules

1. All portions of the Work shall be maintained at all times in neat, clean and sanitary condition. Contractor shall furnish toilets for use of Contractor's and Subcontractors' employees on the Site where needed, and their use shall be strictly enforced. All toilets shall be properly secluded from public observation, and shall be located, constructed and maintained subject to District's approval.
2. Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Site and land areas identified in and permitted by Contract Documents and other land and areas permitted by applicable laws and regulations, rights of way, permits and easements or as designated by District, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, any improvement located thereon, or to the owner or occupant thereof resulting from the performance of Work.
3. During the progress of the Work, Contractor shall keep the Site and the Project free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, Contractor shall remove all waste materials, rubbish and debris from and about the Site as well as all tools, appliances, construction equipment and machinery and surplus materials. Contractor shall leave the premises clean and ready for occupancy by District at Substantial Completion of Work. Contractor shall restore to original condition all property not designated for alteration by Contract Documents.
4. Contractor shall not load nor permit any part of any structure or pavement to be loaded in any manner that will endanger the structure or pavement, nor shall Contractor subject any part of Work or adjacent property to stresses or pressures that will endanger it. Contractor shall conduct all necessary existing conditions investigation regarding structural, mechanical, electrical or any other system existing, shall perform Work consistent with such existing conditions, and shall have full responsibility for insufficiencies or damage resulting from insufficiencies of existing systems, equipment or structures to accommodate performing the Work.

B. Protection Of Work, Persons, Property And Operations

1. Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with Work. Contractor shall comply with all safety requirements specified

in any safety program established by District, or required by state, federal or local laws and ordinances. Contractor shall be responsible for all damage to Work, property or structures, all injuries to persons, and all damage and interruptions to District's operations, arising from the performance of Work of the Contract Documents. Except as otherwise expressly approved by District in writing, Contractor shall at all times perform all Work in a manner which does not interrupt, damage or otherwise adversely impact any facilities, operations, or real or personal property of District, its officers, employees, agents, invitees, licensees, lessees or contractors.

2. Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property.
3. Contractor shall remedy all damage, injury, loss or interruption to any property or operations of District or contiguous property owners, caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, supplier, or any other person or organization directly or indirectly employed by any of them to perform or furnish any Work or anyone for whose acts any of them may be liable. Contractor's duties and responsibility for safety and for protection of Work shall continue until such time as all the Work is completed and Final Acceptance of the Work. District and its agents do not assume any responsibility for collecting any indemnity from any person or persons causing damage to Contractor's Work. Contractor shall give all notices required by potentially responsible insurance carriers and require that its Subcontractors and suppliers do the same.
4. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
5. District may, at its option, retain such moneys due under the Contract Documents as District deems necessary until District receives satisfactory evidence that any and all suits or claims against Contractor for injury to persons, property or operations are either settled, or adequately provided for (such as by insurance or otherwise).

C. Responsibility For Safety And Health

1. Contractor shall ensure that its and each tier of Subcontractors' employees, agents and invitees comply with applicable health and safety laws while at the Site. These laws include the Occupational Safety and Health Act of 1970 and rules and regulations issued pursuant thereto, and District's safety regulations as amended from time to time. Contractor shall comply with all District directions regarding protective clothing and gear.
2. Contractor shall be fully responsible for the safety of its and its Subcontractors' employees, agents and invitees on the Site. Contractor shall notify District, in writing, of the existence of hazardous conditions, property or equipment at the Site that are not under Contractor's control. Contractor shall be responsible for taking all the necessary precautions against injury to persons or damage to the property of Contractor, Subcontractors or persons from recognized hazards until the responsible party corrects the hazard. Contractor shall provide protective clothing and gear to all visitors to the Site.
3. Contractor shall confine all persons acting on its or its Subcontractors' behalf to that portion of the Site where Work under the Contract Documents is to be performed: District designated routes for ingress and egress thereto and any other District designated area. Except those routes for ingress and egress over which Contractor has no right of control, within such areas, Contractor shall provide safe means of access to all places at which persons may at any time have occasion to be present.

D. Emergencies

In emergencies affecting the safety or protection of persons or Work or property at the Site or adjacent thereto, Contractor, without special instruction or authorization from District, is obligated to act to prevent threat and damage, injury or loss, until directed otherwise by District. Contractor shall give District prompt written notice if Contractor believes that any significant changes in Work or variations from Contract Documents have been caused thereby. If District determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Change Order or Construction Change Directive will

be issued to document the consequences of such action. Emergency contact names & phone numbers, where Contractor's Superintendent and Project Manager can be reached at any time, are to be provided to the District, within 10 days after issuance of a Notice to Proceed with Construction.

E. Use Of Roadways And Walkways

Contractor shall not unnecessarily interfere with use of any roadway, walkway or other facility for vehicular or pedestrian traffic. Before beginning any interference and only with District's prior concurrence, Contractor may provide detour or temporary bridge for traffic to pass around or over the interference, which Contractor shall maintain in satisfactory condition as long as interference continues. Unless otherwise provided in the Contract Documents, Contractor shall bear the cost of these temporary facilities.

F. Nondiscrimination

No person or entity shall discriminate in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sexual preference, or gender of such persons, except as provided in Section 12940 of the Government Code. Every Contractor for public works violating the provisions of Section 1735 of the Labor Code is subject to all the penalties imposed for a violation of Chapter 1, Part 7, Division 2 of the Labor Code.

G. Prevailing Wages

1. Contractor shall pay to persons performing labor in and about Work provided for in the Contract Documents an amount equal to or more than the general prevailing rate of per diem wages for (1) work of a similar character in the locality in which the Work is performed and (2) legal holiday and overtime work in said locality. The per diem wages shall be an amount equal to or more than the stipulated rates contained in a schedule that has been ascertained and determined by the Director of the State Department of Industrial Relations and District to be the general prevailing rate of per diem wages for each craft or type of workman or mechanic needed to execute this Contract. Contractor shall also cause a copy of this determination of the prevailing rate of per diem wages to be posted at each Site.
2. Contractor shall forfeit, as a penalty to District, Fifty Dollars (\$50.00) for each laborer, workman, or mechanic employed in performing labor in and about the Work provided for in the Contract Documents for each Day, or portion thereof, that such laborer, workman or mechanic is paid less than the said stipulated rates for any work done under the Contract Documents by him or her or by any Subcontractor under him or her, in violation of Articles 1 and 2 of Chapter 1 of Part 7 of Division II of the California Labor Code. The sums and amounts which shall be forfeited pursuant to this subparagraph and the terms of the Labor Code shall be withheld and retained from payments due to Contractor under the Contract Documents, pursuant to this Document 00 71 00 and the Labor Code, but no sum shall be so withheld, retained or forfeited except from the final payment without a full investigation by either the State Department of Industrial Relations or by District. The Labor Commissioner pursuant to Labor Code Section 1775 shall determine the final amount of forfeiture.
3. Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of work or labor on Work provided for in the Contract, provision that Subcontractor shall pay persons performing labor or rendering service under subcontract or other arrangement not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the Work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed in the Labor Code.
4. Contractor stipulates that it shall comply with all applicable wage and hour laws, including without limitation Labor Code Section 1813. Failure to so comply, including without limitation Labor Code Section 1776, shall constitute a default under this Contract.
5. Contractor and its Subcontractors shall be responsible for compliance with Labor Code Section 1776.
 - a. Contractor and Subcontractors must keep accurate payroll records, showing the name, address, social security number, Work classification, straight time and overtime hours worked each Day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the Work of the Contract documents. Each payroll record shall contain or be verified by a written declaration as required by Labor Code Section 1776.

- b. The payroll records enumerated above must be certified and shall be available for inspection at all reasonable hours at the principal office of Contractor as required by Labor Code Section 1776.
 - (X) Contractor shall inform District of the location of records enumerated above, including the street address, city and county, and shall, within five working Days, provide a notice of a change of location and address.
 - (Y) Contractor or Subcontractor has 10 Days in which to comply subsequent to receipt of a written notice requesting the records enumerated above. In the event that Contractor or Subcontractor fails to comply with the ten-Day period, he or she shall, as a penalty to District on whose behalf the contract is made or awarded, forfeit \$25.00 for each calendar Day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. Contractor is not subject to a penalty assessment pursuant to this subparagraph due to the failure of a Subcontractor to comply with this subparagraph.
- c. Contractor shall also deliver certified payrolls to District with each Application for Payment as described in Section 01 29 00 (Measurement & Payment).

H. Environmental Controls

- 1. Contractor shall comply with all rules, regulations, ordinances, and statutes that apply to any work performed under the Contract Documents including, without limitation, any toxic, water and soil pollution controls and air pollution controls specified in Government Code, Section 11017 and as required by Bay Area Air Quality Management District, water quality Best Management Practices. Contractor shall be responsible for insuring that Contractor's employees, Subcontractors and the public are protected from exposure to airborne hazards or contaminated water, soil or other toxic materials used during or generated by activities on the Site or associated with the Project.

I. Shoring Safety Plan

- 1. At least five Days in advance of excavating any trench five feet or more in depth, Contractor shall submit to District a detailed plan showing the shoring, bracing and sloping design and other provisions to be made for worker protection from the hazard of caving ground during the excavation, as required by Labor Code Section 6705. A civil or structural engineer registered in California shall prepare and sign any plan that varies from the shoring system standards established by the State Construction Safety Orders.
- 2. During the course of Work, Contractor shall be responsible for determining where sloping, shoring, and/or bracing is necessary and the adequacy of the design, installation, and maintenance of all shoring and bracing for all excavation, including any excavation less than five feet in depth. Contractor will be solely responsible for any damage or injuries that may result from excavating or trenching. District's acceptance of any drawings showing the shoring or bracing design or work schedule shall not relieve Contractor of its responsibilities under this subparagraph.
- 3. DSA must review and approve shoring of structures prior to commencement of shoring operations. Contractor shall submit shoring design sufficiently in advance of the Work as necessary to avoid delay.
- 4. Cal/OSHA Permit. Contractor shall comply with Labor Code 6500 and shall obtain, as applicable, a permit as required by Cal/OSHA for each of the following:
 - a. Construction of trenches or excavations that are five feet or more in depth and into which a person is required to descend.
 - b. Construction or demolition of any building, structure, or scaffolding for falsework more than three stories high, or the equivalent height (36 feet).
 - c. Erection or dismantling of vertical shoring systems more than three stories high, or the equivalent height (36 feet).
 - d. The underground use of diesel engines in mines or tunnels.

END OF DOCUMENT

SECTION 00 73 00

SUPPLEMENTARY CONDITIONS**1. SUMMARY**

This document includes requirements that supplement the paragraphs of Document 00 71 00 (General Conditions).

2. SUPPLEMENT TO PARAGRAPH 7.1 GENERAL CONDITIONS, SECTION 00 71 00

For the purposes of this contract Johnnie Fudge is the District's Representative.

3. SUPPLEMENT TO 11.A.4 Prosecution & Progress of the Work

All work shall be coordinated with District Representative by the Contractor so as to mitigate and minimize impact to campus operations. For example (but not limited to), noisy disruptive work shall not be scheduled to occur during final examinations, commencement exercises, etc. Work likely to disrupt campus utility services, including but not limited to utility shut-downs and / or cut-overs shall be scheduled between semesters, over holiday periods or at other times that will insure continuous utility service to support college operational activities.

The Contractor is advised to consult the College's website, at <http://www.collegeofsanmateo.edu/calendar/events/> for any updates to the College activities and events.

4. SUPPLEMENT TO 11.E Contractor to Locate Underground Facilities

Before commencing work of digging trenches or excavation, Contractor shall meet with the College's Chief Facilities Engineer and the District's Information Technology staff to ascertain if the maintenance staff have knowledge of underground utilities in the vicinity of the trench or excavation, which are not shown on drawings or indicated by USA. Existing Load Center 8 is located on the project site adjacent to the Marie Curie parking lot 5 and it is the Contractor's responsibility to verify the location of underground utilities prior to commencement of work. Load Center 8 contains significant electrical equipment serving several occupied facilities on the campus and any disruption in service will cause significant impacts to college operations and instructional activities. The Contractor is responsible to identify and implement appropriate actions to safeguard, preserve and protect contractor's forces, the public and electrical service to the campus.

5. SUPPLEMENT TO 14.D Non-Compensable Time Extensions; Adverse Weather Parameters

Rain parameters are as follows, pro-rated in the individual month Contractor starts and finishes Work: January, [8]; February, [5]; March, [6]; April, [3]; May, [1]; June, [0]; July, [0]; August, [0]; September, [0]; October, [2]; November, [5]; and December, [6].

In order to qualify as an adverse weather delay with respect to the foregoing parameters, daily rainfall must exceed .1 of an inch or more at the San Bruno or San Mateo, California station, as measured by the National Oceanic & Atmospheric Administration.

6. Supplement to Paragraph 1.4.A SITE SECURITY AND SAFETY, SECTION 01 56 00

For this project the Contractor's employee parking area is:

- a. Within the project site (Marie Curie lot 5) and if required, areas within the Galileo lot 6 designated and approved by the District
- b. Refer to Section 00 21 15 Project Site Campus Map
- c. Fire access road from Marie Curie Lot 5 and between North Hall Building 18 and Science Building 36 must remain accessible for emergency access during construction.
- d. Refer to Section 00 21 15 Project Site Campus Map

7. Supplement to Paragraph 1.9 SITE SECURITY AND SAFETY, SECTION 01 56 00

- a. On a project by project basis, Contractor shall ascertain presence of hazardous materials, including but not limited to lead based paint, asbestos containing building materials, and other potentially hazardous substances. Contractor shall establish safety protocols concerning such materials.

8. SUPPLEMENT TO PARAGRAPH 15.G GENERAL CONDITIONS, SECTION 00 71 00

- 6. Contractor and all Subcontractors identified in Contractor's Subcontractors' List are a Department of Industrial Relations registered contractor pursuant to Labor Code §1725.5. At all times during the performance of all Work, the Contractor and all Subcontractors, of any tier, shall be DIR Registered Contractors.

End of Document

SECTION 00 73 17
INSURANCE

PART 1 GENERAL

1.0 Section Includes

1. Introduction and Owner-Controlled Insurance Program (OCIP) Overview
2. Attachment A: Statewide Educational Wrap Up Program (SEWUP) Contractual Provisions and Forms

1.1 Introduction and Owner-Controlled Insurance Program (OCIP) Overview

The District has elected to implement an Owner Controlled Insurance Program (“OCIP”). The District agrees to pay all premiums associated with the OCIP and will be the sole recipient of any dividend(s) and/or return premium(s) generated by the OCIP. Contractor’s / Subcontractor’s bid shall exclude any and all costs for insurance coverage provided under the OCIP.

The OCIP will provide Workers’ Compensation, Employer’s Liability, General Liability, Excess Liability (if applicable), Contractors’ Pollution Liability, and Builders Risk insurance for eligible Contractors/Subcontractors providing direct, **on-site** labor to the District’s Project, hereinafter called the “Project”. Coverage provided by the OCIP is project site specific. The Project Site consists of any and all projects that are endorsed to this policy, which includes the:

1. Ways and means adjoining the endorsed project site.
2. Adjacent locations to the endorsed projects sites where incidental operations are being performed, excluding permanent locations.

Off-site locations, labor and operations are not covered by the OCIP. It will be the responsibility of each contractor / subcontractor to maintain off-site insurance, as identified in Paragraph 3.0, which specifies coverage types and minimum limits. **Contractors/subcontractors are also required to provide Automobile Liability coverage for both on-site and off-site activities.**

Keenan & Associates, herein after called “Program Administrator”, shall administer the OCIP on behalf of the District. All Contractors/Subcontractors are required to cooperate with the District and its Program Administrator in all aspects of administering the OCIP. The Program Administrator’s contact information is as follows:

Keenan & Associates

SEWUP Department

2355 Crenshaw Blvd., Ste. #200

Torrance, CA. 90501

Attention: Ms. Sandra Nottingham, OCIP Program Administrator Representative

Phone: (310) 212-0363 ext. 2006

E-mail: snottingham@keenana.com

1.2 NOT USED

ATTACHMENT A: SEWUP CONTRACTUAL PROVISIONS AND FORMS FOLLOW THIS PAGE

Attachment A

OWNER CONTROLLED INSURANCE PROGRAM (OCIP)

1.1 INTRODUCTION

The District, hereinafter called the “Owner” has elected, at its sole discretion, to implement an Owner Controlled Insurance Program (“OCIP”) under the Statewide Educational Wrap Up Program (“SEWUP”). The SEWUP Joint Powers Authority (“JPA”) will be providing the OCIP on behalf of the Owner. All terms and conditions of the SEWUP Contractual Provisions will apply during the term of the contract.

The SEWUP JPA will provide Workers’ Compensation, Employer’s Liability, General & Excess Liability, Contractor’s Pollution Liability, and Builder’s Risk insurance for all Enrolled Contractors (and their Enrolled Subcontractors of every tier) and other designated parties for work performed at the Project Site (hereinafter called “Project”). The Owner agrees to pay all premiums associated with the OCIP, unless otherwise stated in this section and in other contract documents.

Insurance coverage provided under the OCIP is limited in scope and specific to Work performed after the inception date of enrollment into the OCIP. Labor and ongoing operations related to offsite locations are **not** covered by the OCIP. In addition to any insurance provided by the Owner, all Contractors/Subcontractors will be responsible for providing certain insurance as specified in Section 1.7. The Owner recommends that Contractors discuss the OCIP with their insurance agents, brokers or consultants to assure that other proper coverages are maintained, prior to contract acceptance.

Keenan & Associates, hereinafter called “Program Administrator”, shall administer the OCIP on behalf of the SEWUP JPA. At all times, all Contractors/Subcontractors, shall (a) cooperate with Owner, Program Administrator, and all OCIP insurers, as applicable, and their respective consultants, agents and representatives, in its or their administration of the OCIP and all other terms and conditions described herein and (b) comply with the terms, conditions, warranties, and subjectivities of the insurance policies provided pursuant to the OCIP, including, without limitation, any and all directives and requirements of Owner’s and the OCIP insurers’ respective consultants, agents and representatives, including, without limitation, any directive or requirement relating to loss control, and quality control, and the closure to Owner’s satisfaction of open items on any and all quality control checklists and inventories.

A. Participation in the OCIP

Participation in the OCIP is mandatory but not automatic. Each Eligible Contractor/Subcontractor must follow the guidelines, as specified in section 1.5.

Enrollment (Definition): An Eligible Contractor/Subcontractor is considered Enrolled once the all required documents are received, reviewed and processed by the OCIP Program Administrator and insurer. Enrollment form (Exhibit A) must be submitted with Declarations pages, including proof of rates from your current policies; in addition to Certificate of Insurance evidencing Workers’ Compensation, General Liability, Excess/Umbrella Liability if applicable, and Auto Liability coverage. Evidence of Auto Liability should include an endorsement naming the District as an additional insured (see Sections 1.7 and 1.8)

Contractor (Definition): Includes all vendors, suppliers, businesses, persons, or entities and entities which the Owner has engaged directly by contract to perform services relating to the Project.

Subcontractor (Definition): Includes all vendors’ suppliers, businesses, and other persons or entities that have been engaged by a Contractor to perform, or assist with the performance of, services relating to the Project.

Eligible (Definition): Includes all Contractors/Subcontractors providing direct labor on the Project, and excludes Ineligible Contractors, as defined below. Temporary labor services and leasing companies are to be treated as Eligible Contractors.

Ineligible (Definition): Includes, but is not limited to, consultants; suppliers who do not perform or do not subcontract installation; demolition that includes abatement and hazardous materials removal; vendors; materials dealers; surveyors; consultants; guard services; non-construction janitorial services; and truckers, including trucking to the Project where delivery is the only scope of work performed. However, if contracted with an on-site installer, suppliers/vendors should be enrolled in the OCIP only for General Liability, as it pertains to the contractual relationship of the installer's on-site work. Any party deemed an Ineligible Contractor, but who has direct labor on the Project, will be required to participate in the Project Safety Program (see Section 1.16). **Any questions regarding a Contractor's status as "Eligible" or "Ineligible" should be referred by written request to Owner and approved by the Program Administrator**

EACH CONTRACTOR/SUBCONTRACTOR MUST INCLUDE THIS DOCUMENT WITH THEIR BID SPECIFICATIONS TO ANY AND ALL SUBCONTRACTORS. Any contractor/subcontractor's failure to comply with the OCIP Administrator and all OCIP requirements shall be considered non-compliant under the contract.

Enrollment of each Contractor's eligible Subcontractors is mandatory. Contractor shall notify Owner and the Program Administrator in writing of the identity of each Subcontractor, and shall cause each Subcontractor to notify the Program Administrator in writing of the identity of each of its Sub-subcontractors, prior to such parties' commencement of their portion of the Work and prior to their entry onto the Project. Subcontractors shall not be deemed enrolled until the Program Administrator and OCIP insurers receive and approve a completed Contract Enrollment Form, for each awarded contract. Enrollment is required prior to commencement of on-site activities but no contractor shall be enrolled sooner than 30 days prior to their start date. Each Subcontractor shall be solely responsible for any and all losses, damages, claims, liabilities, and suits arising out of such Subcontractor's failure to enroll, or delay in enrolling, any of its Subcontractors.

Unless otherwise directed by the Owner, Ineligible Contractors and Subcontractors will be required to maintain their own insurance for both on-site and off-site activities and will be required to participate in the Project Safety Program. Minimum Insurance and endorsement requirements are located in Section 1.7 & 1.8.

B. Project Site and Offsite Premises

Coverages provided by the OCIP are **Project Site** specific. The Project Site shall be designated by the Owner. The Project Site consists of any and all projects that are endorsed to this policy, which includes the:

1. Ways and means adjoining the endorsed project site.
2. Adjacent locations to the endorsed projects sites where incidental operations are being performed, excluding permanent locations.

With the exception of 1 and 2 mentioned above, off-site locations, labor and ongoing operations are not covered by the OCIP. It will be the responsibility of each Contractor/Subcontractor to maintain off-site insurance, as identified in Section 1.7, which specifies coverage types and minimum limits. Contractor/Subcontractor will promptly furnish to the Owner, or its designated representative, Certificates of Insurance evidencing that all required insurance is in force.

1.2 PREQUALIFICATION & COST IDENTIFICATION

A. Contractor Pre-Qualification

Pursuant to Government Code Section 4420.5, Bidders must meet certain minimum standards. Contractors must meet minimum standards in order to bid on the Owners’ Project. The following qualification standards apply to ALL Bidding Contractors at time of bid opening:

1. **Have an average Workers’ Compensation Experience Modification Rate (EMR) of 1.25 or less over the last five (5) years.**
2. **Have Zero (0) Serious and Willful violations (Labor Code Section 6300) against them in the past five (5) years**
3. **Provide evidence of an Injury and Illness Prevention Program (IIPP).**

FAILURE TO MEET THESE MINIMUM STANDARDS SHALL DISQUALIFY THE BIDDER.

B. Contractor Insurance Cost Identification

Contractor’s base bid shall exclude any and all costs for insurance coverages provided under the OCIP. If insurance cost is not removed, the bidder may not qualify as the lowest responsive bidder. The Bidder declares under penalty of perjury under California law, that the base bid excludes any costs relating to any insurance coverages afforded under the OCIP and that each subcontractor to the Bidder has similarly excluded costs for any insurance coverage afforded under the OCIP.

C. Change Order Pricing

All Contractors/Subcontractors declare, under penalty of perjury under California law, that the change order is priced to exclude any costs relating to any insurance coverage afforded under the OCIP.

1.3 OWNER-PROVIDED INSURANCE COVERAGES

CONTRACTOR/SUBCONTRACTOR SHOULD REFER TO THE ACTUAL POLICIES FOR DETAILS CONCERNING COVERAGE, EXCLUSIONS, AND LIMITATIONS. IN THE EVENT OF ANY CLAIM OR QUESTION WITH REGARD TO COVERAGE PROVIDED BY THE OCIP, THE ORIGINAL POLICIES WILL PREVAIL AS THE SOLE BINDING AGREEMENT. OCIP POLICIES AND PROJECT INSURANCE MANUAL ARE AVAILABLE UPON WRITTEN REQUEST TO THE PROGRAM ADMINISTRATOR.

The OCIP is for the benefit of the Owner and all Enrolled Contractors/Subcontractors who have on-site employees. OCIP coverage applies only to Work performed under the contract at the Project (see Section 1.1, B for definition). All Contractors must provide their own insurance for Automobile Liability and off-site locations, labor, and operations.

Such policies or programs may be amended from time to time, and the terms of such policies or programs, as amended, are incorporated herein by reference.

The Contractors/Subcontractors enrolled in the OCIP agree that the OCIP policies’ limits of liability, coverage terms and conditions shall determine the scope of coverage provided by the OCIP.

A. Workers’ Compensation and Employer’s Liability Insurance, Will be provided in accordance with applicable state laws, to all Enrolled Contractors/Subcontractors, each as named insured, and issued an individual policy) reflecting the following Limits of Liability:

Workers’ Compensation:

- California Statutory Benefits

Employer’s Liability:

- \$1,000,000 Bodily Injury each Accident
- \$1,000,000 Bodily Injury by Disease – Policy Limit
- \$1,000,000 Bodily Injury by Disease – Each Employee

1. Deductible: None
2. Exclusions: The known exclusions for this coverage are set forth on the table attached as Exhibit B. This is a summary and may not be exhaustive. The policy language may contain additional exclusionary language, limitations or carve-backs that are not identified on the table. It is the responsibility of the Contractor/Subcontractor to review the policy for the complete details of all exclusions.
3. Policy Term: The master policy effective date is October 1, 2015. The policy term is one year, with automatic one-year renewals until the Project is completed. The policy is intended to remain in effect for duration of the contractor's contractual work. Warranty work and post contract repair work is excluded. Each Contractor/Subcontractor is insured under the policy for the length of its work at the Project.

B. General and Excess Liability Insurance is written on an "Occurrence" form under master liability policies. Certificates of Insurance will be provided to all enrolled Contractors/Subcontractors as named insured, with the total limits of liability reflecting the following:

- \$ 8,000,000 Bodily Injury and Property Damage Liability
- \$11,000,000 General Aggregate
- \$11,000,000 Products and Completed Operations
- 10 Years Completed Operations
- Limits are per Project

1. Deductible: None
2. Exclusions: The known exclusions for this coverage are set forth on the table attached as Exhibit B. This is a summary and may not be exhaustive. The policy language may contain additional exclusionary language, limitations or carve-backs that are not identified on the table. It is the responsibility of the Contractor/Subcontractor to review the policy for the complete details of all exclusions.
3. Policy Term:
 - a. The master policy effective date is October 1, 2015. The policy is intended to remain in effect for the length of the Project or a maximum of (3) three years, whichever comes first.
 - b. Ten years Products and Completed Operations coverage.

C. Contractor's Pollution Liability, is written on an "Occurrence" form under a master liability policy. Certificates of Insurance will be provided to all enrolled Contractors/Subcontractors, as named insured, reflecting the following Limits of Liability:

- \$5,000,000 Per Occurrence / \$5,000,000 Policy Aggregate
- Defense costs included within limits

1. \$10,000 Deductible per Occurrence
2. Contractor/Subcontractor shall be liable, at its expense; to the extent claims payable are attributable to their acts or omissions and/or the acts or omissions of its Subcontractors of any tier or any other entity or person for whom it may be responsible. The deductible amount shall not be reimbursed by the OCIP Insurance Program or the District.

3. Exclusions: The known exclusions for this coverage are set forth on the table attached as Exhibit B. This is a summary and may not be exhaustive. The policy language may contain additional exclusionary language, limitations or carve-backs that are not identified on the table. It is the responsibility of the Contractor/Subcontractor to review the policy for the complete details of all exclusions.
4. Policy Term: The master policy effective date is October 1, 2015. The policy is intended to remain in effect for the length of the Project or a maximum of (3) three years, whichever comes first.

D. Builder’s Risk coverage will be in place during the Course of Construction, at the Project. Such insurance shall be written on a repair or replacement cost basis, subject to exclusions, sublimits, property limitations and conditions. Such insurance shall include the interests of the Owner (as named insured) and enrolled Contractors/Subcontractors (as additional insured’s) during the Course of Construction. A deductible, which shall be determined by the type of construction, will apply to each occurrence. The deductible schedule is as follows:

New Construction & Renovation

Deductible	Number of Buildings or Structures per Project	Total Insured Value (TIV)	Construction Class
\$5,000 Deductible:	Projects with Single and Multiple Building(s) or Structure(s)	Up to \$15M	<ul style="list-style-type: none"> • Fire Resistive • Non Combustible • Masonry Concrete
	Projects with Multiple Building(s) or Structure(s)	Up to \$10M (No single building or structure greater than \$10mm in value)	<ul style="list-style-type: none"> • Joisted Masonry • Hybrid Construction
	Projects with No Vertical Construction (No Buildings or Structures)		<ul style="list-style-type: none"> • Grading - Site Prep Only • No Vertical Construction
\$10,000 Deductible:	Projects with Single and Multiple Building(s) or Structure(s)	\$15M to \$50M	<ul style="list-style-type: none"> • Fire Resistive • Non Combustible • Masonry Concrete
	Projects with Single Building or Structure	Up to \$25M	<ul style="list-style-type: none"> • Joisted Masonry • Hybrid Construction • Wood Frame
	Projects with Multiple Building(s) or Structure(s)	Up to \$10M (No single building or structure greater than \$10mm in value)	<ul style="list-style-type: none"> • Wood Frame
\$25,000*** Deductible:	Projects with Single and Multiple Building(s) or Structure(s)	\$50M & above	<ul style="list-style-type: none"> • Fire Resistive • Non Combustible • Masonry Concrete
	Single Building or Structure Projects	\$25M & above	<ul style="list-style-type: none"> • Joisted Masonry • Hybrid Construction • Wood Frame

*** Structural and Non Structural Renovation Projects with Single and Multiple Building(s) or Structure(s) – Deductibles are as per above categories, except in the event of Water Damage, where the deductible is \$25,000.

1. Contractor shall be responsible for the applicable deductible under the Districts builder’s risk insurance policy for damage to work of Contractor or any Subcontractor of any tier including damage to work of other Contractors caused by Contractor or its Subcontractors. The

applicable deductible amount shall not be reimbursed by the OCIP Insurance Program or the District.

2. Exclusions: The known exclusions for this coverage are set forth on the table attached as Exhibit B. This is a summary and may not be exhaustive. The policy language may contain additional exclusionary language, limitations or carve-backs that are not identified on the table. It is the responsibility of the Contractor/Subcontractor to review the policy for the complete details of all exclusions.
3. Special Conditions: All wood frame only projects are subject to **Protective Safeguards as shown in Exhibit C.**
4. Policy Term: The policy term is the term of the project.

E. OCIP Policies Establish OCIP Coverage. The insurance coverages, limits of liability, definitions, terms, conditions, exclusions and limitations contemplated in these contractual provisions and the other contract documents are set forth in full in the OCIP insurance policies. The summary descriptions of such policies in these contractual provisions, in the Project Insurance Manual, or in any other contract document or elsewhere are not intended to be complete or to alter or amend any provisions of the actual OCIP policies. To the extent, if any, such descriptions herein or therein conflict with any such insurance policies, the provisions of the actual insurance policies shall govern. To the extent there are any other conflicts between or among the provisions of such insurance policies, these contractual provisions, the contract documents, or the Project Insurance Manual, then in descending order, the insurance policies shall govern, followed by these contractual provisions, the contract, the other contract documents, then the Project Insurance Manual. Contractor/Subcontractor acknowledges that it has had the opportunity to review the insurance policies as provided in section 1.3, and that it is relying solely on the provisions set forth in the insurance policies, and not upon any oral or written statement or reference in these contractual provisions, any other contract document, the Project Insurance Manual, or otherwise.

1.4 OCIP CERTIFICATES AND POLICIES

All Enrolled Contractors/Subcontractors will receive their own Workers' Compensation policy. Certificates of Insurance will be furnished for General Liability, Excess Liability and Contractor's Pollution Liability coverages. Program Administrator will provide a copy of the OCIP policies upon written request. Such policies or programs may be amended from time to time and the terms of such policies or programs, as they may be amended, are incorporated herein by reference. Contractors/Subcontractors hereby agree to be bound by the terms of coverage, as contained in such insurance policies and/or self-insurance programs.

1.5 CONTRACTOR/SUBCONTRACTOR RESPONSIBILITIES

Participation in the OCIP is mandatory but not automatic. Each Eligible Contractor /Subcontractor must comply with the following:

A. Contractor Eligibility, see Section 1.1, **A** for definition.

B. Enrollment Compliance

An Eligible Contractor/Subcontractor is not enrolled until the Program Administrator and OCIP insurers receive and approve a completed *Contract Enrollment Form* (see Exhibit A), for each awarded contract. Enrollment is required prior to commencement of on-site activities but no contractor shall be enrolled sooner than 30 days prior to their start date. Evidence of Insurance for Contractor/Subcontractor-Provided Insurance Coverage (see Sections 1.7 and 1.8) is a requirement and must be submitted with the completed *Contract Enrollment Form*.

Any Contractor/Subcontractor who enrolls in the OCIP after their start date must provide a No-Known-Loss Letter to the Program Administrator, along with the enrollment documentation. Late Enrollment is not guaranteed and must be approved and accepted by the insurance carrier. Upon approval, the Program Administrator will provide evidence of OCIP coverage to the Contractor/Subcontractor, as noted in **Section 1.4**.

All Contractors/Subcontractors shall cooperate with, and require their Subcontractors to cooperate with, the Owner and the Program Administrator, in regards to the administration and operation of the OCIP.

C. Contractor/Subcontractor Compliance with Other Forms and Procedures

All Enrolled Contractors/Subcontractors are required to complete and submit the following forms:

1. Project Site Monthly Payroll Report

Project Site Monthly Payroll Reports (see Exhibit D) must be submitted to the Program Administrator on a monthly basis, until the completion of the contract. This report must summarize the unburdened payroll by Workers' Compensation Class Code. Certified payroll is not a requirement of the OCIP and cannot be accepted. If the Project Site Monthly Payroll Report is not submitted to Program Administrator on a monthly basis, the Construction Manager and/or Owner may withhold payment until the report is received. Contractor/Subcontractor agrees to keep and maintain accurate and classified records of their payroll for operations at the Project Site. This payroll information is submitted to the OCIP insurer. At the end of each contract, a carrier audit may be performed using the reported payroll and other supporting documents, as required by the California Workers Compensation Insurance Rating Bureau (WCIRB).

Workers' Compensation Insurance Rating Bureau Requirements

Once an Eligible Contractor/Subcontractor is enrolled into the OCIP, a separate Workers' Compensation Policy will be issued to them. All Enrolled Contractors/Subcontractors shall comply with the rules and regulations of the California Workers Compensation Insurance Rating Bureau (WCIRB).

2. Contractor's Completion Notice

Contractor's Completion Notice (see Exhibit E) must be submitted to the Program Administrator upon completion of work at the Project, which includes punch list items, but not warranty work. This form evidences all enrolled Contractors'/Subcontractors' actual start and completion dates, per each contract. This information is used to confirm that each Workers' Compensation Policy was issued with correct policy term dates, covering the Contractors/Subcontractors for the duration of their Work at the Project. This information is subsequently submitted to the Workers' Compensation Insurance Rating Bureau (WCIRB).

3. Project Insurance Manual

A Project Insurance Manual will be provided to all awarded Contractors/Subcontractors, which includes a Program Summary, Claims Reporting Instructions, Project Safety Guidelines, necessary forms, and contact information. Copies can be requested from the Program Administrator.

Contractor/Subcontractor Compliance with all aspects of the OCIP

All Contractors/Subcontractors further acknowledge and agree to comply fully and promptly with such safety, loss control, and quality control rules, requirements, and directives as may from time to time be promulgated by Owner, the Program Administrator and/or the OCIP insurers or any of its or their respective consultants, agents, or representatives. Nothing in this document or any other

contract document or in the Project Insurance Manual, shall be deemed to render Owner or any of its affiliates of any tier an employer of Contractor/Subcontractor or any of its Subcontractors or any of its or their personnel or employees. Failure to comply will be considered non-performance under the contract.

It is the obligation of each Eligible Contractor/Subcontractor to enroll in the OCIP and to comply with all of the administrative, notice, claim reporting, safety, loss control, quality control, insurance and other requirements set forth in these contractual provisions, in the OCIP insurance policies, in the Project Insurance Manual, and elsewhere in the contract documents. Contractor/Subcontractor shall provide each of its Subcontractors, among other things, with a copy of the Project Insurance Manual and a copy of these contractual provisions. Contractor/Subcontractor shall require in writing that each enrolling Subcontractor comply with, among other things, the provisions of the OCIP insurance policies, the Project Insurance Manual, and the contract documents. All such requirements shall be included in all subcontracts and sub-subcontracts with eligible parties. The failure of Contractor/Subcontractor or any other party to provide eligible Subcontractors with a copy of this document, the Project Insurance Manual, and/or all other applicable requirements shall not relieve any such Subcontractor of any of the obligations contained therein.

Contractor/Subcontractor shall keep and maintain accurate records and information in accordance with the requirements of the OCIP Insurer(s), the Project Administrator, the Project Insurance Manual, and the contract documents, and shall provide such records and information to Owner, the Program Administrator, and/or the OCIP insurers upon request.

1.6 OCIP DISCLAIMER

The Owner does not warrant or represent that the OCIP coverages constitute an insurance program that completely addresses all the risks of the Contractors/Subcontractors. Prior to the commencement of work under the contract, it is the responsibility of all Contractors/Subcontractors to ensure that the OCIP coverages provided sufficiently address their insurance needs. Any additional insurance coverage purchased will be at Contractor's/Subcontractor's option and sole expense.

1.7 REQUIRED CONTRACTOR/SUBCONTRACTOR PROVIDED INSURANCE COVERAGES

For any work under this contract, and until completion and final acceptance of the work by the Owner, the Contractors/Subcontractors shall, at their own expense, promptly furnish Certificates of Insurance evidencing that coverage is in force and any required Additional Insured Endorsements to the Owner, with a copy to the Program Administrator for the following coverages, before commencing work on the Project.

- A. Automobile Liability Insurance Requirements and Limits Are as Follows:** See Section 1.8 for Certificate Holder and Additional Insured Endorsement specifications. Automobile Liability Insurance must cover all vehicles owned by, hired by, or used on behalf of the Contractors/Subcontractors for both Project Site and off-site operations with the following minimum limits of liability:

Auto Liability Insurance Limits:

Enrolled Contractors/Subcontractors

<u>General/Prime Contractor</u>	<u>Subcontractor</u>	
\$2,000,000	\$1,000,000	Bodily Injury and Property Damage

Ineligible Contractors/Subcontractors – Not Enrolled

<u>General/Prime Contractor</u>	<u>Subcontractor</u>	
\$2,000,000	\$1,000,000	Bodily Injury and Property Damage

B. Workers’ Compensation and Employer’s Liability Insurance Limits:

Workers’ Compensation –Statutory Benefits - All States

Employer’s Liability:

\$1,000,000 Bodily Injury each Accident

\$1,000,000 Bodily Injury by Disease – Policy Limit

\$1,000,000 Bodily Injury by Disease – Each Employee

C. General Liability Insurance, minimum limits of liability are as follows:

Enrolled Contractors/Subcontractors

<u>General/Prime Contractor</u>	<u>Subcontractor</u>	
\$2,000,000	\$1,000,000	Bodily Injury and Property Damage
\$2,000,000	\$1,000,000	Per Occurrence
\$2,000,000	\$1,000,000	General Aggregate
\$2,000,000	\$1,000,000	Products/Completed Operations Aggregate
\$2,000,000	\$1,000,000	Personal/Advertising Injury Aggregate

Ineligible Contractors / Subcontractors – Not Enrolled

<u>General/Prime Contractor</u>	<u>Subcontractor</u>	
\$2,000,000	\$1,000,000	Bodily Injury and Property Damage
\$2,000,000	\$1,000,000	Per Occurrence
\$2,000,000	\$1,000,000	General Aggregate
\$2,000,000	\$1,000,000	Products/Completed Operations Aggregate
\$2,000,000	\$1,000,000	Personal/Advertising Injury Aggregate

D. Professional Liability Insurance: If Contractor’s/Subcontractor’s work requires design and/or design-assist services, or Contractor/Subcontractor performs professional services of any kind, Contractor/Subcontractor shall purchase and maintain, at its sole cost and expense, Professional Liability (Errors and Omissions) insurance for all professional services provided. This Professional Liability insurance shall include full prior acts coverage sufficient to cover the services under this agreement, with the following minimum limits of liability:

\$2,000,000 per Claim/Annual Aggregate

Deductible or self-insured retention amount must not be greater than \$100,000 per claim, including coverage of contractual liability.

Professional Liability Insurance is to be maintained during the term of the contract and for so long as the insurance is reasonably available as provided herein, for a period of ten (10) years after completion of the services.

E. Environmental and Asbestos Abatement Coverages: If the Contractor’s/Subcontractor’s scope of work involves the removal of asbestos, the removal/replacement of underground tanks, or the removal of toxic chemicals and substances, the Contractor/Subcontractor will be required to provide the following minimum limits of liability, for such exposures subject to requirements and approval of the Owner:

\$1,000,000 per Claim/Aggregate

F. Aircraft or Watercraft Liability Insurance: If any Contractor/Subcontractor requires the use of Aircraft or Watercraft at the Project Site, the Contractor/Subcontractor shall purchase and maintain, or cause the operator of the Aircraft or Watercraft to purchase and maintain, Aircraft or Watercraft liability insurance. This must insure passengers and the General Public against personal injury, bodily injury or property damage arising out of the ownership, maintenance, use or entrustment to others. It includes Aircraft or Watercraft owned or operated by or rented or loaned to any insured. Use includes operation and “loading or unloading”. Contractor/Subcontractor will be required to provide the following minimum limits of liability, for such exposures subject to requirements and approval of the Owner:

\$5,000,000 per Claim/Aggregate

1.8 REQUIRED CONTRACTOR/SUBCONTRACTOR CERTIFICATES OF INSURANCE AND ADDITIONAL INSURED ENDORSEMENTS

Certificates of Insurance and Additional Insured Endorsements acceptable to the Owner and Program Administrator must be filed with the Owner within ten (10) days after award of the contract to all Contractors/Subcontractors and prior to commencement of on-site activities.

All required insurance shall be maintained, without interruption, from the date of commencement of on-site activities, until the date of the final payment or expiration of any extended period, as set forth in this agreement. These certificates and additional insured endorsements required by Section 1.7 and 1.8 shall provide not less than thirty (30) days prior written notice to the Owner, with a copy to the Program Administrator, of any material change in the insurance, cancellation, or non-renewal.

Certificates of Insurance, the Project must be identified on the Certificate of Insurance in the “Description of Operations/Locations/Vehicles/Special Items” section. The Certificates of Insurance should name District, as the Certificate Holder, as specified below:

Certificate Holder: San Mateo County Community College District

c/o Statewide Educational Wrap Up Program (SEWUP)
2355 Crenshaw Blvd., Suite 200
Torrance, CA 90501

Additional Insured Endorsements: The Owner must be specifically named on the Schedule of an Additional Insured Endorsement, under the section titled, “Name of Person or Organization”, as specified below:

1. All Contractors/Subcontractors must provide an additional insured endorsement for automobile liability.
2. Ineligible Contractors/Subcontractors must provide an additional insured endorsement on both the Automobile Liability and General Liability policies and a waiver of subrogation on workers’ compensation.

Name of Person or Organization: San Mateo County Community College District

c/o Statewide Educational Wrap Up Program (SEWUP)
2355 Crenshaw Blvd., Suite 200

Torrance, CA 90501

1.9 CONTRACTOR/SUBCONTRACTOR INSURANCE FOR PERSONAL PROPERTY AND EQUIPMENT

All Contractors/Subcontractors shall be solely responsible for any loss or damage to their personal property including, without limitation, their tools and equipment, mobile construction equipment, scaffolding, and temporary structures, whether owned, borrowed, used, leased or rented by any Contractor/Subcontractor. Contractors/Subcontractors may at their sole discretion, purchase and maintain insurance or self-insure such equipment and property, and any deductible in relation thereto shall be their sole responsibility. Any insurance, including self-insurance, shall be the Contractors'/Subcontractors' sole source of recovery in the event of a loss.

Any type of insurance or any increase of limits of liability not described in this Section, which the Contractors/Subcontractors require for their own protection or on account of any statute, will be their own responsibility and at their expense.

1.10 ASSIGNMENT OF RETURN PREMIUMS

The Owner will be responsible for the payment of all premiums associated solely with the OCIP and will be the sole recipient of any dividend(s) and/or return premium(s) generated by the OCIP.

1.11 WAIVER OF SUBROGATION AND OWNER INDEMNIFICATION

With respect to their work on the Project:

1. Owner waives all rights of subrogation and recovery against the Contractors/Subcontractors to the extent of any loss or damage, which is insured under the OCIP.
2. Contractors/Subcontractors waive all rights of subrogation and recovery against the Owner and other Contractors/Subcontractors to the extent of any loss or damage, which is insured under the OCIP.
3. The Contractors/Subcontractors are obligated to indemnify the Owner for damages or claims not covered by the OCIP.

1.12 NO RELEASE

The provision of the OCIP, by the Owner, will in no way be interpreted as relieving the Contractors/Subcontractors of any other responsibility or liability under this agreement or any applicable law, statute, regulation, or order.

1.13 OWNER'S RIGHT TO AUDIT

The Contractor/Subcontractor will permit the Owner and/or its representative to examine and/or audit its books, records and insurance policy information. Contractor/Subcontractor will also provide any additional information to the Owner, or its appointed representatives, as may be required.

1.14 DUTIES IN THE EVENT OF A LOSS

Contractors/Subcontractors are required to report any and all losses, which include potential losses, promptly to, OCIP insurers and/or Program Administrator. A full description and details of the incurred loss are also required.

The Contractor/Subcontractor shall assist the Owner, its agents, and the Program Administrator, by providing the utmost cooperation in the adjustment of claims arising out of the operations conducted

under, or in connection with, the Project and shall cooperate with the Owner's insurers in claims and demands that arise out of the Work and that the insurers are called upon to adjust.

In the event of an accident, it shall be the responsibility of the employing and/or responsible Contractor/Subcontractor to see that injured workers or members of the public are provided immediate medical treatment. All appropriate medical and claim forms must be filed in accordance with the claim procedures developed for this Project by Keenan & Associates, hereinafter called "Program Administrator." This includes notification to the appropriate state authorities, if necessary.

1.15 OCCUPATIONAL SAFETY AND HEALTH COMPLIANCE

All Contractors/Subcontractors are expected to comply with all applicable local, state, and federal occupational safety and health. If additional safety and health requirements are set forth in the contract specifications, all contractors shall comply with these requirements

It is the responsibility of each Contractor/Subcontractor to maintain an environment free of recognized hazards. All Contractors/Subcontractors shall exercise reasonable care to prevent work-related injuries; property and equipment damage at the Project, as well as minimize risk to the public and third party property.

The Program Administrator shall conduct periodic loss control surveys on behalf of the District. These surveys will focus on evaluating the Contractors'/Subcontractors' efforts to minimize loss, assist in identifying loss exposures, and to recommend appropriate corrective measures. The Program Administrator is a resource to supplement the safety and loss prevention activity of Contractors/Subcontractors. Its loss control survey activities or other activities of the Program Administrator and/or OCIP insurers do not in any way relieve the Contractors/Subcontractors of their responsibilities for Project safety.

1.16 PROJECT SAFETY PROGRAM

In addition local, state, and federal occupational safety and health laws, the following standards apply to all Enrolled and Non-Enrolled Contractors/Subcontractors.

A. Safety Orientation

1. Contractor/Subcontractor employees shall be provided with a project specific safety orientation prior the start of the project. At a minimum, the orientation will address the following items:
 - a. The District's site safety requirements.
 - b. Site specific safety hazards and protective measures for these hazards.
 - c. Emergency telephone numbers and procedures.
 - d. Local medical clinic/hospital information within the Medical Provider Network (MPN).

B. Program Management

1. Each Contractor/Subcontractors shall have the following safety programs:
 - a. Injury and Illness Prevention Plans
 - b. Hazard Communication Programs
 - c. Heat Illness Prevention Plans
2. Each Contractor/Subcontractor shall have an onsite competent person responsible for occupational safety and health.

C. Mandatory 6' Fall Protection

1. Contractor/Subcontractor employees shall be protected from fall exposures of 6 feet or greater. Activities include but are not limited to:
 - a. Steel erection
 - b. Roofing
 - c. Decking
 - d. Scaffold work

- c. Framing
 - f. Work performed from ladders
2. A safety monitor as means of fall protection is prohibited.
 3. Ladder jacks, lean-to, and prop-scaffolds are prohibited.
 4. Contractor/Subcontractors are required to provide training to their employees who might be exposed to a fall hazard prior to the exposure or upon hiring. This training shall be documented and available for review.
 5. Methods of fall protection include but are not limited to the following:
 - a. Railings
 - b. Covers for Floor, Roof, and Wall Openings
 - c. Personal Fall Arrest Systems, Personal Fall Restraint Systems, and Positioning Devices
 - d. Controlled Access Zones
 6. The design and construction of railings shall conform to the Cal/OSHA Construction Safety Orders.
 7. The minimum parapet height allowed for fall protection is 42 inches or greater.
 8. Covers used to cover floor, roof, and wall openings shall be secured in place to prevent accidental removal or displacement and shall be marked in accordance in accordance with Cal/OSHA Construction Safety Orders.
 9. Covers used to cover floor and roof openings shall be capable of safely supporting the greater of 400 pounds or twice the weight of the employees, equipment and materials that may be imposed on any one square foot area of the cover at anytime.
 10. Controlled access zones shall be defined by a control line or other means that restricts access. Each line shall have a minimum breaking strength of 200 pounds. Signs shall be posted to warn unauthorized employees to stay out of the controlled access zone.
 11. Control lines shall consist of ropes, wires, tapes, or equivalent materials. Control lines shall be erected and supported in accordance with Cal/OSHA Construction Safety Orders.

D. Site Safety

According to industry practices, it is the responsibility of contractors of all tiers to exercise reasonable care to prevent work-related injuries; property and equipment damage at the project site, as well as minimize risk to the third-party persons and property. Contractors/Subcontractors of all tiers shall be expected to comply with the following safety and loss control requirements:

1. All Subcontractors shall identify their contact person(s) to the General or Prime Contractor.
2. All Contractors/Subcontractors shall follow District procedures for dealing with the media.
3. All construction employees shall wear clothing suitable for the weather and work conditions. At a minimum, this shall be short sleeved shirts, long pants, and leather or other protective work shoes or boots.
4. Alcohol is prohibited on District property at all times.
5. Contractors/Subcontractors will be required to respond to all District complaints about objectionable levels of dust or noise and will be required to provide prompt and appropriate abatement.

6. Construction personnel cannot enter District grounds other than the construction site unless accompanied by District personnel, and are allowed only “incidental” contact with students. Violations of these requirements by any construction employee will result in a mandatory background check of that employee – including fingerprinting – as required by state law.
7. All prime contractors must attend the site specific pre-construction meeting.
8. No sexual reference or preference shall be permitted on any piece of clothing or the hardhat. Any employee observed disregarding this policy shall be removed from the job site until further notice.
9. All Contractors/Subcontractors shall control the break time activities of the employees to assure the cleanup of all soda cans, food wrappers, plastic bottles, or food containers from the break area. Such areas shall be cleaned immediately after the break and all waste placed in trash receptacles. No glass containers are permitted on the site.
10. Theft or willful damage to any property of the District, student, or other contractors will be prosecuted fully.
11. All Contractors/Subcontractors will advise non-English speaking employees in their native language either in a written format or via an interpreter of these policies.

E. Crane Safety

1. In accordance with Title 8, California Code of Regulations, section 5006.1, employers shall only permit operators who have a valid certificate (license) of competency to operate cranes. The operator shall have his license on his person, readily available for review.
2. All cranes used in lifting service, exceeding 3 tons rated capacity, and their accessory gear shall not be used until the employer has ascertained that such equipment has been certificated in accordance with Cal/OSHA as evidenced by current and valid documents. Certificates (annual and quadrennial) attesting to current compliance with testing and examination standards shall be maintained, readily available for each crane.
3. The contractor shall provide an erection plan and procedure for erection of trusses and beams over 25 feet long. The erection plan and procedure shall be prepared by a civil engineer currently registered in California. This plan and procedure shall be followed and kept available on the job site.

F. Return to Work:

1. The District and OCIP Carrier are committed to working with all Enrolled Contractors and Subcontractors to promote the successful & timely return to work of injured employees following a work related injury. The purpose of this policy is to ensure that Enrolled Contractor/Subcontractor employees who temporarily cannot return to their normal duties due to job-related injury or illness, but can safely perform transitional duties while recovering is offered appropriate transitional duties for a limited time only.
 - a. Each Enrolled Contractor/Subcontractor will cooperate with the OCIP Carrier to facilitate the return to work of any injured employee capable of safely performing transitional duties.
 - b. When the employee is released to transitional duties, it is the Enrolled Contractor/Subcontractor’s responsibility to facilitate the injured employee's return to work.
 - c. The Enrolled Contractor/Subcontractor is expected to accommodate the injured employee to the fullest extent and facilitate the return to work.

- d. It will be the responsibility of the Insurance Carrier's Adjuster to maintain communication with the treating physician and the Enrolled Contractor/Subcontractor to facilitate the prompt return of an employee to full work status.

1.17 OWNER'S INSURANCE OBLIGATIONS; CONTRACTORS'/SUBCONTRACTORS' OBLIGATIONS; REPRESENTATIONS, WARRANTIES AND DISCLAIMERS

(a) Owner assumes no obligation to provide insurance other than that summarily described in these Contractual Provisions, in the Project Insurance Manual, and in the OCIP insurance policies. Contractor/Subcontractor shall review the OCIP coverages, limits of liability, and insurance policies to satisfy themselves that the coverages offered thereby meet its needs. Nothing contained herein shall be deemed to place any responsibility on Owner, and Owner disclaims any responsibility, for ensuring that the insurance provided by the OCIP is sufficient for the conduct of Contractor's/Subcontractor's business or performance of the Work, including, without limitation, the adequacy of the limits of liability provided by, and as to all other terms, conditions and exclusions of, the OCIP insurance policies. The furnishing of insurance by Owner through the OCIP shall in no way relieve or limit or be construed to relieve or limit Contractor/Subcontractor of any responsibility, liability or obligation imposed by the contract, the contract documents, the Project Insurance Manual, the OCIP insurance policies, or by law, including, without limitation, any and all indemnification obligations on the part of Contractor/Subcontractor.

(b) By enrolling in the OCIP, Contractor/Subcontractor acknowledge that (i) the limits of liability of the OCIP insurance policies are shared by all insured parties under the OCIP for this Project; (ii) Owner is not an insurer or in the business of insurance and is not an agent, broker, partner or guarantor of Contractor/Subcontractor or any of the insurance companies providing coverage under the OCIP (the "OCIP insurers"); and (iii) Owner is not responsible for (a) the availability, adequacy, or exhaustion of the limits of the OCIP, (b) the present or future solvency of any of the OCIP insurers or (c) any claims or disputes by, between or among Owner, Contractor/Subcontractor and any of the OCIP insurers, including, without limitation, claims or disputes arising out of any the OCIP insurers' payment or nonpayment of claims or losses, or such insurers' contractual or extra-contractual duties, including, without limitation, defense and/or indemnity obligations. Any type of insurance coverage or limits of liability not provided by the OCIP which Contractor/Subcontractor desires for its own protection, or which is required by applicable laws or regulations, shall be its sole responsibility and expense and shall not be included in its compensation for the Work. If Contractor/Subcontractor believes that additional limits of liability beyond those provided by the OCIP would be prudent for its protection, it agrees to investigate and procure such additional limits of liability for itself at its sole cost.

(c) By enrolling in the OCIP, Contractor/Subcontractor represents and warrants that it has had the opportunity to read and analyze (and to obtain professional assistance to read and analyze) a copy of the OCIP insurance policies and understand the contents thereof. Any reference in these contractual provisions, in the Project Insurance Manual, or elsewhere in any contract document as to amount, nature, type or extent of coverage provided under the OCIP and/or potential applicability to any potential claim or loss is for reference only and Contractor/Subcontractor represents and warrants that it has not relied upon any such reference or any other oral or written statement by or on behalf of Owner, the Project Administrator, or any of its or their agents, employees or representatives, but solely upon its own independent review and analysis of the OCIP insurance policies in formulating any understanding and/or belief as to amount, nature, type or extent of any coverage, conditions, extensions, or limits of liability provided by and as to all other terms of the OCIP insurance policies and/or their potential applicability to any claim or loss or their sufficiency for the conduct of Contractor's/Subcontractor's business or performance under the contract documents. To the extent that Contractor/Subcontractor deems it prudent

to secure and maintain additional, supplemental, excess, or wholly independent insurance or liability associated with its Work on the Project or otherwise, it shall be responsible to do so at its sole expense.

(d) Contractor/Subcontractor hereby releases Owner, the Program Administrator and their respective representatives, agents, directors, officers, employees, partners, shareholders, members, affiliates of every tier, successors, and assigns from any and all claims and liabilities arising out of or relating to acts, errors, omissions or negligence (i) in the design, selection, placement, adequacy, amount, limits, scope and nature of insurance coverage afforded by the OCIP, (ii) in the selection, performance and present and future solvency of the OCIP insurers, and (iii) in the implementation and administration of the OCIP. Contractor/Subcontractor shall make its own determinations regarding such matters and expressly waives any and all rights and benefits conferred upon it by the provisions of California Civil Code Section 1542, which provides:

“A general release does not extend to claims which the creditor did not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor.”

Contractor/Subcontractor expressly acknowledges that the foregoing waiver of the provisions of Section 1542 was separately bargained for, and expressly agrees that the release provision shall be given full force and effect, including, without limitation, as to unknown or unsuspected claims, demands, liabilities and causes of action, if any may exist or arise. This release provision shall survive the completion of the Work and the expiration or other termination of the Agreement.

1.18 JOINT DEFENSE OF CLAIMS AND SUITS AGAINST MORE THAN ONE INSURED

(a) In the event that a claim, demand, suit, or other proceeding (“Claim”) is brought against more than one insured under the OCIP, Owner and Contractor/Subcontractor recognize the common interest of all OCIP insureds in jointly defending that Claim. To the fullest extent permitted by law, and absent a material, current, actual, unwaivable conflict of interest mandating the appointment of separate counsel under applicable law, Owner and Contractor/Subcontractor insured under the OCIP (i) shall be defended by the same counsel and by the same consultants and experts selected by Owner and/or the OCIP insurers at its or their sole discretion, regardless of whether the defense under the OCIP is provided subject to a reservation of rights issued by any OCIP insurer, and (ii) waive their respective rights to independent counsel as to any and all such Claims. This waiver is deemed to be continuing. Contractor/Subcontractor agrees to execute such other documents as are required to effectuate this waiver and fulfill the purpose of this Section 1.18.

(b) In defense of Claims arising under the OCIP, information shared with counsel engaged to defend the insureds (“Defense Counsel”) will be protected from disclosure and shall remain privileged even after the termination of the OCIP and/or the completion of the Project. Contractor/Subcontractor agrees not to disclose to any person or entity, other than to Owner and to Defense Counsel, any confidential information obtained in the defense or pursuit of Claims covered, or potentially covered, under the OCIP. Any such confidential information shall only be used in matters that arise directly pursuant to such OCIP Claims. However, disclosures of such confidential information may be made (i) upon written approval from Defense Counsel or (ii) where required by court order or by applicable law.

(c) Nothing in this Section 1.18 shall preclude Contractor/Subcontractors from engaging counsel of its choice, at its sole expense, to associate in the defense of any such Claim.

1.19 Duty of Care

Nothing contained in the OCIP insurance policies, the contract, these contractual provisions, any other contract document, or the Project Insurance Manual shall relieve Contractor/Subcontractor of its

obligations to exercise due care in the performance of its duties in connection with the Work and to complete the Work in strict compliance with the contract documents.

NOTE: THE OWNER AND PROGRAM ADMINISTRATOR MUST APPROVE CHANGES TO ANY OCIP REQUIREMENT OR PROCEDURE. NO CONTRACTOR OR SUBCONTRACTOR HAS THE AUTHORITY TO AMEND THE OCIP REQUIREMENTS.

EXHIBIT A

Print Form
Submit Form

SEWUP@Keenan.com



Initial Enrollment Additional Contract
 Change Order Short term / T & M

OCIP Contract Enrollment Form

Form must be completed by all Contractors/Subcontractors of all tiers for all initial/new contracts and any additional contracts and/or change orders for each project. If using subcontractors, you may use **OCIP Tools Online** to report each subcontractor or complete the "Expected Subcontractors" detail on the next page. **Parent Contractor is responsible for 100% subcontractor compliance with OCIP requirements as set forth in their contract and the SEWUP Project Insurance Manual.**

District: _____ Project: _____

CONTRACTOR DETAILS

Contractor Legal Name: _____ Corporation Sole Proprietor Partnership Joint Venture LLC

DBA or Subsidiary: _____ FEIN#: _____ Contractor License #: _____

Business Address (Address as listed on Insureds Certificate): _____

Office Address (If Different from Business Address): _____

	Contact Name	Phone	Fax	Email
Main Enrollment Contact	_____	_____	_____	_____
Insurance Contact	_____	_____	_____	_____
Payroll Contact	_____	_____	_____	_____
Site Contact/Project Mgr.	_____	_____	_____	_____

CONTRACT DETAILS

General/Prime Contractor Subcontractor Tier Subcontractor Temp. Labor, Time & Material, or Other: _____ Bid Package #: _____

Awarding Contractor: _____ Prime Contractor: _____

Contract Value: _____ Self Performed Work: _____ % \$ _____ Estimated Payroll: _____

Est. # of Subcontractors: _____ Subcontracted Work: _____ % \$ _____

If using subcontractors, please be sure to complete subcontractor information on next page

Contract Award Date: _____ Est. Start Date: _____ Est. Completion Date: _____

Description of Work: _____

Off-Site Work Performed? YES NO If Yes, Description of Off-site work: _____

CONTRACTORS CURRENT INSURANCE INFORMATION

Insurance Broker or Agency: _____ Agent/Broker Contact: _____

Phone: _____ Fax: _____ Email: _____

WORKERS COMPENSATION INSURANCE

Name of Insurer: _____ WC Policy #: _____ Bureau ID: _____

Effective From: _____ To: _____ Deductible / SIR: _____ Anniversary Rating Date: _____

WORKERS COMPENSATION DETAILS (Estimated Project Site Payroll Only)

WC Class Code	WC Class Code Description	Rate	Est. Man Hours	Est. Payroll	Premium	
		\$		\$	\$ 0	
		\$		\$	\$ 0	
		\$		\$	\$ 0	
		\$		\$	\$ 0	
Was Experience Modifier included in your above WC Class rate(s)? <input type="checkbox"/> YES <input type="checkbox"/> NO				Subtotals:	\$	\$ 0
				Experience Modifier: 1	Modified Premium:	\$ 0
				Plus/Minus Rate Deviations or Premium credits:		\$ 0
				(Cost A) Total Workers' Compensation Cost:		\$ 0

Attach Copies of Work Comp rate pages with enrollment form.

Keenan & Associates, 2355 Crenshaw Blvd., Ste. #200, Torrance, CA 90501, Attn: SEWUP, Phone (310) 212-0363, Fax (310) 787-8838, Email SEWUP@keenan.com License # 0451271



OCIP Contract Enrollment Form

GENERAL & EXCESS LIABILITY INSURANCE

General Liability Insurer _____ General Liability Policy #: _____
General Liability Effective From: _____ To: _____ General Liability Deductible: _____ or, Retention: _____
Excess Liability Insurer: _____ Excess Liability Policy #: _____ Effective From: _____ To: _____

GENERAL & EXCESS LIABILITY INSURANCE DETAILS (Include Values related to this project contract)

Table with 7 columns: Coverage, Classification Description, Based on Payroll, Receipts or Other, Rate, Per \$100 / \$1000 or Other, Total Value (Payroll, receipts, or Other), Liability Premium. Includes rows for General Liability and Excess/Umbrella Liability.

Attach copies of GL and XL declarations and rate pages with enrollment form.

(Cost B) Total Liability Cost: \$

TOTAL INSURANCE COST

(Cost C) Margin Factor (Apply your Mark-Up Against Current Cost): \$

(Cost A + B + C) Total Insurance Cost: \$

EXPECTED SUBCONTRACTORS (If needed, please attach additional sheets including all information requested below.)

Company Name: _____ Contractor License #: _____ Est. Contract Value: _____
Scope of Work: _____ Est. Start Date: _____ Est. Completion Date: _____
Contact: _____ Phone: _____ Fax: _____ Email: _____

Company Name: _____ Contractor License #: _____ Est. Contract Value: _____
Scope of Work: _____ Est. Start Date: _____ Est. Completion Date: _____
Contact: _____ Phone: _____ Fax: _____ Email: _____

Company Name: _____ Contractor License #: _____ Est. Contract Value: _____
Scope of Work: _____ Est. Start Date: _____ Est. Completion Date: _____
Contact: _____ Phone: _____ Fax: _____ Email: _____

Company Name: _____ Contractor License #: _____ Est. Contract Value: _____
Scope of Work: _____ Est. Start Date: _____ Est. Completion Date: _____
Contact: _____ Phone: _____ Fax: _____ Email: _____

Company Name: _____ Contractor License #: _____ Est. Contract Value: _____
Scope of Work: _____ Est. Start Date: _____ Est. Completion Date: _____
Contact: _____ Phone: _____ Fax: _____ Email: _____

I DECLARE UNDER PENALTY OF PERJURY, UNDER THE LAWS OF THE STATE OF CALIFORNIA, THAT:
1. THE INFORMATION CONTAINED IN THIS DOCUMENT IS TRUE AND CORRECT.
2. I HEREBY UNDERSTAND THAT ENROLLMENT IS CONTINGENT UPON RECEIPT AND ACCEPTANCE OF THIS FORM AND ANY APPLICABLE CERTIFICATES OF INSURANCE. SHOULD I SUBMIT AN INCOMPLETE FORM, KEENAN'S SEWUP DEPARTMENT WILL CONTACT ME AND MY FIRM WILL NOT BE ENROLLED UNTIL I PROVIDE ALL NECESSARY INFORMATION IN ITS ENTIRETY.
3. I HAVE READ AND UNDERSTAND THE INFORMATION CONTAINED IN THE BID SPECIFICATIONS REGARDING THE INSURANCE COVERAGES PROVIDED THROUGH THE OCIP. MY FIRM UNDERSTANDS AND ACCEPTS THE INSURANCE PROVIDED UNDER THIS OCIP.
4. MY FIRM AGREES TO COMPLY WITH THE REQUIREMENTS OF THE OCIP AND FOLLOW THE ADMINISTRATIVE PROCEDURES AS OUTLINED IN THE BID SPECIFICATIONS

Signature: _____ Title: _____ Date: _____

Keenan & Associates, 2355 Crenshaw Blvd., Ste. #200, Torrance, CA 90501, Attn: SEWUP, Phone (310) 212-0363, Fax (310) 787-8838, Email SEWUP@keenan.com License # 0451271

EXHIBIT B

KNOWN OCIP POLICY EXCLUSIONS

<u>Workers Compensation</u>	<u>Contractors Pollution Liability</u>
Bodily Injury Outside US or Canada	Already Under Project Specific Coverage
Bodily Injury To Any Member of Flying Crew	Auto, Aircraft, Vessel Or Rolling Stock
Bodily Injury To Person Subject To Federal Workers' Compensation	Bankruptcy
Bodily Injury To Person Subject To Occupational Disease Laws	Claims Between Certain Insureds
Contractual Liability	Contractual Liability
Employees Knowingly Employed Illegally	Damage To Property
Employment Related Practices	Disposal Sites
Intentional or Aggravated Bodily Injury	Employment Related Practices
Obligations Imposed By Disability Benefits or Any Similar Law	Fines, Penalties, and Treble Damages
Obligations Imposed By Occupational Disease Laws	Hazardous Materials Facility
Obligations Imposed By Unemployment Compensation Laws	Intentional Acts
Obligations Imposed By Workers' Compensation Laws	Microbial Substances, Genetically Modified Organisms
State or Federal Law Violation Fines, Penalties	Naturally Occuring Substances
<u>Builders Risk</u>	Nuclear
Asbestos	Other Entities
Certain Offsite Property	Pre-Existing Conditions
Certain Release, Discharge, Escape, or Dispersal Of Contaminants	Products
Certified Acts of Terrorism	Related Entities and Individuals
Cessation of Work	Transportation Of Pollutants
Consequential Loss, Damage or Expense	War
Contractor's Tools, Machinery, Plans, Equipment	Workers Compensation and Similar Laws
Cost of Making Good	<u>General Liability</u>
Damage To Existing Property	Aircraft, Auto or Watercraft
Damage To Landscaping Materials Due To Natural Causes	Asbestos
Damage While Testing Prototype or Used Machinery/Equipment	Certain Damage To Property
Damages, Fines, Penalties At Government Agency or Court Order	Certain Damage To Your Work (Partial Carveback)
Delay In Completion	Certain Exclusions To Medical Payments Coverage
Disappearance or When Revealed By Inventory Shortage Alone	Certain Exclusions To Personal and Advertising Injury Liability
Earthquake	Certified Acts of Terrorism
Electrical, Magnetic, or Errors Related To Electronic Records	Contractual Liability
Existing Property At The Project Location	Damage To Impaired or Not Physically Injured Property
Financial Accounts, Instruments, Stamps, Deeds, Precious Material	Damage To Your Product
Flood	Electronic Data
Foreign Terrorism	Employers Liability
Fungus	Employment Related Practices
Hot Testing	Expected or Intended Injury
Infidelity, Dishonesty, Fraudulent Activity Of Insured	Exterior Insulation and Finish Systems (EIFS)
Land, values of land, cut, & fill etc. Prior to Project Commencement	Fungi Or Bacteria
Loss Under Any Manufacturer or Supplier Guarantee/Warranty	Lead
Normal Subsidence	Liquor Liability
Nuclear	Mobile Equipment
Offshore Or Barrier Island Property	Nuclear
Property That Stores, Processes, or Handles Radioactive Materials	Personal and Advertising Bodily Injury
Rolling Stock, Aircraft, Watercraft	Pollution
Software Loss	Prior, Continuous, or Progressively Deteriorating Injury or Damage
Transmission/Distribution Lines Energized At Completion of Testing	Professional Liability
Vehicles or Equipment Licensed For Highway Use	Recall of Products, Work Or Impaired Property
War and Military Action	Silica or Silica Mixed Dust
Water, Standing Timber, Growing Crops, Animals	Violation of Statutes Governing Collecting, Transmitting Information
	Violation of Statutes Governing Email, Fax, Phone Calls
	War
	Workers Compensation and Similar Laws

EXHIBIT C

PROTECTIVE SAFEGUARDS

APPLICABLE TO 'WOOD FRAME' PROJECTS ONLY:

The Builders Risk Policy will not pay for LOSS caused by or resulting from exposures, if the applicable protective safeguards are not maintained during the Builders Risk Policy term of INSURED PROJECT.

As a condition precedent to fire, theft, vandalism, and malicious mischief coverage provided by the Builders Risk Policy, the following protective safeguards will be maintained at every INSURED PROJECT site of Wood Frame construction insured by the Builders Risk Policy.

1. **Fencing - The entire INSURED PROJECT** site shall be surrounded with a six foot chain link fence suitably anchored in the ground and placed a reasonable distance from the insured property. Gates through the chain link fence shall be securely locked during non-working hours.
2. **Lighting - The entire INSURED PROJECT** site shall be illuminated from sunset to sunrise, each day.

PAGE NOT USED

Save Form

Submit Form

Sewup@keenan.com



Contractor's Completion Notice

District Name _____

Project Name _____

IMPORTANT NOTIFICATION – PLEASE READ

Contractor and Subcontractor agrees to complete this form and return to Keenan & Associates upon completion or termination of work activities under this contract. Please include, with this form, any supporting documents for final contact value (if different from initial contract value).

Contractor/Subcontractor Legal Name: _____

Contractor/Subcontractor dba Name: _____

Address: _____

Site Location Code/
Contract Number: _____

Initial Contract Value: \$ _____ Final Contract Value: \$ _____

Start Date on Site: _____ Last Day on Site*: _____

**This would include work performed on final closeout or punch-list items and should not include warranty work.*

Parent Contractor
(Company Name): _____

Parent Contractor
Contact Name (Print): _____ Title: _____

Signature
(Parent Contractor): _____ Date: _____

Contractor/Subcontractor
Contact Name (Print): _____ Title: _____

Signature
(Contractor/Subcontractor): _____ Date: _____

Keenan & Associates
SEWUP Department
2355 Crenshaw Blvd., Ste. #200,
Phone (310) 212-3344, Fax (310) 787-8838
Sewup@keenan.com
www.sewup.org

License No. 0451271



PAGE NOT USED

Save Form
 Print Form
 Submit Form



PROJECT SITE MONTHLY PAYROLL REPORT
 Due on the 10th of each month (for previous month labor)

District Name: _____ Bid Pkg. #: _____
 Project Name: _____ REPORT # _____
(For your Firm's use)
 Reporting Month: _____ *Example* **Feb-2006**
 Company Name: _____ Db Name: _____
 Under Contract With: _____ SEWUP Site Code*: _____

*SEWUP Site Code can be found on Accident Claim Reporting Guide or Certificate of Insurance issued for this project, under the Description of Operations section.

Workers' Compensation Class Code	Description	On-site man hours	Payroll*
TOTAL		0.00	\$0.00

Is this your final payroll report? YES NO

If Yes, submit final report with Contract Completion Notice. If this is not your final report, payroll must be submitted each month until contract work is complete. If there is no on site labor, 0 hours must be reported and submitted.

I CERTIFY THAT THE INFORMATION REPORTED ABOVE IS TRUE AND ACCURATE. NOT REPORTING ACCURATE PAYROLL INFORMATION COULD AFFECT YOUR EXMOD - EXPERIENCE MODIFICATION RATING WITH THE WORKERS' COMPENSATION INSURANCE RATING BUREAU (WCIRB).

Signature: _____ Title: _____

Print Name: _____ Date: _____

*Only report payroll for work performed on-site. Do not include overtime wage rates, use straight time wage rates only, i.e., employee earns \$20/hr. and works 10 hours in one day, you would report \$200.00 (\$20.00 x 10). Payroll/remuneration that is taxable to employee and paid by your company, is reported to WCIRB.

Keenan & Associates
 SEWUP Department
 2355 Crenshaw Blvd., Ste. #200,
 Torrance, CA 90501
 Phone (310) 212-3344, Fax (310) 787-8838

SUBMIT: SEWUP@KEENAN.COM ➔



v 090314

END OF DOCUMENT

SECTION 00 91 01

ADDENDUM NO. X

SUMMARY

This document includes requirements that clarify or supersede portions of the Request for Proposal. This Addendum is a Contract Document.

General

The following changes, additions and deletions shall be made to the following document(s); all other conditions shall remain the same.

I. BID FORM

XXX

II. AGREEMENT

XXX

III. SPECIFICATIONS

Item No.
XXX

IV. VOLUME ONE DRAWINGS

XXX

VI. CLARIFICATIONS

XXX

END OF ADDENDUM

SECTION 01 10 00

SUMMARY OF WORK**PART 1 GENERAL****1.1 SUMMARY**

- A. Section includes summary of Work including:
1. Work Covered By Contract Documents
 2. Bid Items, Allowances, and Alternates
 3. Work Under Other Contracts
 4. Future Work (N/A)
 5. Work Sequence
 6. Business Days and Hours
 7. Cooperation of Contractor and Coordination with Other Work
 8. Maintenance, Product Handling, and Protection
 9. Partial Occupancy/Utilization Requirements
 10. Contractor Use of Premises
 11. Lines and Grades
 12. Protection of Existing Structures and Utilities
 13. Damage to Existing Property
 14. Dust Control
 15. Parking
 16. Laydown/Staging Area
 17. Permits
 18. Punch List Verification
 19. Actual Damages for Violations
 20. Unfavorable Construction Conditions
 21. Construction Site Access
 22. Specification Data Sheets and Schedules
 23. Site Administration
 24. Products Ordered In Advance
 25. District-Furnished Products
 26. CEQA Mitigations
 27. Storm Water Pollution Program- *See Section 01 35 00*

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work comprises necessary site improvements at the Marie Curie Parking Lot Renovation Project located at College of San Mateo, 1700 W. Hillsdale Blvd., San Mateo, CA 94402.
- B. Furnish all labor, materials, equipment, services, permits, temporary controls and construction facilities, and all general conditions, seismic requirements, general requirements and incidentals required to complete the Work in its entirety as described in the Contract Documents. The Work includes, but is not necessarily limited to the following:
1. Construction and modifications of installation of three new LED light fixtures and associated work.
 2. Site and civil work associated with new Marie Curie Parking Lot Renovation Project.
 3. Electrical upgrades, installation new LED light fixtures as required in installation of three new LED light fixtures.
 4. Coordination with other contractors working at the site and its Subcontractors, coordination with local utility owners and **[PG&E]** and the District, obtaining necessary permits and complying with permit and environmental conditions, project startup and testing, site restoration and cleanup.
- C. The Work of this Contract comprises construction of all the Work indicated, described in the Specifications, or otherwise required by the Contract Documents.
- D. Unless provided otherwise in the Contract Documents, all risk of loss to Work covered by Contract Documents shall rest with Contractor until Final Acceptance of the Work.

- E. Contractor's use of the premises for Work and storage is limited to the area indicated.
- F. Contractor shall be solely responsible for all utilities (including without limitation electricity, water, gas, etc.) at the Site.
- G. Contractor shall carefully remove, in a manner to prevent damage, all materials and equipment specified or indicated to be salvaged and reused or to remain the property of District. Contractor shall store and protect salvaged items specified or indicated to be reused in the Work.
 - a. Contractor may furnish and install new items instead of those specified or indicated to be salvaged and reused, in which case such removed items will become Contractor's property.
- H. Existing materials and equipment removed by Contractor shall not be reused in the Work, except where so specified or indicated.
- I. Salvaged items not to be reused in the Work, but to remain District's property, shall be delivered by Contractor in good condition to District at the Facilities Maintenance Center, 1700 W. Hillsdale Blvd., San Mateo.
 - a. Any items specified or indicated to be salvaged which are damaged in removal, storage, or handling through carelessness or improper procedures shall be replaced by Contractor in kind or with new items.

1.3 BID ITEMS, ALLOWANCES, AND ALTERNATES

- A. Any Bid Item may be deleted from the Work and Contract Sum, in total or in part, prior to or after award of Contract without compensation in any form or adjustment of other Bid Items or prices therefore.
- B. Payment of all items is subject to provisions of Contract Documents, including without limitation Section 01 29 00 (Measurement and Payment).
- C. For all Bid Items, furnish and install all work indicated and described in Specifications and all other Contract Documents, including connections to existing systems. Work and requirements applicable to each individual Bid Item, or unit of Work, shall be deemed incorporated into the description of each Bid Item.
- D. Descriptions of Lump Sum Items (listed by Bid Item Numbers). Bid items are not intended to be exclusive descriptions of work categories and Bidder shall determine and include in its pricing all materials, labor, and equipment necessary to complete each Bid Item as shown and specified:
 - 1. Bonds and Insurance. The lump sum price paid under this item shall be full payment for all Bonds and Insurance required by Document 00 71 00 (General Conditions).
 - 2. Safety Plan and Programs. The lump sum price paid under this item shall be full payment for providing the Safety Plan and programs as required by Section 01 56 00 (Site Security and Safety) and 00 71 00 (General Conditions).
 - 3. Mobilization/Demobilization. The lump sum price paid under this item shall be full payment for initial mobilization at Project commencement (50% to be paid then), and cleanup and demobilization at Final Completion of Work to be completed (50% to be paid then).
 - 4. The lump sum price paid under this item shall be full payment for site preparation, excavation and foundation preparation, offsite disposal of excavated materials, sheeting, shoring and bracing, structural concrete and reinforcement, furnishing and installation of conduits, wiring and equipment, training of District personnel, submittals, and all other general conditions, general requirements, and seismic requirements.
 - 5. Installation, Operation, and Maintenance Manuals, Record Drawings-. The lump sum price paid under this item shall be full payment for preparation of installation, operation, and maintenance manuals.
 - 6. All Work of Contract Documents other than Work separately provided for under other Bid Items. The lump sum price paid under this item shall be full payment for all Work of Contract Documents other than Work separately provided for under other Bid Items, including cleaning, startup, and testing, submittals, and all other general conditions, general requirements, and seismic requirements.
- E. Allowances:
 - 1. Allowance work shall be done as Change Orders and as specified in Section 01 26 00 (Modification Procedures). Identify Allowance Items (See Document 00 41 00 [Bid Form]) work on the Progress Schedules and on Applications for Payment.
 - 2. The Amount given on Document 00 41 00 (Bid Form) under each Allowance Item is the sum of money set aside for each Allowance Item. These amounts shall be included in the Contract Sum on the Bid Form.
 - 3. If the cost of work done under any Allowance Item is less than the amount given on the Bid Form under that Allowance Item, the Contract Sum shall be reduced by the difference between the amount given in the Bid Form and the cost of work actually done.

- 4. Scope of Allowances:
 - a. N/A
- F. Alternates:
 - 1. N/A

1.4 WORK UNDER OTHER CONTRACTS

Work at the site performed by others may include the following: **Installation of site lighting, Installation of electric vehicle charging station pedestals and installation of speed tables at the Perimeter Road, delivery and installation of fume hoods at Science Building (36).**

1.5 FUTURE WORK

- A. N/A

1.6 WORK SEQUENCE

- A. Construct Work in stages and at times to accommodate District operation requirements during the construction period; coordinate construction schedule and operations with District.
- B. Contractor acknowledges that shoring may be required to maintain a safe excavation and protect facilities, including both existing and recently constructed under this Contract. All expenses for shoring of excavations shall be included in the appropriate bid items.

1.7 BUSINESS DAYS AND HOURS

- A. The District's Regular Business Days and hours for construction personnel, such as facilities managers, architects, inspectors, and maintenance personnel, are Monday-Friday inclusive, 7:30 a.m. - 4:30 p.m. local time.
 - 1. Contractor is notified that College of San Mateo campus buildings will be occupied during construction. If the contractor's work will require any of these buildings to be vacant at any time during construction the contractor will need to indicate 1.7.B (Business Days and Hours).
- B. Contractor is advised that District, students and faculty are on campuses Monday – Friday, 8:00 a.m. - 10:00 p.m., with generally less activity between 1:00 p.m. and 6:00 p.m., and Saturday 8:00 a.m. – 1:00 p.m.
- C. Contractor may work at the Site on weekends or holidays if it notifies District in writing at least 48 hours in advance. In the case of Work by Contractor after normal working hours or on weekends or holidays, Contractor shall be responsible for any additional inspection costs incurred by the District. Such costs may be withheld from any succeeding monthly progress payment.
- D. See Section 00 73 00 Supplementary Conditions for College Activities and Events which may also result in Contractor's inability to work.
- E. Contractor shall protect facilities against deleterious substances and damage.

1.8 COOPERATION OF CONTRACTOR AND COORDINATION WITH OTHER WORK

- A. Coordinate with District and any District forces, or other contractors and forces, as required by Document 00 71 00 (General Conditions), paragraph 6.
- B. Contractor shall coordinate the construction schedule with the regular daily operations schedule of the District and Campus for minimal interruption during utility service installations/modifications. All shut-downs required to perform the work and temporary facilities/utilities to affected District constituencies or other projects shall be coordinated by the Contractor and included in the base scope/cost of the project for normal power service installation.
- C. Noise: Construction activities are to comply with applicable local noise ordinance and applicable Cal-OSHA regulations.
- D. Connections to Existing Facilities. Unless otherwise specified or indicated, Contractor shall make all necessary connections to existing facilities, including structures, drain lines, and utilities such as water, sewer, gas, telephone, and electric. In each case, Contractor shall receive permission from District or the owning utility prior to undertaking connections.

1.9 MAINTENANCE, PRODUCT HANDLING, AND PROTECTION

- A. Transport, deliver, handle, and store materials and equipment at the Site in such a manner as to prevent the breakage, damage or intrusions of foreign matter or moisture, and otherwise to prevent damage.

- B. Hazardous substance compliance: Provide District with copies of the OSHA Material Safety Data Sheets (MSDS) for all products containing a hazardous substance, examples: Adhesives, paints, sealants, and the like.
- C. Packaging: Provide packaged material in manufacturer's original containers with seals unbroken and labels intact until incorporated into the Work.
- D. Remove all damaged or otherwise unsuitable material and equipment promptly from the Site.
- E. Protection: Protect all finished surfaces.
- F. Asbestos Removal: If, during the progress of the Work, suspected asbestos-containing products are identified, Contractor shall stop work in the affected area and immediately notify the Owner. Owner shall either directly engage an asbestos removal contractor to verify the materials and, if necessary, encapsulate, enclose, or remove and dispose of all asbestos in accordance with current regulations of the Environmental Protection Agency and the U. S. Department of Labor – Occupational Safety and Health Administration, the state asbestos regulating agency, and any local government agency; or Owner shall direct Contractor to do the same as a Change Order to the contract. The Contractor shall take all measures to avoid and/or mitigate delays due to Hazardous Materials/Waste finds such as: avoiding the area of the find and proceeding with other work on the project; developing "work around" plans; and documenting his best efforts to avoid and/or mitigate delays.
 - 1. Asbestos Removal Subcontractor's Qualifications. The Subcontractor for asbestos removal shall be regularly engaged in this type of activity and shall be familiar with the regulations that govern this work. The Subcontractor shall demonstrate to the satisfaction of District that it has successfully completed at least three asbestos removal projects that it has the necessary staff and equipment to perform the work, and that it has an approved site for disposal of the asbestos. Liability insurance covering the asbestos abatement work shall be provided as specified in the Supplementary Conditions.
 - 2. Asbestos Removal Methods. The asbestos removal Subcontractor shall submit a work plan of its proposed removal procedure to District before beginning work and shall certify that the methods are in full compliance with the governing regulations. The work plan shall cover all aspects of the removal, including health and safety of employees and building occupants, hygiene facilities, employee certification, clearance criteria, transportation and disposal, enclosure techniques, and other techniques appropriate for the proposed work.
- G. Cost of maintenance of systems and equipment prior to either Substantial Completion or filing of a Notice of Completion will be considered as included in prices bid and no direct or additional payment will be made therefore.
- H. Contractor is to complete, and if necessary develop, maintenance logs for each piece of major equipment installed and/or stored until project close out. This equipment includes:
 - 1) N/A
 - 2) N/A
- I. Maintenance logs and all related contract close-out documentation will be submitted to the District's Representative no more than thirty (30) days after the date of Substantial Completion. A Notice of Completion will not be filed until all contract close-out documents are submitted and approved.

1.10 PARTIAL OCCUPANCY/UTILIZATION REQUIREMENTS

- A. Allow District to take possession of and use any completed or partially completed portion of the Work during the progress of the Work as soon as is possible without interference to the Work.
- B. Possession, use of Work, and placement and installation of equipment by District shall not in any way evidence the completion of the Work or any part of it.
- C. Contractor shall not be held responsible for damage to the occupied part of the Work resulting from District occupancy.
- D. Make available, in areas occupied, on a 24-hour per day and 7-day per week basis if required, any utility services, heating, and cooling in condition to be put in operation at the time of occupancy.
 - 1. Responsibility for operation and maintenance of said equipment shall remain with Contractor.
 - 2. Make, and District shall certify, an itemized list of each piece of equipment so operated with the date operation commences.
 - 3. Itemized list noted above shall be basis for commencement of warranty period for equipment.
 - 4. District shall pay for utility cost arising out of occupancy by District during construction.

- E. Use and occupancy by District prior to acceptance of Work does not relieve Contractor of its responsibility to maintain insurance and bonds required under the Contract until entire Work is completed and accepted by District.
- F. Prior to date of Final Acceptance of the Work by District, all necessary repairs or renewals in Work or part thereof so used, not due to ordinary wear and tear, but due to defective materials or workmanship or to operations of Contractor, shall be made at expense of Contractor, as required in Document 00 71 00 (General Conditions).
- G. Use by District of Work or part thereof as contemplated by this Section 01 10 00 shall in no case be construed as constituting acceptance of Work or any part thereof. Such use shall neither relieve Contractor of any responsibilities under Contract, nor act as waiver by District of any of the conditions thereof.
- H. District may specify in the Contract Documents that portions of the Work, including electrical and mechanical systems or separate structures, shall be substantially completed on dates described in paragraph 1.6 of this Section 01 10 00, if any, prior to substantial completion of all of the Work. Contractor shall notify District's Representative and Architect/Engineer in writing when Contractor considers any such part of the Work ready for its intended use and substantially complete and request District to issue a Certificate of Substantial Completion for that part of the Work.

1.11 CONTRACTOR USE OF PREMISES

- A. Confine operations at Site to areas permitted by Contract Documents, permits, ordinances, and laws.
- B. Do not unreasonably encumber Project Site with materials or equipment.
- C. Assume full responsibility for protection and safekeeping of products stored on premises.
- D. Move any stored products that interfere with operations of District or other contractor.
- E. Parking, storage, staging, and work areas shall be coordinated with the District, and comply with all other Contract documents requirements.
 - a. Parking:
 - 1) College of San Mateo – Marie Curie Lot 5, in areas determined by District.
 - 2) College of San Mateo – Galileo Lot 6, in areas determined by District.

1.12 LINES AND GRADES

- A. All Work shall be done to the lines, grades, and elevations indicated on the Drawings.
- B. District shall provide basic horizontal and vertical control points to be used as datums for the Work. All additional survey, layout, and measurement work shall be performed by Contractor as a part of the Work.
- C. Contractor shall provide at its cost an experienced instrument person, competent assistants, and such instruments, tools, stakes and other materials required to complete the survey, layout, and measurement work. In addition, Contractor shall furnish at its cost competent persons and such tools, stakes, and other materials as District (and/or any Architect/Engineer) may require in establishing or designating control points, or in checking survey, layout, and measurement work performed by Contractor.
- D. Contractor shall keep District informed, a reasonable time in advance, of the times and places at which it wishes to do survey/layout work, so that any checking deemed necessary by District may be done with minimum inconvenience to District and minimum delay to Contractor.
- E. Contractor shall remove and reconstruct Work which is improperly located.

1.13 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. The Drawings may indicate existing above- and below-grade structures, drainage lines, storm drains, sewers, water, gas, electrical, hot water, and other similar items and utilities that are known to District.
- B. Contractor shall locate these known existing installations before proceeding with trenching or other operations which may cause damage, shall maintain them in service where appropriate, and shall repair any damage to them caused by the Work, at no increase in Contract Sum.
- C. Additional utilities whose locations are unknown to District are suspected to exist. Contractor must be alert to their existence. If additional utilities are encountered, Contractor must immediately report to District for disposition.
- D. In addition to reporting, if a utility is damaged, Contractor must take appropriate action as provided in Document 00 71 00 (General Conditions).
- E. Additional compensation or extension of time on account of utilities not indicated or otherwise brought to Contractor's attention including reasonable action taken to protect or repair damage shall be determined as provided in Document 00 71 00 (General Conditions).

1.14 DAMAGE TO EXISTING PROPERTY

- A. Contractor will be responsible for any damage to existing structures, Work, materials, or equipment because of its operations and shall repair or replace any damaged structures, Work, materials, or equipment to the satisfaction of, and at no additional cost to, District.
- B. Contractor shall protect all existing structures and property from damage and shall provide bracing, shoring, or other work necessary for such protection.
- C. Contractor shall be responsible for all damage to streets, roads, curbs, sidewalks, highways, shoulders, ditches, embankments, culverts, bridges, or other public or private property, which may be caused by transporting equipment, materials, or workers to or from the Work. Contractor shall make satisfactory and acceptable arrangements with the agency having jurisdiction over the damaged property concerning its repair or replacement.

1.15 DUST CONTROL

- A. Contractor shall take reasonable measures to prevent unnecessary dust. The following items shall be specifically implemented to control dust:
 - 1. All construction locations with active excavation shall be watered at least twice daily.
 - 2. Cover all trucks hauling soil, sand, and other loose materials; or require all trucks to maintain at least two feet of freeboard.
 - 3. Pave, apply water daily, or apply non-toxic soil stabilizers on all un-paved access roads, parking areas, and staging areas at construction site.
 - 4. Sweep daily with water sweepers all paved access roads, parking areas, and staging areas at construction sites during earthwork activities.
 - 5. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.)
 - 6. Limit the speed of all construction vehicles to 5 miles per hour while on un-paved roads at the Site.
- B. Buildings or operating facilities which may be affected adversely by dust shall be adequately protected from dust. Existing and new machinery, motors, instrument panels, or similar equipment shall be protected by suitable dust screens. Proper ventilation shall be included with dust screens.
- C. Building Interiors: provide dust barriers, walk-off pads, etc. to minimize dust infiltration in buildings. If required, the Contractor will clean interior common areas (e.g., corridors, lobbies) as needed during each work day.

1.16 PARKING

Parking will be provided in designated areas at no cost to the Contractor.

1.17 LAYDOWN/STAGING AREA

Contractor shall utilize the area indicated on the Drawings for storage of all construction materials. This area shall be fenced and locked by Contractor for security purposes.

- a. Laydown Area
 - 1) College of San Mateo – Marie Curie Lot 5, in areas determined by District.
 - 2) College of San Mateo – Galileo Lot 6, in areas determined by District.

1.18 PUNCH LIST VERIFICATION

A punch list examination will be performed upon Substantial Completion of Work. One follow-up review of punch list items for each discipline will be provided. If further Site visits are required to review punch list items due to incompleteness of the Work by Contractor, at District's discretion, Contractor shall reimburse District for these visits.

1.19 UNFAVORABLE CONSTRUCTION CONDITIONS

During unfavorable weather, wet ground, or other unsuitable construction conditions, Contractor shall confine its operations to Work which will not be affected adversely by such conditions. No portion of the Work shall be constructed under conditions which would affect adversely the quality or efficiency thereof, unless special means or precautions are taken by Contractor to perform the Work in a proper and satisfactory manner. The Contractor will employ BEST practices to manage the construction site during inclement weather.

1.20 CONSTRUCTION SITE ACCESS

Contractor shall at all times limit access to the Site to necessary personnel only. All personnel associated with construction of the Project shall enter the site through Contractor's access gate, at the location indicated on the Drawings. Access for construction personnel shall be limited to regular work hours, unless prior approval is obtained from the District. All mail and deliveries (Federal Express, equipment, etc.) shall be sent to a separate address (at Contractor's gate), specifically arranged by Contractor for the Project. Contractor is responsible for providing adequate signage (subject to District approval) to alert delivery persons to the project site. The District will not receive or forward Contractor mail or deliveries.

1.21 SPECIFICATION DATA SHEETS AND SCHEDULES

Specifications may have data sheets and schedules as part of specific specification sections. Locations for data entries on the data sheets and schedules may be left blank intentionally. Each line where data may be entered on the data sheet has a selection box in the column "Chk". When the box for a line is checked and no data is entered in the respective line, this indicates that no data is required for that line of the data sheet.

Other standard codes which apply to the Work are designated in the Specifications.

1.22 SITE ADMINISTRATION

Contractor shall be responsible for all areas of the Site used by it and by all Subcontractors in the performance of the Work. Contractor shall exert full control over the actions of all employees and other persons with respect to the use and preservation of property and existing facilities, except such controls as may be specifically reserved to District or others. Contractor shall have the right to exclude from the Site all persons who have no purpose related to the Work or its inspection, and may require all persons on the Site to observe the same regulations as Contractor requires of its employees.

1.23 EROSION CONTROL**A. SCOPE OF WORK**

1. General: Provide all materials, equipment and labor necessary to furnish and install straw wattles, silt fence barriers, hydroseed, or other Best Management Practices (BMP's) at locations shown on the Contractors Storm Water Pollution Prevention Plan. See Section 01 35 00 for further detail.
2. Storm Water Pollution Prevention Plan: Prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) tailored to the Contractor's operations, methods and equipment. Comply with State Water Resources Control Board requirements. The SWPPP shall be reviewed and approved by the authority having jurisdiction prior to the start of work. The SWPPP shall be tailored to the contractor's approach to the work in this contract. The Contractor shall as a minimum address:
 - a. Cut and fill operations
 - b. Temporary stockpiles
 - c. Vehicle and equipment storage, maintenance and fueling operations
 - d. Concrete, plaster, mortar and paint disposal
 - e. Dust control
 - f. Tracking of dirt and mud, on and off of site, and adjacent streets.
 - g. Pipe flushing and protection of drainage facilities both new and existing, on and off site as required by State Water Resources Control Board.

1.01 QUALITY ASSURANCE

- . General: Comply with governing codes and regulations of the State Water Resources Control Board.

1.03 SUBMITTALS

- A. Notice Of Intent (NOI): The Contractor shall submit a NOI to the State Water Resources Control Board in the name of San Mateo County Community College District prior to beginning work on site if required.

PART 2 PRODUCTS

2.1 RESPONSIBILITIES FOR DISTRICT-FURNISHED PRODUCTS

A. District's Responsibilities:

1. Arrange for and deliver District-reviewed Shop Drawings, Product Data, and Samples, to Contractor.
2. Arrange and pay for delivery to site.
3. On delivery, inspect products jointly with Contractor.
4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:

1. Review District-reviewed Shop Drawings, Product Data, and Samples.
2. Receive and unload products at site; inspect for completeness or damage jointly with District.
3. Handle, store, install, and finish products.
4. Repair or replace items damaged after receipt.
5. Install into Project per Contract Documents.

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 21 00
OWNER'S ALLOWANCE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Non-specified work to be performed only at the determination and direction of the Owner/District.

1.2 RELATED SECTIONS

- A. Section 01 29 00 - Measurement and Payment.
- B. Section 01 32 19 – Submittal Procedures.

1.3 NON-SPECIFIED WORK ALLOWANCE

- A. Include in the Contract, a stipulated sum/price of 10 % of the total of bid items #1 - #6 for non-specified items.
- B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding and equipment rental will be included in Change Orders authorizing expenditure of funds from this Allowance.
- C. Funds will be drawn from Allowance only by approval of the Owner and authorization of Change Orders by the Architect.
- D. At closeout of Contract, funds remaining in Allowance will be credited to Owner by Changer Order.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

END OF SECTION

SECTION 01 26 00

MODIFICATION PROCEDURES**PART 1 GENERAL****1.1 SUMMARY**

- A. Section includes:
 - 1. Description of general procedural requirements for alterations, modifications, and extras.
- B. Reference
 - 1. Public Contract Code Section 7105(d) (2).

1.2 GENERAL

- A. Any change in scope of Work or deviation from Contract Documents including, without limitation, extra work, or alterations or additions to or deductions from the original Work, shall not invalidate the original Contract, and shall be performed under the terms of the Contract Documents.
- B. Only Contractor or District may initiate changes in scope of Work or deviation from Contract Documents.
 - 1. Contractor may initiate changes by submitting RFIs, Notice of Concealed or Unknown Conditions, or Notice of Hazardous Waste Conditions.
 - a. RFIs shall be submitted to seek clarification of or request changes in the Contract Documents. RFIs shall not be submitted to District seeking clarification to any errors or omissions on behalf of the Contractor's preparation of the Construction Documents or any other Contract Documents prepared by Contractor.
 - b. Notices of Concealed or Unknown Conditions shall be submitted in accordance with Document 00 71 00 (General Conditions).
 - c. Notices of Hazardous Waste Conditions shall be submitted in accordance with Document 00 71 00 (General Conditions).
 - 2. Contractor shall be responsible for its costs to implement and administer RFIs throughout the Contract duration. Regardless of the number of RFIs submitted, Contractor shall not be entitled to additional compensation. Contractor shall be responsible for both District and its consultant's administrative costs for answering RFIs where the answer could reasonably be found by reviewing the Contract Documents, as determined by District; at District's discretion, such costs may be deducted from progress payments or final payment.
 - 3. District may initiate changes by issuing a Supplemental Instruction, which may revise, add to or subtract from the Work.
 - 4. District may initiate changes in the Work or Contract Time by issuing RFPs to Contractor. Such RFPs will detail all proposed changes in the Work and request a quotation of changes in Contract Sum and Contract Time from Contractor.
 - 5. District may also, by Construction Change Directive ("CCD"), order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly. A CCD shall be used in the absence of total agreement on the terms of a Change Order and may, upon notice, consist of a Change Order executed by District only.
 - 6. Not used.
 - 7. It is the responsibility of the Contractor to notify the District within 14 days if there is a cost change. Notifications beyond this time limit may result in future claims being time barred.

1.3 PROCEDURES

- A. **Cost Proposal and Procedures:** Whenever Contractor is required in this Section 01 26 00 to prepare a Cost Proposal, and whenever Contractor is entitled to submit a Cost Proposal and elects to do so, Contractor shall prepare and submit to District for consideration a Cost Proposal using the form attached to this Section 01 26 00, or other similarly prepared form previously approved by the District. All Cost Proposals must contain a complete breakdown of costs of credits, deducts and extras; itemizing materials, labor, taxes, overhead and profit. All Subcontractor Work shall be so indicated. Individual entries on the Cost Proposal form shall be determined as provided in paragraphs 1.4 and 1.5 of this Section 01 26 00. After receipt of a Cost Proposal with a detailed breakdown, District will act promptly thereon.
1. If District accepts a Cost Proposal, District will prepare Change Order for District and Contractor signatures.
 2. If Cost Proposal is not acceptable to District because it does not agree with cost and/or time included in Cost Proposal, District will submit in a response what it believes to be a reasonable cost and/or adjustment, if any. Except as otherwise provided in this Section 01 26 00, Contractor shall have seven Days in which to respond to District with a revised Cost Proposal.
 3. When necessity to proceed with a change does not allow the District sufficient time to conduct a proper check of a Cost Proposal (or revised Cost Proposal), District may order Contractor to proceed on basis to be determined at earliest practical date. In this event, value of change, with corresponding equitable adjustment to Contract, shall not be more than increase or less than decrease proposed.
- B. **Request for Information:** Whenever Contractor requires information regarding the Project or Contract Documents or receives a request for information from a Subcontractor, Contractor may (except as provided in paragraph 1.2.B.1.a above), prepare and deliver an RFI to District. Contractor shall not submit an RFI to the District if it pertains to a Subcontractor's request for clarification of the Construction Documents or any other Contract Documents prepared by Contractor. Contractor shall use RFI format provided by District. Contractor must submit time critical RFIs at least 30 days before scheduled start date of the affected Work activity. Contractor shall reference each RFI to an activity of Progress Schedule and shall note time criticality of the RFI, indicating time within which a response is required. Contractor's failure to reference RFI to an activity on the Progress Schedule and note time criticality on the RFI shall constitute Contractor's waiver of any claim for time delay or interruption to the Work resulting from any delay in responding to the RFI.
1. District will endeavor to respond within seven Days from receipt of RFI with a written response to Contractor, provided that the RFI complies with paragraph B. above and is time critical. Additionally, District may return RFI requesting additional information should original RFI be inadequate in describing condition. Contractor shall distribute response to all appropriate Subcontractors.
 2. If Contractor is satisfied with the response and does not request change in Contract Sum or Contract Time, then the response shall be executed without a change.
 3. If Contractor believes the response is incomplete, Contractor shall issue another RFI (with the same RFI number with the letter "A" indicating if it is a follow-up RFI) to District clarifying original RFI.
 4. If Contractor believes that the response results in change in Contract Sum or Contract Time, Contractor shall notify District in writing within seven Days after receiving the response. If District disagrees with Contractor, then Contractor may give notice of intent to submit a Claim as described in Article 12 of Document 00 71 00 (General Conditions), and submit its Claim within 30 days of District's response. If District agrees with Contractor, then Contractor must submit a Cost Proposal within 21 Days of District's response to the RFI. Contractor's failure to deliver either the foregoing notice of Claim or Cost Proposal by the respective deadlines stated in the foregoing sentences shall result in waiver of the right to file a Cost Proposal or Claim.
- C. **Supplemental Instruction:** District may issue Supplemental Instruction to Contractor.
1. If Contractor is satisfied with Supplemental Instruction and does not request change in Contract Sum or Contract Time, then Supplemental Instruction shall be executed without a Change Order.
 2. If Contractor believes that Supplemental Instruction results in change in Contract Sum or Contract Time, then Contractor shall notify District in writing within seven Days after receiving the

- response. If District disagrees with Contractor, then Contractor may give notice of intent to submit a Claim as described in Article 12 of Document 00 71 00 (General Conditions), and submit its Claim within 30 days of District's response. If District agrees with Contractor, then Contractor must submit a Cost Proposal within 21 Days of District's response to the RFI. Contractor's failure to deliver either the foregoing notice of Claim or Cost Proposal by the respective deadlines stated in the foregoing sentences shall result in waiver of the right to file a Cost Proposal or Claim.
- D. Construction Change Directives: If at any time District believes in good faith that a timely Change Order will not be agreed upon using the foregoing procedures, District may issue a CCD with its recommended cost and/or time adjustment. Upon receipt of CCD, Contractor shall promptly proceed with the change of Work involved and concurrently respond to District's CCD within 10 Days.
1. Contractor's response must be any one of following:
 - a. Return CCD signed, thereby accepting District's response, time and cost.
 - b. Submit a (revised if applicable) Cost Proposal with supporting documentation (if applicable, reference original Cost Proposal number followed by letter A, B, etc. for each revision), if District so requests.
 - c. Give notice of intent to submit a Claim as described in Article 12 of Document 00 71 00 (General Conditions), and submit its Claim with 30 days.
 2. If the CCD provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:
 - a. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation.
 - b. Unit prices stated in the Contract Documents or subsequently agreed upon.
 - c. Force account.
 - d. Cost to be determined in a manner agreed.
 3. CCD signed by Contractor indicates the agreement of Contractor therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.
 4. If Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by District on the basis of reasonable expenditures and savings of those performing the Work attributable to the change including, in case of an increase in the Contract Sum, a reasonable allowance for overhead and profit. If the parties still do not agree on the price for a CCD, Contractor may file a Claim per Article 12 of Document 00 71 00 (General Conditions). Contractor shall keep and present, in such form as District may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this paragraph shall be limited to those provided in paragraphs 1.4 and 1.5 of this Section 01 26 00.
 5. Pending final determination of cost to District, amounts not in dispute may be included in Applications for Payment. The amount of credit to be allowed by Contractor to District for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by District. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.
- E. District Requested RFP: Contractor shall furnish a Cost Proposal within 21 Days of District's RFP. Upon approval of RFP, District will issue a Change Order directing Contractor to proceed with extra Work. If the parties do not agree on the price for an RFP, District may either issue a CCD or decide the issue per Article 12 of Document 00 71 00 (General Conditions). Contractor shall perform the changed Work notwithstanding any claims or disagreements of any nature.
- F. Differing Site Conditions: Contractor shall submit Notices of Differing Site Conditions to resolve problems regarding differing underground Site conditions encountered in the execution of the Work pursuant to paragraph 13.4 of Document 00 71 00 (General Conditions), which shall govern. If District determines that a change in Contract Sum or Contract Time is justified, District will issue RFP or CCD.
- G. Hazardous Waste Conditions: Contractor shall submit Notices of Hazardous Waste Conditions to resolve problems regarding hazardous materials encountered in the execution of the Work pursuant to paragraph 13.5 of Document 00 71 00 (General Conditions), which shall govern. If District determines that a change in Contract Sum or Contract Time is justified, District will issue RFP or CCD.

- H. All Changes:
1. Documentation of Change in Contract Sum and Contract Time:
 - a. Contractor shall maintain detailed records of Work performed on a time-and-material basis.
 - b. Contractor shall document each proposal for a change in cost or time with sufficient data to allow evaluation of the proposal.
 - c. Contractor shall, on request, provide additional data to support computations for:
 - 1) Quantities of products, materials, labor and equipment.
 - 2) Taxes, insurance, and bonds.
 - 3) Overhead and profit.
 - 4) Justification for any change in Contract Time and new Progress Schedule showing revision due, if any.
 - 5) Credit for deletions from Contract, similarly documented.
 - d. Contractor shall support each claim for additional costs, and for Work performed on a cost-and-percentage basis, with additional information including:
 - 1) Credit for deletions from Contract, similarly documented.
 - 2) Origin and date of claim.
 - 3) Dates and times Work was performed and by whom.
 - 4) Time records and wage rates paid.
 - 5) Invoices and receipts for products, materials, equipment and subcontracts, similarly documented.
 - I. Correlation of Other Items:
 1. Contractor shall revise Schedule of Values and Application for Payment forms to record each authorized Change Order or CCD as a separate line item and adjust the Contract Sum as shown thereon prior to the next monthly pay period.
 2. Contractor shall revise the Progress Schedules prior to the next monthly pay period.
 3. Contractor shall enter changes in Project Record Documents prior to the next monthly pay period.
 - J. Responses: For all responses for which the Contract Documents, including without limitation this Section 01 26 00, do not provide a specific time period, recipients shall respond within a reasonable time.
 - K. Disputes: For all disputes arising from the procedures herein, Contractor shall follow Article 12 of Document 00 71 00.

1.4 COST DETERMINATION

- A. Total cost of extra Work or of Work omitted shall be the sum of construction labor costs, material costs, equipment rental costs, design professional costs and specialist costs as defined herein plus overhead and profit as allowed herein. This limit applies in all cases of claims for extra Work, whether calculating Cost Proposals, Change Orders or CCDs, or calculating claims of all types, and applies even in the event of fault, negligence, strict liability, or tort claims of all kinds, including strict liability or negligence. Contractor may recover no other costs arising out of or connected with the performance of extra Work, of any nature. No special, incidental or consequential damages may be claimed or recovered against District, its representatives or agents, whether arising from breach of contract, negligence or strict liability, unless specifically authorized in the Contract Documents.

Design Professional costs shall be calculated by multiplying the number of hours per design professional by the hourly rate established in the bid form.

- B. Overhead and Profit: (Overhead shall be as defined in paragraph 1.8 of this Section 01 26 00)
1. Overhead and profit on labor for extra Work shall not exceed 15 percent.
 2. Overhead and profit on materials for extra Work shall not exceed 15 percent.
 3. Overhead and profit on equipment rental for extra Work shall not exceed 10 percent.
 4. When extra Work is performed by a first tier Subcontractor or a Design Professional, Contractor shall receive a 5 percent markup on Subcontractors' or Design Professional's total costs of extra Work. First tier Subcontractor's markup on its Work shall not exceed 15 percent.
 5. When extra Work is performed by a lower tier Subcontractor, Contractor shall receive a total of 5 percent markup on the lower tier Subcontractors' total costs of extra Work. First tier

- Subcontractors and lower tier Subcontractors shall divide the 20 percent markup as mutually agreed.
6. Notwithstanding the foregoing, in no case shall the total markup on any extra Work exceed 25 percent of the direct cost, notwithstanding the actual number of contract tiers.
 7. On proposals covering both increases and decreases in Contract Sum, overhead, profit, and commission shall be allowed on the net increase only as determined in paragraph 1.4 above. When the net difference is a deduction, no percentage for overhead, profit and commission shall be allowed, but rather a deduction shall apply.
 8. The markup shall include profit and overhead. No markup will be allowed on permits, fees, taxes, insurance, and bonds.
- C. Taxes:
1. All State sales and use taxes, San Mateo County and applicable City sales taxes, shall be included.
 2. Federal and Excise tax shall not be included.
- D. Accord and Satisfaction: Every Change Order and accepted CCD shall constitute a full accord and satisfaction, and release, of all Contractor (and if applicable, Subcontractor) claims for additional time, money or other relief arising from or relating to the subject matter of the change including, without limitation, impacts of all types, cumulative impacts, inefficiency, overtime, delay and any other type of claim. Contractor may elect to reserve its rights to disputed claims arising from or relating to the changed Work at the time it signs a Change Order or approves a CCD, but must do so expressly in a writing delivered concurrently with the executed Change Order or approved CCD, and must also submit a Claim for the reserved disputed items pursuant to Article 12 of Document 00 71 00 no later than 30 days of Contractor's first written notice of its intent to reserve rights.

1.5 COST BREAKDOWN

- A. Labor: Contractor will be paid cost of labor for workers (including forepersons when authorized by District) used in actual and direct performance of extra Work. Labor rate, whether employer is Contractor, Subcontractor or other forces, will be sum of following:
1. Actual Wages: Actual wages paid shall include any employer payments to or on behalf of workers for health and welfare, pension, vacation, and similar purposes.
 2. Labor surcharge: Payments imposed by local, county, state, and federal laws and ordinances, and other payments made to, or on behalf of, workers, other than actual wages as defined in paragraph 1.5A.1 of this Section 01 26 00, such as taxes and worker's compensation insurance. Such labor surcharge shall not exceed that set forth in California Department of Transportation official labor surcharges schedule which is in effect on date upon which extra Work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein.
- B. Material: Only materials furnished by Contractor and necessarily used in performance of extra Work will be paid for. Cost of such materials will be cost, including sales tax, to purchaser (Contractor, Subcontractor or other forces) from supplier thereof, except as the following are applicable:
1. If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to District notwithstanding fact that such discount may not have been taken.
 2. For materials salvaged upon completion of extra Work, salvage value of materials shall be deducted from cost, less discounts, of materials.
 3. If cost of a material is, in opinion of District, excessive, then cost of material shall be deemed to be lowest current wholesale price at which material is available in quantities concerned delivered to Site, less any discounts as provided in paragraph 1.5B.1 of this Section 01 26 00.
- C. Equipment Rental: For Contractor- or Subcontractor-owned equipment, payment will be made at rental rates listed for equipment in California Department of Transportation official equipment rental rate schedule which is in effect on date upon which extra Work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein. If there is no applicable rate for an item of equipment, then payment shall be made for Contractor- or Subcontractor-owned equipment at rental rate listed in the most recent edition of the Association of Equipment Distributors (AED) book. For rented equipment, payment will be made based on actual rental invoices. Equipment used on extra Work shall be of proper size and type. If, however, equipment of unwarranted size or type and cost is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type, as determined by District. Rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation,

- storage, insurance, and all incidentals. Unless otherwise specified, manufacturer's ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates. Individual pieces of equipment or tools not listed in said publication and having a replacement value of \$100 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore as payment is included in payment for labor. Rental time will not be allowed while equipment is inoperative due to breakdowns.
1. For equipment on Site, rental time to be paid for equipment shall be time equipment is in operation on extra Work being performed or on standby as approved by District. The following shall be used in computing rental time of equipment:
 - a. When hourly rates are listed, less than 30 minutes of operation shall be considered to be ½ hour of operation.
 - b. When daily rates are listed, less than four hours of operation shall be considered to be ½ Day of operation.
 2. For equipment that must be brought to Site to be used exclusively on extra Work, cost of transporting equipment to Site and its return to its original location shall be determined as follows:
 - a. District will pay for costs of loading and unloading equipment.
 - b. Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.
 - c. Cost of transporting equipment shall not exceed applicable minimum established rates of California Public Utilities Commission.
 - d. District will not make any payment for transporting and loading and unloading equipment if equipment is used on Work in any other way than upon extra Work.
 3. Rental period may begin at time equipment is unloaded at Site of extra Work and terminate at end of the performance of the extra Work or Day on which District directs Contractor to discontinue use of equipment, whichever first occurs. Excluding Saturdays, Sundays, and District's legal holidays, unless equipment is used to perform extra Work on such Days, rental time to be paid per Day shall be four hours for zero hours of operation, six hours for four hours of operation and eight hours for eight hours of operation, time being prorated between these parameters. Hours to be paid for equipment that is operated less than eight hours due to breakdowns, shall not exceed eight less number of hours equipment is inoperative due to breakdowns.
- D. Work Performed by Special Forces or Other Special Services: When District and Contractor, by agreement, determine that special service or item of extra Work cannot be performed by forces of Contractor or those of any Subcontractors, service or extra Work item may be performed by specialist. Invoices for service or item of extra Work on basis of current market price thereof may be accepted without complete itemization of labor, material, and equipment rental costs when it is impracticable and not in accordance with established practice of special service industry to provide complete itemization. In those instances wherein Contractor is required to perform extra Work necessitating a fabrication or machining process in a fabrication or machine shop facility away from Site, charges for that portion of extra Work performed in such facility may, by agreement, be accepted as a specialist billing. District must be notified in advance of all off-Site Work. In lieu of overhead and profit provided in paragraph 1.4B of this Section 01 26 00, 15 percent will be added to specialist invoice price, after deduction of any cash or trade discount offered or available, whether or not such discount may have been taken.

1.6 FORCE-ACCOUNT WORK

- A. If it is impracticable because of nature of Work, or for any other reason, to fix an increase or decrease in price definitely in advance, the Contractor may be directed to proceed at a not-to-exceed (NTE) maximum price which shall not under any circumstances be exceeded. Subject to such limitation, such extra Work shall be paid for at actual necessary cost for Force-Account Work or at the negotiated cost, as determined by District. The cost for Force-Account Work shall be determined pursuant to paragraphs 1.4 and 1.5 of this Section 01 26 00.
- B. Force-Account Work shall be used when it is not possible or practical to price out the changed Work prior to the start of that Work. In these cases, Force-Account Work will be utilized during the pricing and negotiation phase of the change. Once negotiations have been concluded and a bilateral agreement has been reached, the tracking of the Work under Force-Account is no longer necessary. Force-Account Work shall also be used when negotiations between District and Contractor have broken apart

and a bilateral agreement on the value of the changed Work cannot be reached. District may approve other uses of Force-Account Work.

- C. Whenever any Force-Account Work is in progress, definite price for which has not been agreed on in advance, Contractor shall report to District each Business Day in writing in detail amount and cost of labor and material used, and any other expense incurred in Force-Account Work on preceding Day, by using the Cost Proposal form attached hereto. No claim for compensation for Force-Account Work will be allowed unless report shall have been made and acknowledged by District.
- D. Whenever Force-Account Work is in progress, definite price for which has not been agreed on in advance, Contractor shall report to District when 75 percent of the NTE amount has been expended.
- E. Force-Account Work shall be paid as extra Work under this Section 01 26 00. Methods of determining payment for Work and materials provided in this paragraph 1.6 shall not apply to performance of Work or furnishings of material that, in judgment of District, may properly be classified under items for which prices are otherwise established in Contract Documents.

1.7 DISTRICT-FURNISHED MATERIALS

- A. District reserves right to furnish materials as it deems advisable, and Contractor shall have no claims for costs and overhead and profit on such materials.

1.8 OVERHEAD DEFINED

- A. The following constitutes charges that are deemed included in overhead for all Contract Modifications, including Force-Account Work or CCD Work, whether incurred by Contractor, Subcontractors, or suppliers, and Contractor shall not invoice or receive payment for these costs separately:
 - 1. Drawings: field drawings, Shop Drawings, etc., including submissions of drawings
 - 2. Routine field inspection of Work proposed
 - 3. General Superintendence, including Project Management or Construction Management services provided by Contractor
 - 4. General administration and preparation of cost proposals, schedule analysis, change orders and other supporting documentation as necessary
 - 5. Computer services
 - 6. Reproduction services
 - 7. Salaries of, superintendent, timekeeper, storekeeper and secretaries
 - 8. Janitorial services
 - 9. Temporary on-Site facilities, including for any extended periods of Contract Time:
 - a. Offices
 - b. Telephones
 - c. Plumbing
 - d. Electrical: Power, lighting
 - e. Platforms
 - f. Fencing, etc.
 - g. Water
 - 10. Home office expenses
 - 11. Insurance and Bond premiums
 - 12. Procurement and use of vehicles and fuel used coincidentally in Work otherwise included in the Contract Documents
 - 13. Surveying
 - 14. Estimating
 - 15. Protection of Work
 - 16. Handling and disposal fees
 - 17. Final cleanup
 - 18. Small tools
 - 19. Warranty
 - 20. Other incidental Work

1.9 RECORDS AND CERTIFICATION

- A. Force-Account (cost reimbursement) charges shall be recorded daily and summarized in Cost Proposal form attached hereto. Contractor or authorized representative shall complete and sign form each Day.

Contractor shall also provide with the form: the names and classifications of workers and hours worked by each; an itemization of all materials used; a list by size type and identification number of equipment and hours operated; and an indication of all Work performed by specialists.

- B. No payment for Force-Account Work shall be made until Contractor submits original invoices substantiating materials and specialists charges.
- C. District shall have the right to audit all records in possession of Contractor relating to activities covered by Contractor's claims for modification of Contract, including Force-Account Work and CCD Work.
- D. Further, District will have right to audit, inspect, or copy all records maintained in connection with this Contract, including financial records, in possession of Contractor relating to any transaction or activity occurring or arising out of, or by virtue of, the Contract. If Contractor is a joint venture, right of District shall apply collaterally to same extent to records of joint venture sponsor, and of each individual joint venture member. This right shall be specifically enforceable, and any failure of Contractor to voluntarily comply shall be deemed an irrevocable waiver and release of all claims then pending that were or could have been subject to the Article 12 of Document 00 71 00.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

SAMPLE OF COST PROPOSAL FORM FOLLOWS ON NEXT PAGE

END OF SECTION

COST PROPOSAL (CP)

<input type="text" value="PROJECT/Contract Number"/>	CP Number: _____ Date: _____ In Response To: (RFP#, etc.) _____
To: The San Mateo County Community College District Attention: [Point of Contact] [Insert POC address] Telephone: (650) [_____]	[Insert POC address] Fax: (650) [_____]

From: _____ REQUESTED CHANGE IN CONTRACT TIME (DAYS) _____

Brief description of change(s): _____

	First-Tier Subcontractors			Lower-Tier Subs		Totals	
	Contractor	Sub A	Sub B	Sub C	Sub A1		Sub B1
LABOR							
Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Mark-up							
%	15%	15%	15%	15%	15%	15%	
\$\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Labor Total Including Taxes							\$ -
MATERIALS							
Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Mark-up							
%	15%	15%	15%	15%	15%	15%	
\$\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Materials Total Including Taxes							\$ -
RENTALS							
Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Mark-up							
%	10%	10%	10%	10%	10%	10%	
\$\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Rentals Total Including Taxes							\$ -
DESIGN SERVICES							
Cost	\$ -	\$ -	\$ -	\$ -			\$ -
Mark-up							
%	15%	15%	15%	15%			
\$\$	\$ -	\$ -	\$ -	\$ -			\$ -
Design Services Total							\$ -
SPECIALTY WORK							
Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Discount	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Mark-up							
%	15%	15%	15%	15%	15%	15%	
\$\$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Specialty Work Total							\$ -
Total All Costs n.i.c. Sales Tax	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Contractor Mark-up on Sub Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1st Tier Subcontractor Mark-up on Lower-tier Subs					\$ -	\$ -	\$ -
Total All Contractor Mark-ups							\$ -
Total Mark-up as a % of Costs							0.00%
Total Sales Tax							\$ -
GRAND TOTAL							\$ -
Print Name & Title: _____				Signature: _____		Date: _____	

Notes:

- 1 Contractor figures are to include only self-performed work. Do not include the value of work performed by first or lower-tier subs

SECTION 01 29 00

MEASUREMENT & PAYMENT**PART 1 GENERAL****1.1 SUMMARY**

Section includes description of all "payment to complete" requirements and procedures for determining amount of Work performed and for obtaining payment for Work performed.

1.2 REFERENCES

- A. California Public Contract Code
- B. Code of Civil Procedures
- C. Government Code
- D. Civil Code

1.3 SCOPE OF WORK

Work under Contract Documents, or under any Bid Item, allowance, or alternate, shall include all labor, materials, taxes, transport, handling, storage, supervision, administration, and all other items necessary for the satisfactory completion of Work, whether or not expressly specified or indicated.

1.4 DETERMINATION OF QUANTITIES

Quantity of work to be paid for under any item for which a unit price is fixed in Contract Documents shall be number, as determined by District, of units of work satisfactorily completed in accordance with Contract Documents or as directed by District. Unless otherwise provided, determination of number of units of work so completed will be based, so far as practicable, on actual measurement or count within prescribed or ordered limits, and no payment will be made for work done outside of limits. Measurements and computations will be made by methods set forth in Contract Documents, including without limitation this Section 01 29 00. If methods are not so set forth, measurements shall be made in any manner which District considers appropriate for class of Work measured (e.g., pre-assigned values, percentage completion, units completed or incremental milestones). Contractor must immediately inform District of any disputes regarding quantity measurements and shall immediately supply District with any documentation supporting the disputed measurements.

1.5 SCOPE OF PAYMENT

- A. Except as otherwise expressly stated in Section 01 10 00 (Summary of Work), payment to Contractor at the lump sum price fixed in the Contract Documents for performing all Work required under Contract Documents may be adjusted pursuant to any approved Change Order or Construction change directive, shall be full compensation for completing, in accordance with Contract Documents, all Work required under the item or under Contract Documents, and for all expense incurred by Contractor for any purpose in connection with the performance and completion of said Work, including all incidental work necessary for completion of the Work.
- B. The Contract Sum shall be deemed to include all costs necessary to complete required Work, all costs (if any) for loss or damage arising from nature of Work or prosecution of the Work, and from action of elements. Unless Contract Documents expressly provide otherwise, the Contract Sum shall be deemed to include:
 - 1. Any and all costs arising from any unforeseen conditions which may be encountered during, and all risks of any description connected with, prosecution of Work or prosecution of Bid Item until acceptance by District;
 - 2. Escalation to allow for cost increases between time of Contract Award and completion of Work or completion of Bid Item.
- C. Whenever it is specified herein that Contractor is to do work or furnish materials in Contract Documents, it shall be understood that Contractor is to do such work or furnish such materials without extra charge or allowance or direct payment of any sort, and that cost of doing work or furnishing materials is to be included in

price Bid, unless it is expressly specified herein, in particular cases, that work or material is to be paid for as extra work.

- D. No payment shall be made for materials or equipment not yet incorporated into the Work, except as specified in Section 01 10 00 (Summary of Work).
- E. The District may, in its discretion, where Contractor requests payment on the basis of materials and equipment not incorporated in the Work, Contractor must satisfy the following conditions:
 - 1. The materials and/or equipment shall be delivered and suitably stored at the Site or at another local location agreed to in writing, for example, a mutually acceptable bonded warehouse;
 - 2. Full title to the materials and/or equipment shall vest in District at the time of delivery to the Site, bonded warehouse or other bonded storage location;
 - 3. Obtain a negotiable warehouse receipt, endorsed over to District for materials and/or equipment stored in and off-site warehouse. No payment will be made until such endorsed receipts are delivered to District;
 - 4. Stockpiled materials and/or equipment shall be available for District inspection, but District shall have no obligation to inspect them and its inspection or failure to inspect shall not relieve Contractor of any obligations under the Contract Documents. Materials and/or equipment shall be segregated and labeled or tagged to identify these specific Contract Documents;
 - 5. After delivery of materials and/or equipment, if any inherent or acquired defects are discovered, defective materials and/or equipment shall be removed and replaced with suitable materials and/or equipment at Contractor's expense;
 - 6. At Contractor's expense, insure the materials and/or equipment against theft, fire, flood, vandalism, and malicious mischief, as well as any other coverages required under the Contract Documents;
 - 7. Contractor's Application for Payment shall be accompanied by a bill of sale, invoice or other documentation warranting that District has received the materials and equipment free and clear of all liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect District's interest therein, all of which must be satisfactory to District. This documentation shall include, but not be limited to, conditional releases of mechanics' liens and stop notices from all those providing materials and equipment as to which the Application for Payment relates, as well as unconditional releases of the same from the same as to the previous Application for Payment for which they have not already been provided. In addition, for each piece of major equipment listed in Section 01 10 00 (Summary of Work) the Contractor is to submit a sample of the maintenance log (See paragraph 1.6.H.11 of Section 01 60 00) that will be used during the project with the Application for Payment.
- F. Amounts previously paid for materials and equipment prior to incorporation into the Work shall be deducted from amounts otherwise due Contractor as they are incorporated.

1.6 BASIS OF PAYMENT

- A. Lump Sum: When estimated quantity for specific portion of Work is not indicated and unit is designated as lump sum, payment will be on a lump sum basis for Work satisfactorily completed in accordance with Contract Documents.
- B. Allowances: Allowance items (if any) will be paid for as provided in Section 01 10 00 (Summary of Work). Funds authorized for Allowance work will not be released for Contract payments unless District has authorized Allowance work in writing.
- C. District does not expressly, or by implication, agree, warrant, or represent in any manner, that actual amount of Work will correspond with amount shown or estimated and reserves right to increase or decrease amount of any class or portion of Work, to leave out entire Bid Item or Items, or to add work not originally included in Bid or Contract Documents, when in its judgment such change is in best interest of District. No change in Work shall be considered a waiver of any other condition of Contract Documents.

1.7 PROGRESS PAYMENTS

- A. If requested by Contractor, progress payments will be made monthly.
- B. Schedule of Values:
 - 1. Within ten (10) Days from issuance of Notice of Award and prior to the Contractor's first Application for Payment, submit a detailed breakdown of its Bid by scheduled Work items and/or activities, including coordination responsibilities and Project Record Documents responsibilities. Where more than one Subcontractor comprises the work of a Work item or activity, the Schedule of Values shall show a separate line item for each subcontract. Furnish such breakdown of the total Contract Sum by assigning dollar values (cost estimates) to each applicable Progress Schedule network activity, which cumulative sum

- equals the total Contract Sum. See Specification 01320. The format and detail of the breakdown shall be as directed by District to facilitate and clarify future progress payments to Contractor for direct Work under Contract Documents. This breakdown shall be referred to as the Schedule of Values.
2. Contractor's overhead, profit, insurance, cost of bonds (except to the extent expressly identified in a Bid Item) and/or other financing, as well as "general conditions costs," (e.g., Site cleanup and maintenance, temporary roads and access, off-Site access roads, temporary power and lighting, security, and the like), shall be prorated through all activities so that the sum of all the Schedule of Values line items equals Contractor's total Contract Sum, less any allowances designated by District. Scheduling, record documents and quality assurance control shall be separate line items.
 3. District will review the breakdown in conjunction with the Progress Schedule to ensure that the dollar amounts of this Schedule of Values are, in fact, fair market cost allocations for the Work items listed. Upon favorable review by District, District will accept this Schedule of Values for use. District shall be the sole judge of fair market cost allocations.
 4. District will reject any attempt to increase the cost of early activities, i.e., "front loading," resulting in a complete reallocation of moneys until such "front loading" is corrected. Repeated attempts at "front loading" may result in suspension or termination of the Work for default, or refusal to process progress payments until such time as the Schedule of Values is acceptable to District.
- C. Applications for Payment: Contractor shall establish and maintain records of cost of the Work in accordance with generally accepted accounting practices. In addition:
1. On or before the 20th Day of each month (but after receipt of District's approval of the updated Schedule as required by Section 01 32 16 (Progress Schedules and Reports)), Contractor shall submit to District one copy of an Application for Payment for the cost of the Work put in place during the period from the 1st Day of the previous month to the Last Day of the previous month. Such Applications for Payment shall be for the total value of activities completed or partially completed, including approved activity costs, based upon Schedule of Values prices of all labor and materials incorporated in the Work up until midnight of the last Day of that one month period, less the aggregate of previous payments. Accumulated retainage shall be shown as separate item in payment summary. Contractor shall submit in a form similar in format to AIA form G702 and G703 an itemized cost breakdown of Contractor's record of Cost of the Work together with supporting data and any certification required by District. If Contractor is late submitting its Application for Payment, that Application may be processed at any time during the succeeding one-month period, resulting in processing of Contractor's Application for Payment being delayed for more than a Day for Day basis.
 2. Applications for Payment may include, but are not necessarily limited to the following:
 - a. Material, equipment, and labor incorporated into the Work, less any previous payments for the same;
 - b. Up to 75 percent of the cost of equipment identified in paragraph 1.5E of this Section 01 29 00 (if any), if purchased and delivered to the Site or stored off Site, as may be approved by District.
 - c. Up to 50 percent of the cost of materials identified in paragraph 1.5E of this Section 01 29 00 (if any), specifically fabricated for the Project that are not yet incorporated into the Work.
 3. At the time any Application for Payment is submitted, certify in writing the accuracy of the Application and that Contractor has fulfilled all scheduling requirements of Section 00 71 00 (General Conditions) and Section 01 32 16 (Progress Schedules and Reports), including updates and revisions. A responsible officer of Contractor shall execute the certification.
 4. No progress payment will be processed prior to District receiving all requested, acceptable schedule update information. Failure to submit a schedule update complying with Section 01 32 16 (Progress Schedules and Reports) justifies denying the entire Application for Payment. Should Contractor fail to submit timely or accurate schedule updates the District has the right to impose a Withhold of funds in the amount up to \$10,000 per occurrence until the contractor demonstrates compliance with timely, acceptable and accurate schedule update submittals. In the sole judgment of the District if it is determined that the contractor is not capable of delivering timely and accurate updates these Withheld monies may be converted to a back charge to Contractor to offset the costs to the District associated with providing the schedule update function. See also Section 01 32 16 (Progress Schedules and Reports), paragraph 1.2.J.
 5. If Contractor fails or refuses to participate in work reconciliations or other construction progress evaluation with District, Contractor shall not receive current payment until Contractor has participated fully in providing construction progress information and schedule update information to District.
 6. Each Application for Payment shall list each Change Order and Construction change directive ("CCD") executed prior to date of submission, including the Change Order/CCD Number, and a description of the

- work activities, consistent with the descriptions of original work activities. Submit a monthly Change Order/CCD status log to District.
7. If District requires substantiating data, submit information requested by District, with cover letter identifying Project, Application for Payment number and date, and detailed list of enclosures. Submit one copy of substantiating data and cover letter for each copy of Application for Payment submitted.
 8. With each Application for Payment the following reports and logs shall be submitted:
 - a. Copies of completed maintenance logs for each piece of major equipment listed in Section 01 10 00 (Summary of Work) shall be submitted according to the requirements specified in Section 01 60 00 (Product Requirements).
 - b. Copies of up-to-date Waste Reporting Log per Section 01 74 00 (Cleaning) paragraph 1.2.E.5 Contractor's Application for Payment will be deemed incomplete without these documents.
- D. Progress Payments
1. District will review Contractor's Application for Payment following receipt. If adjustments need to be made to percent of completion of each activity, District will make appropriate notations and return to Contractor. Contractor shall revise and resubmit. All parties shall update percentage of completion values in the same manner, i.e., express value of an accumulated percentage of completion to date.
 2. Each Application for Payment may be reviewed by District and/or inspectors to determine whether the Application for Payment is proper, and shall be rejected, revised, or approved by District pursuant to the Schedule of Values prepared in accordance with this Section 01 29 00.
 3. If it is determined that the Application for Payment is not proper and suitable for payment, District will return it to the Contractor as soon as practicable, but no later than seven (7) Days after receipt, together with a document setting forth in writing the reasons why the Application for Payment is not proper. If District determines that portions of the Application for Payment are not proper or not due under the Contract Documents, then District may approve the other portions of the Application for Payment, and in the case of disputed items or defective Work not remedied, may withhold up to 150 percent of the disputed amount from the progress payment.
 4. Pursuant to Public Contract Code Section 20104.50, if District fails to make any progress payment within 30 Days after receipt of an undisputed and properly submitted Application for Payment from Contractor, District shall pay interest to the Contractor equivalent to the legal rates set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure. The 30-Day period shall be reduced by the number of Days by which District exceeds the seven (7) Day return requirement set forth herein.
 5. As soon as practicable after approval of each Application for Payment for progress payments, District will pay to Contractor in manner provided by law, an amount equal to 95 percent of the amounts otherwise due as provided in the Contract Documents, or a lesser amount if so provided in Contract Documents, provided that payments may at any time be withheld if, in judgment of District, Work is not proceeding in accordance with Contract, or Contractor is not complying with requirements of Contract, or to comply with stop notices or to offset liquidated damages accruing or expected.
 6. Before any progress payment or final payment is due or made, Contractor shall submit satisfactory evidence that Contractor is not delinquent in payments to employees, Subcontractors, suppliers, or creditors for labor and materials incorporated into Work. This specifically includes, without limitation, conditional lien release forms for the current progress payment and unconditional release forms for past progress payments. District also may elect in its sole discretion to pay progress payments by joint check to Contractor and each Subcontractor having an interest in that progress payment in such amount.
 7. District reserves and shall have the right to withhold payment for any equipment and/or specifically fabricated materials that, in the sole judgment of District, are not adequately and properly protected against weather and/or damage prior to or following incorporation into the Work.
 8. Granting of progress payment or payments by District, or receipt thereof by Contractor, shall not be understood as constituting in any sense acceptance of Work or of any portion thereof, and shall in no way lessen liability of Contractor to replace unsatisfactory work or material, though unsatisfactory character of work or material may have been apparent or detected at time payment was made.
 9. When District shall charge sum of money against Contractor under any provision of Contract Documents, amount of charge shall be deducted and retained by District from amount of next succeeding progress payment or from any other moneys due or that may become due Contractor under Contract. If, on completion or termination of Contract, such moneys due Contractor are found insufficient to cover District's charges against it, District shall have right to recover balance from Contractor or Sureties.

1.8 SUBSTITUTION OF SECURITIES IN LIEU OF RETENTION

- A. In accordance with the provisions of Public Contract Code Section 22300, substitution of securities for any moneys withheld under Contract Documents to ensure performance is permitted under following conditions:
1. At request and expense of Contractor, securities listed in Section 16430 of the Government Code, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by Contractor and District which are equivalent to the amount withheld under retention provisions of Contract shall be deposited with Controller or with a state or federally chartered bank in California, as the escrow agent, who shall then pay such moneys to Contractor. Upon satisfactory completion of Contract, securities shall be returned to Contractor.
 2. Alternatively, Contractor may request and District shall make payment of retentions earned directly to the escrow agent at the expense of Contractor. At the expense of Contractor, Contractor may direct the investment of the payments into securities and receive the interest earned on the investments upon the same terms provided for in this Section 01 29 00 for securities deposited by Contractor. Upon satisfactory completion of Contract Documents, Contractor shall receive from escrow agent all securities, interest, and payments received by the escrow agent from District, pursuant to the terms of this Section 01 29 00. Pay to each Subcontractor, not later than twenty (20) Days after receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each Subcontractor, on the amount of retention withheld to insure the performance of Contractor.
 3. Contractor shall be beneficial owner of securities substituted for moneys withheld and shall receive any interest thereon.
 4. Enter into escrow agreement with Controller according to Document 00 43 45 (Escrow Agreement for Security Deposits in Lieu of Retention), as authorized under Public Contract Code Section 22300, specifying amount of securities to be deposited, terms and conditions of conversion to cash in case of default of Contractor, and termination of escrow upon completion of Contract Documents.
 5. Public Contract Code Section 22300 is hereby incorporated in full by this reference.

1.9 FINAL PAYMENT

- A. As soon as practicable after all required Work is completed in accordance with Contract Documents, including punchlist, testing, record documents and Contractor maintenance after Final Acceptance, District will pay to Contractor, in manner provided by law, unpaid balance of Contract Sum of Work (including without limitation retentions), or whole Contract Sum of Work if no progress payment has been made, determined in accordance with terms of Contract Documents, less sums as may be lawfully retained under any provisions of Contract Documents or by law.
- B. Prior progress payments shall be subject to correction in the final payment. District's determination of amount due as final payment shall be final and conclusive evidence of amount of Work performed by Contractor under Contract Documents and shall be full measure of compensation to be received by Contractor.
- C. Contractor and each assignee under an assignment in effect at time of final payment shall execute and deliver at time of final payment, and as a condition precedent to District's obligation to make final payment, Document 00 65 73 (Agreement and Release of Any and All Claims) discharging District, its officers, District's Representative, employees, and consultants of and from liabilities, obligations, and claims arising under Contract Documents.

1.10 EFFECT OF PAYMENT

- A. Payment will be made by District, based on District's observations at the Site and the data comprising the Application for Payment. Payment will not be a representation that District has:
1. Made exhaustive or continuous on-Site inspections to check the quality or quantity of Work;
 2. Reviewed construction means, methods, techniques, sequences, or procedures;
 3. Reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by District to substantiate Contractor's right to payment; or
 4. Made examination to ascertain how or for what purpose Contractor has used money previously paid on account of the Contract Sum.

1.11 CONTINGENCY RESERVE

- A. District will authorize and direct Contractor regarding provisions in this paragraph.
- B. Contingency Reserve Amount: as listed in Document 00 52 00 (Agreement).

- C. District shall determine in its sole discretion which, if any, costs it will authorize in writing to be paid from the Contingency Reserve. Generally, Contingency Reserve will be used only for District-initiated changes in scope of Work of Contract Documents.
- D. Cost shall be determined as for CCD work as provided in Section 01 26 00 (Modification Procedures).
- E. Prior to final payment, an appropriate Change Order will be issued to reflect actual amounts due Contractor on account of Work covered by this Contingency Reserve, and the Contract Sum will be correspondingly adjusted

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 31 19

PROJECT MEETINGS**PART 1 GENERAL****1.1 SUMMARY**

A. Section Includes:

1. Descriptions of the required Project meetings for the Work. These meetings include:
 - a. Preconstruction Conference.
 - b. Schedule Review Meetings.
 - c. Weekly Progress Meetings.
 - d. Progress Schedule and Billing Meetings.
 - e. Special Meetings.

1.2 PRECONSTRUCTION CONFERENCE

- A. District will call for and administer Preconstruction Conference at time and place to be announced (usually the week prior to start of the Work at the Site).
- B. Contractor, all major Subcontractors, Construction Scheduler, and major suppliers shall attend Preconstruction Conference.
- C. Agenda may include, but not be limited to, the following items.
 1. Schedules
 2. Contractor's Initial Contract Schedule
 3. Contractor's Schedule of Values
 4. Contractor's Schedule of Submittals
 5. Personnel and vehicle permit procedures
 6. Use of premises
 7. Location of the Contractor's on-Site facilities
 8. Security
 9. Housekeeping
 10. Safety/HAZMAT/Regulatory Agencies
 11. Site Conduct and Procedures
 12. Submittal and RFI procedures
 13. Inspection and testing procedures, on-Site and off-Site
 14. Utility shutdown procedures
 15. Control and reference point survey procedures
 16. Injury and Illness Prevention Program
 17. Project Directory
 18. Contractor's Emergency Contact List
 19. Other Project Specific Issues as required
- D. District's Representative will distribute copies of minutes to attendees. Attendees shall have seven (7) Business days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of Preconstruction Conference.

1.3 SCHEDULE REVIEW MEETINGS

- A. Meet with District prior to Start Date of the Work under Contract Documents and conduct initial review of Contractor's draft Shop Drawing and Sample Submittal Schedule, draft Schedule of Values, and Initial Contract Schedule.
- B. Authorized representative in Contractor's organization, designated in writing, which will be responsible for working and coordinating with District relative to preparation and maintenance of Progress Schedule shall attend the initial schedule review meeting.
- C. Contractor shall, within sixty (60) Days from the Notice to Proceed date, meet with District to review the Progress Schedule and construction schedule submittals.

1. Contractor shall have its manager, superintendent, scheduler, and key Subcontractor representatives, as required by District, in attendance. The meeting will take place over a continuous one-Day period.
2. District's review will be limited to submittal's conformance to Contract Documents requirements including, but not limited to, coordination requirements. District's review may also include:
 - a. Clarifications of Contract Requirements.
 - b. Directions to include activities and information missing from submittal.
 - c. Requests to Contractor to clarify its schedule.
3. Within 5 Days of the Schedule Review Meeting, Contractor shall resubmit his Initial schedule which incorporates all questions and comments expressed by District at the meeting.
- D. District will administer Schedule Review Meetings and shall distribute minutes of Schedule Review Meetings to attendees. Attendees shall have 5 Days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of Schedule Review Meetings.

1.4 WEEKLY PROGRESS MEETINGS

- A. District will schedule and administer weekly progress meetings throughout duration of Work. Progress meetings will be held weekly unless otherwise directed by District. Meetings shall be held at Contractor's on-Site office unless otherwise directed by District.
 1. The District representative will prepare agenda and distribute it two (2) Workdays in advance of meeting to Contractor.
 2. Architect/Engineer and other responsible entities shall attend meetings unless otherwise specified in Contract Documents or provided by District.
 3. The District will record meeting notes of the Weekly Progress Meeting. Within three (3) Workdays after the meeting, District will distribute minutes to Contractor through e-mail, who will distribute to those affected by decisions made at meeting. Attendees shall have five business days to submit comments or additions to the minutes to the District's Project Manager. Minutes will constitute final memorialization of results of meeting.
- B. Progress meetings shall be attended by Contractor's job superintendent, major Subcontractors and suppliers, District, and others as appropriate to agenda topics for each meeting.
- C. Agenda will contain the following items, as appropriate:
 1. Review, revise as necessary, and approve previous meeting minutes
 2. Review of Work progress since last meeting
 3. Status of Construction Work Schedule, delivery schedules, adjustments
 4. Submittal, RFI, and Change Order status
 5. Review of the Contractor's safety program activities and results, including report on all serious injury and/or damage accidents
 6. Other items affecting progress of Work

1.5 PROGRESS SCHEDULE AND BILLING MEETINGS

- A. A meeting will be held on approximately the 20th of each month or as agreed to with the District (but no more than once every thirty (30) Days) to review the schedule updates submittal and progress payment application.
 1. At this meeting, at a minimum, the following items will be reviewed:
 - a. Percent complete of each activity;
 - b. Any current Time Impact Evaluations for Change Orders and Time Extension Request;
 - c. Any anticipated activity sequence changes;
 - d. Any anticipated duration changes; and
 - e. Actual and anticipated project delays.
 These schedule changes shall be approved by the District prior to inclusion in the accepted project schedule.
 2. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, Contractor's General Superintendent and Scheduler shall attend these meetings.
 3. Contractor shall plan on the meeting and set aside sufficient time to review the progress schedule and the monthly pay application

1.6 SPECIAL MEETINGS

- A. Any party may call special meetings by notifying all desired participants and District five (5) Workdays in advance, giving reason for meeting. Special meetings may be held without advance notice in emergency situations.

- B. At any time during the progress of Work, District shall have authority to require Contractor attend meeting of any or all of the Subcontractors engaged in Work or in other work, and notice of such meeting shall be duly observed and complied with by Contractor.
- C. Contractor shall schedule and conduct coordination meetings as necessary to discharge coordination responsibilities in Section 00 71 00 (General Conditions). Contractor shall give District five (5) Workdays written notice of coordination meetings. Contractor shall maintain minutes of coordination meetings. Attendees shall have five (5) Workdays to submit comments or additions to minutes. Minutes will constitute final memorialization of results of coordination meetings.

1.7 GUARANTEES/WARRANTIES, BONDS, AND SERVICE AND MAINTENANCE CONTRACTS REVIEW MEETING/INSPECTION

- A. Eleven months following date of Final Completion of entire work, Contractor to conduct an inspection with the District, or District's Representative, to review and act upon guarantees/warranties, bonds, and service and maintenance contracts for materials and equipment. Implement repair or replacement of defective items, and extend service and maintenance contracts, as desired by District.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 32 16

PROGRESS SCHEDULES AND REPORTS**PART 1 – GENERAL****1.1 DESCRIPTION**

- A. This Section is in addition to the Contract General Conditions and Supplementary General Conditions.
- B. Contractor shall develop a network plan and schedule for the project demonstrating complete fulfillment of all contract requirements, shall keep the network plans up to date in accordance with the requirements of this section and shall utilize the Critical Path Method (CPM) in planning, coordinating, performing and reporting the work under this contract, including all activities of Subcontractors, equipment vendors, and suppliers, and in assisting District and District's Project Manager in monitoring the progress of the Work.
- C. The CPM schedule shall be prepared using Primavera Scheduling product. Equivalency of a proposed substitute CPM program shall be determined by the District.
- D. The principles and definition of CPM in terms used herein shall be as follows:
 - 1. CPM network is a graphic description of the Contractor's construction plan, showing the sequential steps needed to reach the completion of the Work within the prescribed Contract Time. It shall depict events and tasks as activities, and their interrelationships, and shall recognize the progress that must be made on one activity before subsequent activities can begin. These activities shall be logically represented in a CPM network showing their interrelationships in a chronological fashion. As each activity has a time allocation, the completed network shows the critical path of activities that must be completed on time if the entire Project is not to be delayed. It shall also be possible to identify the earliest and latest start and finish times for each activity if the overall Project is not to be delayed. Therefore, the CPM network shall be comprehensive and shall include all interdependencies and interactions required to perform the Work of the Project.

1.2 SUBMITTALS

- A. Refer to Section 01 32 19 (Submittal Procedures), for procedures.
- B. Within ten (10) days following receipt of Notice of Award prior to the full execution of signed Agreement, and prior to engaging a scheduling consultant or commencing performance of the work specified in this Section with its own forces, Contractor shall submit to the District:
 - 1. The name and the address of the proposed consultant (see paragraph 1.5 below).
 - 2. Information sufficient to show that the proposed consultant or Contractor's own organization has staff and computer facilities meeting the requirements herein.
 - 3. A list of prior projects, with District telephone contact numbers for which the proposed consultant or Contractor's own organization, or staff thereof, has performed services similar to those required for this Contract.
- C. A "Draft" Initial Contract Schedule shall be submitted no later than the pre-construction kick-off meeting date followed by the Initial Contract Schedule submittal based upon District's comments.
- D. Contractor shall submit preliminary submittal schedule to District no later than 10 days following the Notice to Proceed.
- E. Submit Initial Contract Schedule within ten (10) days after District's issuance of the Notice of Award to Contractor.
- F. Submit Final As-Built Schedule per paragraph 1.9 below.
- G. Monthly updated Initial Contract Schedules (hereinafter referred to as the Monthly Baseline Schedules) and reports; three (3) each, referenced herein shall be submitted concurrently in a single package. It is expected that this submittal

shall precede by five (5) days the Contractor's pay application. Contractor shall also submit a copy of the computer data disks used to produce hard copy submittals.

- H. All other required reports referenced herein, typically three (3) each per occurrence.
- I. Submit one (1) reproducible and three (3) color plots on "E" size sheets (approximately 36" x 48") of each required schedule and three (3) copies of all required reports. Contractor shall also submit a copy of the computer data disks used to produce hard copy submittals.
- J. In addition to all other District rights and remedies in the Contract Documents, including without limitation those in Section 01 29 00 (Measurement and Payment), paragraph 1.7.C.4, should Contractor fail to submit timely or accurate schedule updates the District has the right, in addition to all other rights under the Contract Documents, to impose a withhold of funds in the amount up to \$10,000 per occurrence, until the Contractor demonstrates compliance with timely, acceptable and accurate schedule update submittals. In the sole judgment of the District, if it is determined that the Contractor is not capable of delivering timely and accurate updates, these withheld monies may be converted to a back charge to Contractor to offset the costs to the District associated with providing the schedule update function.

1.3 ACCEPTANCE

- A. District shall have the right to accept or reject the proposed scheduling consultant. Contractor shall re-propose qualified alternates, at no additional cost to the District, within three (3) days thereafter and until such time as District approval is received. Notice to Proceed will not be issued until the scheduling consultant has been approved.
- B. Acceptance of the Contractor's Initial Contract Schedule by the District will be a condition precedent to the making of any progress payment for work performed beyond ninety (90) days from receipt of the Notice to Proceed.
- C. The required schedules and reports shall be prepared and submitted for review and approval in accordance with the General Conditions, Supplemental General Conditions and this Section.
- D. The monthly updating of the Baseline Schedule and reports shall be an integral part and basic element of the estimate upon which progress payments will be made. Submittal, review and approval by District of these items shall be a condition precedent to the making of progress payments. If, in the judgment of District, Contractor fails or refuses to provide a complete updated Monthly Baseline Schedule or reports, as specified, the Contractor will be deemed to have not provided the required estimate upon which progress payments may be made, and shall not be entitled to such progress payments unless or until it has furnished the aforesaid schedules.
- E. In the event the contractor submits a viable, contractually compliant construction schedule which indicates project completion at a date earlier than the contractually provided contract duration, the acceptance of such a schedule will not change the contract time. In such an event, a schedule activity entitled "project float", of a duration equal to the difference between the proposed construction duration and the contract duration, will be added to the schedule. All project float is a project resource for the contractor and the District, and is not for the exclusive use of either party.

1.4 CONSTRUCTION ANALYSIS

- A. Contractor shall use Primavera Scheduling product. Contractor shall coordinate with District to produce the following minimum information with the Initial Contract Schedule:
 - 1. Activity identification;
 - 2. Activity description;
 - 3. Status date and original/remaining duration;
 - 4. Activity percentage complete;
 - 5. Activity duration;
 - 6. Early start/finish and late start/finish;
 - 7. Total float;
 - 9. The predecessor and successor activities for each individual activity;
 - 10. A comparison between the current update and the baseline schedule;
 - 11. Designation of the planned work day/work week for each activity;

12. A near-critical item list of activities with ten (10) days or less total float;
13. Scheduled and actual manpower loading for each activity; and
14. Scheduled and actual progress payment for each activity.

1.5 QUALITY ASSURANCE

- A. To assist in the preparation and for the production of the required submittal of the Schedules and Reports outlined in this Section, Contractor shall engage, at his own expense, a CPM consultant having the following qualifications, except that Contractor may perform these services with its own organization if Contractor itself has such qualifications:
1. Have a staff of two (2) or more employees regularly engaged and skilled in the application of computerized CPM scheduling methods on similar or larger size construction projects.
 2. Possess or have access to computer programs for preparation and production of schedules and reports.
 3. Have computer facilities or access on short notice to computer facilities with the capability of delivering a CPM plot and readout within 48-hours, and;
 4. Utilize a Windows-based computer-software program compatible with Primavera Scheduling product or later or equal, without need for the District to perform a conversion. The Contractor's network, if acceptable and in other than Primavera, shall be converted to Primavera by the Contractor at no additional expense to the District.

1.6 CONTRACT DELIVERABLES

- A. Draft Initial Contract Schedule:
1. Submission:
 - a. Contractor shall submit a "draft" Initial Contract Schedule to District no later than the date of the project preconstruction conference as scheduled by the District. The draft Initial Contract Schedule will include all activities that are required or anticipated to be complete within the first ninety (90) days of the project. The draft Initial schedule shall also contain a summarization of the remaining activities formatting the remaining work areas, overall contract duration, milestones, etc. for the remainder of the project.
 - b. Any revisions deemed necessary by District as a result of its review (fourteen (14) days) shall be incorporated into the Contractor's "draft" Initial Contract Schedule and re-submitted to District for review within ten (10) days after Contractor's receipt of the "draft" Preliminary Initial Contract Schedule from District
 2. Form:
 - a. Prepare the "draft" Initial Contract Schedule as a time-scaled CPM network showing continuous flow from left to right. Durations and specific calendar dates shall be clearly and legibly shown for the start and finish of each work activity in sufficient detail to demonstrate preliminary planning for the Work and to represent a practical plan to complete the Work within the Contract Time. The "draft" Initial Contract Schedule shall also be submitted to the District in electronic format
 3. The "draft" Initial Contract Schedule shall include but not be limited to:
 - a. A legend of scheduled activities.
 - b. Scheduled work activities that clearly indicate the scope of work to be completed.
 - c. Major milestones, which are critical to the completion of the work, including but not limited to the following: NTP date; mobilization; coordination review and detailing activities; contractor quality control review activities; substantial completion and contract completion.
 - d. Major work activity categories to be included in the Initial Contract Schedule
 - e. Submittals Section, containing submission, review, procurement and delivery of all project materials
 - f. OFCI/OFOI items
 - g. Substantial Completion
 - h. Punch list formulation District's, etc.) and correction
 - i. Contractor closeout documentation and training.
 - j. Contractor punch list corrective work.
 - k. Demobilization and project completion.
 - m. Inclement weather days per Section 00 71 00 (General Conditions).
 - n. A plot of the "draft" Initial Contract Schedule with a clearly highlighted critical path.
 - o. Calendar designations identifying all holidays and non-working days.

- p. The “draft” Initial Contract Schedule shall contain an activity code structure sufficient to allow future sorting/grouping by responsibility or subcontractor, area/location, CSI division, SOV identification, Milestones and a code entitled “Update” that will identify the schedule submission when specific activities were added to the network (new activities, Change Orders, RFI’s, etc.).

B. Initial Contract Schedule:

1. Contractor shall submit to District for review and approval an Initial Contract Schedule no later than thirty (30) days after Notice to Proceed, but in such time to allow for review and approval ninety (90) days from the Notice to Proceed. The Initial Contract Schedule shall be a computerized detailed task level CPM diagram in precedence diagramming method (PDM) format. A clear delineation of construction activities shall be shown on the Initial Contract Schedule.
 - a. Contractor and requested subcontractors shall participate in a review of the proposed Initial Contract Schedule by District when requested to do so. Any revisions deemed necessary by District as a result of this joint review shall be re-submitted within twenty (20) days after said meeting.
2. All activities in the Initial Contract Schedule shall have sufficient code structure to enable a sort by activity code, or "rollup" of the activities in the form of a Summary Schedule. The code structure will allow sufficient sorting capabilities to group by: responsibility (by subcontractor), location (building, floor, area, etc.), type (submittal, approval, change, etc), milestones, CSI division, etc.
3. The work activities comprising the Initial Contract Schedule shall be of sufficient detail to ensure adequate planning and execution of the Work and such that the schedules provide an appropriate basis for monitoring and evaluating the progress of the Work. A work activity is defined as a singular task that requires time and resources (manpower, equipment, and/or material) to complete in a continuous operation (excepting submittal activities, review/approval activities, and fabrication and procurement activities). No activity shall be less than one (1) nor more than fifteen (15) days in duration for any on-site operation. All holidays and non-working days shall be identified by way of calendar designations.
4. Failure by Contractor to include any element of the work required for the performance of this Contract and completion of the Project shall not excuse Contractor from completing all work required within the time for completion, notwithstanding District's acceptance of the Initial Contract Schedule.
5. No more than 20% of the total number of activities shown on the schedule shall be critical or near critical. Near critical is defined as float less than ten (10) days.
6. The schedule shall indicate the sequence and interdependency of all work activities. All activities shall be linked by finish-to-start (FS) relationships only. No other relationships shall be permitted without the prior written permission of the District. Constraints on activities shall be kept to a minimum and subject to the written permission of the District.
7. A combined three (3) week Look-Ahead Schedule with a one (1) week As-Built Schedule for the previous week shall be submitted by Contractor to District for review and approval at each progress meeting. This Look-Ahead Schedule may be derived from the General Superintendent’s notes in a format other than Primavera; however, the Look-Ahead Schedule logic shall be a representation of the Initial Contract Schedule or the revised Baseline Schedule logic. If the superintendent’s and revised Baseline Schedule schedule’s logic deviate significantly, a reconciliation of the two schedules shall be required. This revision shall follow procedures as outlined in 01310C.2, as described below.
8. Critical Work activities are defined as Work activities which, if delayed or extended, will delay the scheduled completion date of the Work. All other Work activities are defined as non-critical Work activities and are considered to have float.
9. Float is defined as the time that a non-critical Work activity can be delayed or extended without delaying the scheduled completion of milestones specified in this Section or the scheduled completion date of the Work, or both. Float time is not for the exclusive use or benefit of either District or Contractor. The Project owns the float. As such, liability for delay of any Substantial Completion or Final Completion date rest with the party whose actions, last in time, actually cause delay to a Substantial Completion or Final Completion date. Document the effect on the updated Contract Schedule whenever float has been used.
10. Delays of any non-critical Work shall not be the basis for an extension of Contract Time until the delays consume the float associated with that non-critical Work activity and cause the Work activity to become critical.
11. Contractor shall not sequester float through strategies including extending activity duration estimates to consume available float, using preferential logic, using extensive or insufficient crew/resource loading, use of float suppression techniques like Zero Total Float constraints, special lead/lag logic restraints or imposed dates. Use of

float time disclosed or implied by the use of alternate float suppression techniques shall be shared to the benefit of both District and Contractor.

12. Include a critical path activity titled "Remaining Inclement Weather Days" on the Initial Contract Schedule. This activity shall have an initial duration of the number of days indicated in Section 00 71 00 (General Conditions), paragraph 14.D.2.
13. Once approved by District, Contractor's Initial Contract Schedule shall be known as the Baseline Schedule and shall be used by Contractor for executing the Work of the Contract, including planning, organizing and directing the Work, and reporting its progress until subsequently revised. No unilateral changes shall be made to the Baseline Schedule without the prior approval and consent of the District, excepting only the reporting of Actual Start, Actual Finish, and Activity Progress.

C. Baseline Schedule Updating and Progress Payments:

1. The Baseline Schedule shall be updated on a monthly basis (or at lesser intervals if deemed necessary by District without additional cost to District for reasons such as work activities being thirty (30) days or more behind schedule) for the purpose of recording and monitoring the progress of the work. Contractor shall meet with District each month to review actual progress made to date, activities started and completed to date, and the percentage of work completed to date on each activity started but not completed. Upon completion of the joint review, Contractor shall prepare the updated Baseline Schedule and submit it to District.
2. The updated Baseline Schedule shall incorporate all changes mutually agreed upon by Contractor and District during preceding periodic reviews and all changes resulting from approved Change Orders and Field Orders. Unauthorized, unilateral contractor changes to logic or activities shall not be allowed.
3. Once each month, prior to submission of the payment application, the Contractor shall submit to the District a report generated from the approved schedule that reflects the percent of completion by activity. The Contractor and the District shall walk the project to verify the percentage of completion of each activity. Once the percent of completion of each activity is agreed upon the Contractor shall incorporate this data into the schedule update and these percentages shall be the basis for development of that month's payment application.
4. Acceptance of the Updated Baseline Schedule will be a condition precedent to the making of any progress payments for work performed.

D. Reports:

1. The Initial Schedule submittal shall include the following:
 - A. A computer generated, time-scaled CPM Network Diagram;
 - B. Detailed Bar Chart;
 - C. Computer Generated Reports
 1. A tabular report of all activities grouped by Area (i.e. Milestones, Procurement, Construction) and sorted by early start then total float then early finish. For each activity the following information shall be indicated:
 - a. Activity ID
 - b. Activity Description
 - c. Original Duration
 - d. Remaining Duration
 - e. Percent Complete
 - f. Total Float
 - g. Early/Late Starts and Finishes
 - h. Responsibility
 - D. Project calendar indicating all non-working periods
 - E. Activity codes dictionary, which shall identify all code values and code titles used.
 - F. Submittal Schedule:
 1. Contractor, within twenty-one (21) days after Notice to Proceed, shall prepare and submit to District for approval a comprehensive Submittal Schedule which shall be maintained in the Initial Contract Schedule. Contractor shall identify on the Submittal Schedule all of the submittal items required by the Contract Documents governing the Work, listing shop drawings and product data or literature separately. Contractor shall indicate for each submittal item on the Submittal Schedule:
 2. The date by which that item will be submitted to District.
 3. Whether the submittal is for review, substitution, or for record only.
 4. The date by which response by District is required.

5. The date by which the material or equipment must be on the Site in order not to delay the progress of the Work.
- G. An electronic copy of the monthly network, on a CD-ROM transmitted to the District.
2. Monthly schedule updates shall include the following
 - A. Activity Status Report
 - B. Proposed Revisions Report
 - C. Computer Diskette with Updated Schedule File
 - D. Narrative Report
 1. The Monthly Narrative Report shall contain the following information for each monthly update:
 - a. Description of overall project status
 - b. Description of problem areas (referenced to pending change orders as appropriate)
 - c. Current and anticipated delays not resolved by approved change order, including:
 1. Cause of the delay
 2. Corrective action and schedule adjustments to correct the delay
 3. Known or potential impact of the delay on other activities and milestones
 - d. Changes in the construction sequence
 - e. Pending items and status thereof, including but not limited to:
 1. Pending Change Orders
 2. Time Extension Requests
 3. Other Issues relating to Contract Time
 - f. Contract Completion Date status:
 1. If ahead of schedule, the number of days ahead
 2. If behind schedule, the number of days behind
 - g. Other project or scheduling concerns
3. Submittal of the monthly reports and schedule updates by Contractor are required regardless of the approval status of the Contract Baseline Schedule or any monthly revision to the Baseline Schedule.

1.7 RESPONSIBILITY FOR COMPLETION

- A. Contractor agrees that at the sole judgment of District, whenever it becomes apparent from the current monthly updated Contract Baseline Schedule that the contract completion date will not be met, it will take some or all of the following actions, as approved by District, at no additional cost to District:
 1. Increase construction manpower in such quantities and crafts as will substantially eliminate, in the judgment of District, the backlog of work. Also, increase material, equipment and other items as required.
 2. Increase the number of working hours per shift, shifts per working day, working days per week, or the amount of construction equipment, or any combination of the foregoing, sufficiently to substantially eliminate, in the judgment of District, the backlog of work. This paragraph shall not be construed to permit contractor to violate the work hour restrictions specified in the Contract Document.
 3. Reschedule activities to achieve maximum practical concurrence of accomplishment of activities. Nothing here in will limit any other District rights under the Contract Documents, including without limitation those under Section 00 71 00, paragraph 11.D.3.

1.8 ADJUSTMENT OF TIMES FOR COMPLETION

- A. In addition to provisions of the General Conditions, the time for completion of the Work will be adjusted in accordance with these procedures.
- B. Any request for an adjustment of the Contract Time for completion submitted by Contractor for changes or alleged delays shall be accompanied by a complete Time Impact Analysis, (TIA), which shall be submitted for review within fifteen (15) days after the initial request for time by Contractor. Time extensions will not be granted unless substantiated by the CPM Schedule, and then not until the CPM project float becomes zero. If Contractor fails to submit a TIA within the aforementioned time period, then the Contractor shall be deemed to have agreed that there is no time impact and that Contractor has irrevocably waived its rights to any additional contract time.
- C. Each Time Impact Analysis shall provide information justifying the request and stating the extent of the adjustment requested for each specific change or alleged delay. Each Time Impact Analysis shall be in form and content acceptable to District, and shall include, but not be limited to, the following:

1. A fragmentary CPM type network (Fragnet) illustrating how Contractor proposed to incorporate the change or alleged delay into the current updated Baseline Schedule; and
 2. Identification of all activities in the current updated Baseline Schedule whose logic is proposed to be amended due to the change or alleged delay, all activities that are/will be affected by the proposed change or alleged delay, together with engineering estimates and other appropriate data justifying the proposal.
- D. The Time Impact Analysis shall be determined on the basis of the date or dates when the change or changes were issued, or the date or dates when the alleged delay or delays began. The status of the construction project and Time Impact Analysis shall include event time computations for all affected activities including but not limited to work around sequencing, or recovery options to maintain the original Contract completion date.
- E. Time Impact Analyses provided in order to demonstrate the time impact upon the overall project and the time for completion shall be accomplished at no additional cost to District.
- F. If District finds, after review of the Time Impact Analysis, that Contractor is entitled to any extension of time for completion, the time for completion will be adjusted by Change Order issued by District, and Contractor shall then revise the Baseline Schedule accordingly. If District determines that Contractor is not entitled to any extension of time for completion, and Contractor objects to District's determination, Contractor's sole remedy is to file a claim under Section 00 71 00 (General Conditions).

1.9 FINAL AS-BUILT SCHEDULE

- A. As a condition precedent to final acceptance of the Project, submit a final As-Built Construction Schedule and all final reports which accurately reflect the manner in which the Project was constructed and includes actual start and completion dates for all work activities on the Baseline Schedule.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 32 19

SUBMITTAL PROCEDURES**PART 1 GENERAL****1.1 SUMMARY**

- A. Section Includes:
1. Description of general requirements for Submittals for the Work:
 - a. Procedures
 - b. Schedule of Submittals
 - c. Safety Program
 - d. Progress Schedules
 - e. Not Used
 - f. Not Used
 - g. Product Data
 - h. Vibration Control Drawings and Calculations
 - i. Shop Drawings
 - j. Samples
 - k. Installation, Operations and Maintenance Manuals
 - l. Quality Assurance Control Submittals
 - m. Environmental Impact Mitigation Plan Documents
 - n. Project Record Documents
 - o. Delay of Submittals

1.2 OPTIONAL REVIEW MEETING PROCEDURES

- A. Submit at Contractor's expense, the following items ("Submittals") required by the Contract Documents:
1. Schedule of Submittals
 2. Safety Program
 3. Progress Schedules
 4. Product Data
 5. Material Safety Data Sheets
 6. Vibration Control Drawings and Calculations
 7. Shop Drawings
 8. Samples
 9. Installation, Operation, and Maintenance Manuals
 10. Quality Assurance Control Data
 11. Environmental Impact Mitigation Documents
 12. Computer Programs
 13. Project Record Documents
 14. Storm Water Pollution Prevention Plan
 15. Seismic Submittal Review Forms, where specified in Divisions 2 through 60.
- B. Submit these Submittals to District for review and approval in accordance with accepted Schedule of Shop Drawings and Samples Submittals. If no such schedule is agreed upon prior to, then all Shop Drawing, Samples, and product data Submittals shall be submitted within **30 Days** after receipt of Notice to Proceed with Construction from District. In all instances, District may require Contractor to submit any or all Submittals directly to Architect/Engineer for review.
- C. Transmit each item with the appropriate Submittal transmittal form (attached to this Section 01 32 19 as Exhibits A and B). For project on which an electronic web-based Project Management System is used, per Section 01 31 23 Web Based Project Management System, Contractor shall use the system's similar electronic forms and formats for Submittal transmissions. Identify Project, Contractor, Subcontractor, major supplier, pertinent Drawing sheet and detail number, and Specification Section number as appropriate. Where manufacturer's standard drawings or data sheets are used, they shall be marked clearly to show those

portions of the data that are applicable to this Project. Inapplicable portions shall be marked out. Submittals shall be submitted based on each Specification Section. Submittals containing information about more than one Specification Section will be returned for re-submittal. Submittals shall include all information requested by each Specification Section. **(No partial Submittals.)** Incomplete Submittals will be returned and not reviewed by District.

- D. The data shown on the Submittals shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show District the materials and equipment Contractor proposes to provide and to enable District to review the information for the limited purposes specified in this Section 01 32 19. Submittals shall be identified clearly as to material, supplier, pertinent data such as catalog numbers and the use for which it is intended and otherwise as District may require to enable District to review the Submittal. The quantity of each Submittal to be submitted will be as required by individual Specification Sections or this Section 01 32 19.
- E. At the time of each submission, give District specific written notice of all variations, if any, that the submitted Submittal may have from the requirements of the Contract Documents, and the reasons therefore. This written notice shall be in a written communication attached to the Submittal transmittal form. In addition, cause a specific notation to be made on each Submittal submitted to District for review and approval of each such variation. If District accepts deviation, District will note its acceptance on the returned Submittal transmittal form and, if necessary, issue appropriate Contract Modification.
- F. Submittal coordination and verification is responsibility of Contractor; this responsibility shall not be delegated in whole or in part to Subcontractors or suppliers. Before submitting each Submittal, review and coordinate each Submittal with other Submittals and with the requirements of the Work and the Contract Documents, and determine and verify:
 - 1. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto;
 - 2. All materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work; and
 - 3. All information relative to Contractor's sole responsibilities and of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.
- G. Contractor's submission to District of a Submittal shall constitute Contractor's representation that it has satisfied its obligations under the Contract Documents, and as set forth immediately above in this paragraph 1.2 of Section 01 32 19, with respect to Contractor's review and approval of that Submittal.
- H. Designation of work "by others," if shown in Submittals, shall mean that work will be responsibility of Contractor rather than Subcontractor or supplier who has prepared Submittals.
- I. After review by District or Architect/Engineer or other consultant designated by District, of each of Contractor's Submittals, one set of material will be returned to Contractor with actions defined as follows:
 - 1. NO COMMENT - Accepted subject to its compatibility with future Submittals and additional partial Submittals for portions of the Work not covered in this Submittal. Does not constitute approval or deletion of specified or required items not shown on the Submittal.
 - 2. SEE COMMENTS NOTED (NO RESUBMISSIONS REQUIRED) - Same as item 1 above, except that minor corrections as noted shall be made by Design-Build Entity.
 - 3. SEE COMMENTS, REVISE AS NOTED AND RESUBMIT - District identified major inconsistencies or errors that shall be resolved or corrected by Design-Build Entity prior to subsequent review by District.
 - 4. SUBMITTAL DOES NOT MEET CONTRACT REQUIREMENTS - RESUBMIT - Submitted material does not conform to Contract Documents in major respect, e.g.,: wrong size, model, capacity, or material.
- J. Make a complete and acceptable Submittal at least by second submission. District reserves the right to deduct monies from payments due Contractor to cover District and Architect/Engineer's additional costs of review beyond the second submission. Illegible Submittals will be rejected and returned to Contractor for resubmission. Contractor shall be in breach of the Contract if Contractor's first re-submittal, following a Submittal which District determines falls within categories 3 or 4 above, does not fall within categories 1 or 2 above. Deductions will be calculated in accordance with Section 1.2.T of this specification 01 32 19.
- K. Favorable review will not constitute acceptance by District of any responsibility for the accuracy, coordination and completeness of the Submittals. Accuracy, coordination, and completeness of Submittals shall be sole responsibility of Contractor, including responsibility to back-check comments, corrections, and modifications from District's review before fabrication. Contractor, Subcontractors, or suppliers may prepare Submittals, but Contractor shall ascertain that Submittals meet requirements of Contract Documents, while conforming to structural space and access conditions at point of installation. District's review will be only to

assess if the items covered by the Submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as indicated by the Contract Documents. Favorable review of Submittal, method of work, or information regarding materials and equipment Contractor proposes to furnish shall not relieve Contractor of responsibility for errors therein and shall not be regarded as assumption of risks or liability by District, or any officer or employee thereof, and Contractor shall have no claim under Contract Documents on account of failure or partial failure or inefficiency or insufficiency of any plan or method of work or material and equipment so accepted. Favorable review shall be considered to mean merely that District has no objection to Contractor using, upon Contractor's own full responsibility, plan or method of work proposed, or furnishing materials and equipment proposed.

- L. District's review will not extend the means, methods, techniques, sequences or procedures of construction or to safety precautions or programs incident thereto. The review and comment on a separate item as such will not indicate approval of the assembly in which the item functions.
- M. Submit complete initial Submittal for those items where required by individual Specification Sections. Complete Submittal shall contain sufficient data to demonstrate that items comply with Specifications, shall meet minimum requirements for submissions cited in Specification Sections, shall include motor data and seismic anchorage certifications, where required, and shall include necessary revisions required for equipment other than first named. If Contractor submits incomplete initial Submittal when complete Submittal is required, Submittal may be returned to Contractor without review.
- N. Copy, conform, and distribute reviewed Submittals in sufficient numbers for Contractor's files, Subcontractors, and vendors.
- O. After District's review of Submittal, revise as noted and resubmit as required. Identify changes made since previous Submittal.
 - 1. Begin no fabrication or work that requires Submittals until return of Submittals not requiring re-submittal. Do not extrapolate from Submittals covering similar work.
 - 2. Normally, Submittals will be processed and returned to Contractor within twenty-one (21) Days of receipt.
- P. Distribute copies of reviewed Submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.
- Q. All Submittals shall be **number-identified** by Contractor, prior to submission to District, in accordance with the following:
 - 1. Sequentially number each Submittal by Specification Section (i.e., "1-2", "2-2", "3-2", etc.) as the basis for number identification of Submittals.
 - 2. Affix the Submittal number under which each Submittal is made on every copy of each Shop Drawing, product data, sample, certification, etc.
 - 3. Number Installation, Operation, and Maintenance Manuals with original root number of the approved Submittal for the item.
 - 4. If the Submittal is a re-submittal (including without limitation after an initial Submittal is rejected, returned without review or marked 'Revise as Noted and Resubmit'), add the suffix designation "A" (i.e., a re-submittal of Submittal 1-2 would be numbered 1A-2). Subsequent re-submittals would be identified by the Submittal number and sequential letters (i.e., "B", "C", "D", etc.).
 - 5. All Submittals shall include all information requested by each Specification Section. No partial Submittals will be accepted unless previously authorized by District. In the event a partial Submittal is authorized, each subsequent different Submittal (as opposed to re-submittal) is given a new number.
- R. Submission Requirements:
 - 1. Deliver Submittals to District giving sufficient time for more than one review, but in no case less than thirty (30) Days before dates reviewed Submittals will be needed.
 - 2. Initial Submittal of Installation, Operation and Maintenance Manuals shall be forty-five (45) Days after the date Submittals that pertain to the applicable portion of the Installation, Operation and Maintenance Manual is satisfactorily reviewed.
 - 3. The following table lists the number of initial Submittals required from Contractor for each type of submission, to whom Contractor shall distribute the information, and District's distribution of reviewed submissions. If Contractor needs more copies of reviewed Submittals returned to it, then either submit additional copies or make copies from the returned transparency Submittal. Submittals requiring resubmission will require the same quantity and distribution as an initial Submittal.

Submittal	Contractor Initial Submittal		District Submittal Review Return	
	# of Electronic files	# of Hard Copies/ Prints/ Samples	# of Electronic files	# of Hard Copies/ Prints/ Samples
Schedule of Submittals	1	2	1	0
Safety Program	1	0	0	0
Progress Schedules	1	2	1	0
Product Data	1	2	1	0
Materials Safety Data Sheets	1	1	1	0
Vibration Control Drawings & Calculations	1	2	1	0
Shop Drawings	1	2	1	0
Samples	0	2	0	1
Installation, Operation, and Maintenance Manuals	1	2	1	0
Quality Assurance Control Submittals	1	0	1	0
Computer Programs	1	0	0	0
Environmental Impact Mitigation Documents	1	0	1	0
Project Record Documents	1	2	1	0
Other Documents	1	2	1	0

4. Accompany Submittals with Submittal transmittal form, containing:
 - a. Date, revision date, and Submittal log number.
 - b. **Project name and District’s Contract number.**
 - c. Contractor’s name, address, and job number.
 - d. Specification Section number clearly identified.
 - e. The quantity of Shop Drawings, Product Data, or Samples submitted.
 - f. Notification of deviations from Contract Documents.
 - g. Materials Safety Data Sheet (MSDS) for each item complying with OSHA’s Hazard Communication Standard 29 CFR 1910.1200.
 - h. Other pertinent data.
5. Submittal shall include:
 - a. Date and revision dates.
 - b. Revisions, if any, identified.
 - c. Project Name and Contract number.
 - d. The names of:
 - 1) Contractor, Subcontractor, Supplier, Manufacturer, and separate detailer, when pertinent.
 - e. Identification of product material by location within the Project.
 - f. Relation to adjacent structure or materials.
 - g. Field dimensions, clearly identified as such.
 - h. Specification Section number and applicable detail reference number on the Drawings.
 - i. Applicable reference standards, such as ASTM, ANSI, FS, NEMA, SMACNA or ACI.
 - j. A blank space, on each Drawing or data sheet, 5” x 4” for the District’s stamp.
 - k. Identification of deviations from Contract Documents.
 - l. Contractor’s stamp, initialed or signed, with language certifying the review of Submittals, verification of field measurements, construction criteria and technical standards in compliance with Contract Documents.
- S. Resubmission requirements:
 1. Shop Drawings:
 - a. Revise initial Shop Drawings as required and resubmit as specified for initial Submittals.
 - b. Indicate on Shop Drawings any changes that have been made other than those requested by District.
 2. Product Data and Samples:
 - a. Submit new Product Data and Samples as required for initial Submittals.

3. Installation, Operation, and Maintenance Manuals:
 - a. Revise initial Installation, Operation, and Maintenance Manual(s) as required and resubmit as specified for initial Submittals.
- T. Number of resubmissions:
 1. One reexamination of Contractor's Submittals that have been returned for correction or replacement will be included in District's budget. **Any additional re-examination of Contractor's Submittals will be considered additional scope services to be paid by Contractor through District. Contractor shall pay District (or District may deduct from any progress or final payment), for design team personnel, on an hourly basis at 2.5 times direct payroll expenses, and for consultant personnel time at 1.25 times the amount billed District.**

1.3 SCHEDULE OF SHOP DRAWING AND SAMPLE SUBMITTALS

- A. Submit preliminary Schedule of Shop Drawing and Sample Submittals as required by Document 00 71 00 (General Conditions) and in quantities as required by paragraph 1.2.R.3 of this Section 01 32 19.
- B. Schedule of Submittals will be used by District to schedule its activities relating to review of Submittals. Schedule of Submittals shall indicate a spreading out of Submittals and early Submittals of long-lead-time items and of items that require extensive review.
- C. Unless otherwise specified, make Submittals in groups containing all associated items to assure that information is available for checking each item when it is received. Identify on the Submittal which Submittals should be reviewed together.
- D. Schedule of Submittals will be reviewed by District and shall be revised and resubmitted until accepted by District.

1.4 SAFETY PROGRAM

- A. Submit Safety Program in quantities as required by paragraph 1.2.R.3 of this Section 01 32 19, in Adobe pdf, to District within the time set forth in Section 01 56 00 (Site Security and Safety), paragraph 1.4. to District This submittal is for the District's information only.

1.5 PROGRESS SCHEDULE

- A. See Section 01 32 16 (Progress Schedules and Reports) for schedule and report requirements. Section 01 32 16 shall control in any conflict with Section 01 32 19.
- B. Submit in quantities as required by paragraph 1.2.R.3 of this Section 01 32 19, at each of the following times:
 1. Initial Progress Schedule as set forth in Section 01 32 16.
 2. Original Schedule as set forth in Section 01 32 16.
 3. Adjustments to the Schedule as required.
 4. Schedule updates monthly, as required.
- C. Submit one electronic copy, in Adobe .pdf, of the reports listed in Section 01 32 16 (Progress Schedules and Reports) with:
 1. Initial Schedule
 2. Original Schedule
 3. Each monthly Schedule update
- D. Progress Schedules and Reports shall be submitted on CD Rom or other electronic media, **using software described in paragraph 1.4.A of Section 01 32 16** (in addition to hard copies specified in this paragraph 1.2.R.3. Electronic files shall be complete copies, including all programs and electronic coding

1.6 NOT USED

1.7 NOT USED

1.8 PRODUCT DATA

- A. Submit Product Data in quantities and format as required by paragraph 1.2.R.3 of this Section 01 32 19.

- B. Ten Days prior to design phase system confirmation meeting(s), submit the complete list of major products proposed for use, with name of manufacturer, telephone number, trade name, and model number of each product. Tabulate product data by Specification Section.
- C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- D. Product or Catalog Data:
 - 1. Manufacturer's standard drawings shall be modified to delete non-applicable data or include applicable data.
 - 2. Manufacturer's catalog sheets, brochures, diagrams, schedules, charts, illustrations and other standard descriptive data:
 - a. Mark each copy to identify pertinent materials, products, or models.
 - b. Show dimensions and clearances required, performance characteristics and capacities, wiring diagrams and controls.
 - c. Include applicable MSDS.
- E. Supplemental Data:
 - 1. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to Project.
- F. Provide final Project Record Data as described in Section 01 78 39 (Project Record Documents).

1.9 VIBRATION CONTROL DRAWINGS AND CALCULATIONS

- A. Submit Vibration Control Drawings and Calculations in quantities as required by paragraph 1.2.R.3 of this Section 01 32 19.
- B. Shop Drawings: Submit Shop Drawings showing isolator types and sizes, locations with static and dynamic load on each location, and installation details, including recording and alarm device wiring and control diagrams where required.
- C. Product Data: Submit manufacturer's product data and certificates of compliance for each type of vibration control product provided.
- D. Maintenance Data: Submit maintenance data for each type of vibration control product, and include in maintenance manual specified in 1.6 (Installation, Operations and Maintenance Manuals) of Section 01 78 39 (Project Record Documents).
- E. Seismic Calculations: Submit seismic calculations on all equipment, ductwork and piping restraints, anchors and supports. Calculations shall be prepared by Civil or Structural Engineer of Record.
- F. Measured Equipment Deflections: Upon completion of vibration control work, prepare a report showing measured device deflections for each major item of equipment indicated.

1.10 SHOP DRAWINGS

- A. Submit Schedule of Submittals in quantities as required by paragraph 1.2.R.3 of this Section 01 32 19.
- B. Minimum Sheet Size: 8½ inches by 11 inches. All others: Multiples of 8½ inches by 11 inches, 34 inches by 44 inches maximum.
- C. Mark each copy to identify applicable products, models, options, and other data; supplement manufacturers' standard data to provide information unique to Work.
- D. Include manufacturers' installation instructions when required by Specification Section.
- E. If Contractor submits Shop Drawings for items that Shop Drawings are not specified, District will not be obliged to review them.
- F. Contractor is responsible for procuring copies of Shop Drawings for its own use as it may require for the progress of the Work.
- G. Shop Drawings shall be drawn to scale and completely dimensioned, giving plan view together with such sectional views as are necessary to clearly show construction detail and methods.

1.11 SAMPLES

- A. Submit Schedule of Submittals in quantities as required by paragraph 1.2.R.3 of this Section 01 32 19.
- B. Submit full range of manufacturers' standard colors, textures, and patterns for District's selection.
- C. Submit samples to illustrate functional and aesthetic characteristics of product, with integral parts and attachment devices. Coordinate Submittal of different categories for interfacing work.
- D. Include identification on each sample, giving full information.

- E. Sizes: Unless otherwise specified, provide the following:
 - 1. Paint Chips: Manufacturers' standard
 - 2. Flat or Sheet Products: Minimum 6 inches square, maximum 12 inches square
 - 3. Linear Products: Minimum 6 inches, maximum 12 inches long
 - 4. Bulk Products: Minimum 1 pint, maximum 1 gallon
- F. Full size samples may be used in Work upon approval by District.
- G. Field Samples and Mock-ups (if applicable):
 - 1. Erect field samples and mock-ups at Site in accordance with requirements of Specification Sections. If testing is conducted, record and certify results and full Contract compliance.
 - 2. Modify or make additional field samples and mock-ups as required to provide appearance and finishes approved by District.
 - 3. Approved field samples and mock-ups may be used in Work upon approval by District.
 - 4. Construct or prepare as many additional Samples as may be required, as directed by the District, until desired textures, finishes, and/or colors are obtained.
 - 5. Accepted Samples and mock-up shall serve as the standard of quality for the various units of work.
- H. No review of a Sample shall be taken in itself to change or modify the requirements in the Contract Documents.
- I. Finishes, materials, and workmanship in the completed Work shall match accepted Samples.

1.12 INSTALLATION, OPERATIONS AND MAINTENANCE MANUALS

- A. Submit Installation, Operations and Maintenance Manuals in quantities as required by paragraph 1.2.R.3 of this Section 01 32 19.
- B. Submit Project Record Documents as required in Section 01 78 39 Project Record Documents.
- C. Contractor shall submit initial copies of the complete IOM manuals for review by the architect/engineer and commissioning agent within 45 calendar days after review of applicable Submittal.
- D. Contractor shall submit final IOM manuals prior to substantial completion.
 - 1. Prior to final completion, the commissioning agent shall review the final IOM manuals (in addition to the initial IOM manuals), and documentation, with redline as-builts, for systems that were commissioned to verify compliance with the specifications. The commissioning agent will communicate, through District, deficiencies in the manuals to the contractor or Architect/Engineer, as requested.
 - 2. Upon successful review of the corrections, the commissioning agent will recommend approval and acceptance of the IOM manuals to District.
 - 3. The commissioning agent will also review each equipment warranty and verify that all requirements to keep the warranty valid are clearly stated. This work does not supersede the Architect/Engineer's review of the IOM manuals according to the Architect/Engineer's contract.

1.13 QUALITY ASSURANCE CONTROL SUBMITTALS

- A. Submit Schedule of Submittals in quantities as required by paragraph 1.2.R.3 of this Section 01 32 19.
- B. Test Reports:
 - 1. Indicate that material or product conforms to or exceeds specified requirements.
 - 2. Reports may be from recent or previous tests on material or product, but shall be acceptable to District. Comply with requirements of each individual Specification Section.
- C. Certificates:
 - 1. Indicate that material or product conforms to or exceeds specified requirements.
 - 2. Submit supporting reference data, affidavits, and certifications as appropriate.
 - 3. Certificates may be recent or from previous test results on material or product, but shall be acceptable to District.
- D. Manufacturers' Instructions:
 - 1. Include manufacturers' printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing.
 - 2. Identify conflicts between manufacturers' instructions and Contract Documents.
- E. Material Safety Data Sheets:
 - 1. In addition to Material Safety Data Sheets (MSDS) otherwise required by the Contract Documents, submit MSDS for any paints, solvents, thinners, varnish, lacquer, glues and adhesives, mastics, or other materials needed for the Project as required by the individual Specification Sections or as otherwise specified in the Contract Documents.

- 2. MSDS required for a Submittal shall be submitted with product data in order for the Submittal to be reviewed.

1.14 COMPUTER PROGRAMS

- A. Submit Computer Programs in quantities as required by paragraph 1.2.R.3 of this Section 01 32 19.
- B. Submit Computer Programs as listed in Section 01 78 39 Project Record Documents.

1.15 ENVIRONMENTAL IMPACT MITIGATION PLAN DOCUMENTS

- A. Submit Project Record Documents in quantities as required by paragraph 1.2.R.3 of this Section 01 32 19.
- B. Submit Noise Control Plan, Spill Prevention, Control and Countermeasure Program, Site Safety Plan, Hazardous Materials Program, Dust Control Plan, Erosion Control Plan, Cultural Resources Protection Plan, Traffic Control Plan, Tree Protection Plan, and Migratory Bird Protection Plan (if applicable) as listed in Section 01 35 00 Special Procedures.

1.16 PROJECT RECORD DOCUMENTS

- A. Submit Project Record Documents in quantities as required by paragraph 1.2.R.3 of this Section 01 32 19.
- B. Submit Project Record Documents listed in Section 01 78 39 Project Record Documents.

1.17 DELAY OF SUBMITTALS

- A. Delay of Submittals by Contractor is considered avoidable delay.

1.18 OPTIONAL REVIEW MEETING

- A. At the Contractor’s request, in order to facilitate the timeliness of the review process, the District may schedule a meeting to review the materials submitted. If this option is exercised, the following requirements apply:
 - 1. Request a meeting date with the District at least ten (10) Business Days in advance.
 - 2. Provide the complete package of Submittal information at least five (5) Business Days in advance of the meeting.
 - 3. The meeting shall take place at District’s office. District will provide the authorized staff to review and respond on the Submittal information during the meeting.
 - 4. Make available for this meeting the job superintendent and/or foreman, Contractor’s safety officer, and someone knowledgeable of all the items submitted and authorized to make substitutions or changes.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

TRANSMITTAL SHEETS AND MAINTENANCE SHEET FOLLOW THIS PAGE

Submittal Transmittal Form

EXHIBIT A SUBMITTAL TRANSMITTAL NO. _____

Project Name: COLLEGE OF SAN MATEO MARIE CURIE PARKING LOT RENOVATION PROJECT		Date Received:		
San Mateo County Community College District 3401 CSM Drive San Mateo, CA 94402		Checked By:		
DBE:	To:	Log Page:		
Address:	Address:	Specification Section Number: 1 st Submittal <input type="checkbox"/> Resubmittal <input type="checkbox"/>		
Attention:	Attention:			
Date Transmitted:	Previous Transmittal Date:			
No. Copies	Description	Manufacturer	Dwg. or Data No.	Action Taken*

Remarks: _____

* The action designated above is in accordance with the following legend:

- | | |
|---|---|
| A – No Exceptions Taken
B – Make Corrections Noted (No Resubmission Required)
C. – Make Corrections Noted and Resubmit
D – Not Approved <ol style="list-style-type: none"> 1. Not enough information for review 2. No reproducibles submitted 3. Copies illegible 4. Not enough copies submitted 5. Wrong sequence number 6. Wrong re-submittal number 7. Wrong Specification section number 8. Wrong form used 9. See comments | E – District’s review not required <ol style="list-style-type: none"> 1. Submittal not required 2. Supplemental information. Submittal retained for informational purposed only 3. Information reviewed and approved on prior Submittal 4. See comments |
|---|---|

Comments _____

Distribution: Contractor File IOR District CM Other

EXHIBIT B
INSTALLATION, OPERATION, AND MAINTENANCE MANUAL
TRANSMITTAL NO. _____

Project Name: COLLEGE OF SAN MATEO MARIE CURIE PARKING LOT RENOVATION PROJECT			Date Received:	
San Mateo County Community College District 3401 CSM Drive San Mateo, CA 94402			Checked By:	
DBE:	To:	Log Page:		
Address:	Address:	Specification Section Number:		
Attention:	Attention:	1 st Submittal <input type="checkbox"/>	Resubmittal <input type="checkbox"/>	
Date Transmitted:	Previous Transmittal Date:			
No. Copies	Description	Manufacturer	Dwg. or Data No.	Action Taken*

Remarks:

* The action designated above is in accordance with the following legend:

- | | |
|---|---|
| <p>A – No exceptions taken</p> <p>B – Make Corrections Noted (No Resubmission Required)</p> <p>C. – Make Corrections Noted and Resubmit</p> <p>D – Not Approved– this manual Submittal is deficient in the following area:</p> <ol style="list-style-type: none"> 1. Equipment record sheets 2. Functional description 3. Assembly, disassembly, installation, alignment, adjustment, and checkout instructions 4. Operating instructions | <p>D – (continued)</p> <ol style="list-style-type: none"> 5. Lubrication and maintenance instructions 6. Troubleshooting guide 7. Parts list and ordering instructions 8. Organization (indexing and tabbing) 9. Wiring diagrams and schematics specific to installation 10. Outline, cross section, and assembly diagrams 11. Test data and performance curves 12. Tag or equipment identification numbers 13. See comments |
|---|---|

Comments

	By	Date				
Distribution:	Contractor <input type="checkbox"/>	File <input type="checkbox"/>	IOR <input type="checkbox"/>	District <input type="checkbox"/>	CM <input type="checkbox"/>	Other <input type="checkbox"/>

SECTION 01 35 00

SPECIAL PROCEDURES (COLLEGE OF SAN MATEO)**PART 1 GENERAL****1.1 Summary**

- A. In compliance with CEQA requirements, the District conducted an Initial Study to ascertain whether the project might have a significant effect on the environment. The Initial Study identified potentially significant impacts on the environment. However, all potential impacts of the proposed project can be avoided or reduced to a less-than-significant level with implementation of the following mitigation measures. Contractor shall conform with the following mitigation measures.
- B. Section Includes:
 - 1. Noise Control Plan
 - 2. Spill Prevention, Control and Countermeasure Program
 - 3. Site Safety Plan (Soil and Groundwater Management Plan)
 - 4. Hazardous Materials Program
 - 5. Dust Control Plan
 - 6. Erosion Control Plan
 - 7. Cultural Resources Protection Plan
 - 8. Traffic Control Plan
 - 9. Tree Protection Plan
 - 10. Migratory Bird Nesting Protection Plan

1.2 Definitions**1.3 Submittals**

- A. See Section 01 32 19 (Submittal Procedures).
- B. Name and address of the selected treatment, recycling, or disposal facilities for contaminated soil disposal.
- C. Hazardous waste manifests "if applicable."
- D. Non-hazardous waste manifests "if applicable."
- E. Facility weight tickets "if applicable."
- F. Spill Prevention, Control, and Countermeasure Program.

1.4 Noise Control Plan

- A. Implement the following noise-control measures to reduce and control noise generated from construction, demolition, and renovation-related activities.
 - 1. Restrict noise-producing construction activities to between 7:00 a.m. and 7:00 p.m. on weekdays. If construction is scheduled for Saturdays or Sundays to avoid disrupting college operations, restrict noise-producing construction activities to 9:00 a.m. and 5:00 p.m. Construction on Sundays will be avoided if possible, and there will be no construction on public holidays. When activities must occur outside the hours specified above, conform with notification requirements of Document 00 52 05 Construction Services Agreement, and utilize local barriers around equipment and other noise attenuating devices if necessary to limit noise to acceptable levels.
 - 2. Construction equipment shall have appropriate mufflers, intake silencers, and noise-control features, and shall be properly maintained and equipped with exhaust mufflers that meet State standards.
 - 3. Vehicles and other gas- or diesel-powered equipment shall be prohibited from unnecessary warming up, idling, and engine revving.
 - 4. Post a sign at the construction site giving the name and telephone number or e-mail address of the District's Representative whom the public should contact with any noise complaints. If necessary due to complaints, provide additional noise-attenuating measures such as additional mufflers or engine shrouding.

1.5 **Spill Prevention, Control and Countermeasure Program**

- A. Prepare and implement a Spill Prevention, Control, and Countermeasure Program (SPCCP) to minimize the potential for and effects from spills of hazardous, toxic, or petroleum substances during construction and demolition activities. Obtain approval of the SPCCP before any construction or demolition activities begin.
- B. Contractor shall routinely inspect the construction area to verify that the measures specified in the SPCCP are properly implemented and maintained. Inform the District immediately if there is a noncompliance issue and take immediate measures to restore compliance.
- C. The federal reportable spill quantity for petroleum products, as defined in 40 CFR 110, is any oil spill that includes any of the following.
 1. Violates applicable water quality standards.
 2. Causes a film or sheen on or discoloration of the water surface or adjoining shoreline.
 3. Causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines.
- D. If a spill is reportable, notify the District's Representative and take action to contact appropriate safety and clean-up crews to ensure that the SPCCP is followed.
 1. A written description of reportable releases must be submitted to the District's Representative and to the San Francisco Bay RWQCB. This submittal must contain a description of the spill, including the type of material and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases. Document the releases on a spill report form.
 2. If a reportable spill has occurred and results determine that project activities have adversely affected surface water or groundwater quality, the District will engage a registered environmental assessor for a detailed analysis to identify the likely cause of contamination. This analysis will conform to American Society for Testing and Materials (ASTM) standards, and will include recommendations for reducing or eliminating the source or mechanisms of contamination.
 3. Based on this analysis, the Contractor shall select and implement measures to control contamination, with a performance standard that groundwater quality must be returned to baseline conditions. These measures will be subject to approval by the District.

1.6 **Site Safety Plan (Soil and Groundwater Management Plan)**

- A. Prior to excavation, prepare and submit a Site Safety Plan (Soil and Groundwater Management Plan) to protect people from known or previously undiscovered soil and groundwater contamination during construction activities. Obtain approval of the SPCCP before any construction or demolition activities begin.
- B. The Site Safety Plan (Soil and Groundwater Management Plan) shall, at a minimum, include the following:
 1. All construction activities involving work in proximity to potentially contaminated soils and/or groundwater shall be undertaken in accordance with California Occupational Safety and Health Administration (Cal-OSHA) standards, contained in Title 8 of the CCR.
 2. Establish soil and groundwater mitigation and control specifications for construction activities, including health and safety provisions for monitoring exposure to construction workers, procedures to be undertaken in the event that previously unreported contamination is discovered, and emergency procedures and responsible personnel.
 3. Procedures for managing soils and groundwater removed from the site to ensure that any excavated soils and/or dewatered groundwater with contaminants are stored, managed, and disposed in accordance with applicable regulations.

1.7 **Hazardous Materials Program**

- A. If hazardous materials are encountered, they shall be handled in accordance with applicable local, state, and federal regulations which may include: (1) CCR Title 8, Division 4, Chapter 4, Sections 5163 through 5167 and 5192 (Hazardous Waste Operations and Emergency Response); (2) CCR, Title 22, Division 4.5, Chapters 10 through 13 and 18 (Environmental Health Standards for Management of Hazardous Waste); and (3) CCR Title 23, Division 3, Chapter 15 (Discharges of Hazardous Waste to Land).
- B. Should the discovery of contaminants cause delay to Contractor's operations, extension of Contract Time will be granted by District in accordance with Document 00 52 05 (Construction Services Agreement). Contractor may not be entitled to damages or additional payment due to such delay. District may, if it believes appropriate in its sole discretion, grant an extension of Contract Time. The Contractor shall take all measures to avoid and/or mitigate delays due to Hazardous Materials/Waste finds such as; avoiding the

area of the find and proceeding with other work on the project; developing “work around” plans; and documenting his best efforts to avoid and/or mitigate delays.

C. Subsurface Hazardous Materials

1. If Contractor encounters subsurface contamination, the following provisions and precautionary measures shall be implemented during construction:
 - a. Contractor's personnel shall be alert for and immediately report to District's Representative any detectable chemical odors, unusual debris, or discolored soil.
 - b. Disposal requirements: Soils containing hazardous materials shall be disposed by Contractor at permitted treatment, recycling, or disposal facilities in accordance with CCR Title 23, Division 3, Chapter 15 (Discharges of Waste to Land). Determine to which permitted treatment, recycling, or disposal facilities the soil will be delivered.
 - c. Dewatering: Construct, operate and maintain as required by applicable laws, codes and standards, and to complete the Work all necessary cofferdams, channels, pipes, flumes, drains, sumps, well points and protective works; and furnish, install, operate and maintain all necessary pumping and other equipment for dewatering the areas of Work suspected of containing hazardous materials; and control all surface flow and groundwater as may be encountered while performing the Work. Remove all water that may accumulate in the excavation while the Work progresses so that all Work can be performed in dry conditions. All contaminated water shall be removed from the excavation before it is backfilled. The excavation shall be kept free from water until backfilling has progressed to a height above the water source.
 - d. Water sampling and chemical analysis: Water samples shall be collected from the holding tanks and submitted to a State-Certified chemical analysis laboratory. Chemical analyses required for the samples shall at a minimum include: TPHg following EPA Test Methods 5030/8015 (modified); benzene, toluene, ethylbenzene, and total xylenes (BTEX) following EPA Test Method 8020; and chlorinated solvents following EPA Test Method 8010. Perform additional chemical analyses that may be required for disposal or recycling of the water. Laboratory chemical analysis reports associated with the water samples shall be provided to District's Representative.
 - e. Removal of dewatering equipment: After having served their purpose, all protective works, and dewatering pumps, shall be decontaminated and removed from the Site. Contractor is responsible for permanent disposal of all equipment that cannot be decontaminated or recycled in accordance with all applicable laws and regulations.
 - f. Fees: Pay for any fees associated with the treatment, recycling, or disposal of these soils. Any additional soil sampling and chemical analyses required for acceptance of the soil at facilities other than those described above may be deemed to be the responsibility of Contractor.
 - g. Transport: Transport the soils to the selected facilities under approved manifests and submit copies of these manifests and the facility weight tickets to District's Representative.

D. Hazardous Building Materials

1. To protect construction workers and members of the public from known or undiscovered hazardous building materials, including asbestos and lead, undertake all demolition activities in accordance with Cal-OSHA standards, contained in Title 8 of the California Code of Regulations (CCR).
2. During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal-OSHA Lead in Construction Standard, Title 8, California Code of Regulations 1532.1.
3. All potentially friable asbestos-containing materials (ACMs) shall be removed in accordance with National Emissions Standards for Hazardous Air Pollutants (NESHAP) guidelines prior to building demolition or renovation that may disturb the materials. Applicable standards include the following.
 - a. The facility shall be inspected before any renovation occurs in which 160 square feet or more of building materials or 260 linear feet or more of pipe insulation will be disturbed at a regulated facility, or any demolition occurs at a regulated facility.
 - b. An asbestos notification form shall be submitted to the Bay Area Air Quality Management District (BAAQMD) for any regulated asbestos abatement project or regulated demolition 10 working days before the activity begins.
 - c. If ACMs are discovered during a renovation or demolition, they must be removed before the project may proceed. Also, the Cal-OSHA and California Environmental Protection Agency (Cal-EPA) hazardous waste regulations apply in most cases.

E. Naturally Occurring Asbestos

1. To protect construction workers and members of the public from exposure to known areas of naturally-occurring asbestos (NOA), all ground disturbing activities will be undertaken in accordance with all applicable Cal-OSHA standards, contained in Title 8 of the California Code of Regulations (CCR). In addition, any ground-disturbing activity in an area that meets one or more of the applicability criteria for the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, as adopted by the California Air Resources Board (CARB), is subject to the requirements therein. Per section 93105(b) of the ATCM, these criteria are as follows:
 - a. The area to be disturbed is located in a geographic ultramafic rock unit; or
 - b. The area to be disturbed has naturally-occurring asbestos, serpentine, or ultramafic rock as determined by the owner / operator, or the Air Pollution Control Officer (APCO); or
 - c. Naturally-occurring asbestos, serpentine, or ultramafic rock is discovered by the District, a registered geologist, or the APCO in the area to be disturbed after the start of any construction, grading, quarrying, or surface mining operation.
2. For construction projects that disturb areas of 1 acre or less, implement standard dust mitigation measures before construction begins, and maintain each measure throughout the duration of the construction project. The following additional measures will be implemented in accordance with Section 93105 (e)(1) of the ATCM and will be undertaken in concurrence with the dust control measures identified in Paragraph 1.8 Dust Control Measures and Paragraph 1.9 Erosion Control Measures.
 - a. Equipment used during excavation, grading, and construction activities will be washed down before moving from the property onto a paved public road.
 - b. Any visible track-out on the paved public road will be cleaned using wet sweeping or a high-efficiency particulate air (HEPA) filter equipped vacuum device within twenty-four hours.
3. For construction projects that disturb areas greater than 1acre in size, submit an asbestos dust mitigation plan to the Bay Area Air Quality Management District (BAAQMD) for review and approval, in accordance with Section 93105(2)(A) of the ATCM, before the start of any construction or grading activity. The provisions of the dust mitigation plan will be implemented before construction begins, and will be maintained throughout the duration of the construction or grading activity. The asbestos dust mitigation plan will address the following:
 - a. Prevention of dust emissions offsite;
 - b. Control of dust for disturbed areas and storage piles;
 - c. Traffic control for on-site unpaved areas;
 - d. Control for earthmoving activities;
 - e. Track-out prevention;
 - f. Control for off-site transport;
 - g. Post-construction stabilization of disturbed areas;
 - h. Air monitoring for asbestos (if required by the APCO).

1.8 Dust Control Plan

- A. Implement dust control measures to protect air quality during construction. To control dust emissions generated during construction, implement the following Bay Area Air Quality Management District (BAAQMD) measures for construction emissions of particulate matter over 10 microns in size (PM10):
 1. Water all active construction areas at least twice daily.
 2. Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard.
 3. Pave, apply water three times daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
 4. Sweep streets daily (with water sweepers) if visible soil material has been carried onto adjacent public streets.
 5. Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour.
 6. Limit speed of vehicles to 15 miles per hour or less at construction sites.

1.9 Erosion Control Plan

- A. Implement erosion control measures to protect water quality during construction.
 1. Cover or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more) that could contribute sediment to waterways.

2. Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways.
3. Contain soil and filter runoff from disturbed areas by berms, vegetated filters, silt fencing, straw wattle, plastic sheeting, catch basins, or other means necessary to prevent the escape of sediment from the disturbed area.
4. Prohibit the placement of earth or organic material where it may be directly carried into a stream, marsh, slough, lagoon, or body of standing water.
5. Prohibit the following types of materials from being rinsed or washed into streets, shoulder areas, or gutters: concrete, solvents and adhesives, fuels, dirt, gasoline, asphalt, and concrete saw slurry.
6. Conduct dewatering activities according to the provisions of the Storm Water Pollution Prevention Plan (SWPPP). Prohibit placement of dewatered materials in local water bodies or in storm drains leading to such bodies without implementation of proper construction water quality control measures.

1.10 Cultural Resources Protection Plan

- A. If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or human bone or paleontological resources are discovered inadvertently during ground-disturbing activities, Contractor shall avoid any further disturbance of the materials and immediately discontinue earthwork within 100 feet of the find. Contractor shall notify District's Representative immediately upon encountering cultural resources. Contractor shall be prepared to move on to another location or phase of work, allowing sufficient time for District's Representative to evaluate the nature and significance of the find, and implement appropriate management procedures.
- B. In the event that prehistoric human remains are encountered, further excavation or disturbance of the site shall cease immediately, pursuant to Health and Safety Code 7050.5. Contractor shall notify District's Representative immediately upon encountering human remains. Contractor shall move on to another location or phase of Work to allow proper assessment of the situation.
- C. If human remains of Native American origin are discovered during project construction, it will be necessary to comply with State laws relating to the disposition of Native American burials, which fall under the jurisdiction of the NAHC (Public Resources Code [PRC] Section 5097). Consequently, if any human remains are discovered or recognized in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains:
 1. Until the San Mateo County Coroner has been informed and has determined that no investigation of the cause of death is required;
 2. If the remains are of Native American origin
 - a. the descendants of the deceased Native American(s) have made a recommendation to the landowner or the person responsible for the excavation work regarding means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98; or
 - b. the NAHC has been unable to identify a descendent or the descendent failed to make a recommendation within 24 hours after being notified by the NAHC.
- D. Contractor may be entitled to an increase in Contract Sum and Contract Time due to conditions described in this paragraph 1.4 of this Section 01 35 00. The Contractor shall take all measures to avoid and/or mitigate delays due to Cultural Resource finds such as; avoiding the area of the find and proceeding with other work on the project; developing "work around" plans; and documenting its best efforts to avoid and/or mitigate delays.

1.11 Traffic Control Plan

- A. Develop and implement a traffic control plan to minimize the effects of construction traffic on the surrounding residential areas, as appropriate. Submit the plan to the District for review and approval.
- B. The construction traffic control plan will include, at a minimum, the following requirements:
 1. Provide clearly marked pedestrian detours if any sidewalk or pedestrian walkway closures are necessary.
 2. Provide clearly marked bicycle detours if heavily used bicycle routes must be closed, or if bicyclist safety would be otherwise compromised.
 3. Provide crossing guards and/or flag persons as needed to avoid traffic conflicts and ensure pedestrian and bicyclist safety.
 4. Use nonskid traffic plates over open trenches to minimize hazards.

- 5. Locate all stationary equipment as far away as possible from areas used heavily by vehicles, bicyclists, and pedestrians.
- 6. Notify and consult with emergency service providers and provide emergency access by whatever means necessary to expedite and facilitate the passage of emergency vehicles.
- 7. Avoid routing construction traffic through residential areas to the extent feasible. Prohibit mobilization and demobilization of heavy construction equipment during AM and PM peak traffic hours.
- 8. Provide access for driveways and private roads outside the immediate construction zone by using steel plates or temporary backfill, as necessary.
- 9. Prohibit construction worker parking in residential areas.

1.12 Tree Protection Plan

A. Definitions

- 1. Dripline: The area on the ground from the trunk of any tree to the point directly below the outermost tips of the foliage of that tree.
- 2. Root Protection Zone (“RPZ”): The areas enclosed with tree protection fencing as designated on the drawing(s).
- 3. Tree damage: Tree damage shall include, but not be limited to, the following: significant injury to the root system or other parts of a tree including burning, application of toxic substances, damaging through contact with equipment or machinery, changing the natural grade within the Dripline or RPZ, compacting the soil within the Dripline or RPZ, interfering with the normal water requirements of the tree, unauthorized trenching or excavating within the Dripline or RPZ, or unauthorized removal of more than 1/3 of the live wood, foliage, or roots.

B. Root protection: No storage of materials or equipment will be allowed within the Dripline. Whenever possible, excavation shall be on a radial line, diverging from the tree trunk.

C. Exposure to harmful substances: No storage or dumping of any substances that may be harmful to trees shall occur at any location on the Site.

D. Where construction is to be performed in the vicinity of trees and shrubbery, the Work shall be carried on in a manner that will cause minimum damage. District will designate trees that are to be removed. Under no circumstances are additional trees to be removed without written permission from District. Trees and shrubbery that are not to be removed shall be protected from injury or damage resulting from Contractor's operations.

E. Any tree that is removed without District's permission or is irreparably damaged, in the opinion of District, shall cost Contractor in damages [\$100.00] per square inch of cross section, measured at 4 ½ feet above ground, but not less than [\$250.00], such cost to be deducted from monies due or to become due under the Contract. If tree protection is not performed or is not performed adequately, and District determines that a tree has been irreparably damaged, Contractor shall pay the same amount of damages as for unauthorized removal of a tree. Contractor shall immediately report all tree damage to District, so that District may determine applicable damages.

1.13 Migratory Bird Nesting Protection Plan

- a. Conduct tree removal and building demolition outside of the migratory bird nesting season. The typical nesting season for migratory birds in this part of California is April 15 through July 31.
- b. If tree removal or building demolition must take place during the nesting season, these activities shall be preceded by a survey for nesting migratory birds. If bird nests are discovered in the trees or on the buildings, they shall not be removed while the nest(s) are active.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

SECTION 01 41 00

REGULATORY REQUIREMENTS**PART 1 GENERAL****1.1 SUMMARY**

- A. Section includes: regulatory requirements applicable to Contract Documents, required provisions regarding resolution of construction claims, and required references under federal law.
- B. Specific reference in the Specifications to codes and regulations or requirements of regulatory agencies shall mean the latest printed edition of each adopted by the regulatory agency in effect at the time of the opening of bids, except as may be otherwise specifically stated in the Contract Documents.
- C. Should any conditions develop not covered by the Contract Documents wherein the finished Work will not comply with current codes, a change order detailing and specifying the required Work shall be submitted to and approved by District before proceeding with the Work.

1.2 REFERENCES TO REGULATORY REQUIREMENTS

- A. Codes, laws, ordinances, rules and regulations referred to shall have full force and effect as though printed in full in these Specifications. Code, laws, ordinances, rules and regulations (**Regulatory Requirements**) are not furnished to Contractor, because Contractor is assumed to be familiar with these requirements. The listing of Regulatory Requirements for hazardous waste abatement Work in the Contract Documents is supplied to Contractor as a courtesy and shall not limit Contractor's responsibility for complying with all applicable Regulatory Requirements having application to the Work. Where conflict among the Regulatory Requirements or with these Specifications occurs, the most stringent requirements shall be used.
- B. Conform to all applicable Regulatory Requirements.
- C. Precedence:
 - 1. Where specified requirements differ from Regulatory Requirements the more stringent requirements shall take precedence.
 - 2. Where Drawings or Specifications require or describe products or execution of better quality, higher standard or greater size than required by Regulatory Requirements, Drawings and Specifications shall take precedence so long as such increase is legal.
 - 3. Where no requirements are identified on Drawings or in Specifications, comply with all Regulatory Requirements of governing authorities having jurisdiction.

1.3 REGULATORY REQUIREMENTS

- A. Applicable Codes: Codes that apply to Contract Documents include, but are not limited to, the following:
 - 1. CBC (Part 2, Title 24, CCR, including, without means of limitation, Sections 16A, 102A.23, 308, 420A, 504-506, 904.2.6, 1019 and 1604)
 - 2. CEC (Part 3, Title 24, CCR)
 - 3. CMC (Part 4, Title 24, CCR)
 - 4. CPC (Part 5, Title 24, CCR),
 - 5. State Elevator Safety Regulations (Part 7, Title 24, CCR)
 - 6. UBC
 - 7. UPC
 - 8. UMC
 - 9. NEC
 - 10. California Fire Code (2013 Edition or latest applicable code) as amended by applicable local ordinances for all construction work.
 - 11. California Administrative Code Titles 15, 19 and 24 (with California amendments), and Americans with Disabilities Act (ADA) accessibility guidelines, whichever is more stringent.
 - 12. All State laws and City and County Ordinances, rules of the State or City or County Health Departments, rules of the National Board of Fire Underwriters and National Fire Protection Associations, and local power company regulations for mechanical and electrical work

- B. Applicable Laws, Statutes, Ordinances, Rules, and Regulations: During prosecution of Work to be done under Contract Documents, comply with applicable laws, ordinances, rules and regulations, including, but not limited to, the following:
1. Federal
 - a. Americans with Disabilities Act of 1990
 - b. 29 CFR, Section 1910.1001, Asbestos
 - c. 40 CFR, Subpart M, National Emission Standards for Asbestos
 - d. Executive Order 11246
 - e. Federal Endangered Species Act
 - f. Clean Water Act
 2. State of California
 - a. California Code of Regulations, Titles 5, 8, 17, 19, 21, 22, 24 and 25
 - b. California Public Contract Code
 - c. California Health and Safety Code
 - d. California Government Code
 - e. California Labor Code
 - f. California Civil Code
 - g. California Code of Civil Procedure
 - h. CPUC General Order 95, Rules for Overhead Electric Line Construction
 - i. CPUC General Order 128, Rules for Construction of Underground Electric Supply and Communications Systems
 - j. Cal/OSHA
 - k. OSHA: Hazard Communications Standards
 - l. California Endangered Species Act
 - m. Water Code
 - n. Fish and Game Code
 3. State of California Agencies
 - a. State and Consumer Services Agency
 - b. Office of the State Fire Marshall
 - c. Office of Statewide Health Planning and Development
 - d. Department of Fish and Game
 - e. Bay Area Air Quality Management District
 - f. San Francisco Bay Regional Water Quality Control Board
 - g. Division of the State Architect
 4. Local Agencies:
 - a. San Mateo Fire District (College of San Mateo)
 - b. Regional Water Quality Control Board requirements for storm water runoff control
 5. Other Requirements:
 - a. National Fire Protection Association (NFPA): Pamphlet 101, Life Safety.
 - b. References on Drawings or in Specifications to "code" or "building code" not otherwise identified shall mean the codes specified in this Section 01 41 00, together with all additions, amendments, changes, and interpretations adopted by code authorities of the jurisdiction.
- C. Have access to all of the foregoing within 24 hours.
- D. Other Applicable Laws, Ordinances and Regulations:
1. Work shall be accomplished in conformance with all applicable Regulatory Requirements of federal, state, and local governmental agencies and jurisdictions having authority over the Project.
 2. Work shall be accomplished in conformance with all Regulatory Requirements of public utilities and utility districts.
 3. Where such Regulatory Requirements require more care or greater time to accomplish Work, or require better quality, higher standards or greater size of products, Work shall be accomplished in conformance to such requirements with no change to the Contract Time and Contract Sum, except where changes in Regulatory Requirements occur subsequent to the time of opening of the bids.
- E. Under California Government Code Section 930.2 et. seq. and Public Contract Code Section 7105(d)(2), neither the Contract Claims Procedure (Section 00 71 00, Article 12) nor the Change Order Procedure (Section 01 26 00 Modification Procedures) may be modified, waived, or otherwise not complied with, absent a written change order that explicitly and expressly makes such modifications.

1.4 CHANGE ORDERS AND CLAIMS

- A. The Public Contract Code including, without limitation, Section 7105(d)(2), and the California Government Code Section 930.2, et seq., apply to all contract procedures for changes, time extensions, change orders (time or compensation) and claims. Federal law (*U.S. v. Holpuch* 326 U.S. 234) shall supplement California law on the enforceability of these requirements.
- B. Any change, waiver, or omission to implement contract change order and claim procedures shall have no legal effect unless expressly permitted in a fully executed change order approved by Contractor and District and approved as to form by their respective legal counsel.

1.5 REQUIRED PROVISIONS ON CONTRACT CLAIM RESOLUTION

- A. The California Public Contract Code Section 20104, et seq., specifies required provisions on resolving contract claims less than \$375,000, which are set forth below, and constitute a part of this Contract.
 1. For the purposes of this section, "Claim" means a separate demand by Contractor of \$375,000 or less for (1) a time extension, (2) payment or money or damages arising from Work done by or on behalf of Contractor arising under the Contract Documents and payment of which is not otherwise expressly provided for or the Claimant is not otherwise entitled to, or (3) an amount the payment of which is disputed by District. In order to qualify as a Claim, the written demand must state that it is a Claim submitted under paragraph 12 of Section 00 71 00 (General Conditions) and be submitted in compliance with all requirements of Section 00 71 00 (General Conditions), paragraph 12. Separate Claims that together total more than \$375,000 do not qualify as a "separate demand of \$375,000 or less," as referenced above, and are not subject to this section.
 2. A voucher, invoice, payment application, or other routine or authorized form of request for payment is not a Claim for purposes of this section. If such request is disputed as to liability or amount, then the disputed portion of the submission may be converted to a Claim under this section by submitting a separate claim in claim in compliance with Contract Documents claim submission requirements.
 3. Caution. This section does not apply to tort claims and nothing in this section is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 and Chapter 2 of Part 3 of Division 3.6 of Title 1 of the California Government Code.
- B. Procedure:
 1. The Claim must be in writing, submitted in compliance with all requirements of Section 00 71 00 (General Conditions), paragraph 12, including, but not limited to, the time prescribed by and including the documents necessary to substantiate the Claim, pursuant to Section 00 71 00 (General Conditions), paragraph 12. Claims must be filed on or before the day of final payment. Nothing in this section is intended to extend the time limit or supersede notice requirements for the filing of claims as set forth in Section 00 71 00 (General Conditions), paragraph 12 or elsewhere in the Contract Documents.
 2. For Claims of fifty thousand dollars (\$50,000) or less
 - a. District shall respond in writing within forty-five (45) days of receipt of the Claim, or
 - b. District may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims District may have against Claimant.
 - 1) If additional information is thereafter required, it shall be requested and provided in accordance with this section upon mutual agreement of District and Claimant.
 - 2) District's written response to the Claim, as further documented, shall be submitted to Claimant within fifteen (15) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.
 3. For Claims over Fifty Thousand Dollars (\$50,000) and less than or equal to \$375,000:
 - a. District shall respond in writing within sixty (60) days of receipt of the Claim, or
 - b. District may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims District may have against Claimant.
 - 1) If additional information is thereafter required, it shall be requested and provided in accordance with this section, upon mutual agreement of District and Claimant;
 - 2) District's written response to the Claim, as further documented, shall be submitted to Claimant within thirty (30) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.
 4. Meet and Confer:

- a. If Claimant disputes District’s written response, or District fails to respond within the time prescribed above, Claimant shall notify District, in writing, either within fifteen (15) days of receipt of District’s response or within fifteen (15) days of District’s failure to timely respond, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon demand District will schedule a meet and confer conference within thirty (30) days for settlement of the dispute.
- b. Following the meet and confer conference, if the Claim or any portion remains in dispute, Claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the California Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time Claimant submits its written claim as set forth herein, until the time that Claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

1.6 COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT

- A. Contractor acknowledges that, pursuant to the Americans with Disabilities Act (ADA), programs, services and other activities provided by a public entity to the public, whether directly or through a contractor, must be accessible to the disabled public. Contractor shall provide the services specified in the Contract Documents in a manner that complies with the ADA and any and all other applicable federal, state and local disability rights legislation. Contractor agrees not to discriminate against disabled persons in the provision of services, benefits or activities provided under this Agreement and further agrees that any violation of this prohibition on the part of Contractor, its employees, agents or assigns shall constitute a material breach of the Contract Documents.

1.7 COMPLIANCE WITH IMMIGRATION REFORM AND CONTROL ACT

- A. Contractor acknowledges that Contractor, and all subcontractors hired by Contractor to perform services under this Agreement, are aware of and understand the Immigration Reform and Control Act (**IRCA**). Contractor is and shall remain in compliance with the IRCA and shall ensure that any subcontractors hired by Contractor to perform services under this Agreement are in compliance with the IRCA. In addition, Contractor agrees to indemnify, defend and hold harmless District, its agents, officers and employees, from any liability, damages or causes of action arising out of or relating to any claims that Contractor’s employees, or employees of any subcontractor hired by Contractor, are not authorized to work in the United States for Contractor or its subcontractor and/or any other claims based upon alleged IRCA violations committed by Contractor or Contractor’s subcontractors.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 41 01

REGULATORY REQUIREMENTS - HAZARDOUS MATERIALS**PART 1 GENERAL****1.1 SUMMARY**

- A. Section Includes:
 - 1. Regulatory requirements applicable to Work in connection with hazardous waste abatement and disposal including, but not limited to, asbestos and asbestos-containing materials, lead-based paint, polychlorinated biphenyls, petroleum-contaminated soils and materials, construction and demolition debris and any other hazardous substance or hazardous waste.
- B. This Section supplements Section 01 41 00 (Regulatory Requirements) and the Work-specific listings of applicable regulatory requirements elsewhere in the Specifications.

1.2 REFERENCES TO REGULATORY REQUIREMENTS

- A. Codes, laws, ordinances, rules and regulations applicable to the Work shall have full force and effect as though printed in full in Contract Documents. Codes, laws, ordinances, rules and regulations are not furnished to Contractor, because Contractor is assumed to be familiar with their requirements. The listing herein of applicable codes, laws, and regulations for hazardous waste abatement work is supplied to Contractor as a courtesy and shall not limit Contractor's responsibility for complying with all applicable laws, regulations or ordinances having application to the Work. Where conflict among the requirements or with these Specifications exists, the most stringent requirements shall be used.
- B. Conform to all applicable codes, laws, ordinances, rules and regulations that are in effect on date of contracting.

1.3 LAWS, ORDINANCES, RULES, AND REGULATIONS

- A. During prosecution of Work under Contract Documents, Contractor shall comply with applicable laws, ordinances, rules and regulations including, but not limited to, those listed below.
- B. Federal:
 - 1. Statutory Requirements:
 - a. Resource Conservation and Recovery Act, 42 U.S.C. Sections 6901 *et seq.*
 - b. Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U. S.C. Sections 9601 *et seq.*
 - c. Toxic Substances Control Act of 1976, 15 U.S.C., Sections 2601 *et seq.*
 - d. Hazardous Materials Transportation Act of 1975, 49 U.S.C. Sections 1801 *et seq.*
 - e. Clean Water Act, 33 U.S.C. Sections 1251 *et seq.*
 - f. Safe Drinking Water Act, 42 U.S.C., Sections 3001 *et seq.*
 - g. Clean Air Act, Section 112, 42 U.S.C., Section 7412
 - h. Occupational Safety and Health Act of 1970, 29 U.S.C., Sections 651 *et seq.*
 - i. Underground Storage Tank Law, 42 U.S.C., Sections 6991 *et seq.*
 - j. The Emergency Planning and Community Right to Know Act of 1986, 42 U.S.C., Sections 11011 *et seq.*
 - 2. Environmental Protection Agency (EPA):
 - a. 40 C.F.R. Parts 260, 264, 265, 268, 270
 - b. 40 C.F.R. Parts 258 *et seq.*
 - c. 40 C.F.R. Part 761
 - d. 40 C.F.R. Parts 122-124
 - 3. Occupational Safety and Health Administration (OSHA):
 - a. OSHA Worker Protection Standards, Title 29 C.F.R. Part 1926.58, Construction Standards and 29 C.F.R. 1910.1001 General Industry Standard
 - b. OSHA, 29 C.F.R. Part 1926.1101, Construction Standards for Asbestos

- c. OSHA, Lead Exposure in Construction: Interim Final Rule, 29 C.F.R. 1926.62
 - d. National Emission Standard for Hazardous Air Pollutants, Title 40 C.F.R. Part 61
 - e. Asbestos Hazardous Emergency Response Act, Title 40 C.F.R. 763
4. Department of Transportation:
- a. Title 49 C.F.R. 173.1090
 - b. Title 49 C.F.R. 172
 - c. Title 49 C.F.R. 173
 - d. DOT, HM 181 and MH126f
- C. State of California Requirements:
1. Statutory Law:
- a. The Carpenter-Presley-Tanner Hazardous Substance Account Act, Health & Safety Code, Sections 25300 *et seq.*
 - b. Health and Safety Code, Section 25359.4
 - c. Hazardous Waste Control Law, Health & Safety Code, Sections 25100 *et seq.*
 - d. Porter-Cologne Water Quality Control Act, Water Code, Sections 13000 *et seq.*
 - e. Health and Safety Code, Sections 25915-25924
 - f. California Labor Code Chapter 6, including, without limitation, Sections 6382, 6501.5-6501.9, 6503.5, 9021.5, 9080
 - g. Business and Professions Code, including without limitation, Sections 7058.5, 7065.01, 7118.5
 - h. Underground Storage of Hazardous Substance Act, Health and Safety Code, Sections 25280 *et seq.*
 - i. Petroleum Underground Storage Tank Cleanup, Health and Safety Code, Sections 25299.10 *et seq.*
 - j. Safe Drinking Water and Toxic Enforcement Act of 1986, Health & Safety Code, Sections 25249.5 *et seq.* (Proposition 65)
 - k. Above Ground Petroleum Storage Act, Health and Safety Code, Sections 25270 *et seq.*
 - l. Hazardous Materials Release Response Plans and Inventory, Health and Safety Code, Chapter 6.95
2. Administrative Code and Regulations:
- a. Title 22 CCR Division 4.5, Environmental Health Standards for the Management of Hazardous Waste, Sections 6600 *et seq.*
 - b. Cal/OSHA Worker Protection Standards, Title 8 CCR, Sections 1529, 5208
 - c. Title 8 CCR, Section 1532.1, Lead in Construction
 - d. Title 23 CCR, Sections 2610 *et seq.*
3. Local Agency Requirements:
- a. Bay Area Air Quality Management District, Fugitive Dust Rules
 - b. Bay Area Air Quality Management District Regulation 11-2-303
 - c. State Water Resource Control Board, General Construction Activity Stormwater Permit Requirements (Order 92-OS DWQ)
4. Local Agency Requirements:
- a. Woodside Fire Department, Cañada College
 - b. San Mateo Fire Department, College of San Mateo
 - c. San Bruno Fire Department, Skyline College

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 42 00

REFERENCES AND DEFINITIONS**PART 1 GENERAL****1.1 SUMMARY**

- A. Section Includes: Reference standards, abbreviations, symbols, and definitions used in Contract Documents.
- B. Full titles are given in this Section for standards cited in other Sections of Specifications.
- C. Material and workmanship specified by reference to number, symbol, or title of specific standard such as state standard, commercial standard, federal specifications, technical society, or trade association standard, or other similar standard, shall comply with requirements of standards except when more rigid requirements are specified or required by applicable codes.
- D. Standards referred to, except as modified herein, shall have full force and effect as though printed in the Contract Documents. Standards are not furnished to Contractor because manufacturers and trades involved are assumed to be familiar with their requirements.

1.2 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES; REPORTING AND RESOLVING DISCREPANCIES

- A. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code, or laws or regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated in the Contract Documents.
- B. If during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such law or regulation applicable to the performance of the Work or of any such standard, specification, manual, or code or of any instruction of any supplier, Contractor shall report it in writing at once to Inspector, with copies to District's Representative and Architect/Engineer, and Contractor shall not proceed with the Work affected thereby until consent to do so is given by District.
- C. Except as otherwise specifically stated in the Contract Documents or as may be provided by Change Order, CCD, or Supplemental Instruction, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - 1. The provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or
 - 2. The provisions of any such laws or regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such law or regulation).
- D. No provision of any such standard, specification, manual, code, or instruction shall be effective to change the duties and responsibilities of District, District's Representative, Architect/Engineer or Contractor, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents, nor shall it be effective to assign to District, Engineer, or any of their consultants, agents, representatives or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.
- E. Comply with the applicable portions of standards and specifications published by the technical societies, institutions, associations, and governmental agencies referred to in Specifications.
 - 1. Comply with referenced standards and specifications; latest revision in effect at the time of opening of Bids, unless otherwise identified by date.
 - a. Exception: Comply with issues in effect as listed in governing legal requirements.
- F. Referenced Grades, Classes, and Types: Where an alternative or optional grade, class, or type of product or execution is included in a reference but is not identified in Drawings or in Specifications, provide the highest, best, and greatest of the alternatives or options for the intended use and prevailing conditions.

- G. Jobsite Copies:
1. Obtain and maintain at the Site copies of reference standards identified on Drawings and in Specifications in order to properly execute the Work.
 2. At a minimum, the following shall be readily available at the Site:
 - a. Safety Codes: State of California, Division of Industrial Safety regulations.
- H. Edition Date of References:
1. When an edition or effective date of a reference is not given, it shall be understood to be the current edition or latest revision published as of the date of opening Bids.
 2. All amendments, changes, errata and supplements as of the effective date shall be included.
- I. ASTM and ANSI References: Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the Drawings and Specifications by abbreviation and number only and may not be further identified by title, date, revision, or amendment. It is presumed that Contractor is familiar with and has access to these nationally- and industry-recognized specifications and standards.

1.3 ABBREVIATIONS

- A. Listed hereinafter are the various organizations or references which may appear in the Contract Documents, along with their respective acronyms and/or abbreviations:

AA	Aluminum Association
AABC	Associated Air Balance Council
AAMA	Architectural Aluminum Manufacturers Association
AAP	Affirmative Action Program
AASHTO	American Association of State Highway and Transportation Officials
ABMA	American Boiler Manufacturers Association
ABPA	American Board Products Association
ACI	American Concrete Institute
AED	Association of Equipment Distributors
AGA	American Gas Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association, Inc.
ANSI	American National Standards Institute (formerly American Standards Association)
APA	American Plywood Association
ARI	Air-Conditioning and Refrigeration Institute
ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWCI	Association of the Wall and Ceiling Industries
AWPA	American Wood- Preservers Association
AWPB	American Wood Preservers Bureau
AWS	American Welding Society
AWWA	American Water Works Association
BIL	Basic Insulation Level
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	State of California, Department of Transportation
CBC	California Building Code
CCD	Construction Change Directive
CCR	California Code of Regulations
CEC	California Electric Code
CFR	Code of Federal Regulations
CISPI	Cast Iron Soil Pipe Institute
CLMFI	Chain Link Fence Manufacturers Institute
CMC	California Mechanical Code
CO	Change Order

CPC	California Plumbing Code
CPM	Critical Path Method
CPUC	California Public Utilities Commission
CRA	California Redwood Association
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standards, U.S. Department of Commerce
CSA	Canadian Standards Association
CTI	Ceramic Tile Institute
DHI	Door and Hardware Institute
DSA	Division of State Architect (formerly known as the Office of the State Architect)
EPA	Environmental Protection Agency
FGMA	Flat Glass Marketing Association
FM	Factory Mutual
FS	Federal Specifications
GA	Gypsum Association
HPMA	Hardwood Plywood Manufacturers Association
HVAC	Heating, Ventilating and Air Conditioning
I.D.	Identification
IACS	International Annealed Copper Standards
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronic Engineers, Inc.
IES	Illuminating Engineering Society
ISA	Instrumentation Society of America
JATC	Joint Apprenticeship Training Committee
JV	Joint Venture
LBE	Local Business Enterprise
M.I.	Middle Initial
M/WBE	Minority and/or Woman-Owned Business Enterprise
MBE	Minority Business Enterprise
MIA	Masonry Institute of America
MIA	Marble Institute of America
MLSFA	Metal Lath/Steel Framing Association
MS	Military Specifications
MSDS	Material Safety Data Sheet
MSS	Manufacturers Standardization Society of the Valve & Fitting Industry
NAAMM	National Association of Architectural Metal Manufacturers
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards
NEC	National Electric Code
NEMA	National Electric Manufacturers Association
NESC	National Electrical Safety Code
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Science and Technology (formerly the National Bureau of Standards)
NOFMA	National Oak Flooring Manufacturers Association
NSF	National Sanitation Foundation
NTMA	National Terrazzo & Mosaic Association
NWWDA	National Wood Windows and Doors Association
OSHA	Occupational Safety and Health Administration
OSHPD	Office of Statewide Health Planning and Department
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
PDI	Plumbing and Drainage Institute

PG&E	Pacific Gas and Electric Company
PM	Preventive Maintenance
PR	Proposal Request
PS	Product Standard, U. S. Department of Commerce
RFI	Request for Information
RFP	Request for Proposals
RFS	Request for Substitution
RIS	Redwood Inspection Service
SDI	Steel Deck Institute
SFM	State of California, Office of State Fire Marshal
SIGMA	Sealed Insulating Glass Manufacturers Association
SJI	Steel Joint Institute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPIB	Southern Pine Inspection Bureau
SSPC	Steel Structures Painting Council
SWI	Steel Window Institute
TCA	Tile Council of America
TIE	Time Impact Evaluation
UBC	Uniform Building Code
UFC	Uniform Fire Code
UL	Underwriters' Laboratories, Inc.
UMC	Uniform Mechanical Code
UPC	Uniform Plumbing Code
USA	Underground Service Alert
USC	United States Code
WCLIB	West Coast Lumber Inspection Bureau
WHI	Warnock Hersey International a testing lab
WIC	Woodwork Institute of California
WWPA	Western Wood Products Association

B. Abbreviations in Specifications:

AWG	American Wire Gauge
accord	Accordance
Co.	Company
Corp.	Corporation
cm.	centimeter (centimeters)
cu.	Cubic
Div.	Division
dia.	diameter
ft.	foot (feet)
g./gr.	gram (grams)
gal.	gallon (gallons)
gpd	gallons per day
gpm	gallons per minute
hr.	hour
kg.	kilogram (kilograms)
in.	inch (inches)
Inc.	Incorporated
km.	kilometer (kilometers)
Kw	Kilowatt
l.	liter (liters)
lbs.	pounds
m	meter (meters)
Mfg.	manufacturing
Mg.	milligram (milligrams)

ml. /mls.	milliliter (milliliters)
mm.	millimeter (millimeters)
No.	number
o.c.	on centers
O.D.	outside diameter
psi	pounds per square inch
psf	pounds per square foot
sq.	square
T & G	tongue and groove
U.S.	United States
yd.	yard (yards)

C. Abbreviations on Drawings:

Additional abbreviations, used only on drawings, are indicated thereon.

1.4 SYMBOLS

A. Symbols in Specifications:

:	“shall be” or “shall” - where used within sentences or paragraphs
#1	Number
1#	Pound
&	And
%	Percent
C	Centigrade
F	Fahrenheit
°	Degree
/	per, except where used to combine words; example: power/fuel, and in that case it means and
“	inch (inches)
‘	foot (feet)
@	At

B. Symbols on Drawings:

Symbols, used only on Drawings, are indicated thereon.

1.5 DEFINITIONS

A. Wherever any of the words or phrases defined below, or a pronoun used in place thereof, is used in any part of the Contract Documents, it shall have the meaning here set forth. In the Contract Documents, the neuter gender includes the feminine and masculine, and the singular number includes the plural. While District has made an effort to identify all defined terms with initial caps, the following definitions shall apply regardless of case unless the context otherwise requires:

1. Addenda: Written or graphic instruments issued prior to the opening of Bids, which clarify, correct, or change the bidding requirements or the Contract Documents.
2. Agreement (Section 00 52 00): Agreement is the basic contract document that binds the parties to construction Work. Agreement defines relationships and obligations between District and Contractor and by reference incorporates Conditions of Contract, Drawings, and Specifications and contains Addenda and all Modifications subsequent to execution of Contract Documents. May also be referred to as Construction Services Agreement or Construction Agreement (but not Preconstruction Agreement).
3. Alternate: Work added to or deducted from the Base Bid, if accepted by District.
4. Application for Payment: Written application for monthly or periodic progress or final payment made by Contractor complying with the Contract Documents.
5. Approved Equal: Approved in writing by District as being of equivalent quality, utility and appearance.

6. Architect/Engineer: If used elsewhere in the Contract Documents, "Architect/Engineer" shall mean a person holding a valid California State Architect's or Engineer's license representing the District in the administration of the Contract Documents. Architect/Engineer may be an employee of or an independent consultant to District. When Architect/Engineer is referred to within the Contract Documents and no Architect/Engineer has in fact been designated, then the matter shall be referred to the District. The term Architect/Engineer shall be construed to include employees of Architect/Engineer and/or employees that Architect/Engineer supervises. When the designated Architect/Engineer is an employee of District, his or her authorized representatives on the Project will be included under the term Architect/Engineer. If Architect/Engineer is an employee of District, Architect/Engineer is the beneficiary of all Contractor obligations to District, including without limitation, all releases and indemnities. Refer to Section 341, Part 1, Title 24, California Code of Regulations.
7. Asbestos: Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by OSHA or Cal/OSHA.
8. Bid: The offer or proposal of the Bidder submitted on the prescribed form(s) setting forth the prices (including, if applicable, maximum prices) for the Work to be performed.
9. Bidder: One who submits a Bid or Proposal.
10. Bidding Documents: All documents comprising the Project Manual (including all documents and specification sections listed on Document 00 01 00 [Table of Contents]), including documents supplied for bidding purposes only and Contract Documents.
11. Board: The Board of Trustees of the District.
12. Business Day: Any Day other than Saturday, Sunday, and the following days that have been designated as holidays by District. If a holiday falls on a Saturday, the preceding Friday will be the holiday. If a holiday falls on a Sunday, the following Monday will be the holiday. Refer to the District's web site for a list of District observed holidays.
13. By District: Work that will be performed by District or its agents at the District's expense.
14. By Others: Work that is outside scope of Work to be performed by Contractor under this Contract, which will be performed by District, other contractors, or other means.
15. Change Order: A written instrument prepared by District and signed by District and Contractor, stating their agreement upon all of the following:
 - a. a change in the Work;
 - b. the amount of the adjustment in the Contract Sum, if any; and
 - c. the amount of the adjustment in the Contract Time, if any.
16. Code Inspector: A local or state agency responsible for the enforcement of applicable codes and regulations.
17. Commencement Date: The date on which the Contract Time commences, as established in Document 00 50 00 (Notice to Proceed).
18. Concealed: Work not exposed to view in the finished Work, including within or behind various construction elements.
19. Construction Agreement: See Agreement.
20. Construction Change Directive: A written order prepared and signed by District, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both.
21. Consultant: See Section 00 73 00 (Supplementary Conditions – Hazardous Materials) (if included)
22. Construction Manager: See Section 00 52 00 (Agreement) (if this term is used).
23. Contract Conditions: Consists of two parts: General Conditions and Supplemental Conditions.
 - a. General Conditions are general clauses that are common to the District Contracts, including Section 00 71 00.
 - b. Supplemental conditions modify or supplement General Conditions to meet specific requirements for this Contract, including Section 00 73 00 and Section 0073 05 (if included).

24. **Contract Documents and Contract:** Contract Documents and Contract shall consist of the documents identified as the Contract Documents in Section 00 52 00 (Agreement), plus all changes, addenda, and modifications thereto.
25. **Contract Modification:** Either:
 - a. a written amendment to Contract signed by Contractor and District; or
 - b. a Change Order; or
 - c. a Construction Change Directive (CCD); or
26. **Contract Sum:** The sum stated in the Agreement and, including authorized adjustments, the total amount payable by District to Contractor for performance of the Work and the Contract Documents. The Contract Sum is also sometimes referred to as the Contract Price or the Contract Amount.
27. **Contract Time:** The number or numbers of Days or the dates stated in the Agreement
 - a. to achieve Substantial Completion of the Work or designated milestones; and/or
 - b. to complete the Work so that it is ready for final payment and is accepted.
28. **Contractor:** The person or entity identified as such in the Agreement and referred to throughout the Contract Documents as if singular in number and neutral in gender. The term "Contractor" means the Contractor or its authorized representative.
29. **Contractor's Employees:** Persons engaged in execution of Work under Contract as direct employees of Contractor, as Subcontractors, or as employees of Subcontractors.
30. **Day:** One calendar day of 24 hours measured from midnight to the next midnight, unless the word "day" is specifically modified to the contrary.
31. **Defective:** An adjective which, when modifying the word "Work," refers to Work that is unsatisfactory or unsuited for the use intended, faulty, or deficient, that does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents (including but not limited to approval of samples and "or equal" items), or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by District). District is the judge of whether Work is defective.
32. **District:** The San Mateo County Community College District.
33. **District-Furnished, Contractor-Installed:** Items furnished by District at its cost for installation by Contractor at its cost under Contract Documents.
34. **District's Representative(s):** See Section 00 52 00 (Agreement).
35. **Drawings:** The graphic and pictorial portions of Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.
36. **Equal:** Equal in opinion of District. Burden of proof of equality is responsibility of Contractor.
37. **Exposed:** Work exposed to view in the finished Work, including behind louvers, grilles, registers and various other construction elements.
38. **Final Acceptance or Final Completion:** District's acceptance of the Work as satisfactorily completed in accordance with Contract Documents. Requirements for Final Acceptance/Final Completion include, but are not limited to:
 - a. All systems having been tested and accepted as having met requirements of Contract Documents.
 - b. All required instructions and training sessions having been given by Contractor.
 - c. All Project Record Documents having been submitted by Contractor, reviewed by District and accepted by District.
 - d. All punch list work, as directed by District, having been completed by Contractor.
 - e. Generally all Work, except Contractor maintenance after Final Acceptance, having been completed to satisfaction of District.
39. **Force Account:** Work directed to be performed without prior agreement as to lump sum or unit price cost thereof, and which is to be billed at cost for labor, materials, equipment, taxes, and other costs, plus a specified percentage for overhead and profit.
40. **Furnish:** Supply only, do not install.

41. Indicated: Shown or noted on the Drawings.
42. Inspector or Inspector of Record (IOR). The person engaged by District to inspect the workmanship, materials, or manner of construction of buildings or portions of buildings, to determine if such construction complies with the Contract Documents and applicable codes. The Inspector is subject to approval by the Architect/Engineer, District and, as appropriate, Division of the State Architect, and he will report to District. Refer to section 4-333 and section 4-342, Part 1, Title 24, California Code of Regulations.
43. Install: Install or apply only, do not furnish.
44. Latent: Not apparent by reasonable inspection, including but not limited to, the inspections and research required as a condition to bidding under the General Conditions.
45. Law: Unless otherwise limited, all applicable laws including without limitation all federal, state, and local laws, statutes, standards, rules, regulations, ordinances, and judicial and administrative decisions
46. Material: This word shall be construed to embrace machinery, manufactured articles, materials of construction (fabricated or otherwise), and any other classes of material to be furnished in connection with Contract, except where a more limited meaning is indicated by context.
47. Milestone: A principal event specified in Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all Work.
48. Modification: Same as Contract Modification.
49. Not in Contract: Work that is outside the Scope of Work to be performed by Contractor under Contract Documents.
50. Notice of Completion: Shall have the meaning provided in California Civil Code Section 3093, and any successor statute.
51. Off Site: Not on Property Owned by the District.
52. Partial Utilization: Use by District of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all of the Work.
53. PCBs: Polychlorinated byphenyls.
54. Phase: A specified portion of the Work (if any) specifically identified as a Phase in Section 00 52 00 (Agreement) or 01 10 00 (Summary).
55. Product Data: That information (including brochures, catalogue cuts, MSDS, etc.) supplied by the vendor describing the technical and commercial characteristics of the supplier equipment or materials, and accompanying commercial terms such as warranties, instructions and manuals.
56. Progress Report: A periodic report submitted by Contractor to District with progress payment invoices accompanying actual work accomplished to the Progress Schedule. See Section 01 32 16 (Progress Schedules and Reports) and Section 00 71 00 (General Conditions).
57. Project: Total construction of which Work performed under Contract Documents may be whole or part.
58. Project Float: As defined in Section 01 32 16 (Progress Schedules and Reports), paragraph 1.06.B.9.
59. Project Manual: Project Manual consists of Bidding Requirements, Agreement, Bonds, Certificates, Contract Conditions as identified in Document 00 01 10 (Table of Contents), together with Drawings and Specifications.
60. Project Record Documents: All Project deliverables required under various Sections, including without limitation, as-built drawings, operations and maintenance manuals, Installation, Operation, and Maintenance Manuals, and Machine Inventory Sheets.
61. Provide: Furnish and install.
62. Request for Information (“RFI”): A document prepared by Contractor requesting information regarding the Project or Contract Documents as provided in Section 01 26 00 (Modification Procedures). The RFI system is also a means for District to submit Contract Document clarifications or supplements to Contractor.
63. Request for Proposals (“RFP”): A document issued by District to Contractor whereby District may initiate changes in the Work or Contract Time as provided in Contract Documents. See Section 01 26 00 (Modification Procedures).

64. Request for Substitution (“RFS”): A document prepared by Contractor requesting substitution of materials as permitted and to the extent permitted in Contract Documents. See Section 01 60 00 (Product Requirements).
65. RFI-Reply: A document consisting of supplementary details, instructions, or information issued by District that clarifies or supplements Contract Documents, and with which Contractor shall comply. RFI-Replies do not constitute changes in Contract Sum or Contract Time except as otherwise agreed in writing by District. RFI-Replies will be issued through the RFI administrative system.
66. Samples: Physical examples of materials, equipment, or workmanship, including Mock Ups, that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
67. Shop Drawings: All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
68. Shown: As indicated on Drawings.
69. Site: The particular geographical location of Work performed pursuant to Contract Documents.
70. Spare Parts: Includes all spare parts, attic stock, required additional materials in excess of what is incorporated into the facility such as paint, carpet, tile, flooring, etc.
71. Specifications: The written portion of the Contract Documents consisting of requirements for materials, equipment, construction systems, standards, and workmanship for the Work; performance of related services; and are contained in Divisions 1 through 16.
72. Specified: As written in Specifications.
73. Subcontractor: A person or entity that has a direct contract with Contractor to perform a portion of the Work at the Site. The term “Subcontractor” is referred to throughout the Contract Documents as if singular in number and neutral in gender and means a Subcontractor or an authorized representative of the Subcontractor. The term “Subcontractor” does not include a separate contractor or subcontractors of a separate contractor.
74. Substantial Completion: The Work (or a specified part thereof) has progressed to the point where, in the opinion of District as evidenced by a Certificate of Substantial Completion, the Work is sufficiently complete, in accordance with Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work (or specified part) is complete and ready for final payment as evidenced by written recommendation of District for final payment. The terms “Substantially Complete” and “Substantially Completed” as applied to all or part of the Work refer to Substantial Completion thereof.
75. Supplemental Instruction: A written directive from District to Contractor ordering alterations or modifications that do not result in change in Contract Sum or Contract Time, and do not substantially change Drawings or Specifications. See Section 01 26 00 (Modification Procedures).
76. Technical Specifications: Specification Divisions 2 through 48 of the Contract Documents.
77. Title 24: Title 24, California Code of Regulations.
78. Testing and Special Inspection Agency: An independent entity engaged by District to inspect and/or test the workmanship, materials, or manner of construction of buildings or portions of buildings, to determine if such construction complies with the Contract Documents and applicable codes.
79. Underground Facilities: All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities that have been installed underground to furnish any of the following services or materials: Electricity, gases, chemicals, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.
80. Unit Price Work: Shall be the portions of the Work for which a unit price is provided in Section 00 52 00 (Agreement) or Section 01 10 0 (Summary of Work).
81. Verified Report: A periodic report submitted to District. Refer to Sections 4-336, 4-337 and 4-343, Part 1, Title 24, California Code of Regulations.
82. Work: The entire completed construction, or the various separately identifiable parts thereof, required to be furnished under the Contract Documents within the Contract Time. Work includes and is the result of

performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents including everything shown in the Drawings and set forth in the Specifications. Wherever the word “work” is used, rather than the word “Work,” it shall be understood to have its ordinary and customary meaning.

B. Other Defined Terms:

The following terms are not necessarily identified with initial caps; however they shall have the meaning set forth below:

1. Wherever words “as directed,” “as required,” “as permitted,” or words of like effect are used, it shall be understood that direction, requirements, or permission of District is intended. Words “sufficient,” “necessary,” “proper,” and the like shall mean sufficient, necessary, or proper in judgment of District. Words “approved,” “acceptable,” “satisfactory,” “favorably reviewed,” or words of like import, shall mean approved by, or acceptable to, or satisfactory to, or favorably reviewed by District.
2. Wherever the word “may” or “ought” is used, the action to which it refers is discretionary. Wherever the word “shall” or “will” is used, the action to which it refers is mandatory.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 51 00

TEMPORARY FACILITIES AND CONTROLS**PART 1 GENERAL****1.01 Summary**

- A. Section Includes:
1. Temporary Electricity.
 2. Temporary Communications.
 3. Temporary Water.
 4. Existing Fences.
 5. Protection of Public and Private Property.
 6. Temporary Sanitary Facilities.
 7. Temporary Barriers and Enclosures.
 8. Water Control.
 9. Pollution Control.
 10. Construction Aids.
 11. Erosion Control.
 12. Noise Control.
 13. Traffic Control.
 14. Removal of Temporary Facilities and Controls.

1.02 Temporary Electricity

- A. Contractor shall provide, maintain and pay for electrical power at the Site for construction purposes and for Contractor's trailers and any other site offices or trailers required by the District in the Contract Documents. With the District's consent, power may be obtained from District, but Contractor must provide all necessary wiring and appurtenances for connection to District's system and Contractor must coordinate with PG&E to install temporary electrical connections if required. Contractor must coordinate point of connection with the District.

1.03 Temporary Communications

- A. Contractor shall provide, maintain and pay for all applicable communications and data services (including without limitation telephone, facsimile, e-mail and internet) to field office commencing at time of Project mobilization, including all installation and connection and usage charges. In addition, the Contractor shall provide, maintain and pay for a high speed internet service (such as cable or DSL) from available utility communications service providers at the Site for both Contractor and Construction Manager's trailers.

1.04 Temporary Water

- A. Contractor shall provide, maintain and pay for all suitable quality water service required for construction operations.
- B. All water required for and in connection with the Work, including without limitation for dust control, shall be furnished by and at the expense of Contractor. Contractor shall be allowed to utilize water from the District for domestic uses and for dust control or street cleaning. However, District does not guarantee availability of this water. There will be no water usage charge to Contractor for water used. Contractor shall furnish all necessary pipes, hoses, nozzles, and tools and perform all necessary labor to use District's water. Waste of water will not be permitted. Special hydrant wrenches shall be used for opening and closing fire hydrants; in no case shall pipe wrenches be used for this purpose.

1.05 Additional Temporary Facilities

- A. Contractor shall provide and maintain at the Project Site a separate trailer and required furnishings for use by the Project Inspector of Record, in addition to Contractor's own trailer(s) or field office(s).
- B. Contractor shall provide and maintain at the Project Site adequate field office space for meetings and conferences with District and other Project participants, in either Contractor's trailer(s) and field office(s) or in the Project Inspector of Record's trailer.

1.06 Existing Fences

- A. All existing fences affected by the Work shall be maintained by Contractor until Final Completion. Fences which interfere with construction operations shall not be relocated or dismantled until District gives written permission to do so, and the period the fence may be left relocated or dismantled has been agreed upon. Where fences must be maintained across the construction easement, adequate gates shall be installed. Gates shall be kept closed and locked at all times when not in use.
- B. On completion of the Work across any tract of land, Contractor shall restore all fences to their original or to a better condition and to their original locations.

1.07 Protection of Public and Private Property

- A. Contractor shall protect, shore, brace, support, and maintain all underground pipes, conduits, drains, and other underground construction uncovered or otherwise affected by its construction operations. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences, and other surface structures affected by construction operations, together with all sod and shrubs in yards, parkways, and medians, shall be restored to their original condition, whether within or outside the easement. All replacements shall be made with new materials.
- B. Contractor shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges, and other public or private property, regardless of location or character, which may be caused by transporting equipment, materials, or workers to or from the Work, Site or any part thereof, whether by Contractor or Subcontractors. Contractor shall make satisfactory and acceptable arrangements with the District, or the agency or authority having jurisdiction over the damaged property, concerning its repair or replacement or payment of costs incurred in connection with the damage.
- C. All fire hydrants and water control valves shall be kept free from obstruction and available for use at all times.

1.08 Temporary Sanitary Facilities

- A. Contractor shall provide and maintain required temporary buildings with sanitary toilets for use of all workers. At a minimum, sanitary facilities shall be located at trailer site, staging area, and adjacent to work area.
- B. Sanitary facilities shall be of reasonable capacity, properly maintained throughout the construction period, and obscured from public view to the greatest practical extent. If toilets of the chemically treated type are used, at least one toilet will be furnished for each 20 persons, or as required by government regulations. Contractor shall enforce the use of such sanitary facilities by all personnel at the Site. Existing faculty and student restroom facilities on campus shall not be used by construction personnel.
- C. Contractor shall comply with all minimum requirements of the Health Department, OSHA or other public agency having jurisdiction; maintain sanitary facilities in a sanitary condition at all times. Contractor shall provide hand washing facilities adjacent to sanitary toilets as required by OSHA or other government regulations.
- D. Contractor shall provide temporary sanitary facilities for Campus and Staff during utility interruptions caused by the construction.
- E. Contractor shall keep sanitary facilities free from graffiti.

1.09 Temporary Barriers and Enclosures

- A. Provide barriers to prevent unauthorized entry to construction areas to allow for District's use of Site, and to protect existing facilities and adjacent properties from damage from construction operations.
- B. Provide barricades required by governing authorities for public access to existing buildings.
- C. Protect vehicular traffic, stored materials, Site, and structures from damage.

1.10 Water Controls

The following will be performed in accordance with the SWPPP specification, as specified in Section 01 35 00 (Special Procedures).

- A. Grade Site to drain.
- B. Maintain excavations free of water.
- C. Protect Site from puddling or running water.

- D. Provide water barriers as required to protect Site from soil erosion.
- E. Provide for drainage of storm water and such water as may be applied or discharged on the Site in performance of the Work. Drainage facilities shall be adequate to prevent damage to the Work, the Site, and adjacent property.
- F. Clean, enlarge and/or supplement existing drainage channels and conduit as necessary to carry all increased runoff attributable to Contractor's operations. Provide sediment tanks and other features to avoid increased runoff, to protect District's facilities and the Work, and to direct water to drainage channels or conduits. Provide ponding as necessary to prevent downstream flooding.

1.11 Pollution Control

The following will be performed in accordance with the SWPPP specification, as specified in Section 01 35 00 (Special Procedures).

- A. Contractor shall prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris, and other substances resulting from construction activities. No sanitary wastes shall be permitted to enter any drain or watercourse other than sanitary sewers. No sediment, debris, or other substance shall be permitted to enter sanitary sewers without authorization of the receiving sanitary sewer service, and all possible Best Management Practices (**BMPs**) shall be taken to prevent such materials from entering any drain to watercourse. Rate of discharge for storm water may not be increased by the Project during or following construction.
- B. Contractor shall comply with required storm water pollution control requirements. The Contractor shall implement BMPs during construction activities as specified in the applicable governing requirements for California Storm Water Best Management Practices Handbook (California Association of Stormwater Quality Agencies (CASQA), 2009), and/or the Manual of Standards for Erosion and Sediment Control Measures (Association of Bay Area Governments (ABAG) 2002). Erosion and sedimentation control practices shall include installation of silt fences, straw wattle, soil stabilization, revegetation, and runoff control to limit increases in sediment in stormwater runoff, including but not limited to, detention basins, straw bales, silt fences, check dams, geofabrics, drainage swales, and sand bag dikes.
- C. In the event that dewatering of excavations is required, Contractor shall obtain the necessary approval and permits for discharge of the dewatering effluent from the local jurisdiction. Contractor shall be responsible for assuring that water quality of such discharge meets the appropriate permit requirements prior to any discharge.

1.12 Construction Aids

- A. Contractor shall furnish, install, maintain, and operate all construction aids required by it and its Subcontractors in the performance of the Work, except as otherwise provided herein. Such construction aids shall include elevators and hoists, cranes, temporary enclosures, swing staging, scaffolding and temporary stairs. Construction aids shall be furnished without charge to the Subcontractors, and all necessary erection, maintenance, and operating personnel shall be included. In the event of conflict, the contractor furnishing the equipment shall determine priorities in the best interest of the Project.

1.13 Erosion Control

The following will be performed in accordance with the SWPPP specification, as specified in Section 01 35 00 (Special Procedures)

- A. Contractor shall prevent soil erosion on the Site and adjacent property resulting from its construction activities to the maximum extent practical, including implementation of Best Management practices. Effective measures shall be initiated prior to the commencement of clearing, grading, excavation, or other operations that will disturb the natural protection.
- B. Work shall be scheduled to expose areas subject to erosion for the shortest possible time, and natural vegetation shall be preserved to the greatest extent practicable. Temporary storage and construction buildings shall be located, and construction traffic routed, to minimize erosion. Temporary fast-growing vegetation or other suitable ground cover shall be provided as necessary to control runoff.

1.14 Noise Control

- A. When required by OSHA Standards, construction workers shall be provided with ear protection to operate equipment.

- B. Contractor shall take reasonable measures to avoid unnecessary noise. Such measures shall be appropriate for the normal ambient sound levels in the area during working hours. All construction machinery and vehicles shall be equipped with practical sound-muffling devices, and operated in a manner to cause the least noise consistent with efficient performance of the Work. During construction activities on or adjacent to occupied buildings, and when appropriate, Contractor shall erect screens or barriers effective in reducing noise in the building and shall conduct its operations to avoid unnecessary noise which might interfere with the activities of building occupants.
- C. Ensure and provide certification to District that all construction equipment and vehicles used for the Work are:
 - 1. Maintained in good mechanical condition
 - 2. Equipped with properly installed engine mufflers

1.15 Traffic Control

- A. All traffic associated with the construction, including without limitation delivery and mail trucks, shall enter the Contractor's access gate and shall use the route indicated in Section 01 11 00 (Summary of Work). Contractor shall provide signs directing construction and delivery traffic to this gate. Sign types and locations shall be reviewed by the District's Representative.
- B. Construction truck traffic shall be limited to off-peak traffic hours, between the hours of 10:00 a.m. and 4:00 p.m., Monday through Friday, unless other arrangements are made at least 24 hours in advance with District's Representative.
- C. Contractor shall provide adequate traffic control measures such as Barricades, Flagmen and Escorts for all construction traffic on College roads, parking lots, pathways and adjacent areas to the construction site. Construction traffic and moving equipment shall not be allowed in areas utilized by pedestrians unless the traffic control measures are planned, approved by the Contractor's Site Safety Officer and fully implemented.

1.16 Removal of Temporary Facilities and Controls

- A. Remove temporary utilities, equipment, facilities, and materials prior to final inspection.
- B. Remove underground installations.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 56 00

SITE SECURITY AND SAFETY**PART 1 GENERAL****1.01 Submittals**

- A. See Section 01 33 00 (Submittals).
- B. Site Security. See details in section below.
- C. Safety Program. See details in section below.

1.02 Overview

- A. In order to continue support of District's educational mission, District's campuses and many of its facilities will remain occupied during completion of the Work, making Site Security and Safety of paramount importance. Campuses are visited, on a daily basis, by an ever-changing and diverse population. Students, District staff, visitors, the public at large, and Contractor and Subcontractor personnel will encounter real and potential safety hazards on a regular basis. Among this population, knowledge of safety and security hazards varies from considerable to none. This makes the risk of an injury of utmost concern to District.
- B. For these reasons, failure to comply with the requirements of this Section will be considered grounds for District or its designated representatives to issue an order suspending Work or terminate the Contract for cause.
- C. District or its designated representatives may also perform safety inspections, and may issue a written notice ordering Contractor to correct an unsafe act or condition. If Contractor fails to correct the unsafe act or condition within the requested time frame, District or its representative may have the condition corrected and bill Contractor for the costs associated with the correction.
- D. The General or Prime Contractor shall assume overall responsibility for project safety compliance.

1.03 Protection

- A. Contractor shall continuously maintain protection as necessary to protect the Work, as a whole and in part, and adjacent property and improvements from accidents, injuries or damage to workers, visitors, District staff, students and public at large.
- B. Properly protect the Work:
 - 1. With lights, guard rails, temporary covers and barricades.
 - 2. Enclose excavations with proper barricades.
 - 3. Brace and secure all parts of the Work against storm and accident.
 - 4. Provide such additional forms of protection that may be necessary under existing circumstances.
- C. Contractor shall provide and maintain in good condition all protective measures required to adequately protect the public from hazards resulting from the Work and to exclude unauthorized persons from the Work. When regulated by Building Code, Cal OSHA, or other authority, such legal requirements for protection shall be considered as minimum requirements. Be responsible for the protection in excess of such minimum requirements as required.

1.04 Control of Site

- A. Contractor shall ensure that no alcohol, firearms, weapons, or controlled substance enters or is used at the Site. Contractor shall immediately remove from the Site and terminate the employment of any employee found in violation of this provision.
- B. Project Work Site parking will be limited to required work trucks, equipment pick-up/delivery vehicles and material delivery only. The Contractor's employees parking area is specified as directed by the District's Representative.

1.05 Site Security

- A. Within 10 days after Notice to Proceed, Contractor shall submit a Site Security Plan showing all aspects and phases with sufficient detail to define the Site Security Plan. Contractor must receive District's review and acceptance of the Contractor's proposed Site Security Plan prior to submitting the first monthly progress payment application.
- B. As part of the Work included within the Contract Price, Contractor shall take and be fully responsible for all reasonably required measures to protect and maintain the security of persons, existing facilities and property at the Site, including without limitation preventing theft, loss, vandalism and improper concealment of personal property of the District and all persons lawfully present on the Site, and including times where workers are not present on the Site. Contractor's measures shall include, at a minimum, maintaining a log of all persons entering and leaving the Site and who they represent, what they are delivering and to whom.
- C. No claim shall be made against District by reason of any act of an employee or trespasser, and Contractor shall repair all damage to District's property resulting from Contractor's failure to provide adequate security measures.
- D. Contractor shall maintain a lock on the construction access gate at all times. Contractor shall appoint one person to let people through the gate and maintain the sign-in/out list, with person's name, company, reason for entering, what they are delivering, time and date. Alternatively, Contractor shall provide a full-time guard at the gate at all times to control access and maintain the sign-in/out list. The sign in/out list shall be available to District at any time upon request. If District determines that the gate has been left unlocked, Contractor shall if requested by District provide a full time guard at no additional expense to the District.
- E. Contractor shall provide all security fencing, barricades, lighting, and other security measures as required to protect and control the Site throughout the duration of the project.
- F. Access to all existing classrooms must be maintained while isolating the Project Work Site by protective measures. Phasing of the work as (or if) required maintaining access to the buildings shall be a requirement of this Bid.
- G. Isolation of the Project Work Site for all phases shall be established as follows:
 - 1. For exterior work (if any)- through the use of "pre-paneled" 6-foot high (minimum) chain link fence. Fence panels shall include end clips/brackets with which the individual panels can be made into a "fence section" of indefinite length. If fence post supports are adjacent to a pedestrian walkway such that they might be a tripping hazard, Contractor shall install red cones on each support or take other measures to mitigate tripping hazards. Fencing shall include full height privacy screening fabric with 80% minimum visual blockage, dark green in color, installed on the entire outer perimeter, properly secured and shall not billow, flap or sag.
 - 2. For interior work (if any)- through the combined use of plywood and plastic sheeting walls constructed to prevent accidental entry to the work area and keep dust from entering occupied areas. Gypsum drywall and sound insulation shall also be employed when sound separation is required to adjacent spaces. Walls shall include end clips/brackets with which the individual panels can be made into a "wall section" of indefinite length.
 - 3. All barriers shall be securely and safely installed, and shall include proper access gates, supports, and braces and shall not be a tripping or safety hazard to the public. Contractor must include braces, poles, anchors, dead-weights, etc. as required to ensure barriers can sustain stress loads like pedestrian, wind, etc. Contractor shall maintain all barriers in good condition and clear of any graffiti, damage, wear and tear, etc., and shall replace any fencing or screening as required.
 - 4. The isolation fencing/walls shall be maintained and relocated when and as necessary to assure staff/student/ visitor safety while maintaining a positive isolation barrier between the public and the Project Work Site. Contractor shall perform all repairs as needed after removal and as caused by the barrier installation.

- H. The contractor shall be responsible for posting, and maintaining, no less than the following construction site signage
1. Signs: CAUTION CONSTRUCTION; HARD HAT AREA; AND KEEP OUT. In the event that the Contractor's insurance carrier or company policy mandates that additional safety signs be posted, contractor shall post and maintain those signs also.
 2. Construction Site signage shall be posted at the entries/exits from the buildings, at every chain link fence corner and in fence line "straight runs" as necessary to assure that the distance between signs does not exceed 500 linear feet.

1.06 Safety Program

- A. Within 10 days after Notice to Proceed, Contractor shall submit a Safety Program that has been reviewed and approved by an Industrial Hygienist certified by the American Board of Industrial Hygiene or a Certified Safety Professional. The Safety Program shall include the name, certification number, and certification seal of the Industrial Hygienist or Certified Safety Professional. Comply with the Safety Program and all applicable federal, state, and local regulation codes, rules, law and ordinances. The Safety Program submittal shall include the Contractor's proposed Site Safety Officer's resume identifying his/her work experience and qualifications. The minimum qualifications shall be five years diversified construction safety experience, and two years' experience related to Contractor's scope of work. The Contractor must receive District's review and acceptance of the Contractor's Safety Program prior to submitting the first monthly progress payment application.
- B. Receipt and/or review of the Safety Program by District, District's Safety Officer or District's representative shall not relieve Contractor of any responsibility for complying with all applicable safety regulations.
- C. It is essential that Contractor and each Subcontractor implement an effective and vigorous Safety and Health Program to cover their respective portions of the Work. Subject to Contractor's overall responsibility for Project safety, it shall be understood that the full responsibility for providing a safe place to work with respect to their respective portions of the Work rests with Contractor and each individual Subcontractor.
- D. Safety Program components:
1. Injury and Illness Prevention Program (**IIPP**): Conforming to the General Industrial Safety Orders (CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 3203), and the California Labor Code (Section 6401.7).
 2. Site-Specific Safety and Health Plan (**SSHP**): Describing health and safety procedures that shall be implemented during the Work in order to ensure safety of the public and those performing the Work. Follow the guidelines for a SSHP listed in CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 5192, Item (b)(4) f.
 3. Confined Space Program: The Site possibly contains permit- and non-permit-confined spaces. District will provide Contractor with any available information regarding permit space hazards, entry operations, and safety information relating to work in the permit spaces as set forth in the General Industrial Safety Orders (CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 5157). Permit space entry is allowed only through compliance with a permit space program meeting the requirements of Section 5157 of the General Industrial Safety Orders. During entry operations, or at the conclusion of entry operations, verbally notify Contractor's Site Safety Officer of the permit space program followed and of any hazards confronted or created in permit spaces during entry operations.
 4. Emergency Response Plan (**ERP**): Describe procedures that shall be implemented in the event an incident or emergency occurs at the Project Site. Identify the person responsible for handling an emergency (preferably the Site Safety Officer), and who is responsible for calling emergency services. The ERP should model multiple incident scenarios (e.g. minor injury, earthquake, fatality, fire, etc.). Special attention should be paid to Project Site access/egress and contractor personnel evacuation/staging areas. The Contractor's person responsible for handling an

emergency shall subscribe to the Campus Alert System “AlertU” to receive cell phone text messages from the college administration in cases of a campus emergency. Contractor shall review the District’s Public Safety Emergency Preparation Plan at: <http://www.smccd.edu/accounts/smccd/departments/publicsafety/emergencypreparedness.shtml> and Contractor’s ERP will reflect and coordinate with the provisions of the District’s plan. In the event Contractor requires emergency services such as ambulance, Fire Department, or Police, Contractor will call those services and immediately after calling those services, the Contractor shall contact the District’s Project Representative and the District Public Safety Department on campus. The ERP will reflect this activity related to notification of emergency services. The District will provide further contact information for designated internal staff.

- E. The wearing of hard hats and safety vests shall be mandatory at all times for personnel on Site. Supply sufficient hard hats and safety vests to equip properly all employees and visitors.
- F. Whenever an exposure exists, appropriate personal protective equipment (PPE) shall be used by all affected personnel, including but not limited to eye protection, hearing protection, safety harnesses, respiratory protection, etc. Supply PPE to all personnel under Contractor’s direction.

1.07 Safety Requirements

- A. Standards. Contractor shall maintain the Project in accordance with state and local safety and insurance standards. In addition, all Contractor/Subcontractors shall follow all OCIP required safety standards as outlined in Section 00 73 17 (OCIP Insurance). All measures of the SEWUP Contractual Provisions take precedence over other documents and regulations and shall be followed in order for Contractor to maintain OCIP coverages. Contractors found to be in violation of these provisions will be subject to all measures and actions as allowed in the Contract.
- B. Hazards Control. Contractor shall:
 - 1. Store volatile wastes in covered metal containers and remove from premises daily.
 - 2. Prevent accumulation of wastes that create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.
- C. Contractor shall conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws. Contractor shall not:
 - 1. Burn or bury rubbish or waste material on the Site.
 - 2. Dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3. Dispose of wastes into streams or waterways.
- D. Contractor shall provide accident information to the District on the forms provided by Contractor. This information shall be provided on the same day as the occurrence of the applicable incident.
- E. The District, or its designated representative, must be notified of all contractor injuries in accordance with the timeline established by Cal-OSHA/OSHA. Injuries, no matter how minor, to students, District staff or the public at large must be reported to the District immediately. All incidents resulting in damage to District property or third-party must be reported to the District immediately. Damage to contractor property must be reported within 12 hours if Contractor expects to file a claim against the District.
- F. Contractors must make their employees, agents, contractors, subcontractors, vendors and officers available for post-incident investigations.
- G. Contractors must make the involved employees, agents, contractors, subcontractors, vendors and officers available for post-incident/injury drug screening. Those employees failing the test will be removed permanently from the job site. The District will bear the cost of these tests.

1.08 Site Safety Officer

- A. Contractor shall designate one of Contractor’s staff as “Site Safety Officer” whose duties shall include the responsibility for enforcing the environmental protection provisions of the Contract Documents including safety and health, the requirements of the Occupational Safety and Health Act, and other applicable federal,

state and local standards. Submit for review by District Contractor's intended traffic flow plan, security plan, program for temporary structures, housecleaning plan, demolition program, and environmental safety and health plan. After review by District, the implementation and enforcement of these plans shall become the responsibility of the Site Safety Officer. Any changes in the plans shall be requested by Contractor through the Site Safety Officer for written concurrence by District.

- B. District's risk management representative(s) shall be allowed access to accident/injury and illness reports, inspection reports, scheduling and construction meetings, and safety meetings.

1.09 Additional Safety Controls

- A. According to industry practices, it is the responsibility of Contractor and Subcontractors of every tier to exercise reasonable care to prevent work-related injuries, property and equipment damage at the Project site, as well as minimize risk to the public and third-party property. Contractor and all Subcontractors shall undertake loss control prevention practices according to those requirements set by federal, state and city laws, statutes and specific project procedures developed for this Project.
- B. Contractor shall provide emergency medical services including American Red Cross certified First Aid Representative(s) on the jobsite. First Aid Representatives shall be CPR certified. , In the event of an accident it will be the responsibility of Contractor and Subcontractors of every tier to see that injured workers or members of the public are given immediate medical treatment and that all appropriate medical and claim forms are filed with the appropriate State Authorities and in accordance with the claim procedures developed for this project by the District.
- C. Should District elect to proceed with an OCIP, failure of a Contractor or Subcontractor to successfully enroll in the OCIP program and failure to submit Safety documents to the OCIP Administrator will result in the assessment of liquidated damages against the Contractor in the amount specified in the OCIP and Contract, as failure to enroll in the OCIP will prohibit Contractor from proceeding with the Project.
- D. Regardless of the insurance program chosen by the District, Contractor and Subcontractors of every tier will be expected to comply with the following safety and loss control requirements:
 - 1. All Subcontractors of any tier shall identify their contact person(s) to Contractor.
 - 2. Contractor and all Subcontractors of any tier shall follow District procedures regarding dealing with the media.
 - 3. Hard hats will be mandatory as per CAL OSHA Construction Safety orders.
 - 4. All construction employees will be required to be attired in workpants, shirt and appropriate boots or closed toe shoes.
 - 5. No Alcohol will be allowed on construction sites at any time.
 - 6. Smoking Policy: District's policy is to provide a safe learning and working environment for both students and employees. It is recognized that smoke from cigarettes, pipes and/or cigars is hazardous to health; therefore, it is District's intent to provide a smoke-free environment to the greatest extent possible. To achieve this goal, District limits smoking on its property to outdoor areas only, at a minimum of 20 feet away from any doorway, entrance to an indoor facility, or fresh air intake vent. Smoking is prohibited in all of District's indoor facilities. The sale or distribution of cigarettes or other smoking material is also prohibited.
 - (a) Contractor shall develop and enforce a smoking policy within work site area(s) that is in alignment with District's smoking policy. Contractor shall prohibit smoking in existing buildings that are under renovation. Contractor shall prohibit smoking in new buildings under construction no later than when the roof and exterior walls have been installed.
 - (b) Skyline College: Outside of the work site(s), smoking is prohibited except in designated smoking areas on the campus.
- E. Controlling access to the construction site is a very high priority, and Contractor and Subcontractors of every tier must take whatever preventative measure, such as barriers, fencing, etc., as are outlined in Contract Specifications.
- F. Contractor and Subcontractors of every tier must respond to any District complaints about objectionable levels of dust or noise and must provide appropriate abatement as quickly as possible.

- G. Construction personnel may not enter District's grounds other than the construction site unless accompanied by District personnel, and they are allowed only 'incidental' contact with students. Violations of these requirements by any construction employee will result in a mandatory background check of that employee – including fingerprinting – as required by California law.
- H. Fall protection is mandatory on all projects in accordance with Section 00 73 17 (OCIP Insurance) requirements and any other appropriate code.
- I. A site specific Injury and Illness Prevention Program shall be available on site with Contractor. Contractor and Subcontractors of every tier shall abide by this program.
- J. Personal radios, headsets, walkmans, I-Pods and CD players are not allowed on the job site.
- K. Contractor and Subcontractors of every tier must attend the pre-construction safety meeting.
- L. No sexual reference or preference shall be permitted on any piece of clothing or the hardhat. Any construction employee observed disregarding this policy shall be removed from the job site until further notice.
- M. All construction employees shall park in their designated parking area. Any sticker attached to the employees' vehicle that displays any form of sexual preference or reference shall be removed prior to parking at the site. Each employee will provide their license plate number to Contractor. Any employee disregarding this policy shall be removed from the site until further notice.
- N. Contractor and Subcontractors of every tier shall control employee break time activities to assure cleanup of all soda cans, food wrappers, plastic bottles, and food containers, from break areas. All break areas shall be cleaned immediately after the break and all waste placed in trash receptacles. No glass containers are permitted on the site.
- O. Theft or willful damage to any property of the District, faculty, student, or other contractors will be prosecuted fully.
- P. No guns, switchblades, or knives with blades greater than two inches shall be allowed on the job site. Any employee disregarding this policy shall be removed from the site until further notice.
- Q. Contractor and all Subcontractors shall advise those non-English speaking employees in their native language either in a written format or via an interpreter of these policies.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS**1.1 SECTION INCLUDES**

- A. Products
- B. Product Options and Substitutions
- C. Product Delivery Requirements
- D. Shipping Requirements
- E. Product Storage and Handling Requirements

1.2 PRODUCTS

- A. Products: New material, machinery, components, equipment, fixtures, and systems forming the Work. Does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- C. For similar components, provide interchangeable components of the same manufacturer.

1.3 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Summary: This paragraph 1.3 describes procedures for selecting products and requesting substitutions of unlisted materials in lieu of materials named in the Specifications or approved for use in Addenda that were not already the subject of a Document 00 43 25 (Substitution Request) submittal as provided in Document 00 11 19 (Instructions to Bidders).
- B. Contractor's Options:
 - 1. For products specified only by reference standard: Select any product meeting that standard.
 - 2. For products specified by naming one or more products or manufacturers:
 - a. Select products of any named manufacturer meeting specifications.
 - b. If product becomes unavailable due to no fault of Contractor, submit Request for Substitution (RFS), including all information contained in this Section 01 60 00 and a fully executed Document 00 43 25 (Substitution Request), but using the term "Contractor" each place the term "Bidder" appears in that form.
- C. Substitutions:
 - 1. Except as provided in Document 00 11 19 (Instructions to Bidders) with respect to "or equal" items, District will consider Contractor's substitution requests only when product becomes unavailable due to no fault of Contractor. Requests for review of proposed substitute items will not be accepted from anyone other than Contractor. The RFS shall state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice Contractor's achievement of Substantial Completion on time, and whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with District for work on the Project).
 - 2. Submit separate RFS (and four copies) for each product and support each request with:
 - a. Product identification.
 - b. Manufacturer's literature.
 - c. Samples, as applicable.
 - d. Name and address of similar projects on which product has been used, and dates of installation.
 - e. Name, address, and telephone number of manufacturer's representative or sales engineer.
 - f. For construction methods: Detailed description of proposed method; drawings illustrating methods.
 - 3. Where required, itemize a comparison of the proposed substitution with product specified and list significant variations including, but not limited to dimensions, weights, service requirements, and functional differences. If variation from product specified is not pointed out in submittal, variation will be rejected even though submittal was favorably reviewed. Identify all variations of the proposed substitute from that specified in the RFS and indicate available maintenance, repair, and replacement service.

4. State whether the substitute will require a change in any of the Contract Documents (or provisions of any other direct contract with District for work on the Project) to adapt the design of the proposed substitute, and whether or not incorporation or use of the substitute in connection with Work is subject to payment of any license fee or royalty. Submit data relating to changes in construction schedule.
 5. Include accurate cost data comparing proposed substitution with product and amount of net change in Contract Sum including, but not limited to, an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by District in evaluating the proposed substitute. District may require Contractor to furnish additional data about the proposed substitute.
 6. District will not consider substitutions which are for the Contractor's convenience, for acceptance (or, in District's sole discretion, District may make Contractor solely responsible for all resulting costs, expenses and other consequences) when a substitution:
 - a. Results in delay meeting construction Milestones or completion dates.
 - b. Is indicated or implied on submittals without formal request from Contractor.
 - c. Is requested directly by Subcontractor or supplier.
 - d. Acceptance will require substantial revision of Contract Documents.
 - e. Disrupts Contractor's job rhythm or ability to perform efficiently.
 7. Substitute products shall not be ordered without written acceptance of District.
 8. District will determine acceptability of proposed substitutions and reserve right to reject proposals due to insufficient information.
 9. Accepted substitutions will be evidenced by an approved Substitution Request Form. All Contract Documents requirements apply to Work involving substitutions.
- D. Contractor's Representation and Warranty:
1. Contractor's RFS constitute a representation and warranty that Contractor:
 - a. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.
 - b. Will provide the same warranty for substitution as for specified product.
 - c. Will coordinate installation and make other changes that may be required for Work to be complete in all respects.
 - d. Waives claims for additional costs which may subsequently become apparent.
 2. Will compensate District for additional redesign costs associated with substitution. For substitutions made for the contractors convenience the contractor will be responsible for all costs pertaining to substitution request.
 - a. Pay all costs incurred by the District associated with acceptance of substitutions including, but not limited to design, review and management activities.
 - b. Will be responsible for Construction Schedule slippage due to substitution.
 - c. Will be responsible for Construction Schedule delay due to late ordering of available specified products caused by requests for substitution that are subsequently rejected by District.
 - d. Will compensate District for all costs; including extra costs of performing Work under Contract Documents, extra cost to other contractors, and any claims brought against District, caused by late requests for substitutions or late ordering of products.
- E. District's Duties:
1. Review Contractor's RFS with reasonable promptness.
 2. Notify Contractor in writing of decision to accept or reject requested substitution.
- F. Administrative Requirements:
1. Specified products, materials, or systems for Project may include engineering or on-file standards required by the regulatory agency. Contractor's substitution of products, materials or systems may require additional engineering, testing, reviews, approvals, assurances, or other information for compliance with regulatory agency requirements or both.
 2. Provide all agency approvals or other additional information required and Contractor shall pay additional costs for required redesign, inspection, etc. For substitutions made for the Contractors convenience the Contractor will be responsible for all costs pertaining to substitution request.

1.4 PRODUCT DELIVERY REQUIREMENTS

- A. Deliver products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

1.5 SHIPPING REQUIREMENTS

- A. Preparation for Shipment. All equipment shall be suitably packaged to facilitate handling and to protect against damage during transit and storage. All equipment shall be boxed, crated, or otherwise completely enclosed and protected during shipment, handling, and storage. All equipment shall be protected from exposure to the elements and shall be kept dry at all times.
 1. Painted and coated surfaces shall be protected against impact, abrasion, discoloration, and other damage. Painted and coated surfaces which are damaged prior to acceptance of equipment shall be repainted to the satisfaction of District.
 2. Grease and lubricating oil shall be applied to all bearings and similar items.
- B. Shipping. Before shipping each item of equipment shall be tagged or marked as identified in the delivery schedule or on the Shop Drawings. Complete packing lists and bills of material shall be included with each shipment.

1.6 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store products only in staging area per provisions of Section 01 10 00 (Summary of Work).
- B. Handle, store, and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight, climate-controlled enclosures.
- C. For exterior storage of fabricated products, place on appropriate supports, above ground.
- D. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
- E. Store loose granular materials on solid flat surfaces in a well-drained area.
- F. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- G. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.
- H. Without limiting the foregoing:
 1. Contractor shall bear the responsibility for delivery of equipment, spare parts, special tools, and materials to the Site and shall comply with the requirements specified herein and provide required information concerning the shipment and delivery of the materials specified in Contract Documents. These requirements also apply to any subsuppliers making direct shipments to the Site. Acceptance of the equipment shall be made only after it is installed, tested, placed in operation and found to comply with all the specified requirements.
 2. All items shall be checked against packing lists immediately on delivery to the Site for damage and for shortages. Damage and shortages shall be remedied with the minimum of delay.
 3. No metalwork (miscellaneous steel shapes and reinforcing steel) shall be stored directly on the ground. Masonry products shall be handled and stored in a manner to hold breakage, chipping, cracking, and spalling to a minimum. Cement, lime, and similar products shall be stored off the ground on pallets and shall be covered and kept completely dry at all times. Pipe fittings and valves may be stored out of doors, but must be placed on wooden blocking. PVC pipe, geomembranes, plastic liner, and other plastic materials shall be stored off the ground on pallets and protected from direct sunlight.
 4. Electrical equipment and all equipment with antifriction or sleeve bearings shall be stored in weathertight structures maintained at a temperature above 60°F. Electrical equipment controls, and insulation shall be protected against moisture and water damage. All space heaters furnished in equipment shall be connected and operated continuously.
 5. Equipment having moving parts such as gears, bearings, and seals, shall be stored fully lubricated with oil, grease, etc., unless otherwise instructed by the manufacturer. Manufacturer's storage instructions shall be carefully followed by Contractor.
 6. When required by the equipment manufacturer, moving parts shall be rotated a minimum of twice a month to ensure proper lubrication and to avoid metal to metal "welding". Upon installation of the equipment, Contractor shall, at the discretion of District, start the equipment at one-half load for an adequate period of time to ensure that the equipment does not deteriorate from lack of use.

7. When required by the equipment manufacturer, lubricant shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants shall be put into the equipment by Contractor at the time of acceptance.
8. Equipment and materials shall not show any pitting, rust, decay, or other deleterious effects of storage when installed in the Work.
9. In addition to the protection specified for prolonged storage, the packaging of spare units and spare parts shall be for export packing and shall be suitable for long-term storage in a damp location. Each spare item shall be packed separately and shall be completely identified on the outside of the container.
10. Handling. Stored items shall be laid out to facilitate their retrieval for use in the Work. Care shall be taken when removing the equipment for use to ensure the precise piece of equipment is removed and that it is handled in a manner that does not damage the equipment.
11. Contractor is to complete, and if necessary develop, maintenance forms for each piece of major equipment installed and/or stored until project close out. Maintenance forms are to document the recommended preventive maintenance as specified by the manufacturer of the equipment. Each completed form shall document no more than one piece of equipment. The make, model and serial number of each piece of equipment and the date it was purchased and delivered will be noted in the top right corner of each form. Maintenance forms will be completed at least monthly, according to the manufacturers' recommendations, beginning no later than thirty (30) days from purchase/delivery of the equipment. Copies of these maintenance forms are to be submitted with each pay application, matching the date range of the pay application. At project close a complete set of original maintenance forms are to be 3-hole punched, organized chronologically by equipment make, model and serial number, and will be submitted to the District's Representative no more than thirty (30) days after the date of Substantial Completion. See Section 01 10 00 (Summary of Work) for the list of equipment to which this applies.

PART 2 PRODUCTS - NOT USED.

PART 3 EXECUTION - NOT USED.

END OF SECTION

SECTION 01 74 00

CLEANING**PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Progress Cleaning
- B. Final Cleaning

1.2 PROGRESS CLEANING

- A. Contractor shall perform periodic cleaning to ensure that any streets and other District and public properties are maintained free from accumulation of waste materials, dust, mud, and debris.
- B. Where required, Contractor shall wet down surfaces to lay dust and prevent the blowing of dust to nearby residences or public properties.
- C. Contractor shall keep all streets clean and free of dust, mud, and debris resulting from Contractor's operations. Daily cleanup throughout the job will be necessary as Contractor progresses with its Work, but extra attention to cleanup shall be made prior to weekends and holidays. Without limiting the foregoing, Contractor shall remove trench spoil along traveled ways daily; grade and vacuum broom surfaces initially where applicable and later water flush with high-pressure sprays, being careful to avoid downstream contamination.
- D. All dust, mud, spoils, and construction debris shall be removed daily from all roadways, ditches, shoulders, and private property (fills or spoils placed on private property at private property owner's written request excepted).
- E. Disposal of Materials:
 - 1. As part of the scope of Work included within the Contract Sum, Contractor shall be fully responsible for disposing of all construction debris, dirt and spoils resulting from the Work.
 - 2. All waste materials, debris, dirt and rubbish shall be disposed of at sites to be chosen by Contractor in accordance with applicable local, state, and federal regulations.
 - 3. Contractor is cautioned that the County of San Mateo and cities within the county have regulations governing the disposal of rubble, broken pavement, and similar materials.
 - 4. Contractor shall become familiarized with the requirements of the agency having jurisdiction over any contemplated disposal site and shall comply with all such requirements.
 - 5. The contractor shall estimate, log and submit regular reports to the District, an estimate of quantities (e.g. tonnage) of waste materials disposed of for compliance with AB75. Documentation requirements including the nature of materials, destination, volume and tonnage, shall be submitted as follows:
 - a. Up-to-date copies of the Waste Reporting Log (Exhibit A of this Section 01 74 00) shall be submitted with each payment application per Section 01 29 00 (Measurement and Payment) paragraph 1.7.C.8.
 - b. The Contractor shall submit a cumulative report summarizing the nature of materials, destination, volume and tonnage of materials disposed for the preceding calendar year to the District's Representative by January 31st of each year or at the end of the project as part of the contract closeout.
- F. All excess soil from performance of Work shall be disposed at sites to be chosen by Contractor in accordance with applicable local, state, and federal regulations. If Contractor elects to dispose of soil on any private property, prior to any dumping, a letter allowing such dumping shall be obtained from the property owner and presented to District. Contractor is advised that the property owner is required to obtain a fill permit from the applicable government agency (ies). In addition, placement of fill in wetland areas is subject to permit procedures of the US Army Corps of Engineers. At the completion of Work, a letter from each affected property owner will be required releasing Contractor, San Mateo County, District and any District consultant from future liability.
- G. If Contractor does not properly clean the Site, in the opinion of District, then District shall have the option of using outside equipment to perform the cleanup and such cost will be withheld from the Contract Sum.
- H. Contractor will take care to mitigate dust during interior renovation activities through proper use of dust controls. Dust controls will include, but not be limited to: dust barricades, walk-off mats, negative air machines and daily custodial clean-up employed by the Contract and at no additional cost to the District

1.3 FINAL CLEANING

- A. Contractor shall execute final cleaning prior to final inspection, using only properly skilled workers.
- B. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from exposed interior and exterior finished surfaces.
- C. Repair, patch, and touch up marred surfaces to match adjacent finishes.
- D. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- E. Clean equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment operated during construction, clean ducts, blowers and coils of units operated without filters during construction.
- F. Clean Site; mechanically sweep paved areas.
- G. Remove waste and surplus materials, rubbish, and construction facilities from Site.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

WASTE REPORTING LOG FOLLOWS ON NEXT PAGE

EXHIBIT A

WASTE REPORTING LOG

COLLEGE OF SAN MATEO

MARIE CURIE PARKING LOT RENOVATION PROJECT

Bid Number 86720 Project No. 471G

To: The San Mateo County Community College District

Attention: Michele Rudovsky, Facilities Manager

c/o Johnnie Fudge, Project Manager

1700 W. Hillsdale Blvd. Building 1, Rm. 213, San Mateo, CA 94402

Telephone: (650) 378-7341 Fax: (650) 574-6203

From: _____

DISPOSAL DATE	NATURE OF MATERIALS DISPOSED	DESTINATION	VOLUME	TONNAGE	% RECYCLED

- Per Section 01 29 00 (Measurement and Payment) paragraph 1.7.C.8. a current and up-to-date copy of this log is to be submitted with each Application for Payment.
- Per Section 01 74 00 (Cleaning) paragraph 1.2.E.5 a summary report for each calendar year shall be submitted to the District’s Representative by January 31st of each year or at the end of the project as part of the contract closeout. The data shall be summarized by ‘Nature of Materials Disposed’ and ‘Destination’ for the entire calendar year.

SECTION 01 76 01

EXISTING UNDERGROUND FACILITIES

PART 1 GENERAL

1.1 PUBLIC FACILITIES AFFECTED

- A. Where overhead service to a structure, known to receive service, does not exist, then underground service shall be assumed to exist.
- B. Contractor's attention is directed to the existence of underground sewer, water, gas, power, telephone, and cable lines and other utilities within the areas in which Work is to be performed. Contractor shall, at least 2 Business Days, or as otherwise noted, prior to commencement of excavation, notify the following owners of these Underground Facilities:
 - 1. Water/sewer/drainage lines: District
 - 2. Cable: District
 - 3. Buried electrical Lines: District

1.2 PRIVATE FACILITIES AFFECTED

No attempt has been made to locate private utilities on private property such as sprinkler irrigation systems or electrical conduits. Contact the property owners prior to construction.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 77 00

CONTRACT CLOSEOUT**PART 1 GENERAL****1.1 SUMMARY**

- A. Section Includes:
 - 1. Description of contract closeout procedures including:
 - a. Removal of Temporary Construction Facilities
 - b. Substantial Completion
 - c. Final Completion
 - d. Final Cleaning
 - e. Project record documents
 - f. Contractor shall comply with all applicable requirements in Section 01 78 39 (Project Record Documents).
 - g. Project Guarantee
 - h. Warranties
 - i. Turn-In
 - j. Release of Claims
 - k. Fire Inspection Coordination
 - l. Building Inspection Coordination

1.2 REMOVAL OF TEMPORARY CONSTRUCTION FACILITIES

- A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities.
- C. Restore permanent facilities used during construction to specified condition.
- D. Comply with paragraph 1.12 of Section 01 51 00 (Temporary Facilities and Controls).

1.3 SUBSTANTIAL COMPLETION

- A. When Contractor considers Work or designated portion of the Work as Substantially Complete, submit written notice to District's Representative, with list of items remaining to be completed or corrected.
- B. Within reasonable time, District's Representative will inspect to determine status of completion.
- C. Should District's Representative determine that Work is not Substantially Complete, District will promptly notify Contractor in writing, listing all defects and omissions.
- D. Remedy deficiencies and send a second written notice of Substantial Completion. District will reinspect the Work. If deficiencies previously noted are not corrected on reinspection, then Contractor shall pay District's cost of the reinspection.
- E. When District's Representative determines that Work is Substantially Complete, District will issue a Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected as verified by District.
- F. Manufactured units, equipment and systems that require startup must have been started up and run for periods prescribed by District before a Certificate of Substantial Completion will be issued.
- G. A punch list examination will be performed upon Substantial Completion. One follow-up review of punch list items for each discipline will be provided. If further Site visits are required to review punch list items due to incompleteness of the Work by Contractor, Contractor will reimburse District for costs associated with these visits.
- H. District may enlist Consultants to assist with the above activities.

1.4 FINAL COMPLETION

- A. Final Completion occurs when Work meets requirements for District's Final Acceptance. When Contractor considers Work is Finally Complete, submit written certification that:

1. Contractor has inspected Work for compliance with Contract Documents, and all requirements for Final Acceptance have been met.
 2. Except for Contractor maintenance after Final Acceptance, Work has been completed in accordance with Contract Documents and deficiencies listed with Certificate of Substantial Completion have been corrected. Equipment and systems have been tested in the presence of District, and are operative.
 3. Work is complete and ready for final inspection.
- B. In addition to submittals required by Contract Documents, provide submittals required by governing authorities and submit final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
- C. When District's Representative finds Work is acceptable and final closeout submittals are complete, District's Representative will issue final Change Order reflecting approved adjustments to Contract Sum not previously made by Change Order. Should District determine that Work is incomplete or defective:
1. District promptly will so notify Contractor, in writing, listing the incomplete or defective items.
 2. Promptly remedy the deficiencies and notify the District when it is ready for reinspection.
 3. When District determines that the Work is acceptable under the Contract Documents, District will request Contractor to make closeout submittals.
- D. Final adjustments of accounts:
1. Submit a final statement of accounting to District, showing all adjustments to the Contract Sum and complete and execute Document 00 65 73 (Agreement and Release of Any and All Claims).
 2. If so required, District shall prepare a final Change Order for submittal to Contractor, showing adjustments to the Contract Sum that were not previously made into a Contract Modification.
- E. District may enlist Consultants to assist with the above activities.

1.5 FINAL CLEANING

Contractor shall comply with all applicable requirements in Section 01 74 00 (Cleaning).

1.6 PROJECT RECORD DOCUMENTS

Contractor shall comply with all applicable requirements in Section 01 78 39 (Project Record Documents).

1.7 PROJECT GUARANTEE

- A. Requirements for Contractor's guarantee of completed Work are included in Article 9 of Document 00 71 00 (General Conditions). Guarantee Work done under Contract against failures, leaks, or breaks or other unsatisfactory conditions due to defective equipment, materials, or workmanship, and perform repair work or replacement required, at Contractor's sole expense, for period of one year from date of Final Acceptance.
- B. Neither recordation of Final Acceptance nor final certificate for neither payment nor provision of the Contract or partial or entire use or occupancy of premises by District shall constitute acceptance of Work not done in accordance with Contract Documents nor relieve Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship.
- C. District may make repairs to defective Work as set forth in Document 00 71 00 (General Conditions).
- D. If, after installation, operation, or use of materials or equipment to be provided under Contract proves to be unsatisfactory to District, District shall have right to operate and use materials or equipment until said materials and equipment can, without damage to District, be taken out of service for correction or replacement. Period of use of defective materials or equipment pending correction or replacement shall in no way decrease guarantee period required for acceptable corrected or replaced items of materials or equipment.
- E. Nothing in this Section shall be construed to limit, relieve, or release Contractor's, Subcontractors', and equipment suppliers' liability to District for damages sustained as result of latent defects in equipment caused by negligence of suppliers' agents, employees, or Subcontractors. Stated in another manner, warranty contained in the Contract Documents shall not amount to, nor shall it be deemed to be, waiver by District of any rights or remedies (or time limits in which to enforce such rights or remedies) it may have for defective workmanship or defective materials under laws of this State pertaining to acts of negligence.

1.8 WARRANTIES

- A. Execute Contractor's submittals and assemble warranty documents, and installation, operations and maintenance manuals described in Section 01 32 19 (Submittal Procedures), executed or supplied by Subcontractors, suppliers, and manufacturers.
 - 1. Provide table of contents and assemble in 8½ inches by 11 inches three-ring binder with durable plastic cover, appropriately separated and organized.
 - 2. Include contact names and phone numbers for District personnel to call during warranty period.
 - 3. Assemble in Specification Section order.
- B. Submit material prior to final application for payment.
 - 1. For equipment put into use with District's permission during construction, submit within 14 Days after first operation.
 - 2. For items of Work delayed materially beyond Date of Substantial Completion, provide updated submittal within 14 Days after acceptance, listing date of acceptance as start of warranty period.
- C. Warranties are intended to protect District against failure of Work and against deficient, defective and faulty materials and workmanship, regardless of sources.
- D. Limitations: Warranties are not intended to cover failures that result from the following:
 - 1. Unusual or abnormal phenomena of the elements
 - 2. Vandalism after Substantial Completion
 - 3. Insurrection or acts of aggression including war
- E. Related Damages and Losses: Remove and replace Work which is damaged as result of defective Work, or which must be removed and replaced to provide access for correction of warranted Work.
- F. Warranty Reinstatement: After correction of warranted Work, reinstate warranty for corrected Work to date of original warranty expiration or to a date not less than one year after corrected Work was done, whichever is later.
- G. Replacement Cost: Replace or restore failing warranted items without regard to anticipated useful service lives.
- H. Warranty Forms: Submit drafts to District for approval prior to execution. Forms shall not detract from or confuse requirements or interpretations of Contract Documents.
 - 1. Warranty shall be countersigned by manufacturers.
 - 2. Where specified, warranty shall be countersigned by Subcontractors and installers.
- I. Rejection of Warranties: District reserves right to reject unsolicited and coincidental product warranties that detract from or confuse requirements or interpretations of Contract Documents.
- J. Term of Warranties: For materials, equipment, systems, and workmanship, warranty period shall be one year minimum from date of Final Completion of entire Work except where:
 - 1. Detailed specifications for certain materials, equipment or systems require longer warranty periods.
 - 2. Materials, equipment or systems are put into beneficial use of District prior to Final Completion as agreed to in writing by District.
- K. Warranty of Title: No material, supplies, or equipment for Work under Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all Work to deliver premises, together with improvements and appurtenances constructed or placed thereon by Contractor, to District free from any claim, liens, security interest, or charges, and further agrees that neither Contractor nor any person, firm, or corporation furnishing any materials or labor for any Work covered by Contract shall have right to lien upon premises or improvement or appurtenances thereon. Nothing contained in this paragraph, however, shall defeat or impair right of persons furnishing materials or labor under bond given by Contractor for their protection or any rights under law permitting persons to look to funds due Contractor in hands of District.

1.9 TURN-IN

Contract Documents will not be closed out and final payment will not be made until all personnel Identification Media, vehicle permits, keys issued to Contractor during prosecution of Work, and letters

from property owners pursuant to paragraph 1.2.F of Document 01 74 00 (Cleaning) are turned in to District.

1.10 RELEASE OF CLAIMS

Contract Documents will not be closed out and final payment will not be made until Document 00 65 73 (Agreement and Release of Any and All Claims) is completed and executed by Contractor and District.

1.11 FIRE INSPECTION COORDINATION

Coordinate fire inspection and secure sufficient notice to District to permit convenient scheduling (if applicable).

1.12 BUILDING INSPECTION COORDINATION

Coordinate with District a final inspection for the purpose of obtaining an occupancy certificate (if applicable).

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 78 39

PROJECT RECORD DOCUMENTS**PART 1 GENERAL****1.1 SUMMARY**

- A. Section Includes: Administrative and procedural requirements for Project Record Documents.
- B. Project Record Documents required include:
 - 1. Marked-up copies of Drawings
 - 2. Marked-up copies of Shop Drawings
 - 3. Newly prepared Drawings
 - 4. Marked-up Product Data submittals
 - 5. Field records, such as photographs, for variable and concealed conditions
 - 6. Record information on Work that is recorded only schematically
 - 7. Maintenance forms for major equipment
- C. Specific Project Record Documents requirements that expand requirements of this Section are included in the individual Sections of Divisions 2 through 60.
- D. General Project closeout requirements are included in Section 01 77 00 (Contract Closeout).
- E. Maintenance of Documents and Samples:
 - 1. Store Project Record Documents and Samples in the field office apart from Contract Documents used for construction.
 - 2. Do not permit Project Record Documents to be used for construction purposes.
 - 3. Maintain Project Record Documents in good order and in a clean, dry, legible condition.
 - 4. Make Documents and Samples available at all times for inspection by District.
- F. Dedicate one full size set of the Drawings and one Project Manual for use for recording as-built conditions.

1.2 PROJECT RECORD DRAWINGS

- A. Mark-up Procedure: During the construction period, maintain a set of blue-line or black-line prints of Contract Drawings and Shop Drawings for Project Record Documents purposes. Label each document (on first sheet or format page) "PROJECT RECORD" in 2-inch high printed letters. Keep record documents current. Note: A reference by number to a Change Order, CCD, RFI, RFQ, RFP, Field Order or other such document is not acceptable as sufficient record information on any record document. Do not permanently conceal any Work until required information has been recorded.
 - 1. Mark these Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:
 - a. Dimensional changes to the Drawings
 - b. Revisions to details shown on the Drawings
 - c. Depths of various elements of foundation in relation to main floor level or survey datum
 - d. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements
 - e. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure
 - f. Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stub outs, invert elevations, and similar items
 - g. Actual numbering of each electrical circuit
 - h. Field changes of dimension and detail
 - i. Revisions to routing of piping and conduits
 - j. Revisions to electrical circuitry
 - k. Actual equipment locations
 - l. Duct size and routing
 - m. Changes made by Change Order or CCD
 - n. Details not on original Contract Drawings

2. Mark completely and accurately Project Record Drawing prints of Contract Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
 3. Mark Project Record Drawing sets with red, erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.
 4. Mark important additional information that was either shown schematically or omitted from original Drawings.
 5. Note CCD numbers; alternate numbers, Change Order numbers, and similar identification.
 6. Responsibility for Mark-up: Where feasible, the individual or entity who obtained Project Record Drawing data, whether the individual or entity is the installer, Subcontractor, or similar entity, is required to prepare the mark-up on Project Record Drawings.
 - a. Accurately record information in an understandable and legible drawing technique.
 - b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
- B. Preparation of Record Drawings: Immediately prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings with District, Inspector of Record and Architect of Record to consolidate and ensure accuracy of information. Once accuracy of information is confirmed, prepare and submit a full electronic set, in AutoCAD format, of as-built Contract Drawings and Shop Drawings.
1. Incorporate changes and additional information previously marked on print sets. Delete, redraw, and add details and notations where applicable. Identify and date each Drawing; include the printed designation "PROJECT RECORD DRAWING" and the date prepared in a prominent location on each Drawing.
 2. Distribution: Whether or not changes and additional information were recorded, organize and bind original marked-up set of prints that were maintained during the construction period into manageable sets. Bind the set with durable paper cover sheets, with appropriate identification, including titles, dates, and other information on cover sheets, and submit to District.
- C. In addition to requirements of this Section, comply with supplemental requirements of other Divisions 2 through 60.
1. Divisions 22, 23, 25 and 26 of the Specifications require the preparation of large scale, detailed layout drawings of the Work of those Divisions. These layout drawings are not Shop Drawings as defined by Section 00 71 00 (General Conditions), but together with Shop Drawings or layout drawings of all other affected Sections are used to check, coordinate, and integrate the work of the various Sections.
 2. Include these layout drawings as part of the Project Record Documents.

1.3 PROJECT RECORD SPECIFICATIONS

- A. During the construction period, maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Documents purposes.
- B. Mark the Project Record Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, Change Order and Construction Change Directive work, and information on concealed installation that would be difficult to identify or measure and record later.
 1. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
 2. Record the name of the manufacturer, catalog number, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and maintenance manuals.
 3. Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in maintenance manual instead of submitted as Project Record Product Data.
 4. Upon completion of mark-up, submit Project Record Specifications to District for District's records.

1.4 ADDITIONAL REQUIREMENTS FOR FINAL PROJECT RECORD DOCUMENTS

- A. Using a distinct AutoCAD layer, clearly indicate at each affected detail and other drawings a full description of changes made during construction, and the actual location of items as previously specified.
- B. "Cloud" all affected areas using a distinct AutoCAD layer.
- C. Submit duplicate electronic files of all drawings in Tag Image File Format (.tif).

- D. In the event that Contractor utilizes Building Information Modeling (BIM) software or an alternate computerized application to AutoCAD to design and record its design and construction services, Contractor shall submit as Project Record Documents the equivalent files, computer software, and any other relevant items, and train District personnel in its use, to allow District to receive and fully utilize the alternate method to meet the intent of the requirements of this Section 01 78 39 Project Record Documents.

1.5 PROJECT RECORD PRODUCT DATA

- A. During the construction period, maintain one copy of each Project Record Product Data submittal for Project Record Document purposes.
1. Mark Project Record Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Project Record Product Data submitted. Include significant changes in the product delivered to the Site, and changes in manufacturer's instructions and recommendations for installation.
 2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 3. Note related Change Orders and mark-up of Project Record Drawings, where applicable.
 4. Upon completion of mark-up, submit a complete set of Project Record Product Data to District for District's records.
 5. Where Project Record Product Data is required as part of maintenance manuals, submit marked-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.
 6. Contractor is responsible for mark-up and submittal of Project Record Product Data for its own Work.
- B. Material, Equipment, and Finish Data:
1. Provide data for primary materials, equipment and finishes as required under each Specification Section. Submit three (3) hard copy sets and one (1) digital copy, on compact disc (CD) prior to final inspection, bound in 8-1/2 inches by 11 inches three-ring binders with durable plastic covers; provide typewritten table of contents for each volume. Provide project identification information on binder covers and spines.
- C. Arrange by Specification Section number and give names, addresses, and telephone numbers of Subcontractors and suppliers. List:
- a. Trade names.
 - b. Model or type numbers.
 - c. Assembly diagrams.
 - d. Operating instructions.
 - e. Cleaning instructions.
 - f. Maintenance instructions.
 - g. Recommended spare parts.
 - h. Product data.

1.6 MISCELLANEOUS PROJECT RECORD SUBMITTALS

- A. Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified, ready for use and reference. Submit to the District for District's electronic records, in Adobe pdf format. Categories of requirements resulting in miscellaneous records include, but are not limited to, the following:
1. Field records on excavations and foundations
 2. Field records on underground construction and similar work
 3. Survey showing locations and elevations of underground lines
 4. Invert elevations of drainage piping
 5. Surveys establishing building lines and levels
 6. Authorized measurements utilizing unit prices or allowances
 7. Records of plant treatment
 8. Ambient and substrate condition tests
 9. Certifications received in lieu of labels on bulk products
 10. Batch mixing and bulk delivery records
 11. Testing and qualification of tradespersons
 12. Documented qualification of installation firms
 13. Load and performance testing

14. Inspections and certifications by governing authorities
15. Leakage and water-penetration tests
16. Fire resistance and flame spread test results
17. Final inspection and correction procedures
18. Final As-Built Construction Schedule

1.7 MAINTENANCE FORMS FOR MAJOR EQUIPMENT

- A. See Section 01 60 00 Product Requirements

1.8 INSTALLATION, OPERATIONS AND MAINTENANCE MANUALS

- A. The contractor shall compile O&M manuals for every piece of equipment and building operating or electrical system, commissioned or not, with the following formats:
 1. Quantity: as specified in Section 01 32 19 Submittal Procedures, Paragraph 1.2.R.3 (unless more are required by the technical specifications).
 2. Hard Media Format:
 - (a) Size: 8½ x 11 inch, 3 ring loose-leaf binders. Use as many binders as required for each element as listed below. Do not overload binders.
 - (b) Binding: Bind in stiff, metal-hinged, three-ring binder(s) with standard three-hole punching. Binders shall be 3-inch maximum. Use white or black colored binders with integrated clear plastic covers to enable insertion of binder titles.
 - (c) Sheet lifters: Provide plastic sheet lifters prior to first page and following last page.
 - (d) Binder titles: Include the following title on front and spine of binder:

**COLLEGE OF SAN MATEO MARIE CURIE PARKING LOT RENOVATION
PROJECT 2016**

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

- (e) Sheet Size: 8½ x 11 inch
- (f) Drawing Size: Reduce drawings or diagrams to an 8½ x 11 inch or 11 x 17 inch size. However, where reduction is not practical to ensure readability, fold larger drawings separately and place in vinyl envelopes bound into the binder. Identify vinyl envelopes with drawing numbers.
- (g) Dividers: Use dividers with permanently marked tabs of card stock to separate each section and sub section. Tab labels shall not be handwritten. Use a main tab for each specification section. Behind the section number tab there shall be the equipment ID tag sub-tab for each piece of major equipment (or group, if small or numerous). These sub-tabs shall be similar to the specification number tabs but of a different color.
- (h) Contents
 - (1) Title page, which shall be a duplicate of front binder title
 - (2) Table of Contents
 - (3) Equipment Sections and Sub sections
 - (i) Contractor. The first page behind the equipment tab shall be the Contractor's name, address and telephone number of the manufacturer and installing contractor and the 24-hour number for emergency service for all equipment in this section, identified by equipment.
 - (ii) Submittal and Product Data. This section shall include all approved submittal data, cut sheets, data base sheets and appropriate shop drawings. If submittal was not required for approval, descriptive product data shall be included.
 - (iii) Operation and Maintenance Instructions. These shall be the written manufacturer's data with the model and features of this installation clearly marked and edited to omit reference to products or data not applicable to this installation. This section shall include data on the following:
 1. Model number, serial number and nameplate data for each piece of equipment and any subcomponent.
 2. Installation, startup and break-in instructions.

3. All starting, normal shutdown, emergency shutdown, manual operation and normal and emergency operating procedures and data, including any special limitations.
 - i. Step-by-step procedure for system startup, including a pre-start checklist. Refer to controls and indicators by nomenclature consistent with that used on panels and in control diagrams.
 - ii. Sequence of operation, with detailed instruction in proper sequence, for each mode of operation (i.e., day-night; staging of equipment).
 - iii. Emergency operation: If some functions of the equipment can be operated while other functions are disabled, give instructions for operations under these conditions. Include here only those alternate methods of operations (from normal) which the operator can follow when there is a partial failure or malfunctioning of components, or other unusual condition.
 - iv. Shutdown procedure: Include instructions for stopping and securing the equipment after operation. If a particular sequence is required, give step-by-step instructions in that order.
4. O&M and installation instructions that were shipped with the unit.
5. Preventative and corrective maintenance, with service procedures and schedules:
 - i. Provide a schedule for preventive maintenance in a printed format and an electronic format compatible with owner's system. State, preferably in tabular form, the recommended frequency of performance for each preventive maintenance task, cleaning, inspection and scheduled overhauls.
 - ii. Cleaning: Provide instructions and schedules for all routine cleaning and inspection with recommended lubricants.
 - iii. Inspection: If periodic inspection of equipment is required for operation, cleaning or other reasons, indicate the items to be inspected and give the inspection criteria for: motors; controls; filters and any other maintenance items.
 - iv. Provide instructions for minor repairs or adjustments required for preventive maintenance routines. Identify test points and give values for each. Include sensor calibration requirements and methods by sensor type.
 - v. Corrective maintenance instructions shall be predicated upon a logical effect-to-cause troubleshooting philosophy and a rapid replacement procedure to minimize equipment downtime.
 - vi. Troubleshooting: Troubleshooting tables, charts, or diagrams shall be used to present specified procedures. A guide to this type shall be a three-column chart. The columns shall be titled: malfunction, probable cause and recommended action.
 - vii. Repair and Replacement: Indicate repair and replacement procedures most likely to be required in the maintenance of the equipment.
 - viii. A list of recommended spare parts with a price list and a list of spare parts provided under this Contract.
 - ix. Outline, cross-section, and assembly drawings; engineering data; and electrical diagrams, including elementary diagrams, labeled wiring diagrams, connection diagrams, word description of wiring diagrams and interconnection diagram
6. Safety Precautions: This subsection shall comprise a listing of safety precautions and instructions to be followed before, during and after making repairs, adjustments or routine maintenance.

7. Manufacturers' brochures (including controls): Manufacturers' descriptive literature covering devices and equipment used in the system, together with illustrations, exploded views and renewal parts lists. Manufacturers' standard brochures and parts list shall be corrected so that information applying to the actual installed equipment is clearly defined.
 8. Supply any special tools required to service or maintain the equipment.
 9. Performance data, ratings and curves.
 10. Warranty and guarantee, which clearly lists conditions to be maintained to keep warranty in effect and conditions that would affect the validity of the warranty.
 11. Any service contracts issued.
- (4) Supplemental Data. Prepare written text and/or special drawings to provide necessary information, where manufacturer's standard printed data is not available and information is necessary for a proper understanding and operation and maintenance of equipment or systems, or where it is necessary to provide additional information to supplement data included in the manual or project documents.
 - (5) Control Diagrams/Drawings. Include the as-built control diagrams/drawings for the piece of equipment and its components, including full points list, full print out of all schedules and set points after testing and acceptance of the system, and copies of all checkout tests and calibrations performed by the contractor (not commissioning tests).
 - (6) Specifications. This section is comprised of the component or system specification section copied and inserted complete with all addenda.
 - (7) System Description. This section shall include the individual equipment portion of the overall system Design Basis Narrative.
3. Electronic Media Format: Electronic media format shall be Adobe pdf, with chapter markers and/or bookmarks inserted in place of the equivalent hard copy section tabs. Electronic copy shall include all tables, charts, drawings, codes and all other matters reflected in hard copies. Electronic media files shall be delivered on a unique CD-ROM.
 4. A separate manual or chapter shall be provided for each applicable system as follows:
 - (a) Chillers
 - (b) Cooling Towers
 - (c) Boilers
 - (d) Pumps
 - (e) Air Handling Units (include sequence of operation, one line diagram and area served in a plastic pouch for mounting on equipment or in equipment room)
 - (f) Exhaust Fans
 - (g) Supply Air Fans (excluding Air Handling Units)
 - (h) Plumbing and Drainage Systems/Equipment
 - (i) Emergency Generator Systems
 - (j) UPS
 - (k) Fire Protection Systems
 - (l) Fire Alarm System
 - (m) Valves and Pipe Specialties (include valve identification chart)
 - (n) Variable Frequency Drives (VFD)
 - (o) Smoke Control Systems
 - (p) Water Treatment System
 - (q) Elevator Systems
 - (r) Lighting Systems and Controls (interior, exterior and airfield)
 - (s) Switchgear, Transformers, Panel boards, Motor Control Centers and Motor Starters
 - (t) Lightning Protection and Surge Suppression Systems
 - (u) Public Address, Closed Circuit TV, Communication and Telephone Systems
 - (v) Security System
 - (w) Building Management/Temperature Control System (BMS)
 - (x) Fuel System

- (y) Doors and Hardware.
- (z) Power monitoring systems
- (aa) HVAC, Testing Adjusting, and Balancing

1.9 COMPUTER PROGRAMS

- A. When any equipment requires operation by computer programs, submit copy of program on appropriate CD, plus a hard-copy and an electronic copy (Adobe .PDF format) of all user manuals and guides for operating the programs and making changes in the programs for upgrading and expanding the databases. Program shall be Windows XP compatible. Provide required licenses to District at no additional cost.

1.10 DISTRICT’S RECOURSE

- A. If Contractor is not able to provide project record documents in specified formats, District and Contractor shall negotiate a credit back to the District for this work.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 RECORDING

Post changes and modifications to the Contract Documents as they occur. Do not wait until the end of the Project. District may periodically review Project Record Documents to assure compliance with this requirement.

3.2 SUBMITTAL

- A. At completion of Project, deliver Project Record Documents to District, per Section 01 32 19 Submittal Procedures.
- B. Accompany submittal with transmittal letter containing:
 - 1. Date
 - 2. Project title and number
 - 3. Contractor’s name and address
 - 4. Number and title of each Project Record Document
 - 5. Certification that each document as submitted is complete and accurate, and signature of Contractor or Contractor’s authorized representative.

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Part 1

Introduction

Welcome

About this Sign System

Using This Manual

ADA & Code /Regulatory Signs

Welcome

This Sign Standards program has been implemented for College of San Mateo to accomplish the following:

- *Help students, visitors, and emergency responders find their way around the campus with ease.*
- *Provides a unique sign program that supports both the new and existing architecture and works cohesively with college's branding.*
- *Reduce the time frame required to implement new signs as the campus evolves.*
- *Reduce the cost of design and implementation of new signs.*
- *Enhance the environment throughout the campus with a quality sign program.*

This document contains sign configurations that will effectively meet a range of sign functions and requirements. This standards manual contains the tools necessary to implement new signs ensuring consistency throughout the campus.

About This Sign System

When deciding to add new signs, there are three steps in the process. First, ensure the signs orient visitors from the point of entry. Second, ensure the visitors are easily directed to their destination. Third, provide college approved nomenclature for their destination. Along the way, the signs should communicate regulatory and general information. *This sign system is divided into five categories:*

- **DIRECTIONAL SIGNS**
Guide visitors from the point of entry
- **IDENTIFICATION SIGNS**
Identify parking lots and buildings
- **INFORMATIONAL SIGNS**
Display instructions, policies, hours of operation, etc
- **ORIENTATION SIGNS**
Inform visitors, staff, students and others of their location in relationship to the campus
- **REGULATORY SIGNS**
Inform required compliance with State and Federal codes as well as SMCCCD restrictions

Using This Manual

The Sign Standards Manual contains the information needed for ordering new signs. All fonts, colors, sign types, and mounting methods can be found within this document.

This sign system has been designed to promote the cohesive identity of College of San Mateo and their commitment to standardization and leveraged purchasing.

This Sign Standards Manual illustrates the available sign components, specifications, systems, and procedures for planning and ordering a complete exterior sign program.

The components contained in this manual are tools for providing wayfinding information to College of San Mateo staff, students, and visitors, while communicating the organization's identity and commitment to branding.

The Sign Standards Manual will be updated by Shannon-Leigh Associates as new sign type requirements are identified, new technologies become available, and changes to the program are recommended. Please note that this manual is current as of the version and date indicated throughout this document.

ADA & Code/Regulatory Signs

The Americans with Disabilities Act

The Americans with Disabilities Act (ADA) was signed into law on July 26, 1990, by President George H.W. Bush. The ADA is one of America's most comprehensive pieces of civil rights legislation that prohibits discrimination and guarantees that people with disabilities have the same opportunities as everyone else to participate in the mainstream of American life -- to enjoy employment opportunities, to purchase goods and services, and to participate in State and local government programs and services. *"Introduction to the ADA." Informational and Technical Assistance on the Americans with Disabilities Act. N.p., n.d. Web. 7 May 2015. <http://www.ada.gov/ada_intro.htm>.*

California Access Compliance Reference Materials

The Division of the State Architect (DSA) promulgates California Building Code (CBC) provisions to address accessibility for persons with disabilities. These provisions are applicable to State and local government buildings and facilities, public accommodations and commercial facilities, and public housing.

The accessibility provisions of the 2013 CBC have been revised and reformatted to conform to the requirements of the 2010 Americans with Disabilities Act (ADA) Standards for Accessible Design and maintain enhanced California accessibility provisions from the previous building code. The 2013 CBC is effective as of January 1, 2014. *"DSA's California Access Compliance Reference Materials." California Department of General Services. N.p., 2014. Web. 7 May 2015. <<http://dgs.ca.gov/dsa/Programs/progAccess/accessmanual.aspx>>.*

Note: The ADA and the California Building Code, Title 24 are evolving pieces of legislation. This Sign Standards Package complies with these laws as of the printing date of this manual. As new laws are enacted and existing ones revised, this system will be modified to comply. Included in the manual are a variety of signs governed by state, federal or local agencies. It is the sign specifier's responsibility to determine which signs are applicable to any specific circumstances based on current laws and regulations.

Part 2

Graphic Standards

Fonts & Arrows

Colors

Pictograms

Line Spacing Hierarchy

Message Hierarchy Relationships

Fonts

HumanST521 BT : Text

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z

HumanST521 BT Bold: Text

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z

Lucida Sans SemiBold : Numbers

1 2 3 4 5 6 7 8 9 0

Arrows



Colors

P1



CSM Dark Blue
PMS 280
Matthews : MP00346

P2



CSM Medium Blue
PMS 2925
Matthews : MP00909

P3



CSM Light Blue
PMS 2915
Matthews : MP00908

P4



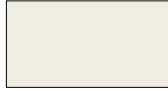
Sparkle Silver
Paint for Poles
Matthews : SV-952 SP

P5



Durandonic Bronze
Paint for Dimensional Letters
Maker : TBD

P4



Bone
Paint for Dimensional Letters
Kelly Moore : OW27

V1



White Opaque Vinyl
3M Scotchcal Vinyl Film
Matte White 7125-20

V2



White Reflective Vinyl
3M Scotchlite Reflective
White 680-10

V3



Tomato Red
3M ScotchCal Vinyl Film
7725-13
PMS 1795 C

Pictograms

Sign Types : PLI1 and PLI2 / As of March 2010



Beethoven



Stadium



Sand Box



Forum



Bulldog



Hillsdale



Gallileo



DaVinci



Marie Currie



Olympian



Edison

Sign Types : R4 and R5.1



No Skateboarding



**Surveillance
Warning**



**Motorcycle
Parking**



**Electric Vehicle
Charging Station**



**International
Symbol of
Accessibility**



**Universal No
Smoking**



**Designated
Smoking Area**

Line Spacing Hierarchy

The line spacing hierarchy shown below is a guide for laying out copy on exterior wayfinding signage. This example should be used for laying out new message groupings that are not already detailed in this catalog. For existing directional sign types layouts, please refer to Part 4 of this catalog for layout dimensions.



Message Hierarchy Relationships

This Section defines a uniform hierarchy of messages and information to be used throughout the Skyline College Campus. Using the guidelines and terminology outlined in this manual, the messages shall be organized into three succinct categories: Primary, Secondary, and Tertiary.

Entries shall be grouped by direction and listed in alphabetical order.

Messages should be compiled by direction: Ahead, Left, and Right. Ahead destinations should be the first listing. If there is no destination ahead, the left turn destinations should be listed first, then right turn destinations. Each directional listing is to be in alphabetical order.

Messages should also be compiled in relation to the location of the directional sign. The farther out the directional sign is from the campus center, the broader the nomenclature should be, such as "Athletic Fields", "Main Campus" or "Parking". More specific terms or building names should be used as you move closer to the destination, such as "Parking Lot A", "Building 1" or "Cosmetology".

All directional messages, along with all signage programming, should be reviewed and approved by the Vice Chancellor of Facilities prior to fabrication.

Part 3

Sign Components

Freestanding Signs

Pole-Mounted Signs

Post-Mounted Signs

Street Signs

Mounting Details
Sign Components - Freestanding Signs

SignComp™
 3032 Walker Ridge Drive, NW
 Grand Rapids, MI 49544
 616.784.0405 / 877.784.0405
 www.signcomp.com

SignComp Part Numbers

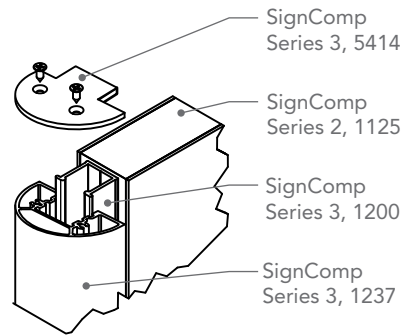
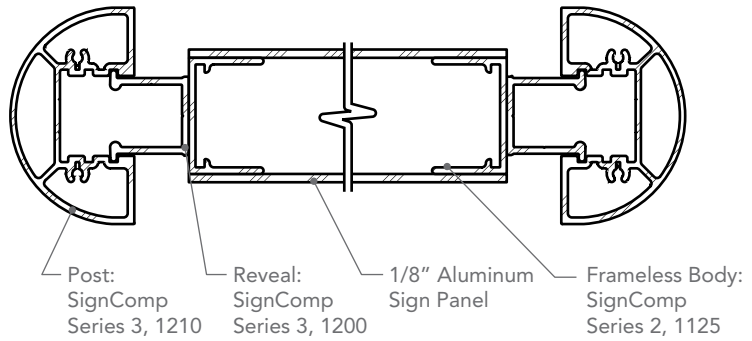
- A. Large Scale Signs**
- Post :** Series 3, 1210
- Reveal :** Series 3, 1200
- Frameless Body:** Series 2, 1125

This detail is intended for larger signs. Use with Sign Types:
 VD1
 VD2
 VD3
 CD1
 OR1

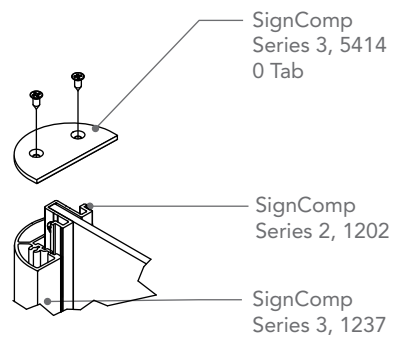
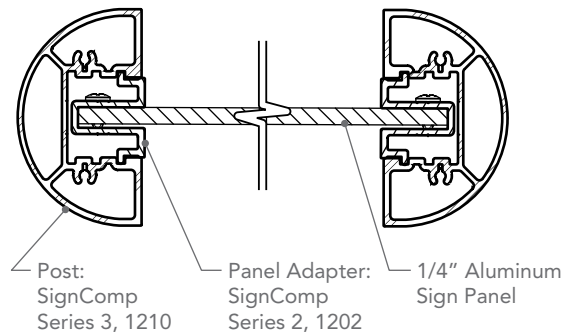
- B. Small Scale Signs**
- Post :** Series 3, 1210
- Reveal :** Series 3, 1202

This detail is intended for smaller signs. Use with Sign Types:
 TBD

A. Large Scale Signs



B. Small Scale Signs



Mounting Details
Sign Components - Pole-Mounted

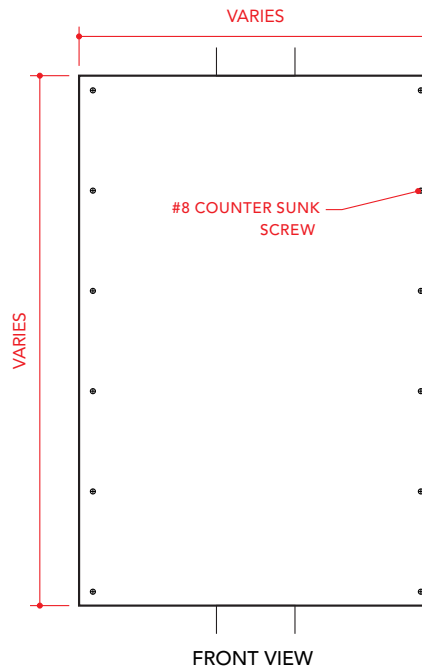
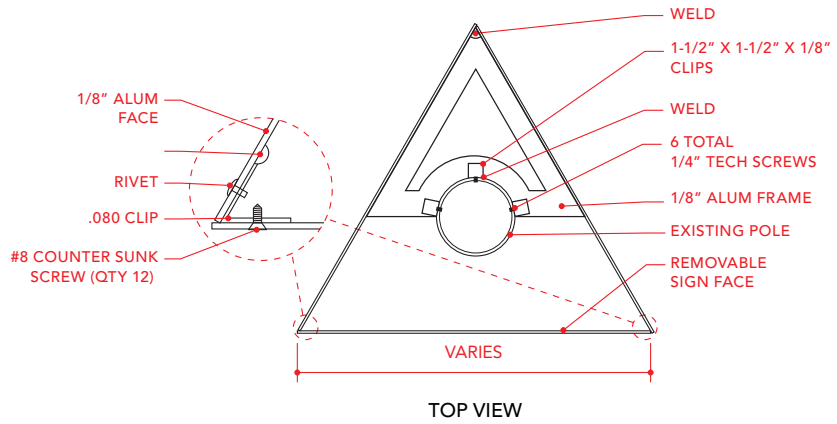
C. Custom Fabrication

Detail for Light
 Standard Attachment

Use this detail for the
 following sign types:

PID4
 PID5

Note: Manufacturer to structure
 and detail exact attachment to
 light standard.



Mounting Details

Sign Components - Post-Mounted

Hawkins Traffic Safety Supply

1255 Eastshore Highway
Berkeley, CA 94710
800-772-3995
<http://www.hawkinstraffic.com>

D. Sign Mounting Bracket

Post : 2.5" Galvanized

Bracket with Vandal Nut: M2G-C2.5SPB-VPN
or

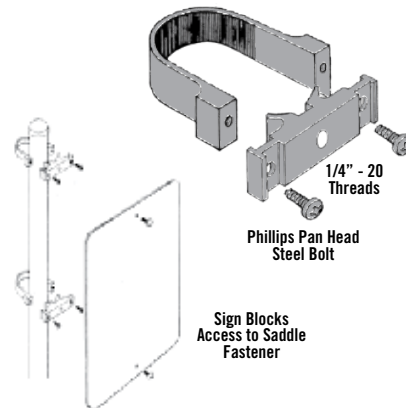
Bracket with Cap Screw: M2G-C2.5SPB-TP

This detail is intended for larger signs. Use with
Sign Types:

PID1
PIN2
PIN3
PIN4
PIN5
PIN7
RG1
RG2
RG3
RG4
PID6
PID7

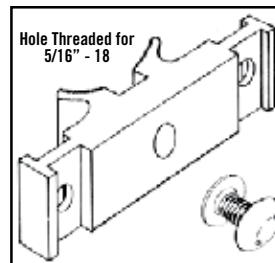
And any signs that require mounting to a post,
such as: Stop signs; Do Not Enter signs; Parking
Regulation signs; Speed Limit signs.

Roadway regulatory signs can also be ordered from
Hawkins Traffic Safety Supply.



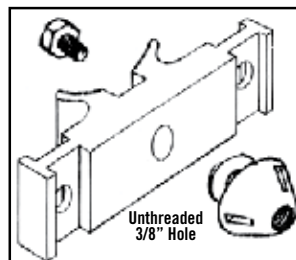
THEFT PROOF CAP SCREW

Steel and Zinc Head
Cap Screw
5/16" - 18 x 1/2"
with Nylon Washer

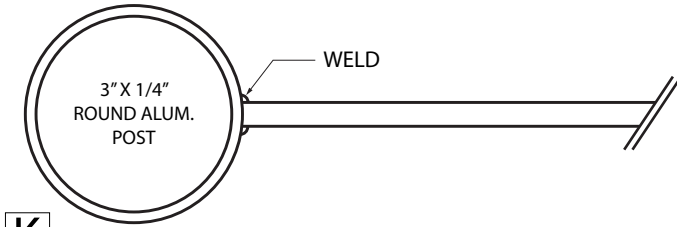


BOLT WITH VANDAL CAP NUT

Vandal Proof Zinc Head
5/16" - 18 x 1"
with Standard Steel
Hex Head Bolt

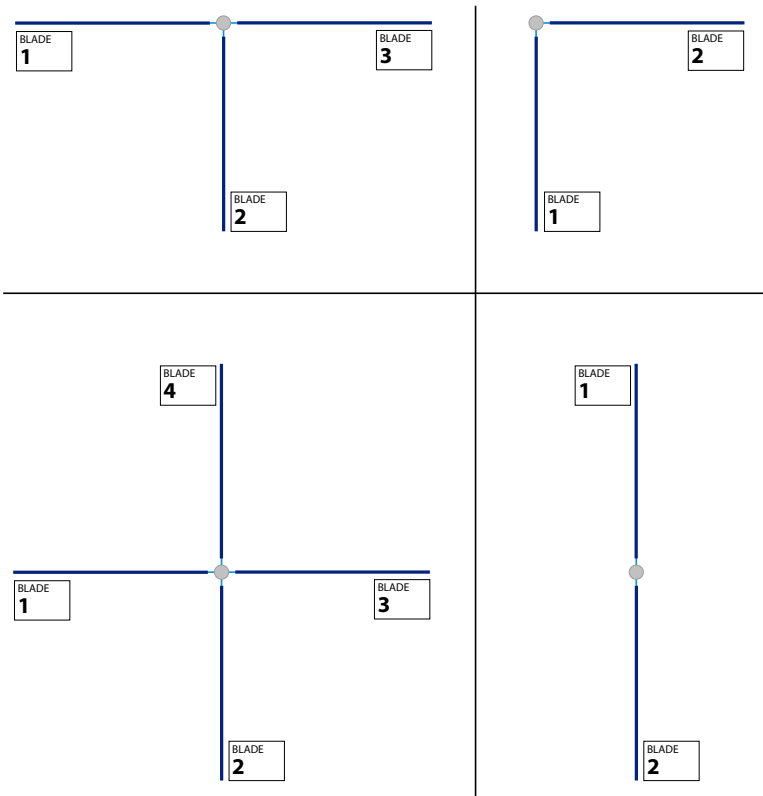


Street Sign Mounting



K

Detail : For 1, 2, 3, and 4 blades



Part 4

Directional Signs

VD1 Vehicular Directional - Primary

VD2 Vehicular Directional - Secondary

VD3 Vehicular Directional - Tertiary

CD1 Campus Directional - Primary

CD2 Campus Directional - Street ID

CD3 Campus Directional - Tertiary

SIGN TYPE: VD1
Vehicular Directional - Primary

This sign type is to be used for directing vehicles to major destinations around the campus. This sign is to be placed perpendicularly to the roadway, facing on-coming traffic, no less than 18" from the curb. Sign is to be located in landscaped areas, not on pedestrian walkways or driveways. Messages are to be limited to primary buildings and parking lots grouped by direction, and listed in alphabetical order.

Colors: P1, P2, P4*

Exposed Edges: Paint colors to wrap edges

Sign Back: If sign is not double-sided, then header to be painted P1, lower portion to be painted P2 as shown, while applying monogram with P3

Font: Human ST 521 BT

Letter Height

All Text: 5 1/2"

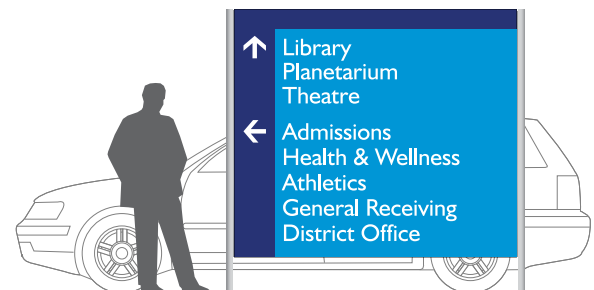
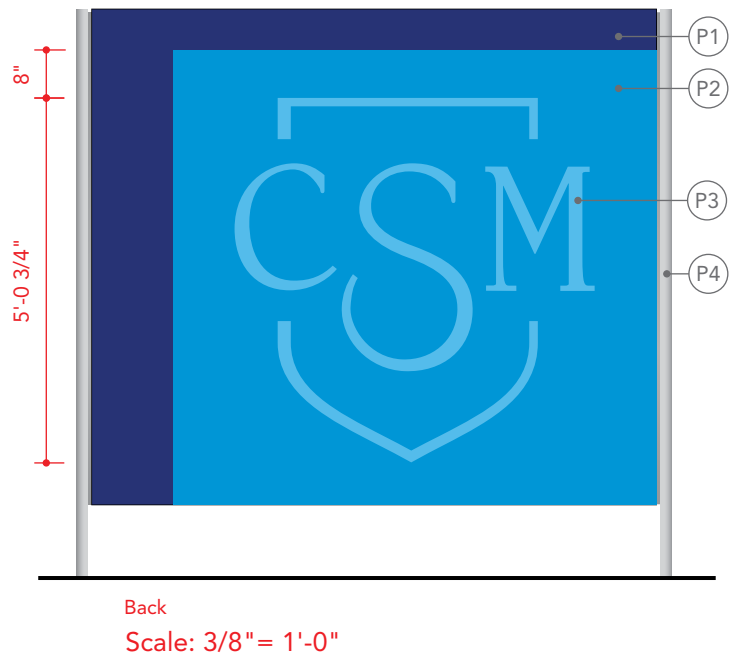
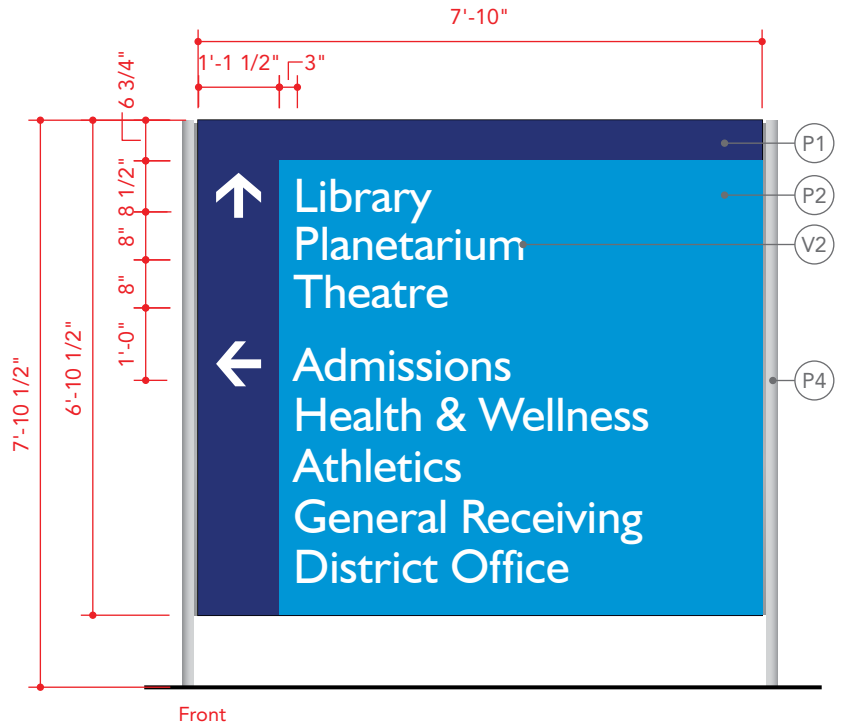
Arrows: 7 1/2" x 7 1/2"

Graphics Material: V2

Post & Panel Information: See Page 12

*Use Monogram Logo when no text is present on Vehicle Wayfinding signs only.

Note: Structural requirements to be determined by a licensed structural engineer.



SIGN TYPE: VD2

Vehicular Directional - Secondary

This sign type is to be used for directing vehicles to secondary destinations within the campus. This sign is to be placed perpendicularly to the internal roadways and parking lots, facing on-coming traffic, no less than 18" from the curb. Sign is to be located in landscaped areas, not on pedestrian walkways or driveways. Messages are to be limited to primary buildings and parking lots, and listed in alphabetical order by direction.

Colors: P1, P2, P3*

Exposed Edges: Painted P2, P3

Sign Back: If sign is not double-sided, then header to be painted P1, lower portion to be painted P2 as shown, while applying monogram with P3

Font: Human ST 521 BT

Letter Height

All Text: 3"

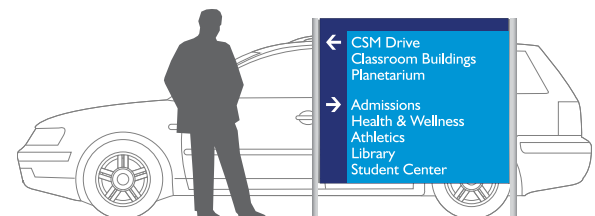
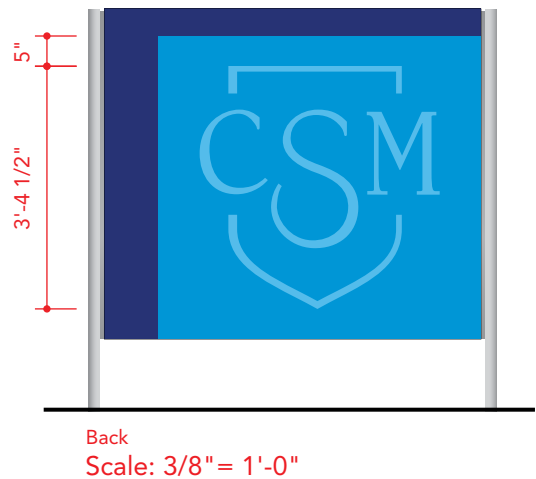
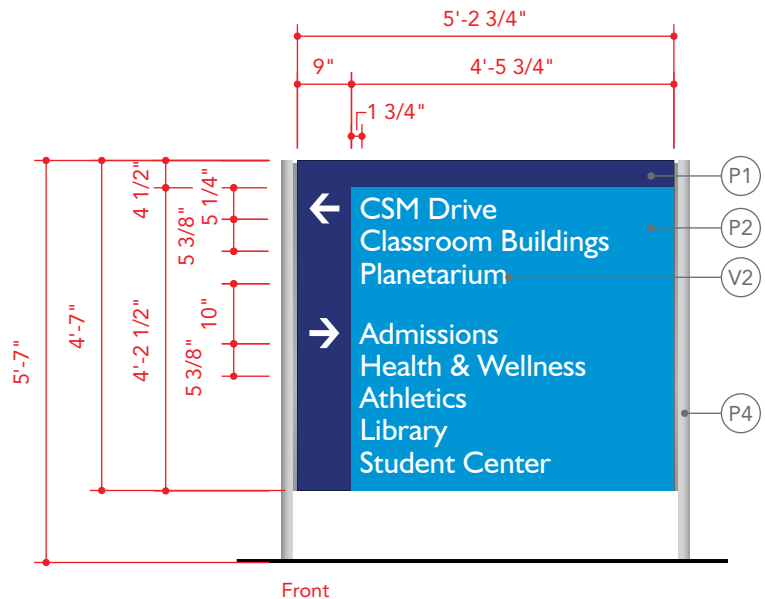
Arrows: 5" x 5"

Graphics Material: V2

Post & Panel Information: See Page 12

*Use Monogram Logo when no text is present on Vehicle Wayfinding signs only.

Note: Structural requirements to be determined by a licensed structural engineer.



SIGN TYPE: VD3

Vehicular Directional - Tertiary

This sign type is to be used for directing vehicles to minor destinations around the campus. This sign is to be placed perpendicularly to the roadway, facing on-coming traffic, no less than 18" from the curb.

Sign is to be located in landscaped areas, not on pedestrian walkways or driveways. Messages are to be limited to secondary and tertiary destinations, and parking lots grouped by direction and listed in alphabetical order.

Colors: P1, P2, P4*

Exposed Edges: Paint colors to wrap edges

Sign Back: If sign is not double-sided, then header to be painted P1, lower portion to be painted P2 as shown, while applying monogram with P3

Font: Human ST 521 BT

Letter Height

All Text: 3"

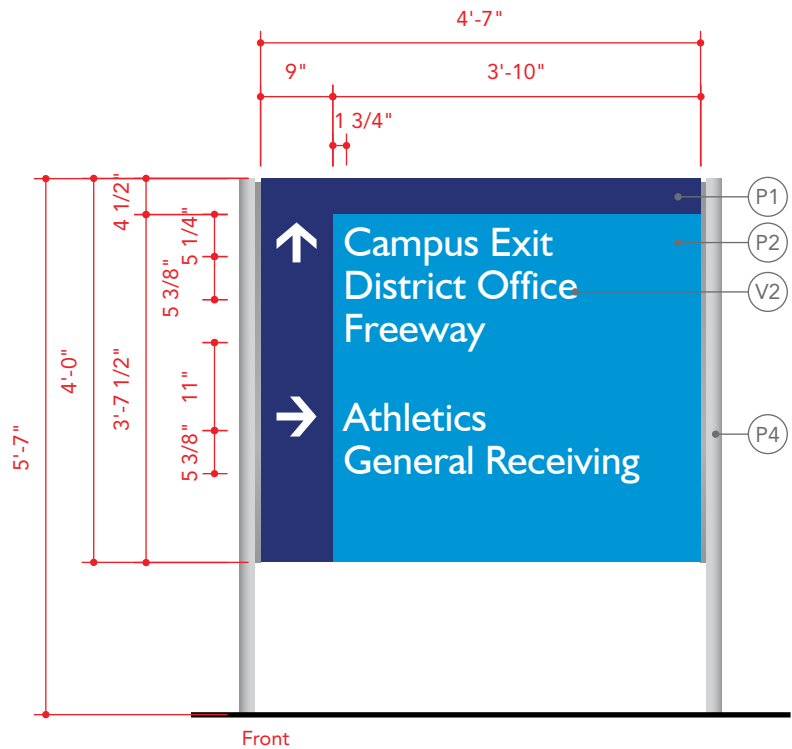
Arrows: 5" x 5"

Graphics Material: V2

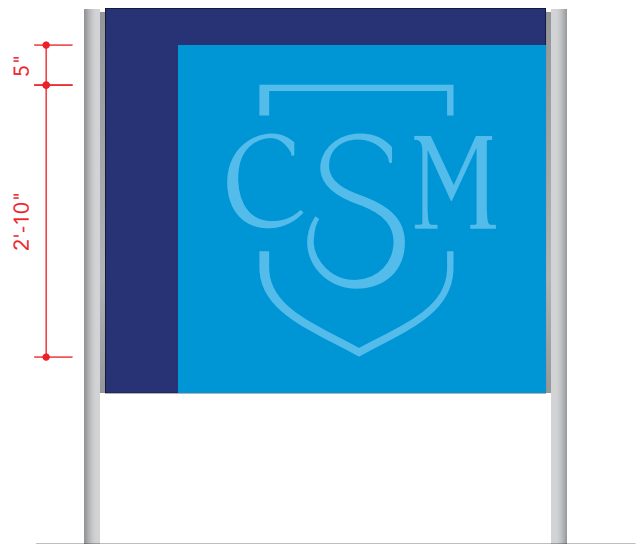
Post & Panel Information: See Page 12

*Use Monogram Logo when no text is present on Vehicle Wayfinding signs only.

Note: Structural requirements to be determined by a licensed structural engineer.

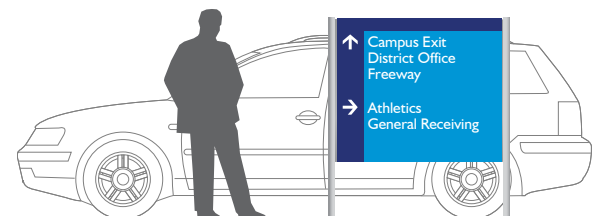


Front



Back

Scale: 1/2" = 1'-0"



SIGN TYPE: CD1
Campus Directional - Primary

This sign type is to be used for directing pedestrians to major destinations within the campus. This sign is to be placed perpendicularly to the walkway, facing on-coming pedestrians, no less than 18" from the walkway. Sign is to be located in landscaped areas, not on pedestrian walkways. Messages are to be limited to primary buildings and parking lots grouped by direction, and listed in alphabetical order.

Colors: P1, P2, P4*

Exposed Edges: Paint colors to wrap edges

Sign Back: If sign is not double-sided, then header to be painted P1, lower portion to be painted P2 as shown, while applying monogram with P3

Font: Human ST 521 BT

Letter Height

All Text: 2 1/4"

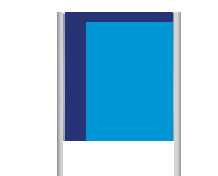
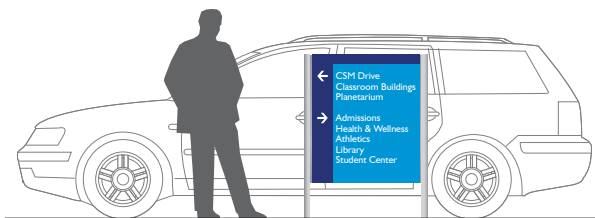
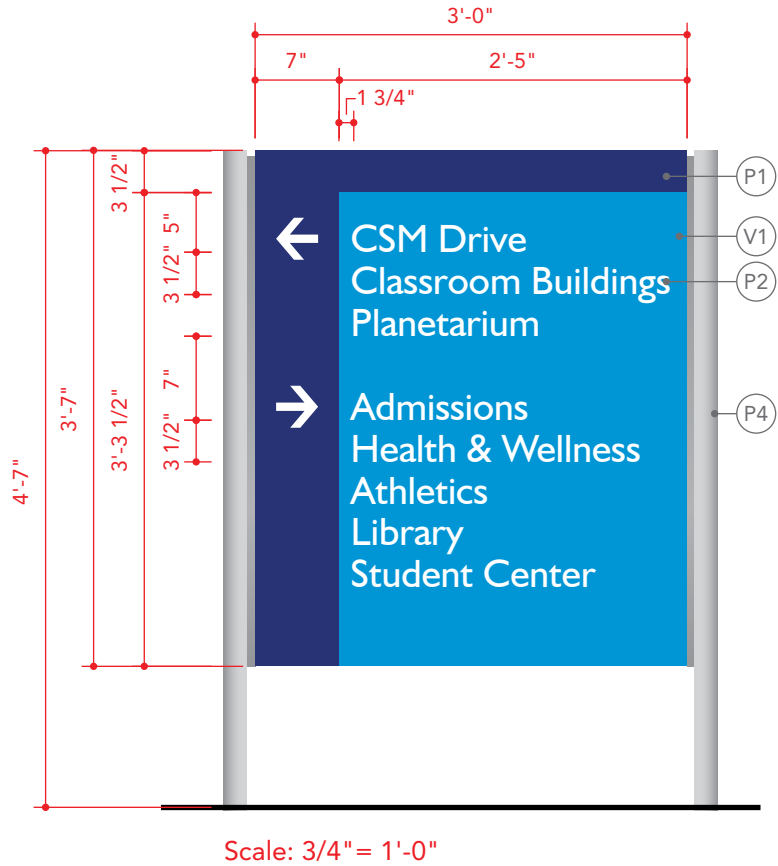
Arrows: 3 1/2" x 3 1/2"

Graphics Material: V2

Post & Panel Information: See Page 12

*Use Monogram Logo when no text is present on Vehicle Wayfinding signs only.

Note: Structural requirements to be determined by a licensed structural engineer.



Back View

SIGN TYPE: CD2
Campus Directional - Street Identification

This sign type is to be used for identifying streets within the campus. This sign is to be placed perpendicularly to the street, facing on-coming traffic, no less than 18' from the street. Sign is to be located in landscaped areas, not on pedestrian street. Messages are to be limited to buildings and parking lots.

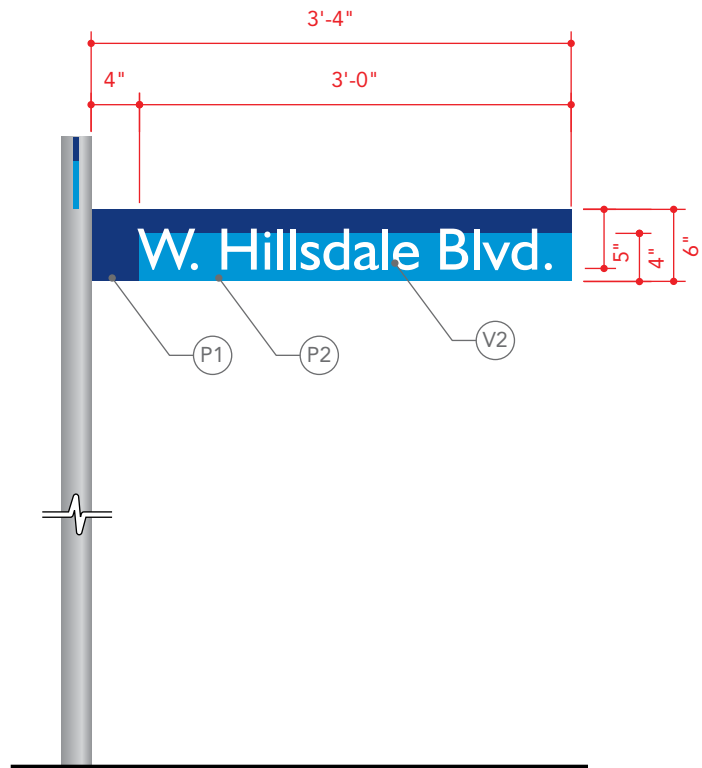
- Front Colors:** P1, P2
- Sign Thickness:** 1/4" aluminum panel
- Exposed Edges:** Paint colors to wrap edges
- Sign Back:** P1, P2

Font: Human ST 521 BT
Letter Height: 3.5"

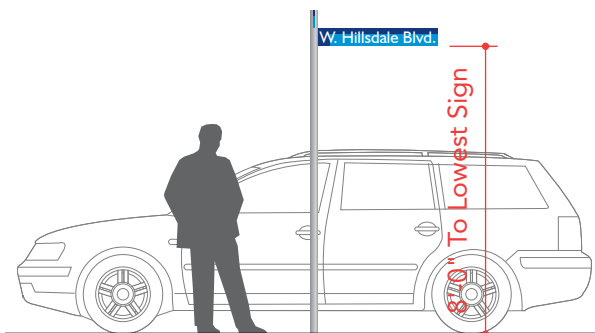
Graphics Material: V2

Post Information: See Page 15

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 3/4" = 1'-0"



SIGN TYPE: CD3
Campus Directional - Tertiary

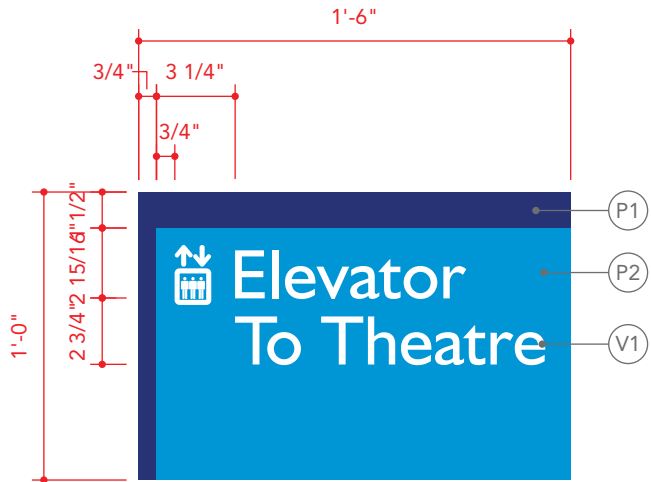
This sign type is to be used for directing pedestrians to secondary destinations within the campus. This sign is to be placed on walls, facing on-coming pedestrians. Messages are to be limited to buildings and parking lots.

- Front Colors:** P1, P2
- Sign Thickness:** 1/4" aluminum panel
- Exposed Edges:** Paint colors to wrap edges
- Sign Back:** P1, P2

Font: Human ST 521 BT
Letter Height
 All Text: 2 1/4"
 Pictogram: 2 1/2"

Graphics Material: V1

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1 1/2" = 1'-0"



Part 5

Identification Signs

PID1 Parking Identification - Primary

PID2 Parking Identification - Secondary

PID3 Parking Identification - Tertiary

PID4 Parking Identification - Post

PID5 Parking Identification - Pole

PID6 Parking Identification - Pole

PID7 Parking Identification - Pay Station

BID1 Building Identification - One-Line

BID2 Building Identification - Window Graphic

BID3 Building Identification - Dimensional Graphics

SIGN TYPE: PID1

Parking Identification - Primary

This sign type is to be used for identifying parking lots to visitors and staff. This sign is to be placed perpendicularly to the street, facing on-coming traffic, no less than 18' from the street. Sign is to be located in landscaped areas, not on pedestrian walkways or driveways. Messages are to be limited to parking lot name and type with permit information.

Front Colors: P1, P2, P3

Exposed Edges: Paint colors to wrap edges

Back Colors: P1, P2

Font: Human ST 521 BT

Letter Height

Header: 5 1/2"

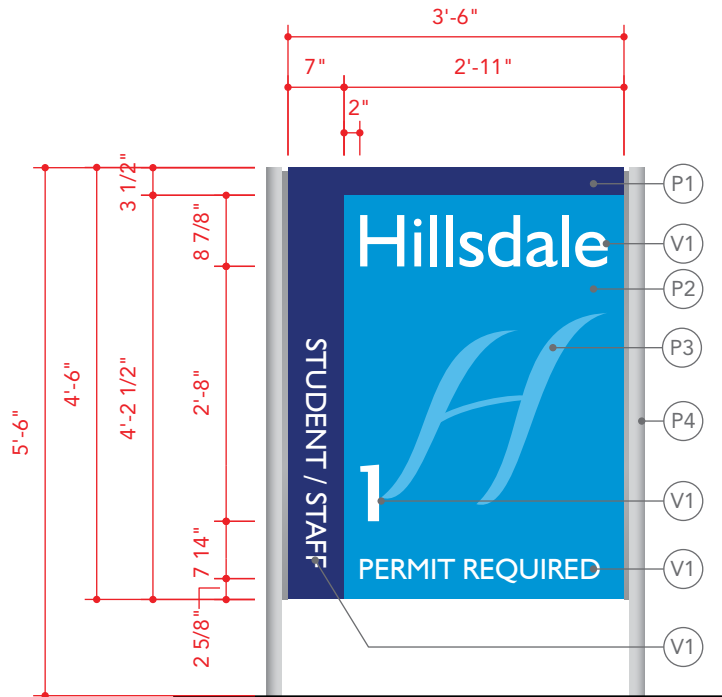
Text: 2 3/4"

Number: 8"

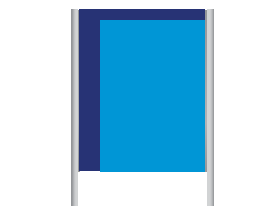
Graphics Material: V1

Post & Panel Information: See Page 12

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1/2" = 1'-0"



Back View

SIGN TYPE: PID2
Parking Identification - Secondary

This sign type is to be used for identifying parking lots to visitors and staff. This sign is to be placed perpendicularly to the street, facing on-coming traffic, no less than 18" from the street. Sign is to be located in landscaped areas, not on pedestrian walkways or driveways. Messages are to be limited to parking lot name and type with permit information.

Front Colors: P1, P2, P3

Exposed Edges: Paint colors to wrap edges

Back Colors: P1, P2

Font: Human ST 521 BT

Letter Height

Header: 5"

Text: 2 1/4"

Number:

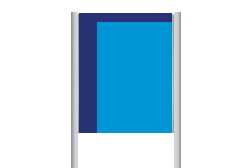
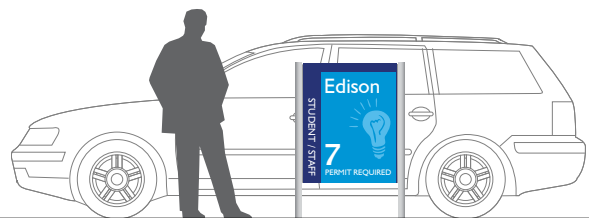
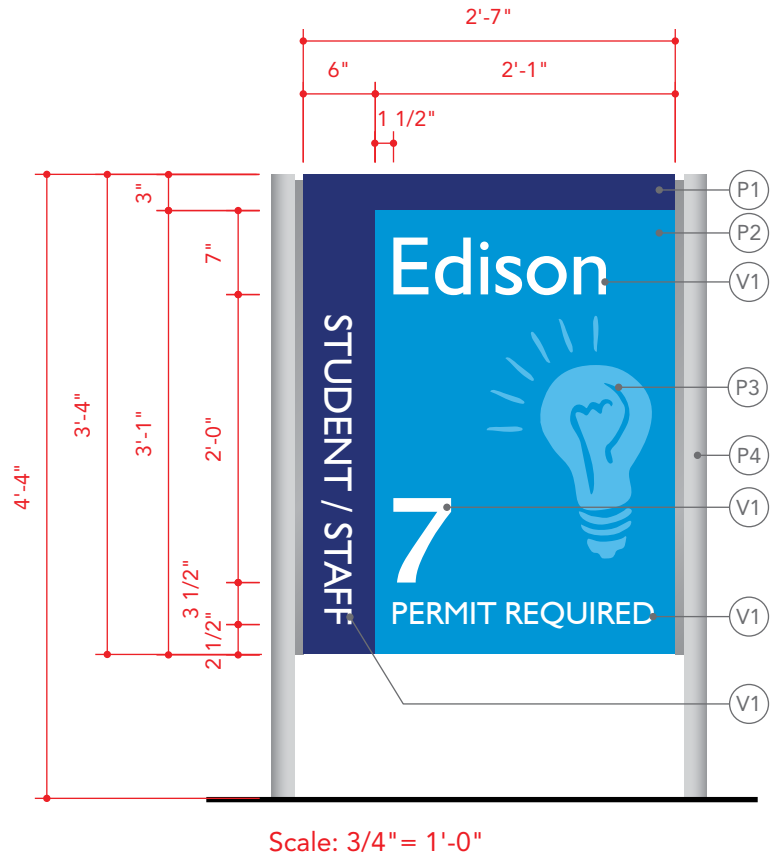
Number: 7"

Font: Lucida Sans SemiBold

Graphics Material: V1

Post & Panel Information: See Page 12

Note: Structural requirements to be determined by a licensed structural engineer.



Back View

SIGN TYPE: PID3
Parking Identification - Tertiary

This sign type is to be used for identifying parking lots to visitors and staff. This sign is to be placed perpendicularly to the street, facing on-coming traffic, no less than 18" from the street. Sign is to be located in landscaped areas, not on pedestrian walkways or driveways. Messages are to be limited to parking lot name and type with permit information.

Front Colors: P1, P2, P3

Exposed Edges: Paint colors to wrap edges

Back Colors: P1, P2

Font: Human ST 521 BT

Letter Height

Line 1: 2"

Lines 2-5 : 1 1/2"

Lines 6-9: 1 1/4"

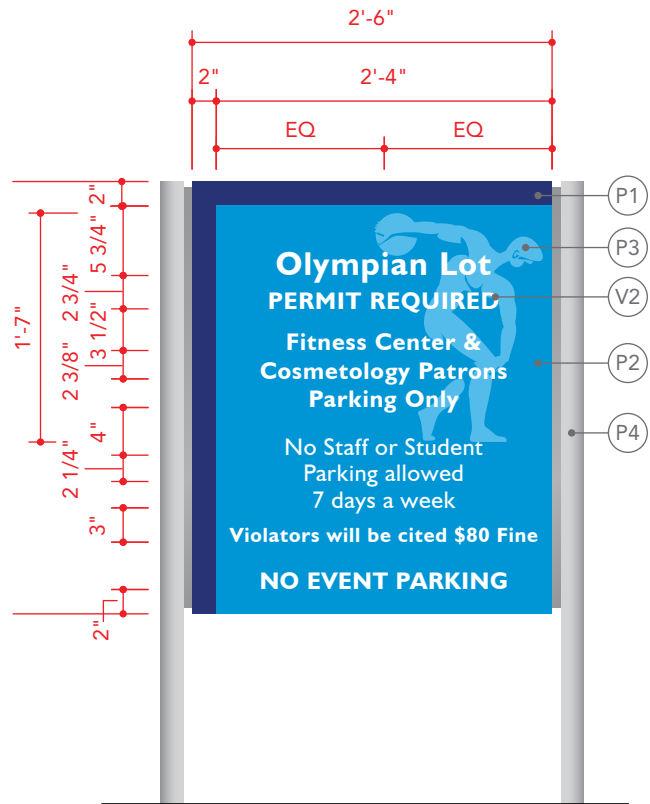
Line 10: 1 1/2"

Graphics Material: V2

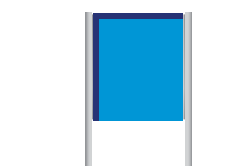
Watermark: Should take up about 30% of entire sign.

Post & Panel Information: See Page 12

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 3/4" = 1'-0"



Back View

SIGN TYPE: PID4
Parking Identification - Pole

This sign type is to be used for identifying parking lots to visitors and staff. This sign is to be placed on poles and light standards to inform which parking lot you are in. Sign to be mounted no lower than 15'-0" to the bottom of the sign.

Front Colors: P1, P2, P3

Sign Thickness: 1/4" aluminum panel

Exposed Edges: Paint colors to wrap edges

Sides: 3

Sign Quantity per Pole: 1 complete sign with 3 faces, all faces are the same

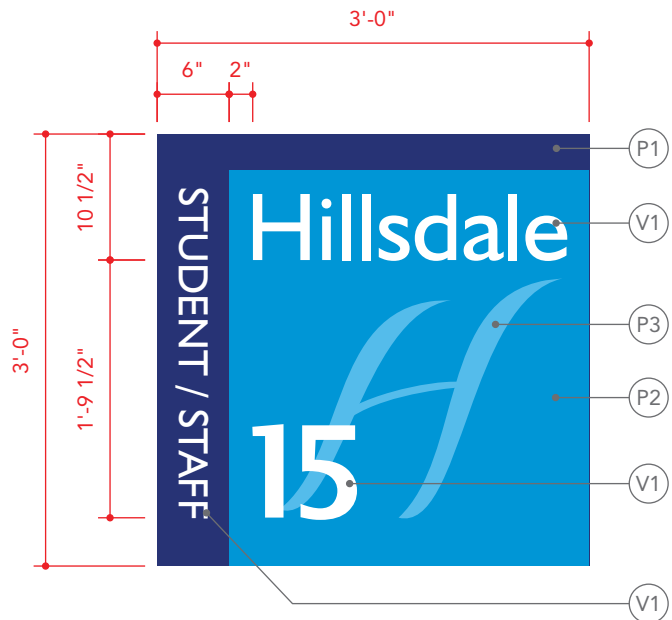
Font: Human ST 521 BT

Letter Height: 12"

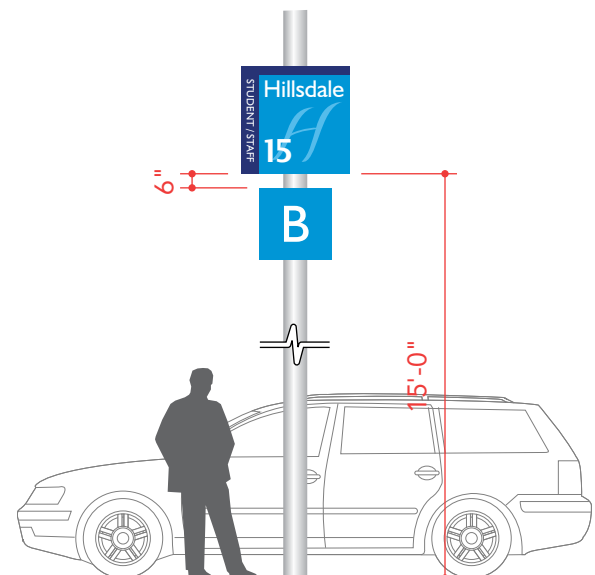
Graphics Material: V1

Mounting Information: See Page 13

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 3/4" = 1'-0"



SIGN TYPE: PID5
Parking Identification - Pole

This sign type is to be used for identifying parking lots to visitors and staff. This sign is to be placed on poles and light standards to inform which parking lot you are in. Sign to be mounted no lower than 12'-64" to the bottom of the sign.

Front Colors: P1, P2, P3

Sign Thickness: 1/4" aluminum panel

Exposed Edges: Paint colors to wrap edges

Sides: 3

Sign Quantity per Pole: 1 complete sign with 3 faces, all faces are the same

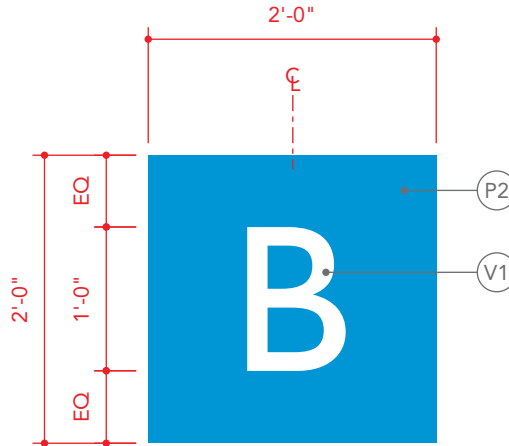
Font: Human ST 521 BT

Letter Height: 12"

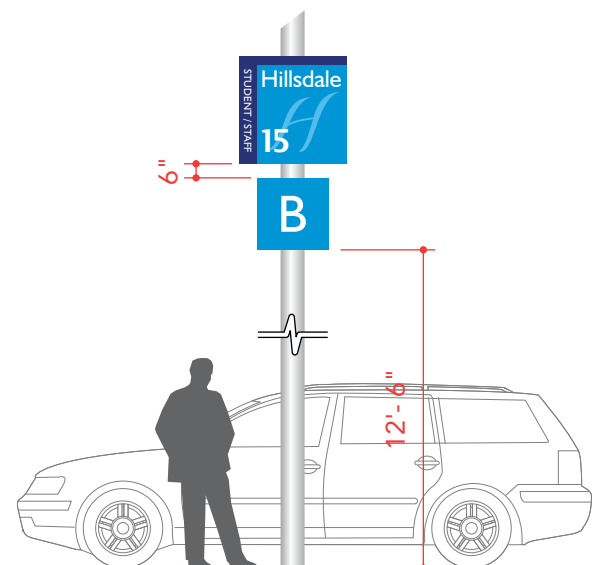
Graphics Material: V1

Mounting Information: See Page 13

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 3/4" = 1'-0"



SIGN TYPE: PID6
Parking Identification - Pole

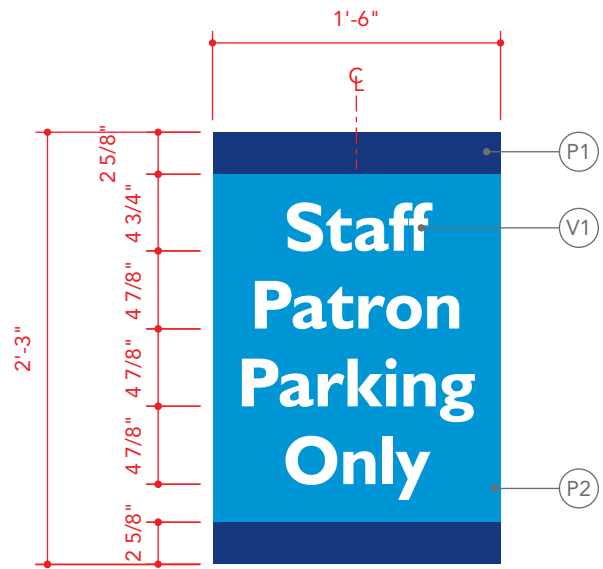
This sign type is to be used for identifying parking lots to visitors and staff. This sign is to be placed on poles and light standards to inform which parking lot you are in. Sign to be mounted no lower than 7'-0" to the bottom of the sign.

- Front Colors:** P1, P2
- Sign Thickness:** 1/4" aluminum panel
- Exposed Edges:** Paint colors to wrap edges
- Sign Back:** P1

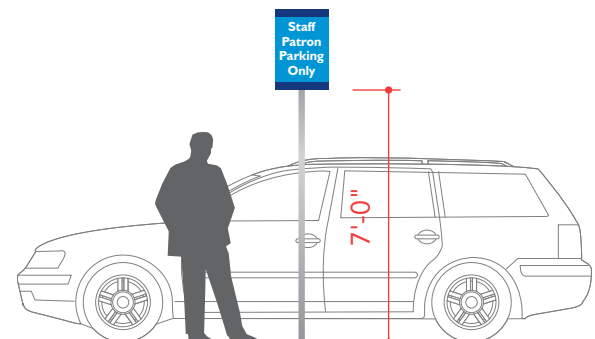
- Font:** Human ST 521 BT
- Letter Height:** 3"
- Graphics Material:** V1

Post Information: See Page 14

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1" = 1'-0"



Back View

SIGN TYPE: PID7

Parking Identification - Parking Pay Station

This sign type is to be used for identifying parking lots to visitors and staff. This sign is to be placed on poles and light standards to inform which parking lot you are in. Sign to be mounted no lower than 15'-0" to the bottom of the sign.

Front Colors: P1, P2

Sign Thickness: 1/4" aluminum panel

Exposed Edges: Paint colors to wrap edges

Sign Back: P1

Font: Human ST 521 BT

Letter Height

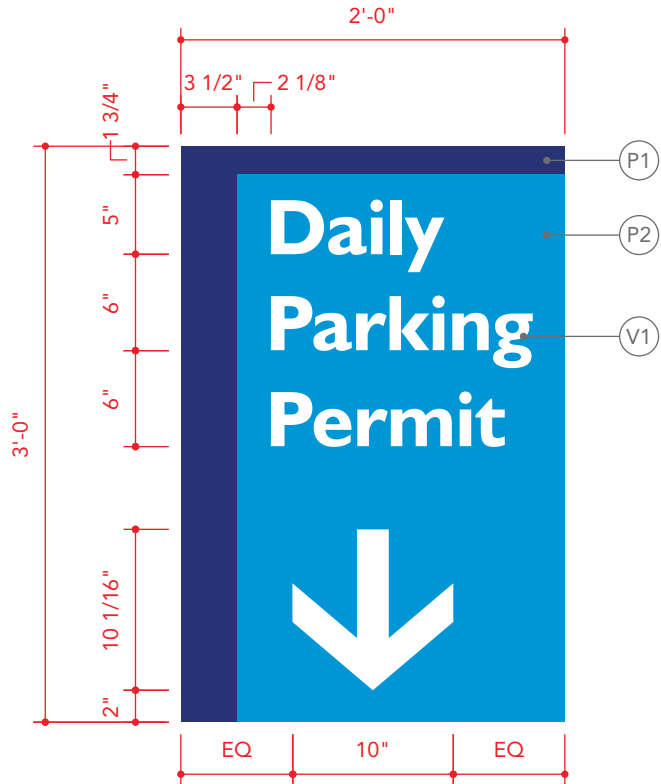
Lines 1-3: 3 1/2"

Arrow: 10"

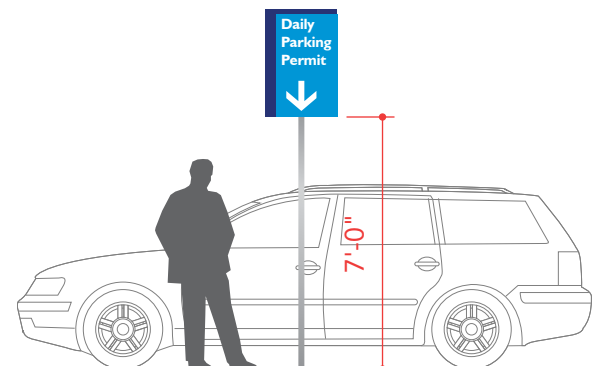
Graphics Material: V1

Post Information: See Page 14

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1" = 1'-0"



Back View

SIGN TYPE: BID1

Building Identification - One-line Header

This sign type is used to identify buildings to visitors and staff. These signs are to be placed on the glass sidelight at building entrances to identify departments and spaces within the building. If no room on the glass sidelight, then sign should be placed on glass door following the same dimensions. All listings should be in alphabetical order. Building number, as shown below, to be centered on the glass transom window. If not able to center number on transom, place sign as close to center as possible or centered at the top of the door. All window graphics are to be placed on the first surface of the glass.

Font(s):

Number: Lucida Sans Semi-Bold

Text: Human ST 521 BT

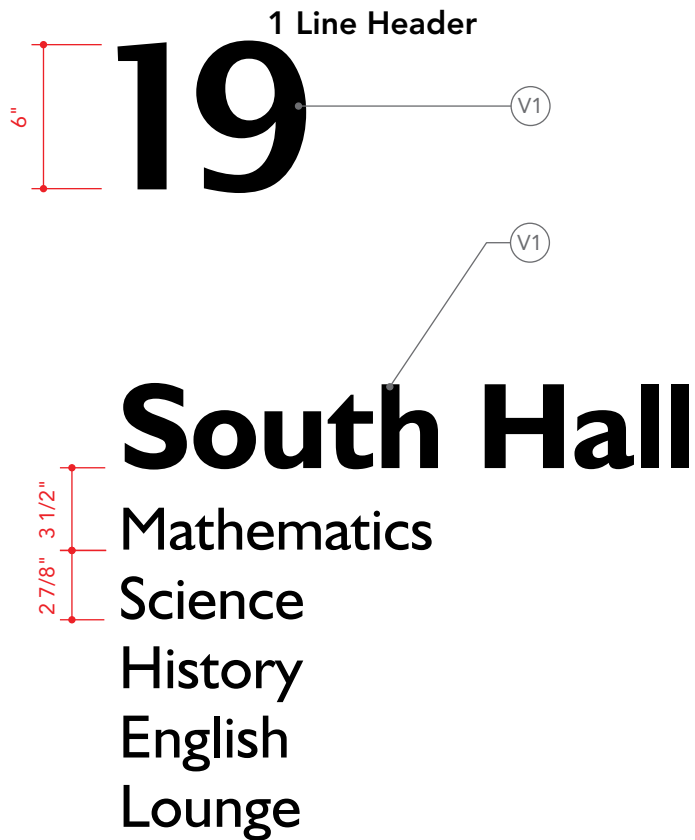
Letter Height:

Number: 6"

Header: 3 1/2"

Sub-text: 1 3/4"

Graphic Material: V1



Scale: 1 1/2" = 1'-0"

SIGN TYPE: BID2

Building Identification - Window Graphic

This sign type is used to identify buildings to visitors and staff. These signs are to be placed on the glass sidelight at building entrances to identify departments and spaces within the building. If no room on the glass sidelight, then sign should be placed on glass door following the same dimensions. All listings should be in alphabetical order. Building number, as shown below, to be centered on the glass transom window. If not able to center number on transom, place sign as close to center as possible or centered at the top of the door. All window graphics are to be placed on the first surface of the glass.

Font(s):

Number: Lucida Sans Semi-Bold

Text: Human ST 521 BT

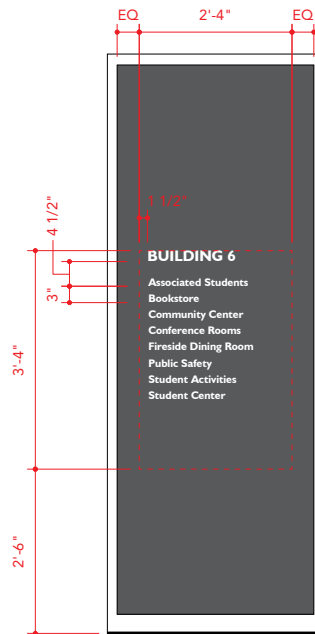
Letter Height:

Number: 6"

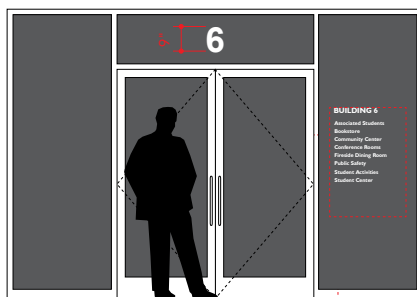
Header: 3 1/2"

Sub-text: 1 3/4"

Graphic Material: V1



Scale: " 1/2" = 1'-0"



Scale: " 1/4" = 1'-0"

SIGN TYPE: BID3**Building Identification - Dimensional Graphics**

This sign type is used to identify buildings to visitors and staff. These signs are to be placed on the building or wall facing on-coming vehicular or pedestrian traffic.

Font(s):

Numbers: Lucida Sans Semi-Bold

Text: Human ST 521 BT

Letter Height:

Numbers: 8"

Letters: 6"

Depth: TBD**Graphic Material:** Aluminum

Dimensional Graphics
Numbers : Lucida San Demi Bold



Dimensional Graphics
Numbers : Lucida San Demi Bold
Letter A : Human ST521 Roman



Dimensional Letters
Human ST521 Roman

Part 6

Informational Signs

PIN1 Parking Station Information

PIN2 Parking Information Hours

PIN3 Parking Information Hours Small

PIN4 Information Surveillance Notice

PIN5 Parking Information Motorcycle

PIN6 Parking Information Electric Vehicle

PIN7 Parking Information - Electric Vehicle Charging Time Limits

AFI.01 Athletic Field Information - Danger Stay Back

AFI.02 Athletic Field Information - Own Risk

AFI.03 Athletic Field Information - Beware

SIGN TYPE: PIN1

Parking Pay Station Instructions

This sign type is to be used to provide information on how to use the parking pay station. This sign is to be placed adjacent to the parking pay station within 12". Sign can also be mounted to a post or light standard with the bottom of the sign no lower than 7'-0".

Front Colors: P1, P2

Sign Thickness: 1/4" aluminum panel

Exposed Edges: Paint colors to wrap edges

Sign Back: P1

Font: Human ST 521 BT

Letter Height

Lines 1-2: 1 1/2" - Bold

Lines 3-4: 1 1/2" - Regular

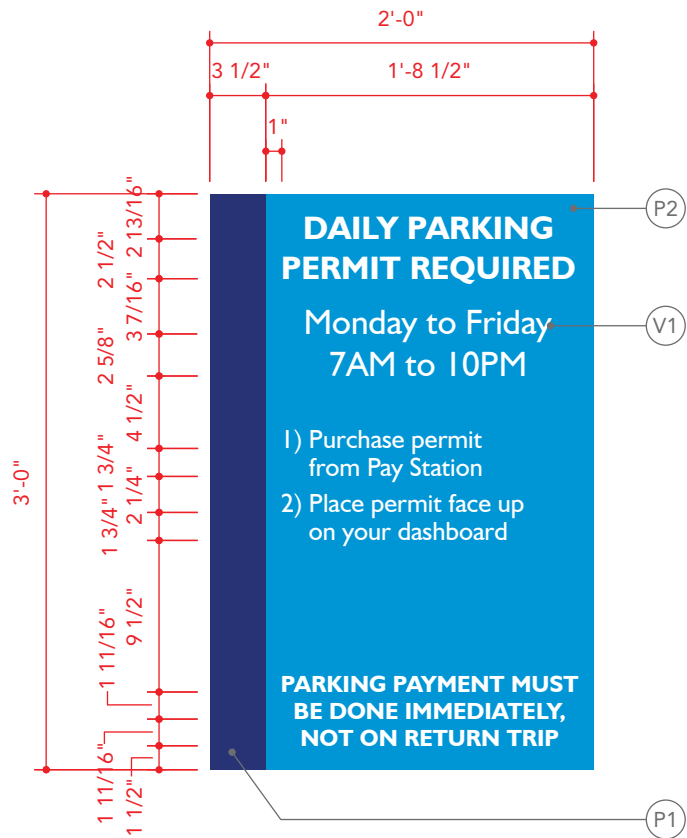
Lines 5-8: 1 1/4" - Regular

Lines 9-11: 1" - Bold

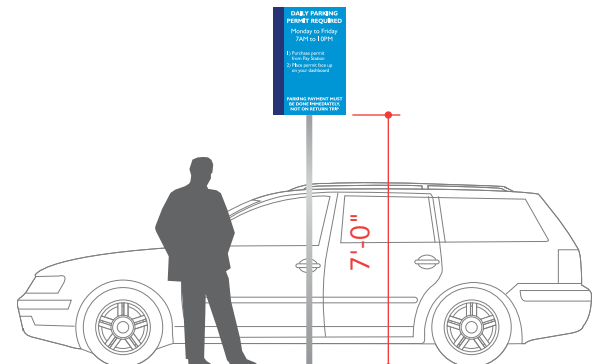
Graphics Material: V1

Post Information: See Page 14

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1" = 1'-0"



Back View

SIGN TYPE: PIN2

Parking Information - Hours Large

This sign type is to be used for identifying restricted parking areas around the campus. This sign is to be placed on poles at parking lot entrance perpendicular to oncoming traffic. Sign to be mounted no lower than 7'-0" to the bottom of the sign.

Front Colors: P1, P2

Sign Thickness: 1/4" aluminum panel

Exposed Edges: Paint colors to wrap edges

Sign Back: P1

Font: Human ST 521 BT

Letter Height

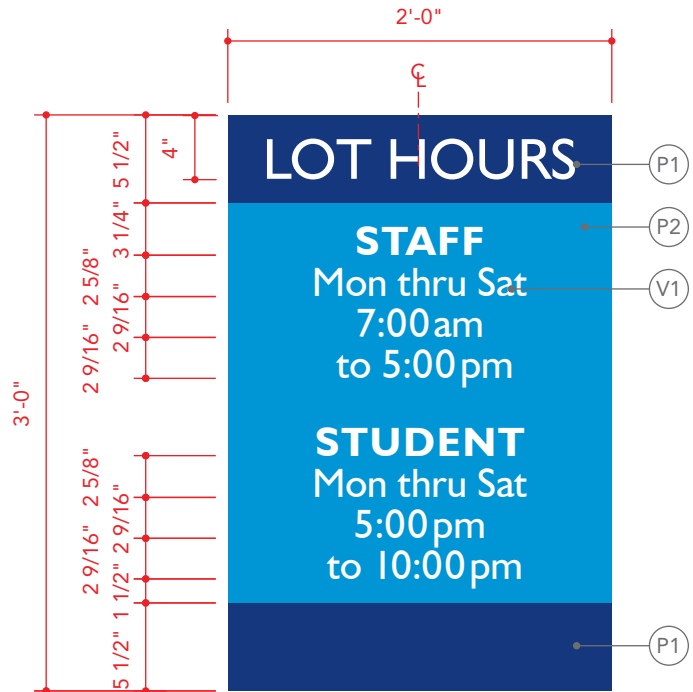
Header: 2 1/2"

Lines 1-8: 1 3/4"

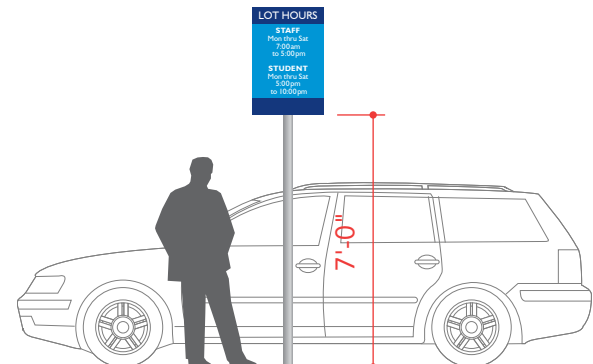
Graphics Material: V1

Post Information: See Page 14

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1" = 1'-0"



Back View

SIGN TYPE: PIN3

Parking Information - Hours Small

This sign type is to be used for identifying restricted parking areas around the campus. This sign is to be placed on poles at parking lot entrance perpendicular to oncoming traffic. Sign to be mounted no lower than 7'-0" to the bottom of the sign.

Front Colors: P1, P2

Sign Thickness: 1/4" aluminum panel

Exposed Edges: Paint colors to wrap edges

Sign Back: P1

Font: Human ST 521 BT

Letter Height

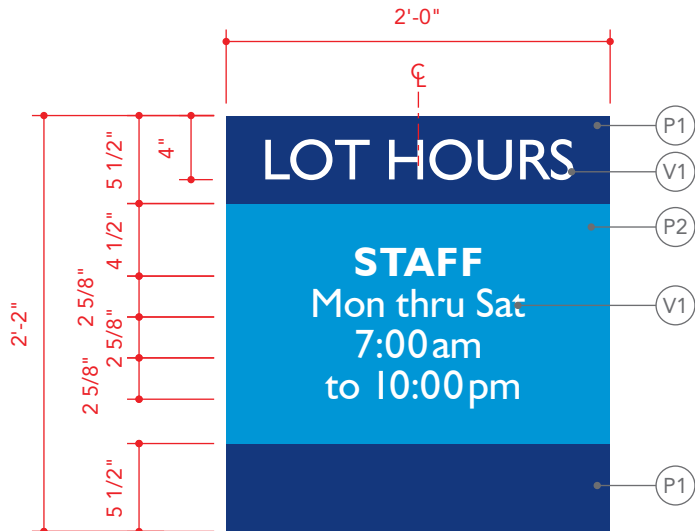
Header: 2 1/2"

Lines 1-4: 1 3/4"

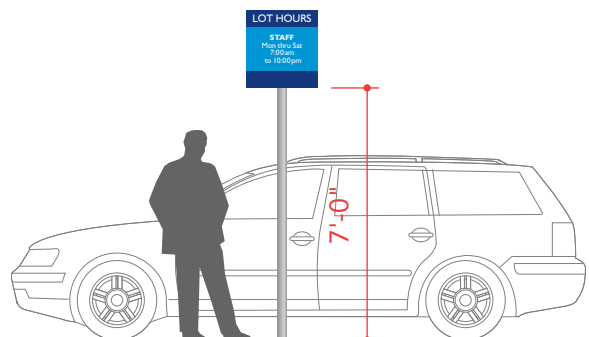
Graphics Material: V1

Post Information: See Page 14

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1" = 1'-0"



Back View

SIGN TYPE: PIN4

Information - Surveillance Notice

This sign type is to be used for identifying surveillance cameras around the campus. This sign is to be placed on poles in the general vicinity of the surveillance camera. Sign to be mounted no lower than 7'-0" to the bottom of the sign.

Front Colors: P1, P2

Sign Thickness: 1/4" aluminum panel

Exposed Edges: Paint colors to wrap edges

Sign Back: P1

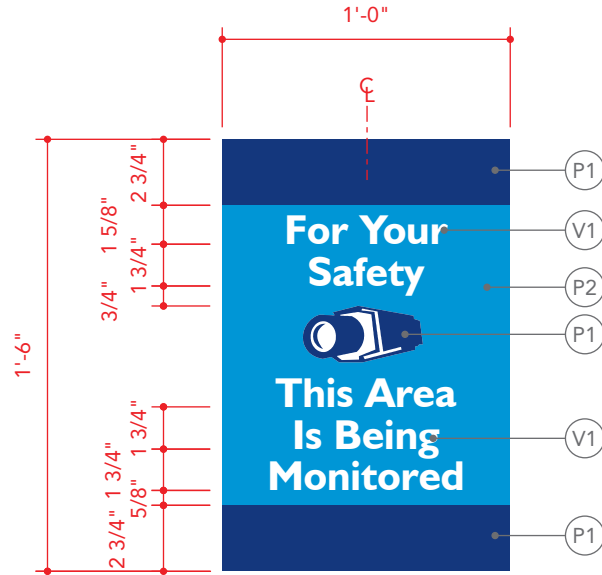
Font: Human ST 521 BT

Letter Height: 1"

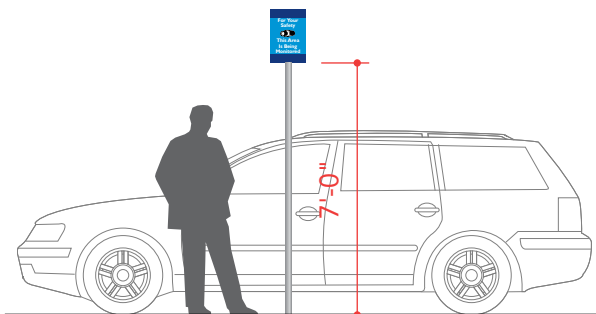
Graphics Material: V1

Post Information: See Page 14

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1 1/2" = 1'-0"



Back View

SIGN TYPE: PIN5

Parking Information - Motorcycle

This sign type is to be used for identifying restricted parking areas around the campus. This sign is to be placed on poles either at the head, or parallel to, the parking space or area. Sign to be mounted no lower than 7'-0" to the bottom of the sign.

Front Colors: P1, P2

Sign Thickness: 1/4" aluminum panel

Exposed Edges: Paint colors to wrap edges

Sign Back: P1

Font: Human ST 521 BT

Letter Height:

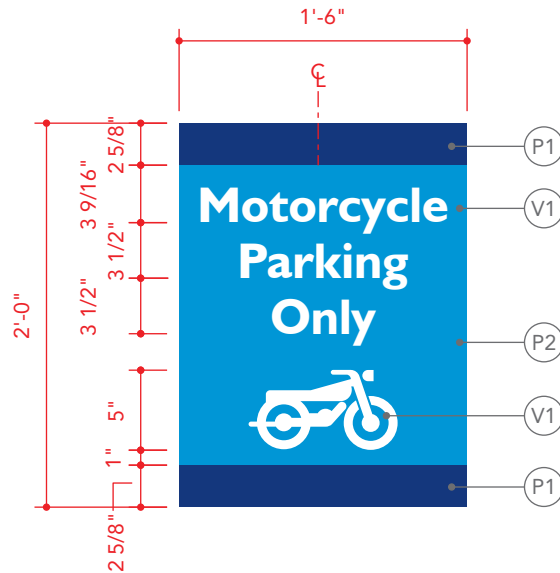
Text: 2 1/4"

Icon: 5"

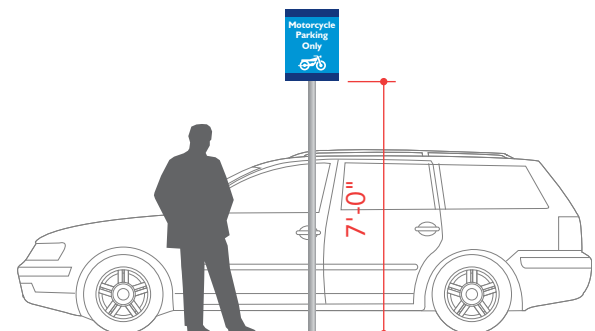
Graphics Material: V2

Post Information: See Page 14

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1" = 1'-0"



Back View

SIGN TYPE: PIN6

Parking Information - Electric Vehicle

This sign type is to be used for identifying electric vehicle charging parking areas around the campus. This sign is to be placed within 12" of the charging station facing the parking spot. Sign to be mounted no lower than 7'-0" to the bottom of the sign.

Front Colors: P1, P2

Sign Thickness: 1/4" aluminum panel

Exposed Edges: Paint colors to wrap edges

Sign Back: P1

Font: Human ST 521 BT

Letter Height:

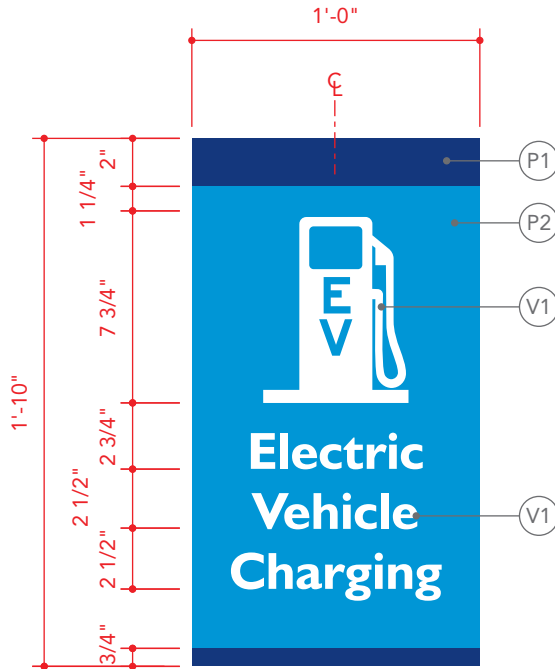
Text: 1 3/4"

EV Icon: 7 3/4"

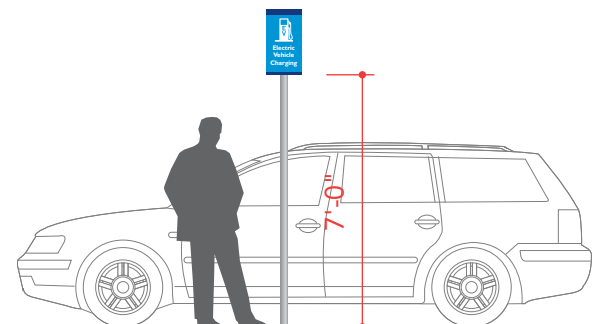
Graphics Material: V2

Post Information: See Page 142

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1 1/2" = 1'-0"



Back View

SIGN TYPE: PIN7

**Parking Information - Electric Vehicle
Charging Time Limits**

This sign type is to be used for identifying time limited electric vehicle charging parking areas or spaces around the campus. This sign is to be placed at the head of the parking space of the charging station facing the parking space. Sign to be mounted no lower than 7'-0" to the bottom of the sign.

Colors: Sign to be digitally printed in PMS 485 and PMS 356 on reflective vinyl.

Exposed Edges: Paint colors to wrap edges

Sign Thickness: 1/8" aluminum panel

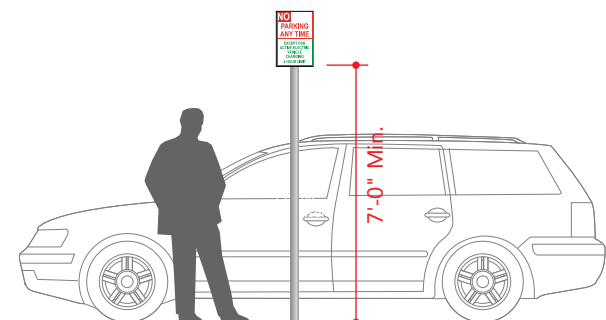
Sides: 1

Sign Back: None

Font: Arial Bold

Graphics Material: V1

Post Information: Mount signs to 2 1/2" galvanized steel pole or wall. See detail on Page 13.



SIGN TYPE: AFI.01

Athletic Field Information - Danger Stay Back

This sign type is to be used for identifying dangerous situations at athletic fields. This sign is to be placed on fences or nets near the athletic field. Top of sign to be mounted no lower than 5'-0".

Colors: P1, P2

Exposed Edges: Paint colors to wrap edges

Sign Thickness: 1/8" aluminum panel

Sides: 1

Sign Back: Paint P2

Font:

Line 1: Human ST 521 BT Bold

Lines 2 & 3: Human ST 521 B

Letter Height

Line 1: 2"

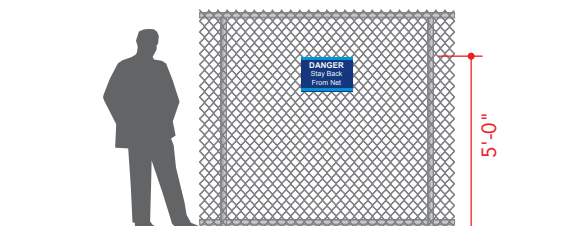
Lines 2 & 3: 1 3/4"

Graphics Material: V1

Mount: Signs to be mounted directly to fence or net.



Scale: 1 1/2" = 1'-0"



SIGN TYPE: AFI.02 & AFI.03

Athletic Field Information - Own Risk and Beware

This sign type is to be used for identifying dangerous situations at athletic fields. This sign is to be placed on fences or nets near the athletic field. Top of sign to be mounted no lower than 5'-0".

AFI.02 - Own Risk

Colors: P1, P2

Exposed Edges: Paint colors to wrap edges

Sign Thickness: 1/8" aluminum panel

Sides: 1

Sign Back: Paint P2

Font: Arial Bold & Ariel Regular

Letter Height: 1 3/16"

Graphics Material: V1

AFI.03 - Beware

Colors: P1, P2

Exposed Edges: Paint colors to wrap edges

Sign Thickness: 1/8" aluminum panel

Sides: 1

Sign Back: Paint P2

Font:

Line 1: Arial Bold

Lines 2-6: Ariel Regular

Letter Height

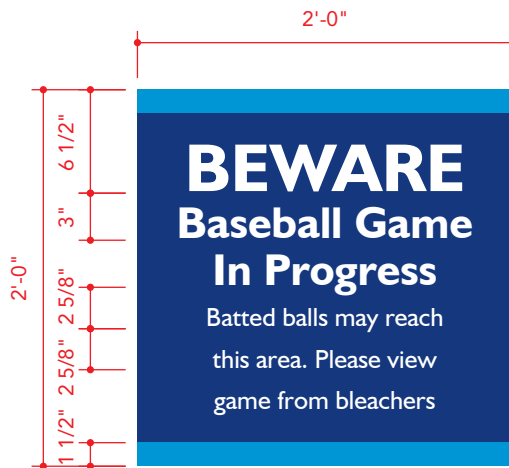
Line 1: 3"

Lines 2-3: 2"

Lines 4-6: 1 3/16"

Graphics Material: V1

Mount: Signs to be mounted directly to fence or net.



Part 7

Orientation Signs

OR1 Orientation - Campus Directory

SIGN TYPE: OR1

Orientation - Campus Directory

This sign type is used to orient visitors and staff of their location within the campus. This sign should be located at all campus entrances and gathering spaces within the campus. Sign to be located on hardscape or within 6" of the edge of landscaped areas.

Colors: P1, P2, P3

Sides: 2 (both sides have the same art)

Exposed Edges: Paint colors to wrap edges

Sign Back: Sign can be single or double-sided.

Sign to be double-sided unless one side is obstructed from view by something like a tree, bushes, or a building. If sign is not double-sided, then header to be painted P1 and P2.

Font: Arial Bold

Letter Height:

"DIRECTORY": 3"

Letter Color: V3

Map Area with Legend: 28" x 42"

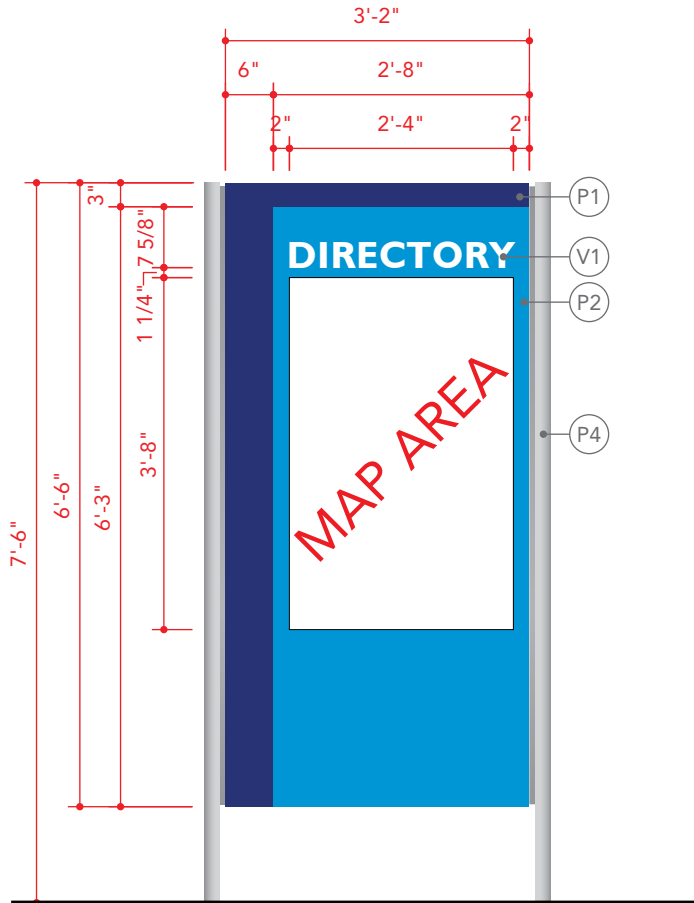
Map: Full color process, digitally printed artwork on 3M ControlTac IJ - I80CV3 with comply adhesive and 3M 8519 Luster UV Laminate applied

Map Mounting: Applied to sign face

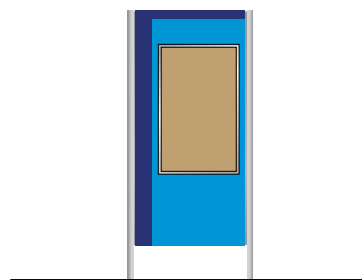
Orientation: Rotated to be "heads-up" or forward facing so that viewers are facing the map in the same direction that they are standing.

Post Information: See Page 12

Note: Structural requirements to be determined by a licensed structural engineer.



Front
Scale: 1/2" = 1'-0"



Back View

copy: 3 1/4"

Part 8

Regulatory Signs

RG1 Regulatory Permit Parking

RG2 California Vehicle Code

RG3 Designated Parking

RG4 Smoking Prohibited

RG5 Smoking Prohibited Window Graphic

RG6 No Skateboarding

MUTCD Standard Regulatory Signs

AED Automatic External Defibrillator Window Decal

SIGN TYPE: RG1
Regulatory - Permit Parking

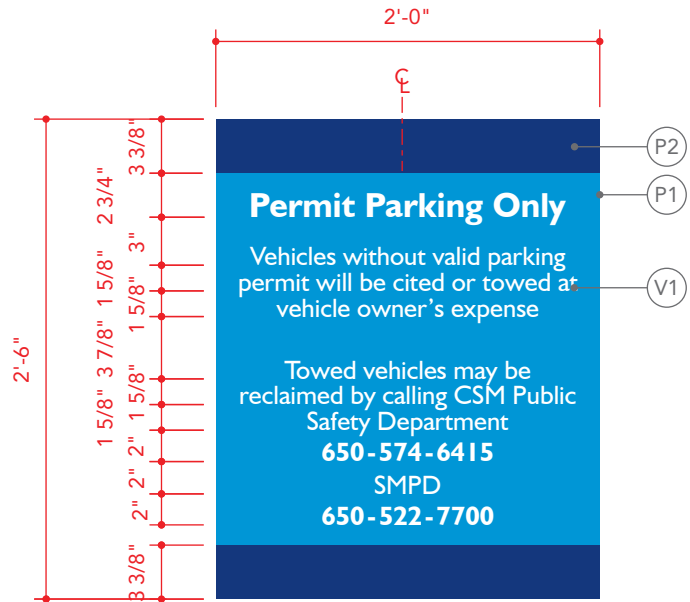
This sign type is to be used for parking restriction information at parking lots around the campus. This sign is to be placed on poles at all entrance to parking lots, perpendicular to the street. Sign to be mounted no lower than 7'-0" to the bottom of the sign.

Front Colors: P1, P2
Sign Thickness: 1/4" aluminum panel
Exposed Edges: Paint colors to wrap edges
Sign Back: P1

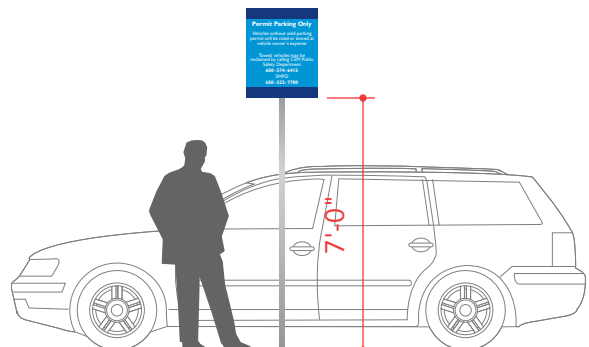
Font: Human ST 521 BT
Letter Height
Lines 1-2: 1 1/2" - Bold
Lines 3-4: 1 1/2" - Regular
Lines 5-10: 1" - Regular
Lines 11-13: 1 1/2" - Bold
Lines 14-16: 1" - Bold
Graphics Material: V1

Post Information: See Page 14

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1" = 1'-0"



Back View

SIGN TYPE: RG2
Regulatory - California Vehicle Code

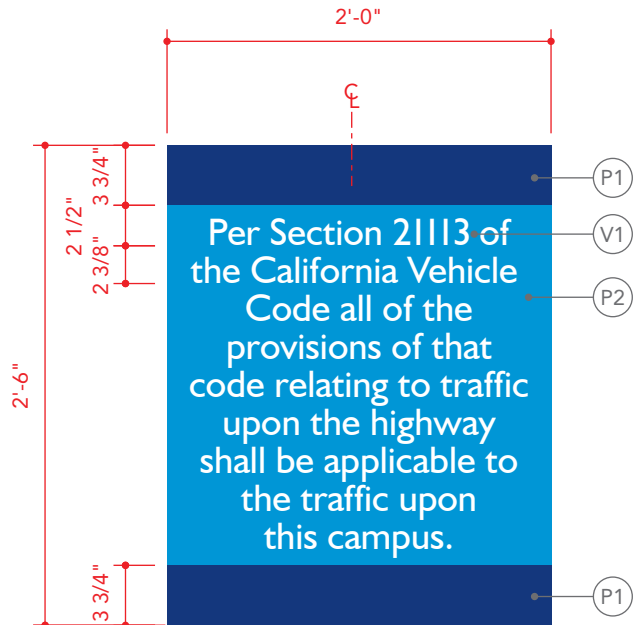
This sign type is to be used for vehicular code information on roadways around the campus. This sign is to be placed on poles at all entrances to the campus, perpendicular to the street. Sign to be mounted no lower than 7'-0" to the bottom of the sign.

Front Colors: P1, P2
Sign Thickness: 1/4" aluminum panel
Exposed Edges: Paint colors to wrap edges
Sign Back: P1

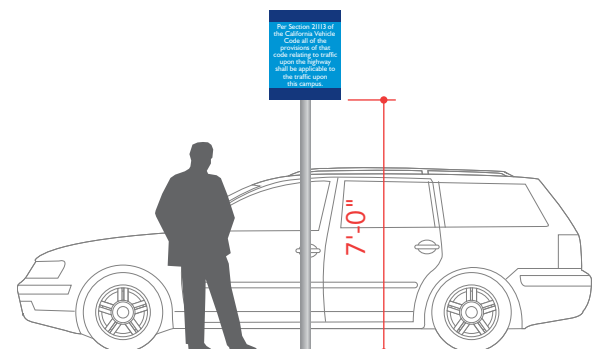
Font: Arial Bold
Letter Height: 1 3/4
Graphics Material: V1

Post Information: See detail on Page 14.

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1" = 1'-0"



Back View

SIGN TYPE: RG3
Regulatory - Designated Parking

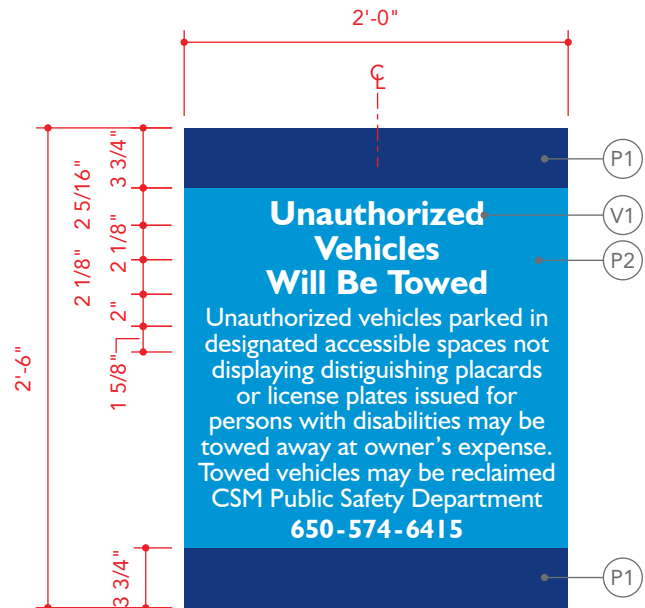
This sign type is to be used for parking restriction information at parking lots around the campus. This sign is to be placed on poles at all entrances to parking lots, perpendicular to the street. Sign to be mounted no lower than 7'-0" to the bottom of the sign.

Front Colors: P1, P2
Sign Thickness: 1/4" aluminum panel
Exposed Edges: Paint colors to wrap edges
Sign Back: P1

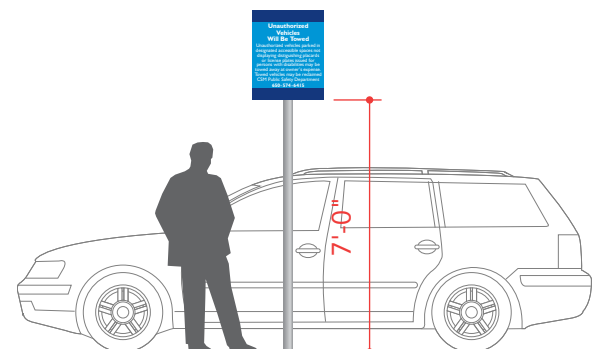
Font: Human ST 521 BT
Letter Height
 Lines 1-3: 1 1/2"
 Bodycopy: 1 1/4"
Graphics Material: V1

Post Information: See detail on Page 14.

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1" = 1'-0"



Back View

SIGN TYPE: RG4
Regulatory - Smoking Prohibited

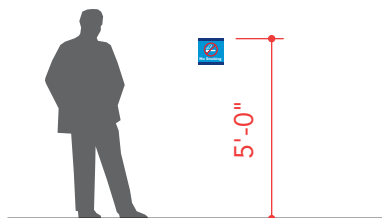
This sign type is to be used to provide regulatory information throughout the campus. This sign is to be placed on walls where required on campus. This sign is to be placed facing pedestrians in the vicinity of the sign, mounted on a wall. Top of sign to be no higher than 5'-0".

- Front Colors:** P1, P2
- Sign Thickness:** 1/4" aluminum panel
- Exposed Edges:** Paint colors to wrap edges
- Sign Back:** P1

- Font:** Human ST 521 BT
- Letter Height:** 1/2"
- Graphics Material:** V1, V3



Scale: 3" = 1'-0"



SIGN TYPE: RG5
Building Identification - Smoking Prohibited Window Graphics

This sign type is used to identify non smoking buildings and areas to visitors and staff. These signs are to be placed on the glass sidelight at building entrances. If no room on the glass sidelight, then sign should be placed on glass door following the same dimensions. All window graphics are to be placed on the first surface of the glass.

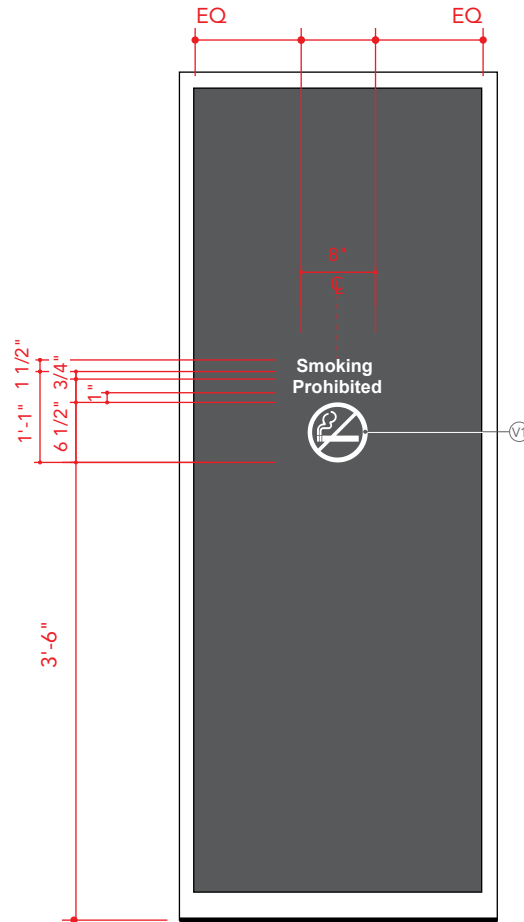
Colors: V1

Font: HumanST521 BT

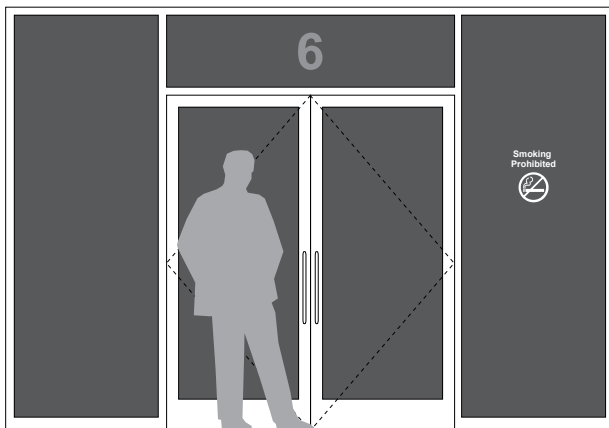
Letter Height: 1 1/2"

Graphics Material: V1

Mounting Information: All window graphics are to be placed on the first surface of the glass.



Scale: " 1/2" = 1'-0"



Scale: " 1/4" = 1'-0"

SIGN TYPE: RG6
Regulatory - No Skateboarding

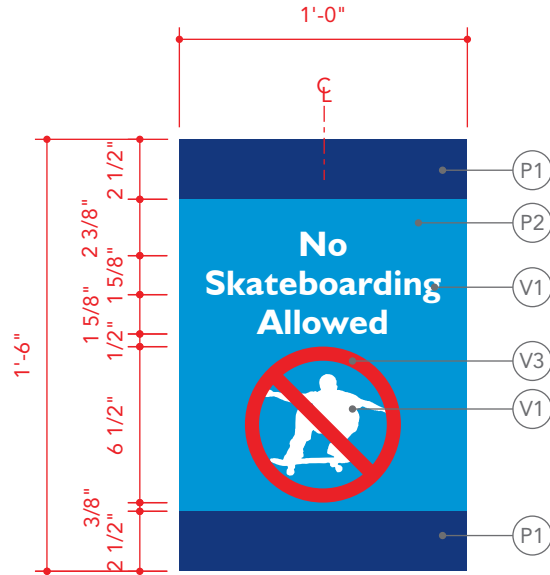
This sign type is to be used to provide regulatory information throughout the campus. This sign is to be placed on wall where required on campus. This sign is to be placed facing pedestrians in the vicinity of the sign. Top of sign to be no higher than 4'-0". If mounted on a wall, top of sign to be no higher than 5'-0".

- Front Colors:** P1, P2
- Sign Thickness:** 1/4" aluminum panel
- Exposed Edges:** Paint colors to wrap edges
- Sign Back:** P1

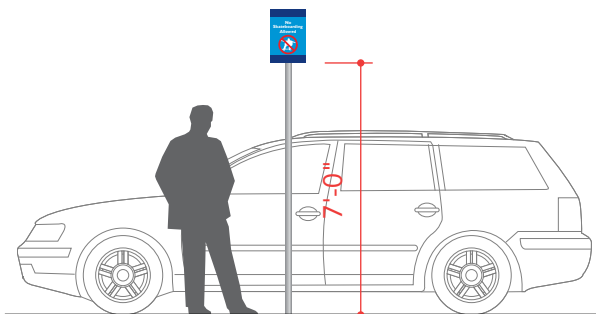
- Font:** Human ST 521 BT
- Letter Height:** 1"
- Graphics Material:** V1, V3

Post Information: See detail on Page 14

Note: Structural requirements to be determined by a licensed structural engineer.



Scale: 1 1/2" = 1'-0"



Back View

**MUTCD
Standard Regulatory Signs**

**Regulatory signs can be obtained from
Hawkins Traffic Supply via the contact
information listed below.**

Hawkins Traffic Safety Supply

1255 Eastshore Highway
Berkeley, CA 94710
800-772-3995
<http://www.hawkinstraffic.com>

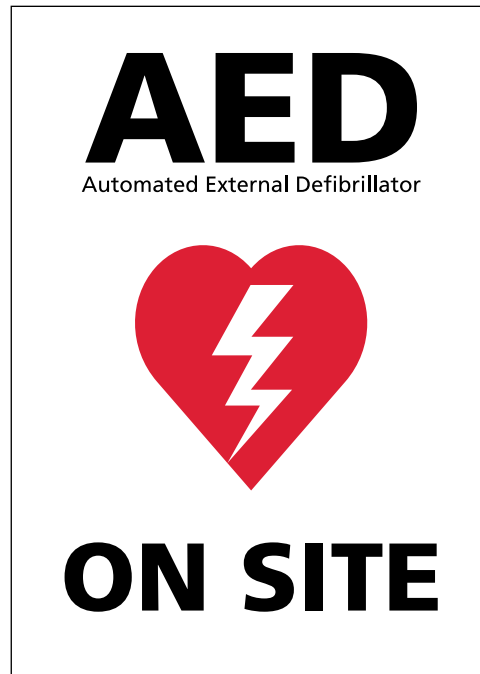


SIGN TYPE: AED
Information- Automatic External
Defibrillator

This sign type can be ordered from the following vendor:

Smart Signs
<https://www.smartsign.com>
(800) 952 1457

AED Location Window Decal and Label
Size: 8" x 5" (H x W)
Material: Inside Glass Decal (graphics facing out)
Part #: S-4910-WD-WH-8x5



Part 9

Specifications

SIGNS

Construction Specification

PART 1 - GENERAL

1.01 RELATED SECTIONS & REFERENCE

- A. The General Conditions, Supplemental Conditions and General Requirements are hereby made a part of this Section as fully as if repeated herein.
- B. The Manufacturer shall be responsible for providing Signage and Graphic Products that comply with the documents listed below. If newer versions of these documents are in effect at the time of installation, then the Manufacturer is responsible for compliance with the newer versions.
 - 1. 2013 California Building Code (CBC).
 - 2. State of California, California Code of Regulations, Title 24, Volumes 1 and 2.
 - 3. California Department of General Services, Division of the State Architect, 2008 California Access Compliance Reference Manual, Checklist 17.
 - 4. City of San Bruno and County of San Mateo Municipal Code.
 - 5. Americans with Disabilities Act (ADA) legislation, published in the Department of Justice Federal Register.
 - 6. "ADA Standards for Accessible Design", as published in the Title III regulations (28 CFR Part 36, revised July 1, 1994 or most recent revision) issued by the Department of Justice. The ADA Standards for Accessible Design are in Appendix A of the Title III Regulations.
 - 7. "Instruction Manual for Braille Transcribing" Fifth Edition, 2009, National Library Service for the Blind and Physically Handicapped, Library of Congress, <http://www.loc.gov>.

1.02 SCOPE OF WORK

- A. Bidders shall, as a part of their bid, call specific attention to any construction details, materials, methods of fabrication or other similar items which they consider to be impractical or not in keeping with good industry practice. Requests for change orders for substitutions to address such items after award of contract shall not be accepted.
- B. Scope of Work by Sign Type: To be specified on a project by project basis.
- C. Allowance for Submittals: Allow for thorough and complete preparation of all submittal items described at Section 1.05, for delivery and/or shipping of same, and for re-submittal(s) as required until approval has been obtained for all items.

1.03 STRUCTURAL DESIGN AND ENGINEERING

- A. Details in the Drawings indicate a general design approach for sign structures but do not necessarily include the specific fabrication details required for the complete structural integrity of the signs, nor do they necessarily consider preferred shop practices of individual contractors. Specific fabrication details shall be provided by the Sign Fabricator, who shall ensure that all signs withstand any and all static, dynamic and/or erection loads that act upon them, including all such loads associated with handling, erecting, and servicing.

- B. Sign Fabricator shall furnish a complete structural design for each and every sign type, incorporating all reasonable safety factors necessary to protect the Owner and Design/Build Team against public liability.
 - 1. All such structural designs shall meet applicable local, state, and national codes, as well as testing laboratory listings, where required.
- C. Sign Fabricator shall be responsible for the engineering and internal construction of all signs, and shall submit shop drawings and details for review by the Owner's Representative. Shop drawings for all exterior freestanding Sign Types shall be designed and stamped by a licensed Engineer currently registered in the State of California. Said stamped shop drawings shall specify all structural components and methods required to withstand the design wind load and design seismic load at the location of the sign(s).
 - 1. All structural design shall meet applicable local, state, and national codes, as well as testing laboratory listings, where required.
 - 2. Seismic Forces: Engineered shop drawings shall specify all necessary measures to withstand seismic forces at the project location.
 - 3. Wind Load: Engineered shop drawings shall reflect the soil type and compaction and the design wind load at the project location. Assume maximum wind of 80mph and wind pressure of 12.5 psf unless otherwise indicated. Comply with the requirements of Chapter 16 or 16A, Section 1609, of the CBC as apply.

1.04 SUBMITTALS

- A. Pre-submittal Conference: Coordinate with the Owner's Representative prior to preparation of submittals to confirm submittal requirements and schedule. All items listed are required unless instructed otherwise by the owner, or the owner's representative.
- B. Product Data: Submit manufacturers' catalog sheets, brochures, diagrams, schedules, charts, illustrations, test results and/or other standard descriptive data.
 - 1. Mark up each copy to identify pertinent materials, products or models.
 - 2. Show dimensions and clearances required, performance characteristics and capacities, and wiring diagrams and/or controls as apply.
 - 3. Submit materials descriptions and finishes for each type of sign.
- C. Shop Drawings:
 - 1. All shop drawings shall be neat, well organized and clearly legible. Elevations and plan views from the Construction Drawings may be reproduced for the sake of expedience where appropriate.
 - 2. All shop drawings shall be drawn to scale and not subsequently reduced to fit a drawing format.
 - 3. Submit elevations and plan views for all sign types, including graphic layouts, complete dimensions, materials, locations of all exposed fasteners, colors and finishes. Determine the total quantity for each sign type and note it in the shop drawings.
 - 4. Submit comprehensive section drawings for sign types where applicable, including sections of all typical members. Show fabrication and installation details, including details for securing members to one another, to building structures, and/or to site work. Show interior construction, reinforcements, anchorages, components and finishes.
 - 5. Site Condition Verification: sign fabricator shall inspect site to confirm installation conditions, then submit shop drawings and/or written documentation for approval

indicating proposed mounting devices.

6. Sign Location Plan: Submit floor plan drawings showing location and sign type for each sign.
 7. Sign Message Schedule: Submit spreadsheet in native Excel format indicating floor level, sign location number, sign type, quantity, sign message, and remarks.
- D. Samples:
1. Color and Finish: Submit 3 each, 6 inch x 6 inch samples of all paint colors, screen colors, vinyl colors and material finishes. All paint and screen colors are to be applied to the appropriate substrate. Vinyl colors are to be trimmed directly off the roll and provided on the original liner.
 - a. Sign fabricator to submit verification of paint manufacturer used for submittal, as identified in 2.02.J1.
 - b. Prior to submittal, sign fabricator shall verify that all colors submitted as samples match accurately the samples or specifications provided by Owner's Representative.
 2. Typeface(s): Submit complete typeface font(s), including upper and lower case letters, numbers and punctuation, for all typeface(s) specified. Also submit samples of letter and word spacing for each cap height specified.
- E. Prototypes:
1. Submit one full-size complete prototype each for the following Sign Types:
 - a. Exact sign types for prototypes to be determined by the Owner's Representative and sign programmer.
 - b. Substitutions, deletions, or additions to be determined by the Owner's Representative on a project by project basis.
 2. Submit one full-size partial prototype each for the following Sign Types:
 - a. Exact sign types for prototypes to be determined by the Owner's Representative and sign programmer.
 - b. Substitutions, deletions, or additions to be determined by the Owner's Representative on a project by project basis.
- F. Patterns: Submit one full size pattern each for Exterior Sign Types. All patterns shall be black vinyl graphics on a single carrier sheet and shall include the perimeter of the sign panel.
- G. Artwork and Approvals for Emergency Evacuation Plans (EEPs):
1. Owner's Representative shall provide digital artwork for one EEP, approved by the San Mateo County Fire Department, to the Sign Fabricator as an Adobe Illustrator file. This file will serve as a template for the Sign Fabricator's use. Owner's Representative shall also provide the plan locations for all EEPs.
 2. Using said template and locations, Sign Fabricator shall generate digital artwork for all the other EEPs listed in the Sign Schedule. All artwork shall reflect accurately the graphic layout, graphic conventions and colors of the template. All EEPs shall be "rotated" to the appropriate compass orientation at each location shown on the Sign Location Plans. Each EEP shall show the locations of all fire extinguisher cabinets and fire alarm pull boxes, and the primary and secondary exit paths, as shown on drawings provided or referenced by the Owner's Representative.
 3. Sign Fabricator shall then submit a complete set of half size black and white laser prints of the EEPs to the San Mateo County Fire Department and obtain their written approval

of same.

4. Sign Fabricator shall submit a complete set of half size black and white laser prints of the EEPs, as approved by the San Mateo County Fire Department, to Owner's Representative for final review and written approval of graphic layouts only prior to production of full size color prints or screen negatives; Owner's Representative shall not review for nor be responsible for any errors or omissions.
 5. Sign Fabricator shall submit one full size EEP to Owner's Representative for final approval of color. All subsequent color prints or screened images shall match this approved sample, which will be retained by Owner's Representative for quality control.
- H. Quality Control:
1. Samples, mock-ups and prototypes shall not be permanently installed, but shall be retained by the Owner's Representative for record and quality control, unless otherwise noted by the Owner's Representative.
 2. If requested by Owner's Representative, submit manufacturer's installation instructions for each type of specialty sign. Include only pages which are pertinent, or manufacturer's standard drawings modified to delete non-applicable data.

1.05 QUALITY ASSURANCE

- A. Do not scale drawings for dimensions. Use only the written dimensions indicated on the Drawings, unless such be found in error. Sign Fabricator shall verify and be responsible for all dimensions and conditions shown by the Drawings, and shall visit the site to inspect and verify field conditions prior to fabrication and installation. The Owner's Representative shall be notified, in writing, of all discrepancies on Drawings, in field dimensions or conditions, and of changes required in construction details.
- B. Provide each type of sign as a complete unit produced by a single manufacturer, including all required mounting accessories, fittings and fastenings.
- C. All details shown in the Drawings shall be followed for exterior appearance. Minor changes in interior construction will be accepted in order to conform to Sign Fabricator's shop practices or engineering requirements when, in the sole judgment of the Owner's Representative, such changes do not detract materially from design concept or intent. Sign Fabricator shall circle all such changes on the shop drawings.
- D. Completed work shall be structurally sound, and free from scratches, distortions, chips, breaks, blisters, holes, splits or other disfigurements considered as imperfections for the specific material.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable sign fabricators must meet following expectations::
 1. A thorough description of three architectural signage projects, similar in character and scope to this project, which have been completed by the Bidder within the past three years. Note specifically any and all work performed by subcontractor(s) and identify subcontractor(s) for each subcontracted portion of the work. Include photographs, brochures, shop drawings or other relevant exhibits. Provide name, address and telephone number for client contact for each project.
 2. Resumes for the following key personnel:

- a. Project Manager.
- b. Shop Fabrication Supervisor.
- c. Sign Installation Supervisor.

All resumes shall include educational background, employment history, sign project experience in the same role to be performed for this project, client references, and percentage of time to be committed to this project during fabrication and installation.

3. Three references for work completed within the past three years. Any or all of these references may be the client contacts included at Item 1 above.

2.02 MATERIALS

A. Aluminum:

1. Extruded Shapes: Provide alloy 6063; size as required, or as specified by Engineer.
2. Flat Sheet: Provide alloy 3003; mill finish as specified, for all work that will receive a painted finish.

B. Stainless Steel:

1. Provide Alloy #304, Number 2B, in gauge(s) called out in the Construction Drawings.
2. Provide mill finish on all surfaces to be painted and brushed finish on all surfaces to remain exposed.

C. Cast Acrylic Sheet:

1. Provide cast (not extruded or continuous cast) methyl plastic sheet, in sizes, thickness and finishes indicated, with a minimum flexural strength of 16,000 pounds per square inch when tested in accordance with ASTM D790, and a maximum allowable continuous service temperature of 176 degrees Fahrenheit.
2. Cast acrylic sheet shall have a flame resistance such that application of a lighted match shall not produce melting, flashing, flaring or distortion. This material shall not ignite at a temperature less than 800 degrees Fahrenheit.
3. Carefully follow manufacturer's recommended fabrication procedures regarding expansion/contraction, fastening and restraining of acrylic plastic.

D. Polycarbonate Sheet:

1. Provide impact-resistant extruded polycarbonate plastic sheet (Lexan or approved equal) in size, thickness and finish indicated, with a minimum tensile yield strength of 8,500 pounds per square inch when tested in accordance with ASTM D882-36T, and a maximum allowable continuous service temperature of 185 degrees Fahrenheit.
2. Extruded polycarbonate sheet shall not ignite at a temperature less than 900 degrees Fahrenheit.

E. Expanded PVC: Provide high density closed foam polyvinyl chloride sheet (Sintra or approved equal) in color(s) and thickness(es) specified.

F. Tactile Signs (Exterior Grade):

1. Provide exterior grade light-sensitive photopolymer layer of PVA/urethane base composition, manufactured to produce an etched surface with 1/32" relief copy and/or Braille dots after exposure to ultraviolet light, and with a minimum 95 Shore D durometer hardness rating. Photopolymer to be processed and baked to factory specifications only. Wash and post-wash exposed materials in accordance with manufacturer's instructions. Contact Nova Polymers at www.novapolymers.com, or call

(888) 484-6682. Foil stamping is an acceptable substitution.

2. Sign Face Primer: Provide Matthews #74-777 Tie Bond.
 3. Sign Face Topcoat : Provide Matthews Acrylic Polyurethane.
 4. Text and/or Graphics Finish: Provide multiplastic or other paint silkscreened for high adhesion. Coating shear lines to precisely reflect letterforms and/or graphic outline contours. Foil Stamping is an acceptable option.
 5. Protective Sign Finish: Provide Matthews #SOA-4158 ADA clear, applied per manufacturer's instructions.
- G. Braille:
1. Sign fabricator shall be responsible for the accurate translation of all applicable tactile copy to Contracted Grade 2 Braille that shall comply with CBC Sections 11B-703.3 and 11B-703.4.
 2. Braille dots shall have a domed or rounded shape and shall comply with Table 11B-703.3.1.
 3. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.
 4. Measurement ranges are as follows. Dot base diameter: 0.059 (1.5 mm) to 0.063 (1.6 mm). Distance between two dots in the same cell: 0.090 (2.3 mm) to 0.100 (2.5 mm). Distance between corresponding dots in adjacent cells: 0.241 (6.1 mm) to 0.300 (7.6 mm). Dot height: 0.025 (0.6 mm) to 0.037 (0.9 mm). Distance between corresponding dots from one cell directly below: 0.395 (10 mm) to 0.400 (10.2 mm).
 5. Braille shall be in a horizontal format.
 6. Braille shall be positioned below the corresponding text. If text is multi-lined, braille shall be placed below the entire text. Braille shall be separated 3/8 inch (9.5 mm) minimum and 1/2 inch (12.7 mm) maximum from any other tactile characters and 3/8 inch (9.5 mm) minimum from raised borders and decorative elements.
- H. Fasteners, Hardware and Devices: Stock proprietary fastening devices of approved standard manufacture such as cadmium plated screws, bolts and washers, and stainless steel hinges.
1. Conceal all fasteners except where noted or shown otherwise.
 2. Finish on all exposed devices to match overall sign finish, unless otherwise noted.
 3. Provide vandal-resistant fasteners at all exposed locations unless otherwise noted.
 4. Use fasteners fabricated from metals that are noncorrosive to either the sign material(s) or the mounting surface.
- I. Very High Bond Tape: Provide #4905/.020"/clear and/or #4950/.045"/white closed cell acrylic foam carrier with VHB adhesive, very high solvent resistance and very high shear and peel adhesion, as manufactured by 3M Scotch or approved equal.
- J. Acrylic Polyurethane Paint:
1. Provide acrylic polyurethane with ultraviolet inhibitors and lightfast, weather, abrasion and graffiti resistant additives as manufactured by Matthews Paint Company, (800) 323-6593. Prime and finish coats shall be mixed and applied in accordance with manufacturer's specifications. Paint finish shall be smooth, free of scratches, gouges, drops, bubbles, thickness variations, foreign matter or other imperfections.
 - a. Provide a CCR Title 24 compliant non-glare finish for all interior applications.

- b. Provide a semigloss finish for all exterior applications.
- 2. Colored Coatings for Cast Acrylic Sheet: Use paints for background color which are recommended by acrylic manufacturer for optimum adherence to acrylic surfaces and are non-fading for application intended.
- 3. Design/Build Team shall provide verification of paint manufacturer used for all paint work.
- K. Vinyl Film: Provide opaque reflective or non-reflective vinyl film as indicated, 0.0355" minimum thickness, with pressure sensitive permanent adhesive backing; 3M Scotchcal or approved equal. All colors shall be integral and not surface applied except where custom color(s) are specified in the Drawings. All custom colors shall be flood coated on white vinyl.
- L. Silicone Adhesive: GE Momentive RTV6708 Clear Silicone Adhesive, or approved equivalent.

2.03 FABRICATION

- A. Intent of Specifications: All finished work shall be of the highest quality in order to pass eye-level examination and scrutiny by Owner's Representative.
 - 1. All Work shall be free from burrs, dents, raw edges and sharp corners.
 - 2. Finish all welds on exposed surfaces as required so they are not visible in the finished Work.
 - 3. Finish all surfaces smooth unless otherwise indicated or specified.
 - 4. Surfaces which are intended to be flat, shall be free from bulges, oil canning, gaps or other physical deformities. Such surfaces shall be fabricated to remain flat under installed conditions.
 - 5. Surfaces which are intended to be curved, shall be smoothly free-flowing to the required shape(s).
 - 6. Fabricate all cabinets, panels and components with smooth, mechanically finished edges. All edges shall be true, and all corners shall be square. Where edges are specified to be painted, fill and sand smooth as required prior to painting.
 - 7. Cut routed letterforms and/or graphics clean and true to match adjacent surface-applied letterforms and/or graphics.
 - 8. Fabricate all internally illuminated sign cabinets as required to provide a weather-tight housing for all lighting and electrical components.
 - 9. Exercise care to protect all polished and/or plated surfaces so that they remain unblemished in the finished work.
 - 10. Isolate dissimilar materials. Exercise particular care to isolate nonferrous metals from ferrous metals as required to prevent corrosion.
 - 11. All surfaces shall be flat to a tolerance of plus or minus 1/16' when measured at any point with a ten foot straight edge.
 - 12. All visible sign surfaces of the same type shall have the same finish. Color and/or finish shall be consistent across the entire surface of a sign.
 - 13. All reveals shall be of uniform width; all butt joints shall be tight and closed along the entire length; all access panels shall have a nominal, uniform gap all around.
 - 14. All expansion joints, when required, shall be positioned so as not to interfere with the look or finish of any sign message or the overall appearance of the sign face.
 - 15. All gaps between milled components, when assembled, shall not exceed a tolerance of

.005”.

- B. Provide colors and/or finish textures as specified or indicated in the Drawings or, where not specified or indicated, as selected by Owner's Representative.
 - 1. Interior Colors/Finishes: Colors of sign graphics (text, arrows and/or symbols) shall have a minimum of 70% contrast with sign background behind graphics. Finish shall be non-glare on all sign backgrounds behind graphics on identifications and directional signs.
- C. Graphics: All text, arrows and symbols shall be provided in the sizes, colors, typefaces and spacing specified in the Drawings. All text shall be a true, clean, digitally or photomechanically accurate reproduction of the typeface(s) specified, with letterspacing and directional arrows as shown in the Drawings.
 - 1. Lettering: Custom Typography: Per campus approved fonts.
 - 2. Arrows and Symbols: Use digital files provided by Owner's Representative in Adobe Illustrator CS6.
- D. Sign Schedule: Copy shown in the Drawings is for layout purposes only; all final copy, quantities and references for all signs are shown in the Sign Schedule unless otherwise noted. The Sign Fabricator shall clarify any perceived irregularities in the Sign Schedule with the Owner's Representative prior to fabrication.
- E. Digital Artwork: All digital artwork files prepared by the Owner's Representative for the Sign Fabricator's use shall be in a single layer. Any and all manipulations of the files required for subsequent use by the Sign Fabricator, such as spreads and traps for screened negatives, or conversion to outline or EPS, shall be the responsibility of same unless explicitly agreed otherwise by the Owner's Representative.

PART 3: EXECUTION

3.01 INSPECTION

- A. Owner's Representative reserves the right to inspect the Work in the Sign Fabricator's shop before it is shipped to the job site for installation.
- B. Sign Fabricator shall inspect all installation locations for conditions that will adversely affect the execution, permanence and/or quality of the Work, and notify Owner's Representative in writing of any and all unsatisfactory conditions. Sign Fabricator shall not proceed with installation until said unsatisfactory conditions have been corrected. Commencement of installation indicates acceptance of site conditions and guarantees delivery of an acceptable product.
- C. Signs and identification devices shall be field inspected after installation and approved by the enforcing agency prior to the issuance of a final certificate of occupancy per Chapter 1, Division II, Section 111, or final approval where no certificate of occupancy is issued. The inspection shall include, but not be limited to, verification that braille dots and cells are properly spaced and the size, proportion and type of raised characters are in compliance with these regulations.

3.2 Sign Locations

- A. Tactile characters on signs shall be located 48 inches (1220 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest Braille cells and 60 inches (1525 mm) maximum above the finish floor or ground surface, measured from the baseline of the highest line of raised characters as per CBC 11B-703.4.

- B. Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side. Where a tactile sign is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a tactile sign is provided at double doors with two active leaves, the sign shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall.
- C. Signs containing tactile characters shall be located so that a clear floor space of 18 inches (455 mm) minimum by 18 inches (455 mm) minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position. Where permanent identification signage is provided for rooms and spaces they shall be located on the approach side of the door as one enters the room or space. Signs that identify exits shall be located on the approach side of the door as one exits the room or space.
- D. Symbols on restroom doors shall be located in compliance with CBC 11B-703.7.2.6: Center of sign to be 60 inches above finished floor. Sign to be centered left to right on door.
- E. Firefighters' Information signs in enclosed stairwells shall be located in compliance with Title 19: Bottom of sign to be 4'-0" above stair landing floor or as directed by Fire Department. Sign shall be placed beyond door swing for optimal visibility from stair legs above and below landing.
- F. Emergency Evacuation Map: Bottom of sign to be 4'-0" above finish floor or as directed by Fire Department.

3.02 INSTALLATION

- A. For ADA Signs: ADA sign are to mounted 60" to top of sign, centered on 18" from edge of door on the latch side, so that a person may approach without encountering protruding objects within the door swing. If no space is available on the latch side of the door, the sign can be placed on the opposite side of the door as stated above. Tactile copy baseline and Braille copy are to be placed no higher then 60" to the baseline or 48" to the bottom of the Braille copy.
- B. Pre-installation Walkthrough / Field-Staking: Attend a pre-installation walkthrough at the job site to confirm all typical installation conditions and determine installation locations for nontypical conditions. The exact locations for all exterior signs will be determined and field-staked at this time. Do not begin excavation for the footing for any exterior sign until the field-staked location has been approved by the Owner's representative.
- C. Provide reinforced concrete footings where required, with plan dimensions as shown and depth as specified by Engineer. Use Sonotube type form-work for post and panel signs at all landscape locations; core drill and set post(s) in epoxy grout at all hard scape locations.
- D. Where a concrete footing is level with finished grade to serve as a mow strip, slope the top of the footing away from the sign cabinet or post(s) minimally as required for drainage and to prevent puddling.
- E. Securely attach all signs to footings or site work in accordance with Engineer's specifications.
- F. Fence Mount: Securely attach all signs to signs or fences in accordance with Engineer's specifications.

3.03 SITE CLEANUP

- A. Final cleanup:

1. Clean and/or repair all evidence of installation work or damage to site work or other adjacent surfaces prior to completion of work.
2. Clean up work area after all installation has been completed. Restore all disturbed ground cover.
3. Remove all protective materials and dispose of properly off site.

3.04 CLEANING AND PROTECTION

- A. At completion of installation, clean all sign surfaces in accordance with manufacturer's instructions.
- B. Protect all signs from damage until acceptance by Owner's Representative; repair or replace damaged units as required.
- C. Clean and/or repair all evidence of installation work or damage to adjacent surfaces prior to completion of work.
- D. Remove all protective materials and dispose of properly off site.

3.05 LIMITED ONE-YEAR WARRANTY

- A. The fabricator shall warranty any defect due to faulty material or workmanship for one year from date of invoice. The fabricator shall repair or replace the product without charge, providing it has been installed according to design and installation specifications. The fabricator shall be responsible for removal and reinstallation costs of said product.

3.06 CONTRACT CLOSE-OUT ITEMS

- A. Provide Owner with one quart of paint for each paint color specified.
- B. Provide Owner with written instructions for proper cleaning of the signs, including cleaning solution, tools, and/or materials. Note any solvents that should not be used.

END SECTION

SECTION 26 0000

ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes furnishing and installing all materials and equipment and provides all labor to complete the work shown on the drawings and/or specified for a complete installation. Items not specifically mentioned, but reasonably inferred for a complete installation, including all accessories required for testing are included. It is the intent of the drawings and specifications that all systems are complete, and ready for operation.

1.3 CONDITIONS & REQUIREMENTS

- A. Refer to the General Conditions and Supplementary General Conditions.
- B. Provisions of this Section apply to all Sections of Division 26.

1.4 DEFINITIONS (APPLICABLE TO DRAWINGS AND SPECIFICATIONS)

- A. Above Grade: Not buried in ground and not embedded in concrete slab on grade.
- B. Below Grade: Buried in ground or embedded in concrete slab on grade.
- C. Concealed: Inside building above grade and located within walls, furred spaces, crawl spaces, attics, above suspended ceilings, etc. In general, any item not visible or directly accessible.
- D. Connect (verb): Make electrical connections including conduit, wire and other accessories.
- E. Exposed: Either visible or subject to mechanical or weather damage, indoors or outdoors, including areas such as mechanical and storage rooms. In general, any item that is directly accessible without removing panels, walls, ceilings, or other parts of structure.
- F. Furnish: Supply and deliver a specified item.
- G. Install: Place, secure and connect as required to make fully operational.
- H. Luminaire: Complete lighting unit, not including the mounting pole or arm.
- I. Project Manager: Representative of the Owner with overall responsibility for the project.
- J. Provide: Furnish and install as defined above; perform work.
- K. Underground: Buried in ground, including under building slabs.
- L. Use (verb): Furnish and install as defined above.
- M. Wiring: Electrical raceway, conductors and connections.

1.5 SCOPE OF WORK

- A. Furnish and install all materials and equipment and provide all labor to complete the work shown on the drawings and/or specified for a complete installation. Items not specifically mentioned, but reasonably inferred for a complete installation, including all accessories required for testing are included. It is the intent of the drawings and specifications that all systems are complete, and ready for operation.

1.6 RELATED WORK

- A. Trenching, Backfilling, and Compacting: See Civil Specifications

1.7 CODE COMPLIANCE

- A. All work and materials shall comply with the latest rules, codes and regulations, including, but not limited to, the following:
 - 1. Occupational Safety and Health Act Standards (OSHA).
 - 2. Title 24, Part 3 - California Electrical Code (CEC).
 - 3. Title 24, Part 2 - California Building Code (CBC).
 - 4. Applicable Federal, State and local laws and regulations.
 - 5. Americans with Disabilities Act (ADA).
- B. Code compliance is mandatory. Nothing in these Drawings and Specifications implies acceptance of work not conforming to these codes. Where work is shown to exceed minimum code requirements, comply with drawings and specifications.
- C. Do not conceal any work until after inspection and approval by proper authorities. If work is concealed without inspection and approval, open and restore the concealed areas and make the required modifications without cost to the Owner.

1.8 PERMITS AND FEES

- A. Arrange for required inspections and pay all permit and inspection fees except as directed by the Architect.

1.9 CONDITIONS AT SITE

- A. Arrange for location of Owner's existing services prior to excavation. Promptly repair lines that are damaged as a result of this work at no expense to and the complete satisfaction of the Owner.

1.10 DRAWINGS AND SPECIFICATIONS

- A. All drawings and all Divisions of these specifications shall be considered as a whole and all electrical work is included under this Division.
- B. Drawings are diagrammatic and indicate the general arrangement of equipment and wiring. Most direct routing of conduits and wiring is not assured. Exact requirements shall be governed by architectural, structural and mechanical conditions of the job. Consult all other drawings in preparation of the bid. Include extra lengths of wiring or addition of pull or junction boxes, etc., required by field conditions bid. Check all information and report any apparent discrepancies before submitting bid.
- C. Right is reserved to make change up to ten feet in location of any outlet or equipment prior to roughing-in without increasing contract cost.

1.11 SAFETY

- A. The Contractor is solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement applies continuously and is not limited to normal working hours.
- B. No act, service, drawing review, or construction review is intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

1.12 HAZARDOUS MATERIALS

- A. If hazardous materials are discovered or suspected, protect the equipment from damage and report the conditions to the Project Manager.

1.13 CHANGES BY CONTRACTOR

- A. Submit scaled drawing(s), sketches, and product data prior to installation of any proposed modifications to equipment layouts, device locations, conduit routing, or conductor groupings. All proposed modifications shall be approved by Architect and Owner prior installation. Refer to Division 01.

1.14 RECORD DRAWINGS

- A. Comply with the requirements of Division 01 – Project Record Documents. Maintain a separate set of electrical drawings at the job site at all times to be used as record drawings. Keep this set current with all changes and additions and deliver to the Project Manager at the completion of the job. Keep the record drawings clean.

1.15 SUBMITTAL REQUIREMENTS

- A. Refer to Division 01 – Submittal Requirements.
- B. Submit shop drawings and product descriptive literature as specified for review:
 - 1. Transformers
 - 2. Panelboards
 - 3. Circuit Breakers
 - 4. Electrical Enclosures and Controls
 - 5. Underground pull boxes and lids
- C. Do not submit generic product literature without prominently marking the specific items, sizes, and configurations proposed for the project. Items that are not applicable shall be redacted or crossed-out.
- D. Review of submittals is for general conformance to design concept and general compliance with Contract Documents. Review comments do not relieve the Contractor from responsibility for compliance with Contract Documents.
- E. Mark all proposed deviations from specifications prominently in the submittals. Deviations not so marked may be disallowed before or after installation of equipment.
- F. Confirm and correlate all quantities and dimensions, select fabrication processes and techniques of construction. Where dimensions of proposed equipment differ significantly from that shown on contract documents, submit scaled drawings showing proposed layout of equipment with shop drawing submittal.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. The design, manufacture and testing of electrical equipment and materials shall conform to or exceed latest applicable NEMA, IEEE and ANSI standards.
- B. All materials shall be new and listed and labeled by Underwriters Laboratories (UL).
- C. Materials that are not covered by UL testing standards shall be tested and accepted by an independent testing laboratory or a governmental agency, which laboratory shall be acceptable to the Project Manager and code enforcing authority.

PART 3 - EXECUTION

3.1 WORKMANSHIP AND CONTRACTOR'S QUALIFICATIONS

- A. Only quality workmanship will be accepted. Haphazard or poor installation practice will be cause for rejection of work.
- B. Provide a foreman on the site and in charge of this work at all times.

3.2 COORDINATION

- A. Coordinate work with other trades to avoid conflict and to provide correct rough-in and connection for equipment furnished under trades that require electrical connections. Inform Contractors of other trades of the required access to and clearances around electrical equipment to maintain serviceability and code compliance.
- B. Verify equipment dimensions and requirements with provisions specified under this Section. Check actual job conditions before fabricating work. Report necessary changes in time to prevent needless work. Changes or additions that are made without written authorization and an agreed price are at Contractor's risk and expense.

3.03 MANUFACTURERS' INSTRUCTIONS

- A. Where the Specifications call for an installation to be made in accordance with manufacturers' recommendations, keep a copy of such recommendations on the site and available to the Project Manager.
- B. Follow manufacturers' instructions where they cover points not specifically indicated on drawings and specifications. If they are in conflict with the drawings and specifications, obtain clarification from the Project Manager before starting work.

3.04 QUALITY ASSURANCE

- A. Provide a meaningful Quality Assurance program. The Specifications include minimum acceptable requirements; take other Quality Assurance measures to obtain a complete operating facility within the scope of this project.
- B. Insure that all workmanship, all materials employed, all required equipment, and the manner and method of installation conforms to accepted construction and engineering practices. Verify that each piece of equipment is in working condition and satisfactorily performs its intended function.

3.5 CUTTING AND PATCHING

- A. All cutting and patching required for work of this Division shall be included. Coordinate with other trades and bear the responsibility for and the added expense of adjusting for improper holes, supports, etc.
- B. Notify Architect prior to performing any work that may affect the strength of a structural member.
- C. Make repairs and patches to match the quality and appearance of the original work.

3.6 SEISMIC RESTRAINT

- A. Provide structural design and installation for all anchorage of electrical equipment per Title 24, Part 2 California Building Code (CBC).
- B. Provide vibration isolators with seismic restraints at transformers, and other vibrating equipment except where isolators are provided by the manufacturer.

3.07 ACCEPTANCE DEMONSTRATION

- A. Upon completion of the work, at a time to be designated by the Project Manager, demonstrate the operation of the installation, including any and all items installed. Allow a minimum of eight hours of demonstration time.
- B. This demonstration by the Electrical Contractor is in addition to the "Start-Up" service to be provided by the manufacturers specified in the specific sections of Division 26.

END OF SECTION

SECTION 26 0519

LOW-VOLTAGE ELECTRICAL CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. General building wire.
- B. Metal-clad cable (Type MC)
- C. Flexible cord/cable (Type 'S').
- D. Pull cord.
- E. Wire splices, joints and terminations.

1.3 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code (NEC)
- B. Part 3, Title 24, California Electrical Code (CEC)
- C. Underwriters Laboratories, Inc. (UL):
 - 1. UL-83, UL-44 - Thermoplastic-Insulated Wire and Cables.
 - 2. UL-4 - Armored Cable.
 - 3. UL-486A - Copper Connectors and Lugs.

1.4 SUBMITTALS

- A. Comply with provisions of Section 01 32 19 – Submittal Procedures.
- B. Provide manufacturer's literature describing products.
 - 1. Wire, cable and flexible cord.
 - 2. Wire splicing and termination materials.
 - 3. Installation, Operation & Maintenance Manuals

1.5 QUALITY ASSURANCE

- A. Provide materials that are new and unused.
- B. Manufacturer: Company specializing in manufacturing products specified in this Section with 3 years of experience.

1.6 PROJECT CONDITIONS

- A. Wire and cable routing shown on the Drawings is approximate. Route wire and cable as required to meet Project Conditions. Provide field measurements independent of the Contract Drawings.
- B. Conductor sizes are based on copper.
- C. When wire and cable routing is not shown, and destination only is indicated, determine exact routing and lengths required.

1.7 COORDINATION

- A. Determine required separation between cable and other work.
- B. Determine cable routing to avoid interference with other work.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide wire, cable and connectors that bear the UL label or listing.
- B. Provide wire and cable with 600 volt insulation rating unless otherwise noted.

2.2 BUILDING WIRE AND CABLE

- A. Description: Single conductor insulated wire.
- B. Conductor: Copper
- C. Insulation Voltage Rating: 600 volts.

2.3 PULL CORD

- A. Empty branch circuit or system conduits: Provide mildew resistant polypropylene line, minimum 210 pound tensile strength. Greenlee Poly-Line or equal.
- B. Empty feeder conduits or ducts: Provide mildew resistant polypropylene rope, minimum 1/4-inch diameter. Durlaine or equal.

2.4 WIRE SPLICES, JOINTS AND TERMINATIONS

- A. Insulated Spring Connectors:
 - 1. Wire connections for 8 AWG and smaller.
 - 2. Electrical spring connector insulated with a color-coded, pliable, vinyl skirt. 3M/Scotchlok or equal.
 - 3. Self-striping pigtail and tap connectors are not permitted.
- B. Bolted Pressure Connectors:
 - 1. Copper wire and cable connections. Provide split-bolt for 6 AWG through 4/0 AWG and two-piece connector for 250 AWG and larger. Burndy Type KS/KVS or equal.

- C. Compression Type Terminating Lugs:
 - 1. Copper wire and cable connections as required. Use long barrel type, tin plated copper compression lugs having color-keyed tool die index marking. Provide 1-hole lugs for 8 AWG through 4/0 AWG. Provide 2-hole lugs for 250 AWG and larger. Use minimum of three crimps per lug or as recommended by the manufacturer. T & B Series 54800/54900 or equal.
 - 2. Notch or single point type crimping is not permitted.

- D. Splicing and Insulating Tape (600 Volts and Below):
 - 1. Provide black, ultraviolet proof, self-extinguishing, 7 mil thick vinyl general purpose electrical tape. Suitable for temperatures from minus 18 degrees C to 105 degrees C. Scotch 33 Plus or equal.

- E. Insulating Compound (600 Volts and Below):
 - 1. Vinyl Mastic: Self-fusing, rubber-based insulating compound, laminated to an all-weather grade vinyl (PVC) backing. 3M/Scotch 2200 Series or equal.
 - 2. Insulation Putty: Electrical grade, rubber-based, elastic-type putty in tape form. 3M Scotchfil or equal.

- F. Insulating Resin:
 - 1. Use two-part liquid epoxy resin with resin and catalyst in premeasured, sealed mixing pouch. Scotchcast 4 or equal.
 - 2. Use with thermal and dielectric properties equal to the insulating properties of the cables immersed in the resin.

- G. Terminal Strips:
 - 1. Provide box type rail mounted terminal block system. Furnish required quantity plus 25 percent spare. Install using continuous rows method in terminal cabinets. Provide ampere ratings as required. T & S Series HR, GR, or equal.
 - 2. Identify all terminals with same numbering sequence being used for a particular system. Use marking strips to identify terminals.

- H. Crimp Type Connectors:
 - 1. Provide insulated fork or ring crimp terminals with tinned electrolytic copper-brazed barrel, funnel wire entry and insulation support. T & B RA Series or equal.
 - 2. Fasten crimp type connectors or terminals using a crimping tool recommended by the connector manufacturer.
 - 3. Provide insulated overlap splices with tinned seamless electrolytic copper barrel with funnel wire entry and insulation support. T & B Series R or equal.
 - 4. Provide insulated butt splices with tinned seamless electrolytic copper barrel with center stop, funnel wire entry and insulation support. T & B Series R or equal.

- I. Cable Ties:
 - 1. Provide harnessing and point-to-point wire bundling using cable ties approved for use and with fire and smoke spread rating for the location. Install ties using tool supplied or recommended by the manufacturer of ties.

- J. Wire Lubricating Compound:
 - 1. UL listed for the wire insulation and conduit type. Ideal, CRC or equal.

PART 3 - EXECUTION

3.1 GENERAL WIRING METHODS

- A. Install products in accordance with manufacturer's instructions.
- B. Use Type THHN-2/THWN-2 insulation for feeder and branch circuit wiring.
- C. Use stranded conductors for control circuits, connection to motors and vibrating equipment.
- D. Use conductor not smaller than 12 AWG for power and lighting circuits.
- E. Use conductor not smaller than 16 AWG for control circuits.
- F. Use suitable wire pulling lubricant for building wire 4 AWG and larger.
- G. Parallel feeders: Install phase conductors and neutral conductors so that they are equal in length and identical in all ways.
- H. Provide adequate length of conductors within electrical enclosures and train the conductors to terminal points with no excess. Bundle multiple conductors; conductors larger than 10 AWG, bundle in individual circuits. Make terminations so there is no bare conductor visible at the terminal.
- I. Minimum conductor size for 20 ampere power and lighting branch circuits having 10 or fewer current carrying conductors:
 - 1. Use 10 AWG conductors for 120 volt branch circuits longer than 75 feet.
 - 2. Use 10 AWG conductors for 277 volt branch circuits longer than 200 feet.
- J. Provide 10 AWG pig tails on all 20A and 30A wiring devices served by 8 AWG conductors and larger.
- K. Splice cables and wires only in outlet boxes, junction boxes, pull boxes, manholes, or hand holes. When more than one neutral is present, group and bundle each neutral with its associated phase conductors.
- L. Install cable supports for all vertical feeders in accordance with the NEC. Provide split wedge type fittings which firmly clamps each individual cable and tightens due to cable weight.
- M. Panelboards, cabinets, wireways, switches, and equipment assemblies. Neatly form, train, and tie the cables in individual circuits. Use nylon ties for securing cable/wire bundles.
- N. Seal cable or wire, entering a building horizontally from underground or exiting walk-in cold box or freezer, using non-hardening approved compound, duct seal or equal. Seal at nearest box or panelboard raceway termination.
- O. Use connectors with ampacity and temperature ratings equal to or greater than the wires that are being terminated.
- P. Terminate stranded wire using fittings, lugs or devices listed for the application. Do not terminate stranded wire by wrapping it around a screw or bolt.
- Q. Flexible cords and cables supplied as part of a pre-manufactured fixture or unit assembly: Install according to manufacturer's published installation instructions.

3.2 WIRING INSTALLATION IN RACEWAYS

- A. Pull all conductors into a raceway at the same time. Exercise care in pulling conductors so that insulation is not damaged.

- B. Use UL listed, non-petroleum base and insulating type pulling compound as needed.
- C. Completely mandrel all underground or concrete encased conduits prior to installing conductors.
- D. Completely and thoroughly swab raceway system before installing conductors.
- E. Do not use block and tackle, power driven winch or other mechanical means for pulling conductors smaller than 2 AWG.
- F. Wire Pulling:
 - 1. Provide installation equipment that will prevent the cutting or abrasion of insulation during pulling of cables.
 - 2. Use rope made of nonmetallic material for pulling feeders.
 - 3. Attach pulling lines for feeders by means of either woven basket grips or pulling eyes attached directly to the conductors.
 - 4. Pull in together multiple conductors or cables in a single conduit.
 - 5. Use wire-pulling compound as lubricant for installing wires and cables in raceways. Use of oil, grease, graphite, or similar substances is not permitted.
- G. Install and test all cables in accordance with manufacturer's instructions and warranty.

3.3 WIRE SPLICES, JOINTS, AND TERMINATION

- A. Join and terminate wire, conductors, and cables in accordance with UL 486A, B, & C, CEC and manufacturers' instructions.
- B. Thoroughly clean wires before installing lugs and connectors
- C. Make splices, taps and terminations to carry full ampacity of conductors, without noticeable temperature rise.
- D. Make splices and termination mechanically and electrically secure.
- E. Where determined that unsatisfactory splices or terminations have been installed, remove the devices and install approved devices at no additional cost.
- F. Terminate wires in terminal cabinets, relay and contactor panels using terminal strip connectors.
- G. Bundle spare conductors using nylon ties. Leave sufficient length to terminate anywhere in the panel or cabinet.
- H. Use nylon cable ties for bundling and securing wire and cable as required to maintain harnessing.
- I. Encapsulate below grade splices at outlet, pull and junction boxes using specified insulating resin kits. Make all splices watertight for exterior equipment and equipment in pump rooms.
- J. Make up all splices and taps in accessible junction or outlet boxes with specified connectors. Use same color pigtailed and wire tap as the feed conductor. Form conductor prior to cutting. Provide at least 6 inches of tail and neatly packed in box after splice is made up.
- K. 8 AWG and smaller conductor connections:
 - 1. Connectors: Solderless, screw-on, reusable spring pressure cable type, 600 volt, 105 degree C. with integral insulation, approved for copper conductors.
 - 2. The integral insulator to completely cover the stripped wires.

3. The number, size, and combination of conductors, as listed on the manufacturers packaging shall be strictly complied with.
- L. 6 AWG and larger conductor connections:
1. Join or tap conductors using bolted pressure connectors or compression (hi-press) taps specified. Cover using moldable insulating compound and overwrapped with two half-lapped layers of vinyl insulating tape.
 2. Terminate conductors from size 6 AWG to 750 MCM copper using bolted pressure or mechanical compression lugs in accordance with manufacturer's instructions.
 3. Cable sizes 250 MCM and larger. Use not less than two clamping elements or compression indents per wire for connectors.
 4. Insulate splices and joints with materials approved for the particular use, location, voltage and temperature. Insulate with not less and that of the conductor level that is being joined.
 5. Use hydraulic crimping tool for making compression indents. Burndy Series Y35 Hypress or equal.
 6. Apply oxide inhibiting compound to conductors before joining, installing compression lugs or making terminations.
- M. Termination Hardware Assemblies:
1. AL/CU lugs connected to copper bus. Secured using a steel bolt, flat washer (two per bolt), Belleville washer, and nut.
 2. Copper lugs connected to copper bus. Secured using silicon bronze alloy bolt, flat washer (two per bolt), Belleville washer, and nut.
 3. Install Belleville washer crown under the nut.
 4. Torque bolted assemblies using the manufacturer's recommendations. In the absence of such recommendations, use torque values listed in UL 486 Standards.
 5. Apply silicon spray or other suitable lubricant before torquing bolts. Clean bolt surface after torquing. Mark torqued bolt heads using red or pink lacquer paint. Torque Seal or equal.

3.4 IDENTIFICATION

- A. Refer to Section 26 0553 – Identification for Electrical Systems for additional information.
- B. Securely tag all branch circuits, noting the purpose of each. Mark conductors with specified vinyl wrap-around markers. At each accessible location, mark each conductor with the corresponding circuit number.
- C. Provide terminal strips with write on marking strips.

3.5 HOMERUNS

- A. Permissible to combine up to 10 branch circuits for an individual homerun.
- B. Adjust branch circuit conductor ampacity in accordance to NEC Article 310. Provide higher ampacity conductor sizes as needed.

3.6 SLEEVE-SEAL INSTALLATION

- A. Install to seal underground exterior-wall penetrations.
- B. Use type and number of sealing elements recommended by manufacturer for cable material and size. Position cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space

between cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.7 FIELD QUALITY CONTROL

- A. Perform tests and inspections and prepare test reports.
- B. Tests and Inspections:
 - 1. After installing conductors and cables and before electrical circuitry has been energized, test conductors for compliance with requirements.
 - 2. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
- C. Test Reports: Prepare a written report to record the following:
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Test results that do not comply with requirements and corrective action taken to achieve compliance with requirements.
- D. Remove and replace malfunctioning units and retest as specified above.

END OF SECTION

SECTION 26 0526

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes methods and materials for grounding systems and equipment.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Field quality-control test reports.

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.1 CONDUCTORS

- A. Insulated Conductors: Copper wire or cable insulated for 600V unless otherwise required by applicable Code or authorities having jurisdiction.
- B. Bare Copper Conductors:
 - 1. Solid Conductors: ASTM B 3.
 - 2. Stranded Conductors: ASTM B 8.
 - 3. Tinned Conductors: ASTM B 33.
 - 4. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch in diameter.
 - 5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
 - 6. Bonding Jumper: Copper tape, braided conductors, terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.
 - 7. Tinned Bonding Jumper: Tinned-copper tape, braided conductors, terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.

2.2 CONNECTORS

- A. Listed and labeled by a nationally recognized testing laboratory acceptable to authorities having jurisdiction for applications in which used, and for specific types, sizes, and combinations of conductors and other items connected.
- B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, bolted pressure-type, with at least two bolts.
 - 1. Pipe Connectors: Clamp type, sized for pipe.
- C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

2.3 GROUNDING ELECTRODES

- A. Ground Rods: Copper-Clad; minimum 5/8 inch diameter, 10 feet.

PART 3 - EXECUTION

3.1 APPLICATIONS

- A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger, unless otherwise indicated.
- B. Underground Grounding Conductors: Install bare copper conductor, No 2/0 AWG minimum. Bury at least 24 inches (600 mm) below grade.
- C. Conductor Terminations and Connections:
 - 1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
 - 2. Underground Connections: Welded connectors, except at test wells and as otherwise indicated.
 - 3. Connections to Ground Rods at Test Wells: Bolted connectors.
 - 4. Connections to Structural Steel: Clamped or welded connectors.

3.2 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:
 - 1. Feeders and branch circuits.
 - 2. Lighting circuits.
 - 3. Receptacle circuits.
 - 4. Single-phase motor and appliance branch circuits.
 - 5. Three-phase motor and appliance branch circuits.
 - 6. Flexible raceway runs.
 - 7. Busway Supply Circuits: Install insulated equipment grounding conductor from grounding bus in the switchgear, switchboard, or distribution panel to equipment grounding bar terminal on busway.
 - 8. Electronic Equipment Circuits: Install insulated equipment grounding conductor in branch-circuit runs from equipment-area power panels and power-distribution units.

9. Audio Equipment: Install insulated isolated grounding conductor in runs from power panel to company switch grounding conductor terminal.
- B. Isolated Equipment Enclosure Circuits: For designated equipment supplied by a branch circuit or feeder, isolate equipment enclosure from supply circuit raceway with a nonmetallic raceway fitting listed for the purpose. Install fitting where raceway enters enclosure, and install a separate insulated equipment grounding conductor. Isolate conductor from raceway and from panelboard grounding terminals. Terminate at equipment grounding conductor terminal of the applicable derived system or service, unless otherwise indicated.
- C. Signal and Communication Equipment: For telephone, alarm, voice and data, and other communication equipment, provide No. 4 AWG minimum insulated grounding conductor in raceway from grounding electrode system to each service location, terminal cabinet, wiring closet, and central equipment location.
 1. Terminal Cabinets: Terminate grounding conductor on cabinet grounding terminal.
- D. Metal Poles Supporting Outdoor Lighting Fixtures: Install grounding electrode and a separate insulated equipment grounding conductor in addition to grounding conductor installed with branch-circuit conductors.

3.3 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- B. Ground Rods: Drive rods until tops are 2 inches (50 mm) below finished floor or final grade, unless otherwise indicated.
 1. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating, if any.
 2. For grounding electrode system, install at least 3 rods spaced at least one-rod length from each other and located at least the same distance from other grounding electrodes, and connect to the service grounding electrode conductor.
- C. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance, except where routed through short lengths of conduit.
 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install so vibration is not transmitted to rigidly mounted equipment.
 3. Use exothermic-welded connectors for outdoor locations, but if a disconnect-type connection is required, use a bolted clamp.

3.4 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections and prepare test reports:
 1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
 2. Test completed grounding system at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal, and at ground test wells.

- a. Measure ground resistance not less than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.
 - b. Perform tests by fall-of-potential method according to IEEE 81.
- B. Report measured ground resistances that exceed the following values:
1. Power and Lighting Equipment or System with Capacity 500 kVA and Less: 5 ohms.
 2. Power and Lighting Equipment or System with Capacity 500 to 1000 kVA: 5 ohms.
 3. Power Distribution Units or Panelboards Serving Electronic Equipment: 3 ohms.
- C. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Owner promptly and include recommendations to reduce ground resistance.

END OF SECTION

SECTION 26 0533

RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

1.3 SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.
- B. Installation, Operation & Maintenance Manuals

1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 METAL CONDUIT AND TUBING

- A. Rigid Steel Conduit: ANSI C80.1.
- B. EMT: ANSI C80.3.
- C. LFMC: Flexible steel conduit with PVC jacket.
- D. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.
 - 1. Fittings for EMT: Steel compression or set-screw type.

2.2 NONMETALLIC CONDUIT AND TUBING

- A. ENT: NEMA TC 13.

- B. RNC: NEMA TC 2, Type EPC-40-PVC, unless otherwise indicated.
- C. LFNC: UL 1660.
- D. Fittings for ENT and RNC: NEMA TC 3; match to conduit or tubing type and material.
- E. Fittings for LFNC: UL 514B.

2.3 METAL WIREWAYS

- A. Description: Sheet metal sized and shaped as indicated, NEMA 250, Type 1, unless otherwise indicated.
- B. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- C. Wireway Covers: Screw-cover type, or as indicated.
- D. Finish: Manufacturer's standard finish.

2.4 NONMETALLIC WIREWAYS

- A. Description: PVC plastic, extruded and fabricated to size and shape indicated, with snap-on cover and mechanically coupled connections with plastic fasteners.
- B. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

2.5 BOXES, ENCLOSURES, AND CABINETS

- A. Cast-Concrete Pull and Junction boxes.
- B. Cast-Metal Access, Pull, and Junction Boxes: NEMA FB 1, cast aluminum with gasketed cover.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Outdoors: Apply raceway products as specified below, unless otherwise indicated:
 - 1. Exposed Conduit: Rigid Steel Conduit.
 - 2. Concealed Conduit, Aboveground: EMT.
 - 3. Underground Conduit: RNC, Type EPC-40-PVC, direct buried.
 - 4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
 - 5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.
- B. Minimum Raceway Size: 3/4-inch (16-mm) trade size.
- C. Raceway Fittings: Compatible with raceways and suitable for use and location.
 - 1. Rigid and Intermediate Steel Conduit: Threaded.

2. EMT: compression or set-screw.

3.2 INSTALLATION

- A. Comply with NECA 1-2000 for installation requirements applicable to products specified in Part 2 except where requirements on Drawings or in this Article are stricter.
- B. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Arrange stub-ups so curved portions of bends are not visible above the finished slab.
- E. Install no more than the equal to of four 90-degree bends in any conduit run except for communications conduits, which shall be equal to two 90-degree bends.
- F. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors.
- G. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire.
- H. Flexible Conduit Connections: Use maximum of 72 inches (1830 mm) of flexible conduit for equipment subject to vibration, noise transmission, or movement; and for transformers and motors.
 1. Use LFMC in damp or wet locations subject to severe physical damage.
 2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.
- I. Maximum conduit fill per Code.

3.3 INSTALLATION OF UNDERGROUND CONDUIT

- A. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through the floor.
 1. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches (75 mm) of concrete.
 2. For stub-ups at equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches (1500 mm) from edge of equipment pad or foundation. Install insulated grounding bushings on terminations at equipment.
 3. Rigid steel conduit in direct contact with earth, sand or encased in concrete shall be PVC-coated conduit and couplings, or double-wrapped with 3M 10-mil tape or equal.
- B. Warning Tape: Bury detectable warning tape approximately 12 inches below grade, above direct-buried conduits. Align tape along the centerline of conduit duct bank.

END OF SECTION

SECTION 26 0553

IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Identification for raceways.
 - 2. Identification of power and control cables.
 - 3. Identification for conductors.
 - 4. Underground-line warning tape.
 - 5. Warning labels and signs.
 - 6. Instruction signs.
 - 7. Equipment identification labels.
 - 8. Miscellaneous identification products.

1.2 SUBMITTALS

- A. Product Data: For each electrical identification product indicated.

1.3 QUALITY ASSURANCE

- A. Comply with ANSI A13.1.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.
- E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

PART 2 - PRODUCTS

2.1 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
- B. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
- C. Write-On Tags: Polyester tag, 0.01-inch thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
 - 1. Marker for Tags: Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.
- D. Snap-Around Labels: Slit, pre-tensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.

- E. Snap-Around, Color-Coding Bands: Slit, pre-tensioned, flexible, solid-colored acrylic sleeve, 2 inches long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.

2.2 UNDERGROUND-LINE WARNING TAPE

- A. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical and communications utility lines.
- B. Printing on tape shall be permanent and shall not be damaged by burial operations.
- C. Tape material and ink shall be chemically inert, and not subject to degrading when exposed to acids, alkalis, and other destructive substances commonly found in soils.
- D. Detectable three-layer laminate, consisting of a printed pigmented polyolefin film, a solid aluminum-foil core, and a clear protective film that allows inspection of the continuity of the conductive core, bright-colored, continuous-printed on one side with the inscription of the utility, compounded for direct-burial service.
- E. 3-Inch Tensile According to ASTM D 882.

2.3 WARNING LABELS AND SIGNS

- A. Comply with NFPA 70E, latest edition.
- B. Baked-Enamel Warning Signs:
 - 1. Preprinted with colors, legend, and size required for application.
- C. Warning label and sign shall include, but are not limited to, the following:
 - 1. Multiple Power Source Warning.
 - 2. Workspace Clearance Warning.
 - 3. Arc Flash Hazard Warning.

2.4 INSTRUCTION SIGNS

- A. Engraved, laminated acrylic or melamine plastic, minimum 1/16-inch thick for signs up to 20 sq. inches and 1/8-inch thick for larger sizes.
- B. Engraved legend with black letters on white face.
- C. Permanent adhesive or mechanical attachment.

2.5 EQUIPMENT IDENTIFICATION LABELS

- A. Engraved phenolic plastic, minimum 1/16-inch thick.
- B. Engraved legend with black letters on white face.
- C. Permanent adhesive or mechanical attachment.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- B. Apply identification devices to surfaces that require finish after completing finish work.
- C. Attach signs and plastic labels with permanent adhesive or mechanical fasteners appropriate to the location and substrate.
- D. Underground-Line Warning Tape: During backfilling of trenches install continuous underground-line warning tape directly above line, nominal 12 inches below finished grade. Use multiple tapes where width of multiple lines installed in a common trench or concrete envelope exceeds 36 inches overall.

3.2 IDENTIFICATION SCHEDULE

- A. Accessible Raceways and Cables within Buildings: Identify the covers of each junction and pull box of the following systems with self-adhesive labels or legible permanent marker. Identify the wiring system legend and voltage. System legends shall be as follows:
 - 1. Power.
 - 2. Lighting.
 - 3. Lighting controls.
 - 4. Communications.
 - 5. Spare.
- B. Power-Circuit Conductor Identification, 600 V or Less: Use color-coded conductor insulation or color-coded vinyl tape at all vaults, pull and junction boxes, manholes, and hand holes.
- C. Color coding:
 - 1. 208Y/120 volt, 3 phase, 4 wire system:
 - a. Phase A - Black
 - b. Phase B - Red
 - c. Phase C - Blue
 - d. Neutral - White
 - e. Ground - Green
 - f. IG Ground - Green with yellow tracer
 - 2. 480Y/277 volt, 3 phase, 4 wire systems:
 - a. Phase A - Brown
 - b. Phase B - Orange
 - c. Phase C - Yellow
 - d. Neutral - Grey
 - e. Ground - Green
 - 3. Switch legs: Use same branch circuit phase color coding, which they are connected to, unless otherwise noted.
- D. Install instructional sign including the color-code for grounded and ungrounded conductors using adhesive-film-type labels.
- E. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
 - 1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
 - 2. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
 - 3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual.

- F. Locations of Underground Lines: Identify with detectable underground-line warning tape for power, lighting, communication, and control wiring and optical fiber cable.
- G. Operating Instruction Signs: Install instruction signs to facilitate proper operation and maintenance of electrical systems and items to which they connect. Install instruction signs with approved legend where instructions are needed for system or equipment operation.
- H. Emergency Operating Instruction Signs: Install instruction signs with white legend on a red background with minimum 3/8-inch-high letters for emergency instructions at equipment used for power transfer.
- I. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.

END OF SECTION

SECTION 26 0800

ELECTRICAL STARTUP AND TESTING

PART 1 - GENERAL

1.1 SUMMARY

- A. The Contractor is responsible for engaging and paying for the services of a recognized independent testing organization for the purpose of performing inspections and tests as herein specified. The tests and inspections are intended to determine that the equipment is suitable for energizing and that all electrical equipment, both Contractor and Owner supplied, is operational within industry and manufacturer's tolerances, is installed according to specifications, and is safe to energize.
- B. Schedule tests and give a minimum of 2-week advance notice to the Project Manager.
- C. The work specified in these specifications may involve hazardous voltages, materials, operations, and equipment. The contractor is responsible for safety on the jobsite.
- D. Perform all tests in the presence of the District's representative, generally the Inspector of Record (IOR) or the Architect. The District reserves the right to require repeat tests that are not witnessed at no additional cost.
- E. Provide acceptance testing for the major components, according to the Standard for Acceptance Testing Specifications, ANSI/NETA ATS-2009. The tests will be performed prior to energizing the new equipment:
 - 1. Transformers, including correct tap settings
 - 2. Secondary Switchboards
 - 3. Low Voltage Cable
 - 4. Circuit Breakers including primary injection for circuit breakers 225A and larger
 - 5. Ground Fault Protection
 - 6. Bolted Connections Torque
 - 7. Grounding Electrode Systems
- F. The intent is that every part of the system is tested prior to energizing. Bring any items that appear to require testing but are not included above to the attention of the Architect.

1.2 CODES, STANDARDS, AND SPECIFICATIONS

- A. All inspections and field tests shall be in accordance with applicable, codes, standards, and specifications except as provided otherwise herein.
 - 1. American National Standards Institute – ANSI
 - 2. ASTM International – ASTM
 - 3. Institute of Electrical and Electronic Engineers – IEEE
 - 4. National Electrical Manufacturers Association – NEMA
 - 5. California Title 24 - California Building Standards Codes
 - 6. ANSI/NFPA 70E Standard for Electrical Safety in the Workplace
 - 7. Occupational Safety and Health Administration – OSHA
 - 8. Underwriters Laboratories, Inc. – UL
 - 9. National Electrical Testing Association – NETA
 - 10. Manufacturers' instruction manuals for the equipment to be tested
 - 11. Startup and Testing as specified in individual Sections of the Specifications

1.3 TESTING ORGANIZATION

- A. The Testing Organization shall be an independent, third party entity which can function as an unbiased testing authority, professionally independent of the manufacturers, suppliers, and installers of equipment or systems being evaluated.
- B. The Testing Organization shall be regularly engaged in the testing of electrical equipment devices, installations, and systems.
- C. The Testing Organization shall use technicians who are regularly employed for testing services.
- D. The Testing Organization shall be certified by the National Electrical Testing Association (NETA).
- E. The Testing Organization shall submit appropriate documentation to demonstrate that it satisfactorily complies with these requirements. Use test forms provided by the District or similar forms approved by the Engineer

1.4 TESTING PERSONNEL

- A. Technicians performing these electrical tests and inspections shall be trained and experienced concerning the apparatus and systems being evaluated. These individuals shall be capable of conducting the tests in a safe manner and with complete knowledge of the hazards involved. They must evaluate the test data and make a judgment on the serviceability of the specific equipment.
- B. Technicians shall be certified in accordance with ANSI/NETA ETT-2000, Standard for Certification of Electrical Testing Personnel. Provide a foreman with a current certification, Level III or higher, in electrical testing at the test site at all times during a test.

1.5 DIVISION OF RESPONSIBILITY

- A. The District will provide the Testing Organization with the following:
 - 1. Protective device settings
 - 2. Test Forms
- B. The Contractor shall provide the Testing Organization with the following:
 - 1. A complete set of electrical plans and specifications, including all change orders.
 - 2. Drawings and instruction manuals applicable to the scope of work.
 - 3. An itemized description of equipment to be inspected and tested.
 - 4. A suitable and stable source of electrical power to each test site.
 - 5. Preliminary low-voltage insulation-resistance, continuity, and low-voltage phase rotation tests prior to and in addition to tests specified herein. Contractor is responsible for proper phase rotation and voltage settings at each building.
 - 6. Provide coordination with the District, IOR, Architect, and the Testing Organization.
 - 7. Site-specific hazard notification and safety training where special conditions exist.
- C. The Testing Organization shall provide the following:
 - 1. All field technical services, tooling, equipment, instrumentation, and technical supervision to perform such tests and inspections.
 - 2. Specific power requirements for test equipment to the Contractor.
 - 3. A timely notification of any system, material, or workmanship that is found deficient based on the results of the acceptance tests.
 - 4. A written record of all tests and a final report.
 - 5. A summary letter indicating that testing is complete and the equipment is deemed safe to energize.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION

3.1 TEST EQUIPMENT

- A. All test equipment shall be capable of producing the reporting requirements of this Section and be in good mechanical and electrical condition.
- B. Field test metering used to check power system meter calibration must be more accurate than the instrument being tested.
- C. Accuracy of metering in test equipment shall be appropriate for the test being performed.
- D. Waveshape and frequency of test equipment output waveforms shall be appropriate for the test to be performed and the equipment to be tested.

3.2 TEST INSTRUMENT CALIBRATION

- A. The Testing Organization shall have a calibration program which assures that all applicable test instruments are maintained within rated accuracy for each test instrument calibrated.
- B. The firm providing calibration service shall maintain up-to-date instrument calibration instructions and procedures for each test instrument calibrated.
- C. The accuracy shall be directly traceable to the National Institute of Standards and Technology (NIST).
- D. Test instrument calibration schedule:
 - 1. Twelve months, maximum.
 - 2. Dated calibration labels shall be visible on all test equipment.
 - 3. Records which show date and results of instruments calibrated or tested must be kept up to date.
 - 4. Calibrating standard shall be of better accuracy than that of the instrument tested.

3.3 TEST REPORT

- A. The test report shall include the following:
 - 1. Summary of project.
 - 2. Description of equipment tested.
 - 3. Description of tests.
 - 4. Test data.
 - 5. Analysis and recommendations.
- B. Test data records shall include the following minimum requirements:
 - 1. Identification of the Testing Organization.
 - 2. Equipment identification.
 - 3. Humidity, temperature, and other conditions that may affect the results of the tests and/or calibrations.
 - 4. Date of inspections, tests, maintenance, and/or calibrations.
 - 5. Identification of the testing technician.
 - 6. Indication of inspections, tests, maintenance, and/or calibrations to be performed and recorded.
 - 7. Indication of expected results when calibrations are to be performed.
 - 8. Indication of as-found and as-left results, as applicable.
 - 9. Sufficient spaces to allow all results and comments to be indicated.

- C. Preliminary or incremental test reports shall be submitted at the discretion of the Testing Organization for verification of format and content in the final report, and at the discretion of the Contractor for incremental energization of equipment and systems.
- D. The Testing Organization shall submit one complete final certified test report at the completion of the project for all testing performed under the acceptance testing contract.

END OF SECTION

SECTION 26 0810

COMMISSIONING OF LIGHTING CONTROL SYSTEMS

PART 1 – GENERAL

1.1 SUMMARY

- A. This Section includes the requirements for commissioning lighting control system and its subsystems and equipment. This Section supplements the general requirements specified in Division 01.
- B. This Section describes the acceptance testing and documentation of the lighting system(s) and outlines the duties and responsibilities of the Contractor for acceptance testing.

1.2 THE COMMISSIONING TEAM

- A. The Commissioning Team shall include:
 - 1. Electrical Contractor's representative.
 - 2. Lighting and lighting controls manufacturer representative(s).
 - 3. Lighting Controls Acceptance Test Technician as defined in California Title 24, Part 6.
 - 4. Inspector of record.
 - 5. Owner's Commissioning Authority (CxA).
 - 6. Owner's Construction or Project Manager.

1.3 SUBMITTALS

- A. General:
 - 1. Comply with Division 01 – Submittal Procedures and Commissioning.
 - 3. Division 25 - Building Management and Control System (BMS).
- B. Prior to functional testing:
 - 1. Submit Complete pre-functional checklists.
 - 2. Submit pre-functional checklists provided by the electrical and Lighting Controls Acceptance Test Technician.

1.4 COORDINATION

- A. The Contractor shall coordinate all major equipment startup and installation with the CxA.

PART 2 – PRODUCTS

2.1 TEST EQUIPMENT

- A. All standard testing equipment required to perform startup and initial checkout and required functional performance testing shall be provided by the Trade Contractor for the equipment being tested.
- B. Datalogging equipment or software required to test equipment shall be provided by the trade Contractor, but shall not become the property of the owner if not an integral part of the system.
- C. All testing equipment shall be of sufficient quality and accuracy to test or measure system performance required by the Contract Documents.

PART 3 – EXECUTION

3.1 TESTING PREPARATION

- A. General procedures are described in the Division 01 – Commissioning.
- B. Pre-functional checklists
 - 1. Contractor shall complete and sign pre-functional checklists for the following equipment and systems:
 - a. Lighting Controls System
 - i. Scene Controls
 - ii. Individual I/O checks and point to point checkout sheet
 - iii. BMS integration points, BMS to LC, end to end
- C. Prerequisites for Testing:
 - 1. Contractor shall certify that lighting systems and their controls are installed, calibrated, and operating according to the contract documents.
 - 2. Contractor shall certify that all other electrical systems identified for functional performance testing have been installed and calibrated and are operating in accordance with the contract documents.

3.2 TESTING

- A. General procedures are described in the Division 01 – Commissioning.
- B. BMS Contractor, Electrical Contractor and Lighting Controls Acceptance Test Technician shall perform the functional performance tests described under observation by the CxA.
- C. The details of these functional performance tests shall be reviewed and refined during the construction phase by the CxA.

33 ELECTRIC LIGHTING FUNCTIONAL PERFORMANCE TESTS

- A. All test in this section are performed with the CxA by the Lighting Controls Acceptance Test Technician, BMS Contractor and Electrical Contractor.
- B. On/Off controls per Sequence of Operations (SOO) as shown in the contract documents.
- C. Each dimming level measured for each zone in at least two locations per light pole. Location and test method to be determined between the electrical engineer of record and the CxA.
- D. Light level verification for non-dimmable areas for each in at least one location per fixture. Location and test method to be determined between the electrical engineer of record and the CxA.
- E. Test each Scene for intended function per contract documents.

END OF SECTION

SECTION 26 0943

NETWORK LIGHTING CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes individually addressable lighting control devices communicating with data-entry and retrieval devices for the controlling and dimming of exterior light fixtures. System shall be addressable to enable controlling and dimming of individual fixtures with the ability to group lights into zones. Lighting control system shall be capable of controlling luminaires including Metal Halide(MH), Fluorescent, LED, and including dimming LED arrays with integrated software. Systems shall interface with existing campus energy management system.

1.3 DEFINITIONS

- A. BACnet: A networking communication protocol that complies with ASHRAE 135.
- B. BAS: Building automation system.
- C. DALI: Digital addressable lighting interface.
- D. Low Voltage: As defined in NFPA 70 for circuits and equipment operating at less than 50 V or for remote-control, signaling and power-limited circuits.
- E. Monitoring: Acquisition, processing, communication, and display of equipment status data, metered electrical parameter values, power/energy evaluation data, event and alarm signals, tabulated reports, and event logs.
- F. PC: Personal computer; sometimes plural as "PCs."
- G. Power Line Carrier: Use of energy to transmit information over transmission lines whose primary purpose is the transmission of power.
- H. Wireless Carrier: Use of RF frequency transmission of information over airwaves.

1.4 SUBMITTALS

- A. Product Data: For control modules, power distribution components, manual switches and plates, and conductors and cables.
- B. Shop Drawings: Detail assemblies of standard components, custom assembled for specific application on this Project.
 - 1. Outline Drawings: Indicate dimensions, weights, arrangement of components, and clearance and access requirements.
 - 2. Block Diagram: Show interconnections between components specified in this Section and devices furnished with power distribution system components. Indicate data communication

- paths and identify networks, data buses, data gateways, concentrators, and other devices to be used. Describe characteristics of network and other data communication lines.
3. Wiring Diagrams: Power, signal, and control wiring. Coordinate nomenclature and presentation with a block diagram.
- C. Coordination Drawings: Submit evidence that lighting controls are compatible with connected monitoring and control devices and systems specified in other Sections.
1. Show interconnecting signal and control wiring and interfacing devices that prove compatibility of inputs and outputs.
- D. Software and Firmware Operational Documentation:
1. Software operating and upgrade manuals.
 2. Program Software Backup: On a magnetic media or compact disc, complete with data files.
 3. Device address list.
 4. Printout of software application and graphic screens.
- E. Operation and Maintenance Data: For lighting controls to include in emergency, operation, and maintenance manuals.
- F. Warranty: Special warranty specified in this Section.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain lighting control module and power distribution components through one source from a single manufacturer.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.6 COORDINATION

- A. Coordinate lighting control components to form an integrated interconnection of compatible components.
1. Match components and interconnections for optimum performance of lighting control functions.
 2. Coordinate lighting controls with existing campus BMS system.
- B. Coordinate lighting control components specified in this Section with components specified in Division 26 Section "Panelboards."

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of lighting controls that fail in materials or workmanship or from transient voltage surges within specified warranty period.
1. Failures include, but are not limited to, the following:
 - a. Failure of software input/output to execute switching or dimming commands.
 - b. Failure of modular relays to operate under manual or software commands.
 - c. Damage of electronic components due to reasonable transient voltage surges.
 2. Warranty Period: Two years from start of Final Completion.

1.8 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Lighting Controllers: Equal to 10 percent of amount installed.

1.9 SOFTWARE SERVICE AGREEMENT

- A. Technical Support: Beginning with Final Completion, provide software support for 2 years.
- B. Upgrade Service: Update software to latest version at Project completion. Install and program software upgrades that become available within 2 years from date of Substantial Completion. Upgrade shall include new or revise licenses for use of the software.
 - 1. Provide 30-day notice to Owner to allow scheduling and access to system and to allow Owner to upgrade computer equipment, if necessary.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Verticus Lighting Control System.
 - 2. Approved equal with network interface for control capabilities, programming, and status reporting through the existing Verticus Lighting Control System, and providing all features and functions with no performance degradation.

2.2 SYSTEM REQUIREMENTS

- A. Performance Requirements: Manual switches, external sensors or other control signal sources send a signal to a PC-based programmable-system control module that processes the signal according to its programming and routes an open, close, and DIM command to one or more relays and drivers in the power-supply circuits, or routes variable commands to one or more dimmers, for groups of lighting fixtures or other loads.
 - 1. System should be accessible from any web browser on a device that has standard access to the internet.

2.3 CONTROL MODULE

- A. Control Module Description: Comply with UL 916 (CSA C22.2, No. 205); microprocessor-based, solid-state, 365-day timing and control unit. Control units shall be programmable and capable of receiving inputs from indicated sensors and external web browser. Output Circuits shall include triacs or relays to regulate power to the driver / ballast, and a separate 0-10V interface for dimming control. Modules and their associated control circuitry shall include the following features:
 - 1. Communication: Power line modem communication or Wireless Communication: IEEE802.15 (ZigBee Mesh);
 - 2. Analog Control: 0-10V output;
 - 3. Sensor inputs: AC (100-277V AC) inputs;
 - 4. Relay Outputs: up to switched load outputs, line voltage; up to 3A per load;
 - 5. Processor Intelligence: Internal chronometer and schedule capability in each controller

6. Interoperability: Lighting control shall be configured to allow individual users to turn lighting on and off with their web browser. Include an override switch for egress lighting option that will provide each user with a lighted path for exiting the building after normal working hours.
7. Software: Lighting control software shall be capable of linking switch inputs to relay outputs, viewing relay output status, controlling relay outputs, simulating switch inputs, and assigning switch input and relay output modes.
8. Automatic Time Adjustment: System shall automatically adjust for leap year and daylight saving time and shall provide weekly routine and annual holiday scheduling.
9. Astronomic Control: Automatic adjustment of dawn and dusk switching.
10. Remote Communication Capability: Allow programming, data-gathering interrogation, status display, and controlled command override from a PC at a remote location over data links, ZigBee networks or power line carrier system shall include communications and control software, and remote computer compatibility verification for this purpose.
11. Local Override Capability: Manual control devices shall override programmed shutdown of lighting and shall override other programmed control for intervals that may be duration. Schedule based commands shall change preset scenes and dimmer settings.
12. Energy Conservation: Bi-level control of special ballasts or dimming circuits to comply with local energy codes.
13. Diagnostics: When system operates improperly, software shall initiate factory-programmed diagnosis of failure and display messages identifying problem and possible causes.

2.4 CONDUCTORS AND CABLES

- A. Power Wiring to Supply Side of Class 2 Power Source: Not smaller than No. 12 AWG, complying with Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."
- B. Classes 2 and 3 Control Cables: Multi-conductor cable with copper conductors not smaller than No. 18 AWG, complying with Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."
- C. Class 1 Control Cables: Multi-conductor cable with copper conductors not smaller than No. 18 AWG, complying with Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."

PART 3 - EXECUTION

3.1 WIRING INSTALLATION

- A. Comply with NECA 1.
- B. Size conductors according to lighting control device manufacturer's written instructions, unless otherwise indicated.
- C. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in terminal cabinets, equipment enclosures, and in junction, pull, and outlet boxes.
- D. Identify components and power and control wiring.

3.2 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust field-assembled components and equipment installation, including connection, and assist in field testing. Report results in writing.

- B. Perform the following field tests and inspections and prepare test reports:
 - 1. Test for circuit continuity.
 - 2. Verify that the control module features are operational.
 - 3. Check operation of local override controls.
 - 4. Test system diagnostics by simulating improper operation of several components selected by Architect.

3.3 SOFTWARE INSTALLATION

- A. Install and program software with initial settings of adjustable values. Make backup copies of software and user-supplied values. Provide current licenses for software.

3.4 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain lighting controls. Refer to Division 01 Section "Demonstration and Training."

END OF SECTION

SECTION 26 2413
INTEGRATED POWER CENTER

PART 1 – GENERAL

1.1 SCOPE

- A. The Contractor shall furnish and install, where indicated, a free-standing, dead-front type low-voltage distribution switchboard, utilizing group mounted circuit protective devices, integrated panelboards, and other equipment as specified herein, and as shown on the contract drawings.

1.2 REFERENCES

- A. The low-voltage distribution switchboards and all components shall be designed, manufactured and tested in accordance with the latest applicable following standards:
1. NEMA PB-2
 2. UL Standard 891

1.3 SUBMITTALS

- A. Comply with provisions of Section 01 3219 – Submittal Procedures.
- B. The following information shall be submitted:
1. Front view elevation
 2. Top view
 3. Single line diagram
 4. Nameplate schedule
 5. Component list
 6. Conduit entry/exit locations
 7. Ratings: Voltage, current, fault duty and withstand
 8. Product data sheets
 9. Seismic certification and equipment anchorage details per California Title 24, Part 2

1.4 QUALIFICATIONS

- A. The manufacturer of the assembly shall be the manufacturer of the major components within the assembly.
- B. For the equipment specified herein, the manufacturer shall be ISO 9001 or 9002 certified.
- C. The manufacturer of this equipment shall have produced similar electrical equipment for a minimum period of five (5) years. When requested by the Engineer, an acceptable list of installations with similar equipment shall be provided demonstrating compliance with this requirement.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Equipment shall be handled and stored in accordance with manufacturer's instructions. One (1) copy of these instructions shall be included with the equipment at time of shipment.

1.6 OPERATION AND MAINTENANCE MANUALS

- A. Equipment operation and maintenance manuals shall be provided with each assembly shipped and shall include instruction leaflets, instruction bulletins and renewal parts lists where applicable, for the complete assembly and each major component.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Eaton
- B. Square D
- C. General Electric
- D. Siemens
- E. Industrial Electric Manufacturing (IEM)
- F. This list does not imply acceptance of products that do not meet the specified ratings, features, functions, and physical size constraints shown on the Drawings. Manufacturers listed above are not relieved from meeting these specifications in their entirety.

2.2 RATINGS

- A. The assembly shall be rated to withstand mechanical and electrical forces exerted during short-circuit conditions when connected directly to a power source having available fault current of 35,000 AIC at rated voltage.
- B. Voltage, current, and power ratings to be as indicated on the drawings.

2.3 CONSTRUCTION

- A. Switchboard shall consist of the required number of vertical sections bolted together to form a rigid assembly. The sides and rear shall be covered with removable bolt-on covers. All edges of front covers or hinged front panels shall be formed. Provide adequate ventilation within the enclosure.
- B. All sections of the switchboard shall be rear aligned with depth as shown on the drawings. All protective devices shall be group mounted. Devices shall be front removable and load connections front accessible enabling switchboard to be mounted against a wall.
- C. The switchboard shall be of one-piece, bolted together construction, up to 35 feet in length and include a top mounted lifting bracket.

2.4 BUS

- A. All bus bars shall be copper or tin-plated aluminum. Bus sizing shall be based on NEMA standard temperature rise criteria.
- B. Provide a full capacity neutral bus where a neutral bus is indicated on the drawings.
- C. A copper ground bus shall be furnished firmly secured to each vertical section structure.
- D. All hardware used on conductors shall be high-tensile strength and zinc-plated. All bus joints shall be provided with conical spring-type washers.

2.5 WIRING/TERMINATIONS

- A. Mechanical-type terminals shall be provided for all line and load terminations suitable for copper or aluminum cable rated for 75 degrees C of the size as indicated on the drawings.
- B. Lugs shall be provided in the incoming line section for connection of the main grounding conductor. Additional lugs for connection of other grounding conductors shall be provided as indicated on the drawings.
- C. All factory-installed wiring shall be copper and with insulation color or tape as follows:

480/277-Volt WYE Systems	Phase-A = Brown
	Phase-B = Orange
	Phase-C = Yellow
	Neutral = Gray
208/120-Volt WYE Systems	Phase-A = Black
	Phase-B = Red
	Phase-C = Blue
	Neutral = White

2.6 INTEGRATED PANELBOARDS

- A. The switchboard manufacturer shall integrate and assemble panelboards into the switchboard as shown on the Drawings. Each panelboard or switchboard section shall contain a trim with lockable door.
- B. The switchboard shall accommodate an integrated panelboard with main circuit breaker or main lugs as shown on the Drawings, with a minimum thirty (30) branch circuit breaker pole spaces.
- C. Panelboards shall have a wire management system in side wire way to accommodate branch circuit wiring passing through vertically in that section.

2.7 DRY-TYPE DISTRIBUTION TRANSFORMERS

- A. The switchboard manufacturer shall integrate and assemble dry-type distribution transformers into the switchboard. The transformer shall be secured in a manner that assures the structural integrity of the vertical switchboard section and the transformer. Adequate ventilation for the transformer and other installed components shall be provided within the switchboard.
- B. Transformer shall be high-efficiency NEMA TP-1 Energy Star labeled, and comply with Federal Department of Energy standards per 10 CFR 431.
- C. If the primary breaker is located in the same assembly, the switchboard-manufacturer shall wire the transformer from the feeder over-current device to the primary side of the transformer in accordance with UL and the National Electrical Code utilizing copper conductors. The switchboard manufacturer shall wire the secondary side of the transformer to the load or panelboard shown on the drawings in accordance with UL and the National Electrical Code utilizing copper conductors.
- D. The switchboard shall accommodate up to a 75 kVA dry type distribution transformer in one-half height structure with a feeder breaker distribution chassis or panelboard above.
- E. Comply with NEMA ST 20, and list and label as complying with UL 1561.
- F. Taps: Minimum two 2.5 percent taps above and below normal full capacity.

- G. Insulation Class: 220 deg C, UL-component-recognized insulation system with a maximum of 115 deg C rise above 40 deg C ambient temperature.

2.8 ENCLOSURES

- A. Outdoor NEMA 3R Enclosure
 - 1. Gasketed, non-walk-in, rain and weather tight.
 - 2. Enclosure shall have sloping roof downward toward rear.
 - 3. The enclosure shall be provided with bolt-on rear covers for each section.
 - 4. Doors shall have provisions for padlocking.
 - 5. Ventilating openings shall be provided.

2.9 NAMEPLATES

- A. Engraved nameplates, mounted on the face of the assembly, shall be furnished for all main and feeder circuits as indicated on the drawings. Nameplates shall be laminated plastic, black characters on white background. Characters shall be 3/16-inch high, minimum. Nameplates shall give item designation and circuit number as well as frame ampere size and appropriate trip rating. Furnish master nameplate giving switchboard designation, voltage ampere rating, short-circuit rating, manufacturer's name, general order number, and item number.
- B. Control components mounted within the assembly, such as fuse blocks, relays, pushbuttons, switches, etc., shall be suitably marked for identification corresponding to appropriate designations on manufacturer's wiring diagrams.

2.10 FINISH

- A. All exterior and interior steel surfaces of the switchboard shall be properly cleaned and provided with a rust-inhibiting phosphatized coating. Color and finish of the switchboard shall be ANSI 61 light gray.

PART 3 EXECUTION

3.1 FACTORY TESTING

- A. The following standard factory tests shall be performed on the equipment provided under this section. All tests shall be in accordance with the latest version of ANSI and NEMA standards.
 - 1. The switchboard shall be completely assembled, wired, adjusted, and tested at the factory. After assembly, the complete switchboard will be tested for operation under simulated service conditions to assure the accuracy of the wiring and the functioning of all equipment.
- B. The manufacturer shall provide certified copies of factory test reports.

3.2 MANUFACTURER'S CERTIFICATION

- A. A certified test report of all standard production tests shall be available to the Engineer upon request.

3.3 TRAINING

- A. The Contractor shall provide a training session for up to five (5) owner's representatives at a jobsite location determined by the owner.

- B. A manufacturer's qualified representative shall conduct the training session. The training program shall consist of instruction on operation of the assembly, circuit breakers, fused switches, and major components within the assembly.

3.4 INSTALLATION

- A. The Contractors shall install all equipment per the manufacturer's instructions, contract drawings and 2013 California Electrical Code.
- B. The assembly shall be provided with adequate lifting means and shall be capable of being moved into installation position and bolted directly to concrete pad. All necessary hardware to secure the assembly in place shall be provided by the Contractor.

3.5 FIELD ADJUSTMENTS

- A. The Contractor shall perform field adjustments of the protective devices as required to place the equipment in final operating condition.
- B. Necessary field settings of devices and adjustments and minor modifications to equipment to accomplish conformance with an approved short circuit and protective device coordination study shall be carried out by the Contractor at no additional cost to the owner.

SECTION 26 5600
EXTERIOR LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Exterior luminaires with lamps and ballasts.
 - 2. Luminaire-mounted photoelectric relays.
 - 3. Poles and accessories.
 - 4. Luminaire lowering devices.
- B. Related Sections include the following:
 - 1. Division 26 Section 26 0943 "Network Lighting Controls".

1.3 DEFINITIONS

- A. CRI: Color-rendering index.
- B. HID: High-intensity discharge.
- C. Luminaire: Complete lighting fixture, including ballast housing if provided.
- D. Pole: Luminaire support structure, including tower used for large area illumination.
- E. Standard: Same definition as "Pole" above.

1.4 STRUCTURAL ANALYSIS CRITERIA FOR POLE SELECTION

- A. Dead Load: Weight of luminaire and its horizontal and vertical supports, lowering devices, and supporting structure, applied as stated in AASHTO LTS-4.
- B. Live Load: Single load of 500 lbf, distributed as stated in AASHTO LTS-4.
- C. Wind Load: Pressure of wind on pole and luminaire, calculated and applied as stated in AASHTO LTS-4.
 - 1. Wind speed for calculating wind load for poles 50 feet (15 m) or less in height is 70 mph (113 km/h).

1.5 SUBMITTALS

- A. Product Data: For each luminaire, pole, and support component, arranged in order of lighting unit designation. Include data on features, accessories, finishes, and the following:
 - 1. Physical description of luminaire, including materials, dimensions, effective projected area, and verification of indicated parameters.
 - 2. Details of attaching luminaires and accessories.
 - 3. Details of installation and construction.
 - 4. Luminaire materials.
 - 5. Photometric data based on laboratory tests of each luminaire type, complete with indicated lamps, ballasts, and accessories.
 - a. For indicated luminaires, photometric data shall be certified by a qualified independent testing agency. Photometric data for remaining luminaires shall be certified by manufacturer.
 - 6. Ballasts, including energy-efficiency data.
 - 7. Lamps, including life, output, and energy-efficiency data.
 - 8. Materials, dimensions, and finishes of poles.
 - 9. Means of attaching luminaires to supports, and indication that attachment is suitable for components involved.
 - 10. Anchor bolts for poles.
 - 11. Manufactured pole foundations.
- B. Shop Drawings:
 - 1. Anchor-bolt templates keyed to specific poles and certified by manufacturer.
 - 2. Design calculations, certified by a qualified professional engineer, indicating strength of screw foundations and soil conditions on which they are based.
 - 3. Wiring Diagrams: Power and control wiring.
- C. Pole and Support Component Certificates: Signed by manufacturers of poles, certifying that products are designed for indicated load requirements in AASHTO LTS-4 and that load imposed by luminaire has been included in design.
- D. Qualification Data: For agencies providing photometric data for lighting fixtures.
- E. Field quality-control test reports.
- F. Operation and Maintenance Data: For luminaires and poles to include in emergency, operation, and maintenance manuals.
- G. Warranty: Special warranty specified in this Section.

1.6 QUALITY ASSURANCE

- A. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by an independent agency, with the experience and capability to conduct the testing indicated, that is an NRTL as defined by OSHA in 29 CFR 1910.7.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with IEEE C2, "National Electrical Safety Code."

- D. Comply with NFPA 70.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Package aluminum poles for shipping according to ASTM B 660.
- B. Store poles on decay-resistant-treated skids at least 12 inches above grade and vegetation. Support poles to prevent distortion and arrange to provide free air circulation.
- C. Retain factory-applied pole wrappings on metal poles until right before pole installation. For poles with nonmetallic finishes, handle with web fabric straps.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship; that corrode; or that fade, stain, perforate, erode, or chalk due to effects of weather or solar radiation within specified warranty period. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, or unauthorized repairs or alterations from special warranty coverage.
 - 1. Warranty Period for Luminaires: Five years start at Final Completion.
 - 2. Warranty Period for Metal Corrosion: Five years starts at Final Completion.
 - 3. Warranty Period for Color Retention: Five years starts at Final Completion.
 - 4. Warranty Period for Lamps: Replace lamps and fuses that fail within 12 months starts at Final Completion; furnish replacement lamps and fuses that fail within the second 12 months starts at Final Completion.
 - 5. Warranty Period for Poles: Repair or replace lighting poles and standards that fail in finish, materials, and workmanship within manufacturer's standard warranty period, but not less than three years start at Final Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
- B. In lighting Fixture Schedule(s) shown on the Drawings, the following requirements apply to product selection:
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
 - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.
 - 3. Basis of Design Product: The design of each item of exterior luminaire and its support is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.

2.2 LUMINAIRES, GENERAL REQUIREMENTS

- A. Luminaires shall comply with UL 1598 and be listed and labeled for installation in wet locations by an NRTL acceptable to authorities having jurisdiction.
- B. Comply with IESNA RP-8 for parameters of lateral light distribution patterns indicated for luminaires.
- C. Metal Parts: Free of burrs and sharp corners and edges.
- D. Sheet Metal Components: Corrosion-resistant aluminum, unless otherwise indicated. Form and support to prevent warping and sagging.
- E. Housings: Rigidly formed, weather- and light-tight enclosures that will not warp, sag, or deform in use. Provide filter/breather for enclosed luminaires.
- F. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lenses. Designed to disconnect ballast when door opens.
- G. Exposed Hardware Material: Stainless steel.
- H. Plastic Parts: High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
- I. Light Shields: Metal baffles, factory installed and field adjustable, arranged to block light distribution to indicated portion of normally illuminated area or field.
- J. Reflecting surfaces shall have minimum reflectance as follows, unless otherwise indicated:
 - 1. White Surfaces: 85 percent.
 - 2. Specular Surfaces: 83 percent.
 - 3. Diffusing Specular Surfaces: 75 percent.
- K. Lenses and Refractors Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.
- L. Luminaire Finish: Manufacturer's standard paint applied to factory-assembled and tested luminaire before shipping. Where indicated, match finish process and color of pole or support materials.
- M. Factory-Applied Finish for Aluminum Luminaires: as directed by the Architect.

2.3 FLUORESCENT BALLASTS AND LAMPS

- A. Low-Temperature Ballast Capability: Rated by its manufacturer for reliable starting and operation of indicated lamp(s) at temperatures 0 deg F and higher.
- B. Ballast Characteristics:
 - 1. Power Factor: 90 percent, minimum.
 - 2. Sound Rating: A.
 - 3. Total Harmonic Distortion Rating: Less than 10 percent.
 - 4. Electromagnetic Ballasts: Comply with ANSI C82.1, energy-saving, high power factor, Class P, automatic-reset thermal protection.

5. Case Temperature for Compact Lamp Ballasts: 65 deg C, maximum.
 6. Transient-Voltage Protection: Comply with IEEE C62.41 Category A or better.
- C. Low-Temperature Lamp Capability: Rated for reliable starting and operation with ballast provided at temperatures 0 deg F and higher.
- D. Fluorescent Lamps: Low-mercury type. Comply with the EPA's toxicity characteristic leaching procedure test; shall yield less than 0.2 mg of mercury per liter when tested according to NEMA LL 1.

2.4 BALLASTS FOR HID LAMPS

- A. Comply with ANSI C82.4 and UL 1029 and capable of open-circuit operation without reduction of average lamp life. Include the following features, unless otherwise indicated:
1. Ballast Circuit: Constant-wattage autotransformer or regulating high-power-factor type.
 2. Minimum Starting Temperature: Minus 22 deg F.
 3. Normal Ambient Operating Temperature: 104 deg F.
 4. Ballast Fuses: One in each ungrounded power supply conductor. Voltage and current ratings as recommended by ballast manufacturer.

2.5 HID LAMPS

- A. Metal-Halide Lamps: ANSI C78.1372, with a minimum CRI 65 and color temperature 4000 K.
- B. Pulse-Start, Metal-Halide Lamps: Minimum CRI 82, and color temperature 4000 K
- C. Ceramic, Pulse-Start, Metal-Halide Lamps: Minimum CRI 85, and color temperature 3000 K.

2.6 POLES AND SUPPORT COMPONENTS, GENERAL REQUIREMENTS

- A. Structural Characteristics: Comply with AASHTO LTS-4.
1. Wind-Load Strength of Poles: Adequate at indicated heights above grade without failure, permanent deflection, or whipping in steady winds of speed indicated in Part 1 "Structural Analysis Criteria for Pole Selection" Article, with a gust factor of 1.3.
 2. Strength Analysis: For each pole, multiply the actual equivalent projected area of luminaires and brackets by a factor of 1.1 to obtain the equivalent projected area to be used in pole selection strength analysis.
- B. Luminaire Attachment Provisions: Comply with luminaire manufacturers' mounting requirements. Use stainless-steel fasteners and mounting bolts, unless otherwise indicated.
- C. Mountings, Fasteners, and Appurtenances: Corrosion-resistant items compatible with support components.
1. Materials: Shall not cause galvanic action at contact points.
 2. Anchor Bolts, Leveling Nuts, Bolt Caps, and Washers: Hot-dip galvanized after fabrication, unless stainless-steel items are indicated.
 3. Anchor-Bolt Template: Plywood or steel.
- D. Concrete Pole Foundations: Cast in place, with anchor bolts to match pole-base flange. Concrete, reinforcement, and formwork are specified in Division 03 Section "Cast-in-Place Concrete."

- E. Power-Installed Screw Foundations: Factory fabricated by pole manufacturer, with structural steel complying with ASTM A 36/A 36M and hot-dip galvanized according to ASTM A 123/A 123M; and with top-plate and mounting bolts to match pole base flange and strength required to support pole, luminaire, and accessories.
- F. Breakaway Supports: Frangible breakaway supports, tested by an independent testing agency acceptable to authorities having jurisdiction, according to AASHTO LTS-4.

2.7 ALUMINUM POLES

- A. Poles: Seamless, extruded structural tube complying with ASTM B 429, Alloy 6063-T6 with access handhole in pole wall.
- B. Poles: ASTM B 209 (ASTM B 209M), 5052-H34 marine sheet alloy with access handhole in pole wall.
 - 1. Shape: As specified on fixture schedule.
 - 2. Mounting Provisions: Butt flange for bolted mounting on foundation or breakaway support.
- C. Pole-Top Tenons: Fabricated to support luminaire or luminaires and brackets indicated, and securely fastened to pole top.
- D. Grounding and Bonding Lugs: Welded 1/2-inch (13-mm) threaded lug, complying with requirements in Division 26 Section "Grounding and Bonding for Electrical Systems," listed for attaching grounding and bonding conductors of type and size listed in that Section, and accessible through handhole.
- E. Brackets for Luminaires: Detachable, with pole and adapter fittings of cast aluminum. Adapter fitting welded to pole and bracket, then bolted together with stainless-steel bolts.
 - 1. Tapered oval cross section, with straight tubular end section to accommodate luminaire.
 - 2. Finish: Same as pole.
- F. Prime-Coat Finish: Manufacturer's standard prime-coat finish ready for field painting.
- G. Aluminum Finish Color: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 LUMINAIRE INSTALLATION

- A. Install lamps in each luminaire.
- B. Fasten luminaire to indicated structural supports.
 - 1. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer.
- C. Adjust luminaires that require field adjustment or aiming.

3.2 POLE INSTALLATION

- A. Align pole foundations and poles for optimum directional alignment of luminaires and their mounting provisions on the pole.

- B. Clearances: Maintain the following minimum horizontal distances of poles from surface and underground features, unless otherwise indicated on Drawings:
 - 1. Fire Hydrants and Storm Drainage Piping: 60 inches (1520 mm).
 - 2. Water, Gas, Electric, Communication, and Sewer Lines: 10 feet.
- C. Concrete Pole Foundations: Set anchor bolts according to anchor-bolt templates furnished by pole manufacturer. Concrete materials, installation, and finishing requirements are specified in Division 03 Section "Cast-in-Place Concrete."
- D. Foundation-Mounted Poles: Mount pole with leveling nuts, and tighten top nuts to torque level recommended by pole manufacturer.
 - 1. Use anchor bolts and nuts selected to resist seismic forces defined for the application and approved by manufacturer.
 - 2. Grout void between pole base and foundation. Use nonshrink or expanding concrete grout firmly packed to fill space.
 - 3. Install base covers, unless otherwise indicated.
 - 4. Use a short piece of 1/2-inch- (13-mm-) diameter pipe to make a drain hole through grout. Arrange to drain condensation from interior of pole.
- E. Raise and set poles using web fabric slings (not chain or cable).

3.3 BOLLARD LUMINAIRE INSTALLATION

- A. Align units for optimum directional alignment of light distribution.
- B. Install on concrete base with top flush with finished grade or surface at bollard location. Cast conduit into base, and shape base to match shape of bollard base. Finish by troweling and rubbing smooth. Concrete materials, installation, and finishing are specified in Division 03 Section "Cast-in-Place Concrete."

3.4 INSTALLATION OF INDIVIDUAL GROUND-MOUNTING LUMINAIRES

- A. Install on concrete base with top flush with finished grade or surface at luminaire location. Cast conduit into base, and finish by troweling and rubbing smooth. Concrete materials, installation, and finishing are specified in Division 03 Section "Cast-in-Place Concrete."

3.5 CORROSION PREVENTION

- A. Aluminum: Do not use in contact with earth or concrete. When in direct contact with a dissimilar metal, protect aluminum by insulating fittings or treatment.
- B. Steel Conduits: Comply with Division 26 Section "Raceway and Boxes for Electrical Systems." In concrete foundations, wrap conduit with 0.010-inch thick, pipe-wrapping plastic tape applied with a 50 percent overlap.

3.6 GROUNDING

- A. Ground metal poles and support structures according to Division 26 Section "Grounding and Bonding for Electrical Systems."
 - 1. Install grounding electrode for each pole, unless otherwise indicated.

2. Install grounding conductor pigtail in the base for connecting luminaire to grounding system.

3.7 FIELD QUALITY CONTROL

- A. Inspect each installed fixture for damage. Replace damaged fixtures and components.
- B. Illumination Observations: Verify normal operation of lighting units after installing luminaires and energizing circuits with normal power source.
 1. Verify operation of photoelectric controls.
- C. Illumination Tests:
 1. Measure light intensities at night. Use photometers with calibration referenced to NIST standards. Comply with the following IESNA testing guide(s):
 - a. IESNA LM-5, "Photometric Measurements of Area and Sports Lighting."
 - b. IESNA LM-50, "Photometric Measurements of Roadway Lighting Installations."
 - c. IESNA LM-52, "Photometric Measurements of Roadway Sign Installations."
 - d. IESNA LM-64, "Photometric Measurements of Parking Areas."
 - e. IESNA LM-72, "Directional Positioning of Photometric Data."
- D. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

3.8 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain luminaire lowering devices. Refer to Division 01 Section "Demonstration and Training."

END OF SECTION

SECTION 28 0000

BASIC SECURITY REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes general administrative and procedural requirements for Division 28 and is intended to supplement, not supercede, the requirements specified in Division 01.
- B. The requirements described herein include the following:
 - 1. References
 - 2. Definitions
 - 3. System Description and Existing Conditions
 - 4. Submittals & Shop Drawings
 - 5. Quality Assurance
 - 6. Permits and Inspections
 - 7. Coordination
 - 8. Project Management and Coordination Services
 - 9. Product Delivery, Storage, and Handling
 - 10. Warranty
 - 11. Maintenance
- C. Products Supplied But Not Installed Under This Section:
 - 1. None
- D. Products Installed But Not Supplied Under This Section:
 - 1. None
- E. Products Specified But Not Installed Under This Section:
 - 1. None
- F. Products Furnished and Installed Under Another Section:
 - 1. 120V power
- G. Related Sections:
 - 1. Consult other Sections, determine the extent and character of related work, and properly coordinate work specified herein with that specified elsewhere to produce a complete and operable installation.
 - 2. Section 280513: Security System Cabling
 - 3. Section 280553: Security System Labeling
 - 4. Section 280800: Security System Acceptance Testing
 - 5. Section 282300: Video Surveillance System
 - 6. Section .
 - 7. Earthwork: Include trenching, backfilling, boring and soil compaction as required for the installation of underground conduit, in-grade pull boxes, vaults, and bollard foundations.
 - 8. Selective Demolition: Nondestructive removal of materials and equipment for reuse or salvage as indicated. Also dismantling electrical materials and equipment made obsolete by these installations.
 - 9. Concrete Work: Include forming, steel bar reinforcing, cast-in- place concrete, finishing and grouting as required for underground conduit encasement, pedestal foundations, and curbs. Also includes saw-cutting of existing slabs and grouting of conduits in saw-cut.
 - 10. Miscellaneous Metal Work: Include fittings, brackets, backing, supports, rods, welding and pipe as required for support and bracing of raceways, equipment enclosures, cameras, and similar devices.
 - 11. Painting: Include surface preparation, priming and finish coating as required for security cabinets, exposed conduit, pull and junction boxes, and devices where indicated as field painted in this Division.

1.02 REFERENCES

- A. Reference to codes, standards, specifications and recommendations of technical societies, trade organizations and governmental agencies mean that latest edition of such publications adopted and published prior to submittal of the bid. Consider such codes or standards a part of this Specification as though fully repeated herein.
- B. Codes: Perform Work executed under this Section in accordance with applicable requirements of the latest edition of governing codes, rules and regulations including but not limited to the following minimum standards, whether statutory or not:
 - 1. California Code of Regulations (CCR):
 - a. Title 8, "Industrial Relations"
 - 1) Chapter 3.22, "California Occupational Safety and Health Regulations (CAL/OSHA)"
 - b. Title 24, "California Building Standards Code"
 - 1) Part 1, "California Building Standards Administrative Code"
 - 2) Part 2, Volumes 1 and 2, "California Building Code" (CBC)
 - 3) Part 3, "California Electrical Code" (CEC)
 - 2. National Fire Protection Agency (NFPA)
 - a. NFPA 70, "National Electrical Code" (NEC)
 - b. NFPA 75, "Protection Of Information Technology Equipment"
 - 3. National Fire Protection Agency (NFPA)
 - a. NFPA 70, "National Electrical Code" (NEC)
 - 4. National, State, Local and other binding building and fire codes
 - 5. Code of Federal Regulations (CFR) Title 47 "Telecommunication", Chapter I "Federal Communications Commission (FCC)":
 - a. Part 15, Radio Frequency Devices
- C. Standards: Perform Work and furnish materials and equipment under Division 28xxxx in accordance with the latest editions of the following standards as applicable:

1.03 DEFINITIONS

- A. The Definitions of Division 01 apply to Division 28
- B. In addition to those Definitions of Division 01, the following list of terms as used in this specification defined as follows:
 - 1. "Owner": San Mateo Community College
 - 2. "Engineer": TEECOM
 - 3. "Furnish": To purchase, procure, acquire, and deliver complete with related accessories.
 - 4. "Install": To set in place, join, unite, fasten, link, attach, set up or otherwise connect together and test before turning over to the Owner, parts, items, or equipment supplied by contractor or others. Complete installation and make ready for regular operation.
 - 5. "Provide": To furnish, transport, install, erect, connect, test and turn over to the Owner, complete and ready for regular operation.
 - 6. "Connect": To install required patch cords, equipment cords, cross-connect wire, etc. to complete an electrical or optical circuit.
 - 7. "As directed": As directed or instructed by the Owner, or their authorized representative.
 - 8. "Cabling": A combination of cables, wire, cords, and connecting hardware [e.g., cables, conductor terminations, connectors, outlets, patch panels, blocks, and labeling].
 - 9. "Security System": Video Surveillance System

1.04 SYSTEM DESCRIPTION

- A. Overview
 - 1. The owner is renovating an existing outdoor parking lot.
 - 2. Security at the renovated parking lot to consist of a video surveillance system

3. The Video Surveillance System will be an expansion of the existing system and will connect to exiting head end over the owners's LAN/WAN.
 4. Refer to individual sections for detailed description of systems.
- B. Custom Device Requirements
1. General: Provide a high level of coordination services to ensure the proper installation and functioning of the security system. Coordinate the installation of the security system with other trades. This may include: review of other's subcontractor's shop drawings, attendance at meetings, providing samples for mockup, and preparation & distribution of written documentation.

1.05 SUBMITTALS

- A. General
1. Provide required submittals in accordance with Conditions of the Contract, and Division 01 Submittal Procedures Section.
 2. Format: Furnish submittal data neatly bound in an 8-1/2" x 11" folder or binder for each specification section with a table of contents listing materials by Section and paragraph number.
 3. Submittals to consist of detailed shop drawings, product specifications, block wiring diagrams, "catalog cuts" and data sheets containing physical and dimensional information, performance data, electrical characteristics, materials used in fabrication, and material finish. Clearly indicate by arrows or brackets precisely what is being submitted on and those optional accessories which are included and those which are excluded.
 4. Label each submittal with the Specification Section Number and provide a cover letter or stamp stating that the submittal has been thoroughly reviewed by the Contractor and complies with the requirements of the Contract Documents. Failure to comply with this requirement will constitute grounds for rejection of data.
 5. Resubmittals: Provide a cover letter with the resubmittal that lists the action taken and revisions made to each product submittal in response to Submittal Review Comments. Failure to include this cover letter will constitute rejection of the resubmittal package and no review will occur.
 6. Prepare diagrams using AutoCAD 2000 compatible software. The following are requirements for drawings:
 - a. Drawing Size: Same size as the project contract drawings with the project title block.
 - b. Text Size: Minimum 3/32 inches high when plotted at full size.
 - c. Symbology: Identical to the symbols used on the Contract Drawings.
 - d. Backgrounds: Screen background information to allow pertinent drawing information to stand out.
 - e. Line Weights: Use appropriate line weights for devices, raceways, and text to stand out against background information.
- B. Contractor Qualifications: Submit the following for review and comment at the beginning of the project.
1. Resumes of the Project Manager, General Foreman, and Lead Technician(s) indicating role, years of experience, product certifications and training, listing of similar projects the individual performed the role proposed for this project along with client contact information for each.
 2. Certification letters from manufacturers of major system components stating the Contractor is an authorized reseller, installer, and extended warranty provider for the specified security systems.
- C. Product Data: Submit the following for review and comment prior to the purchase and installation of equipment:
1. Product data for products furnished. Include, for each product, the manufacturer, part number, accessories & options selected, color (if applicable), and a brief product description.
 2. Estimated delivery lead times for products.
- D. Shop Drawings
1. Obtain electronic files containing the contract documents drawing files for use in preparing the shop drawings from the Engineer.

2. Use of CAD Files: Should the Contractor need the Engineer's CAD files to produce shop drawings and/or as-built drawings, the Engineer requires the Contractor sign a CAD files release agreement.
3. Submit the following for review and approval prior to the installation of equipment:
 - a. Site Plans: 1/32 inch scale site plans showing the locations of devices and cable routing paths with cable types and quantity called out.

E. Samples

1. Provide samples as required for proper coordination and installation of custom mounted equipment.

1.06 QUALITY ASSURANCE

A. General

1. Provide new and unused materials, equipment, and parts comprising the units specified herein of current manufacturer and of highest grade.
2. Only use products and applications listed in this Division on the project.

B. Substitutions

1. Conform to the general requirements and procedure outlined in Division 01 in the Request For Substitution.
2. Where products are noted as "or equal", a product of equivalent design, construction, and performance is considered. Include in the Product Data submittal: catalog cuts, product information, and pertinent test data required to substantiate that the product is in fact equivalent to that specified.
3. Only one substitution allowed for each product specified. Do not provide substituted material, processes, or equipment without written authorization from the Engineer. Assumptions on the acceptability of a proposed substitution, prior to acceptance by the Engineer, are at the sole risk of the Contractor.
4. The burden of proof rest with the Contractor that the substituted product is equivalent to the specified product. When the Engineer accepts a substitution in writing, it is with the understanding that the Contractor guarantees the substituted product, component, article, or material to be equivalent to the one specified and dimensioned to fit within the construction according to contract documents. Approved substitutions do not relieve the Contractor of responsibilities for the proper execution of the Work, or from provisions of the Specifications.
5. Manufacturers' names and model numbers used in conjunction with materials, processes or equipment included in the Contract Documents are used to establish standards of quality, utility and appearance. Materials, processes or equipment that, in the opinion of the Engineer, are equivalent in quality, utility and appearance will be approved as substitutions to that specified when "or equal" follows the manufacturers' names or model number(s).
6. Whenever material, process or equipment is specified in accordance with a Federal specification, an ASTM standard, an ANSI specification, UL rating or other association standard, present an affidavit from the manufacturer certifying that the product complies with the particular standard specification. When requested by the Engineer, submit support test data to substantiate compliance at no additional cost.
7. Pay expenses, without additional charge to the Owner, in connection with substitution materials, processes and equipment, including the effect of substitution on self, subcontractor's or other Contractor's work.

C. Installer Qualifications

1. Selected Security System Supplier, Integrator and Installer:
 - a. Maintenance of SMCCCD's ACAMS security system is performed by NeTronix Integration, Inc.
 - b. SMCCCD's security system's integrity is critical to the safety of its students, faculty and staff and to the security of the District's assets.

D. Materials

1. Provide new materials and equipment without defects.

2. Provide only specified products and equipment, or products and equipment that have been approved in writing.
- E. Regulatory Requirements
1. Work and materials to conform to the latest rules of National Board of Fire Underwriters wherever such standards have been established and to the regulations of the State Fire Marshal, OSHA and the codes of the governing local municipalities. Conform Work under these specifications to the most stringent of the applicable codes.
 2. Provide the quality identified within these specifications and drawings when codes, standards, regulations, etc. allow Work of lesser quality or extent. The Contract Documents address the minimum requirements for construction.
- F. Project Management and Coordination Services
1. Provide a project manager for the duration of the project to coordinate this Work with other trades. Coordination services, procedures and documentation responsibility include, but are not limited to, the items listed in this section.
 2. Review of Shop Drawings Prepared by Other Subcontractors:
 - a. Obtain copies of shop drawings for equipment provided by others that require telecommunication service connections or interface with Work.
 - b. Perform a thorough review of the shop drawings to confirm compliance with the service requirements contained in the Division 1 contract documents. Document discrepancies or deviations as follows:
 - 1) Prepare memo summarizing the discrepancy.
 - 2) Submit a copy of the specific shop drawing, indicating via cloud, the discrepancy.
 - c. Prepare and maintain a shop drawing review log indicating the following information:
 - 1) Shop drawing number and brief description of the system/material.
 - 2) Date of the review
 - 3) Name of the individual performing the review
 - 4) Indication if follow-up coordination required
- G. Drawings
1. Layout: Follow the general layout shown on the Drawings except where other work may conflict with the Drawings.
 2. Accuracy: The Drawings show a diagrammatic representation of the system within the constraints of the symbology applied.
 3. Detail: The Drawings do not fully represent the entire installation for the Security System. Drawings indicate the layout and location of control console(s) components, as well as location of security devices, ie security cameras. The Drawings do not show conduits, wire and cabling between every system component, equipment, or device.
 4. Complete the details necessary for point-to-point design. This allows the Contractor to achieve desired results applying their own procedures and methods. Submit shop drawings for review prior to installation.
- H. Role of the Engineer
1. During the construction phase of the project, the Engineer will work with the Contractor to provide interpretation and clarification of project contract documents, process and reply to relevant Requests for Information (RFI), and act as an interface between the Contractor and the Owner.
 2. The Owner has retained the Engineer's services to observe the Work for general compliance with the Contract Documents.
 3. In summary, the Engineer will perform the following specific services during the design phase:
 - a. Review product submittals and shop drawings for general compliance with the contract drawings and specifications.
 - b. Review changes as they arise, and confirm that the proposed solutions maintain the intended functionality of the system.

- c. Interpret field problems for Owner, and translate into understandable language.
- d. Review the testing procedures to confirm compliance with industry-accepted practices.

1.07 PERMITS AND INSPECTIONS

- A. Obtain and pay for permits and inspections required for the work.
- B. Furnish materials and workmanship for this work in conformance with applicable legal and code requirements.
- C. Perform tests required herein, or as may be reasonably required to demonstrate conformance with the Specifications or with the requirements of legal authority having jurisdiction.
- D. Obtain review from compliance officials responsible for enforcement of applicable codes and regulations to establish that the work is in compliance with requirements of reference codes indicated herein.

1.08 COORDINATION

- A. Job Conditions
 - 1. Protection: Keep conduits, junction boxes, outlet boxes and other openings closed to prevent entry of foreign matter. Cover equipment, devices, apparatus and protect them against dirt, paint, water, chemical or mechanical damage, before and during construction period. Prior to final acceptance, restore to original condition fixture, apparatus or equipment damaged including restoration of damaged factory applied painted finishes. Protect bright finished surfaces and similar items until in service. No rust or damage will be permitted.
 - 2. Supervision: Personally, or through an authorized and competent representative, supervise the work from beginning to completion and, within reason, keep the same foreman and workmen on the project throughout the project duration.

1.09 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery
 - 1. Do not deliver security system components to the site until protected storage space is available. Storage outdoors covered by rainproof material is not acceptable.
 - 2. Replace equipment damaged during shipping and return to manufacturer at no cost to the Owner.
- B. Storage
 - 1. Store materials in a clean, dry, ventilated space free from temperature extremes.
 - 2. Maintain factory wrapping or provide a heavy canvas/plastic cover to protect units from dirt, water, construction debris, and traffic.
 - 3. Provide heat where required to prevent condensation or temperature related damage.
- C. Handling
 - 1. Handle in accordance with manufacturer's written instructions.
 - 2. Prevent internal component damage, breakage, denting and scoring. Do not install damaged equipment. Replace damaged equipment and return equipment to manufacturer.

1.10 WARRANTY

- A. Refer to Division 01 for warranty requirements.
- B. Include in the warranty package, at a minimum, the following:
 - 1. Emergency maintenance service on regular working hour basis
 - 2. Service by factory trained and employed service representatives of system manufacturer
- C. Maintain regular service facilities and provide a qualified technician familiar with this work at the site within four (4) hours of receipt of a notice of malfunction including weekends and holidays. Provide material, devices equipment and personnel necessary for repairs. Install approved temporary, alternate equipment if required by the Owner, complete and operational within twenty four (24) hours after notification of a malfunction, at no additional cost.

- D. Conduct warranty repairs and service at the job site unless in violation of manufacturer's warranty; in the latter event, provide substitute systems, equipment and/or devices, acceptable to the Owner, for the duration of such off-site repairs. Transport warranty substitute and/or test systems, equipment, devices, material, parts and personnel to and from the job site at no additional cost.

1.11 MAINTENANCE

- A. Extra Materials
 - 1. Deliver extra materials to a secured location determined by the Owner.
 - 2. Provide a complete Bill of Materials listing quantities, part numbers, and descriptions for each device for the Owner to sign indicating receipt of equipment.
 - 3. Provide new and unused spare parts in their original packing materials upon delivery.
- B. Maintenance Service
 - 1. For the first year of service, conduct quarterly system performance review meetings to review system operation problems and/or defects that occurred during the preceding 3 months. During these performance review meetings, perform the following:
 - a. Visual checks and operational tests of the VSS equipment.
 - b. Clean system equipment, including interior and exterior surfaces.
 - c. Perform diagnostics on equipment.
 - d. Run system software and correct problems.
 - e. Resolve previous outstanding problems.
 - 2. Provide software and firmware updates issued free of charge by the manufacturer.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Material and equipment specified herein have been selected as the basis of acceptable quality and performance and have been coordinated to function as components of the included systems. Where a particular material, device, equipment or system is specified directly, the current manufacturer's specification for same is a part of these specifications, as if completely elaborated herein.
- B. Use standard, regularly manufactured, materials and equipment for this and/or other similar systems, and not custom designed especially for this project. Provide systems and components thoroughly tested and proven in actual use. Provide subsystems of one manufacturer.

2.02 EQUIPMENT ENCLOSURES

- A. Manufacturer: Cooper B-Line
- B. Out Door Security Equipment Enclosures
 - 1. Type: NEMA type 4 enclosure
 - 2. Size: 16"x20"x8" minimum
 - 3. Manufacturer:
 - a. Cooper B-Line
 - b. Or equal
 - 4. Accessories:
 - a. Master #8460148; Locking Kit
 - b. Cooper B-line # AW2016P; Back panel for mounting equipment to
 - c. Pole Mount Adapter kit
- C. Manufacturer: Hoffman, or equivalent.

2.03 MISCELLANEOUS INTERFACE RELAYS

- A. Type: Standard industry control, plug-in type with LED indicator lights to indicate when the relay is energized.

- B. Contacts: Rated for 10 amps at 120VAC.
- C. Coil Operating Voltage: As required, with 24VDC as first choice
- D. Incorporate the following features
 - 1. Color-coded Test button
 - 2. Mechanical flag
 - 3. Snap-on label
 - 4. Pilot light
 - 5. 2mm test jacks
 - 6. Dual contact markings
 - 7. Snap-on number & letter markers
 - 8. Solid bus-bar socket construction
- E. Mount relay bases on standard mounting rails
- F. Manufacturer:
 - 1. Turck #Releco
 - 2. Idec
 - 3. Or equal

2.04 TAMPER RESISTANT HARDWARE

- A. Provide pinned-allen type hardware for exposed hardware in public spaces.
- B. Provide hardware used in specialty metal surfaces that posses a similar finish color.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Conditions: Verify existing conditions, which have been previously provided under other sections, are acceptable for product installation in accordance with manufacturer's instructions.
- B. Pathways: Verify that pathways and supporting devices, which have been previously provided under other sections, are properly installed, and that temporary supports and devices have been removed.
- C. Field Measurements: Verify dimensions of pathways, including length of pathways. For example, "True Tape" the conduits to verify cable distances.

3.02 FIELD QUALITY CONTROL

- A. Staffing: Provide a qualified foreman who is in charge of the Work and who is present at the job site at times Work is being performed. Perform the Work using skilled technicians under the direction of the foreman. Supervise the work force executing the Work. Perform the installation within the restraints of the construction schedule. Do not change the supervisor during the project without prior written approval from the Owner.
- B. Inspection: Perform inspection after installation. Keep areas of work accessible and notify code authorities, or designated inspectors, of work completion released for inspection. Document completion, and inspection as required.

3.03 INSTALLATION

- A. Perform this work in accordance with acknowledged industry and professional standards and practices and the procedures specified herein.
- B. Provide a complete, operating system. Include devices specified including basic components and accessories, interconnecting wiring and other equipment and installation devices necessary for a complete system as specified.

- C. Manufacturer's Instructions:
 - 1. Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions, and product carton instructions for installation.
 - 2. Maintain jobsite file of Material Safety Data Sheets (MSDS) for each product delivered to jobsite.
- D. Boxes, Panels, and Enclosures
 - 1. Install boxes, panels, and enclosures square and plumb.
 - 2. Set "flush mounted" units with the face of the cover, bezel or escutcheon in the same plane as the surrounding finished surface.
 - 3. Mount boxes, panels and trim so that there are no gaps, cracks or obvious lines between the trim and the adjacent finished surface and ready them to receive final finish, as applicable.
 - 4. Install insulating terminations in signal circuit boxes, panels, wireways or enclosures.

3.04 REPAIR/RESTORATION

- A. Replace or repair work completed by others that you deface or destroy, at not cost to the Owner.
- B. Punch List:
 - 1. Inspect installed work in conjunction with the General Contractor and develop a punch list for items needing correction.
 - 2. Provide punch list to Engineer for review prior to performing punch walk with the Engineer.
- C. Re-Installation:
 - 1. Make changes to the system such that defects in workmanship are correct and cables and the associated termination hardware passes the minimum test requirements.
 - 2. Repair defects prior to system acceptance.
- D. Painting: Repaint surfaces altered during installation of the security system to match previous conditions.

3.05 CLEANING

- A. Remove temporary coverings and protection of adjacent work areas. Remove unused products, debris, spills, or other excess materials. Remove installation equipment.
- B. Leave finished work and adjacent surfaces in neat, clean condition with no evidence of damage.
- C. Repair or replace damaged installed products.
- D. Legally dispose of debris.
- E. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance.

END OF SECTION

SECTION 280513

SECURITY SYSTEM CABLING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Cables and wires
- B. Related Sections:
 - 1. Consult other Sections; determine the extent and character of related work and properly coordinate work executed under this section with that specified elsewhere to produce a complete and operable system.
 - 2. Section 280000, "Basic Security Requirements", for general requirements, submittal formats, installation, and warranty requirements
 - 3. Section 280553, "Security System Labeling", for label types and formats

1.02 REFERENCES

- A. Comply with the References requirements of section 280000.
- B. In addition to those codes, standards, etc., listed in section 280000, products and work shall comply with the latest edition of the following applicable specifications and standards except as otherwise shown or specified:

1.03 SUBMITTALS

- A. Submittal Requirements at Start Of Construction:
 - 1. Product Data: Submit product information, including manufacturer, part number, description, use/application, jacket rating, outside diameter, etc
- B. Submittal Requirements at Closeout:
 - 1. As-Built Drawings
 - 2. O&M Manuals

1.04 SCOPE OF WORK

- A. General: Provide engineering, labor, materials, apparatus, tools, equipment, transportation, temporary construction and special or occasional services as required to make a complete working security system installation, as described in these specifications.
- B. Cables for Security System
 - 1. Provide wires and cables sized to allow for voltage drop. Provide cables effectively shielded for video signal cable within the same conduit to mitigate interference or signal noise.
 - 2. Provide PVC or PE jacket, flooded to prevent water intrusion, on cables installed outdoors and/or underground. Provide transition of cables installed outdoors or in underground conduit to indoor cables when entering a building.

PART 2 - PRODUCTS

2.01 VSS FIBER CABLE

- A. Application: Indoor/Outdoor between the camera and the monitoring equipment
 - 1. Type: 6-strand Fiber cable
 - 2. Cable construction:
 - a. Suitable for indoor and outdoor installation
 - b. Water blocking material
 - 3. Manufacturer:
 - a. Corning #006KSF-T4130D20; 6-strand OSP Fiber

4. Accessories:
 - a. Corning #Fan-BT25-06; Fan out kit
 - b. Compu-Link # STPSTPD1, 1 meter Fiber Patch cord
 - c. Compu-Link # STPSTPD3, 3 meter Fiber Patch cord
 - d. Systimax #MFC-STU; ST Connector
 - e. Allied Telesis #AT-MC101XL-10; Media Converter
 - f. Allied Telesis #AT-WLMT; Wall Mount kit
 - g. Allied Telesis #AT-MCR; 4-unit rack mount frame
 - h. Corning #SPH-01P; Single Panel Housing
 - i. Corning #CCH-CP06-25T; Composite Connector Housing Panel
 - j. Corning #CCH-04U; Closet Connector Housing
 - k. Corning #CCS-01U-SLK; Slack Storage Shelf

2.02 VSS IP CABLE

- A. Application: Outdoor between the camera and fiber encoder equipment
 1. Type: CAT6 OSP cable
 2. Cable construction:
 - a. Suitable for outdoor installation
 - b. Water blocking material
 3. Manufacturer:
 - a. CommScope #6NF4+ (contractor to costume order lengths to reach between fiber converter and cameras)
 4. Accessories:
 - a. Panduit #UTPSP1GRY; CAT6 Patchcord
 - b. Panduit #SP688; RJ-45 Modular Plug
 - c. Nitek #IPPWR1, Lightning protector

2.03 VSS CAMERA POWER CABLE

- A. Application: Outdoor between the camera and the power supply
 1. Type: 16/2 OSP cable
 2. Cable construction:
 - a. Suitable for outdoor installation
 3. Manufacturer:
 - a. West Penn #ACQ225; 16/2 Aqualseal cable

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Label cables in accordance with section 280553, "Security System Labeling".
- B. Cable Installation and Routing
 1. Install cables and wires continuous and splice-free for the entire length of run between connections and/or terminations. Splices not permitted.
 2. Place and suspend cables within designated pathways, such as site conduits, cable hangers, etc. Do not fasten (such as with cable ties) or attach cables to other building infrastructure (such as ducts, pipes, conduits, etc), other systems (such as ceiling support wires, wall studs, etc), or to the outside of conduits, cable trays, or other non-approved pathway systems.
 3. Place and suspend cables during installation and termination in a manner to protect them from physical interference or damage. Place cables with no kinks, twists, or impact damage to the sheath. Replace cables damaged during installation or termination at no additional cost.
 4. Route cables at 90-degree angles, allowing for bending radius, along corridors for ease of access.
 5. Do not exceed manufacturer's limits for pulling tension.
 6. Do not use cable-pulling compounds for indoor installations.

7. Dress and secure cables without stress and/or deformation.
8. Install shielded wiring or route in separate raceways as recommended by the manufacturer's current requirements.
9. Place cables 6", minimum, away from power sources to reduce interference from EMI
10. Do not run signal wire and cable in parallel to power (120VAC).
11. When connecting to screw-type barrier blocks, terminate wires with insulated crimp-type spade lugs. Size lugs properly to assure high electrical integrity, i.e., low resistance connections.
12. Follow manufacturers recommended guidelines for installation.
13. Within IDFs, route and dress cables on the overhead cable support and, when routing vertically, fasten the cables onto wall-mounted vertical cable support every 24 inches on-center using cable ties.
14. Provide fiber and copper cable test reports.

END OF SECTION

SECTION 28 0553

SECURITY LABELING

PART 1 - GENERAL

1.01 SUMMARY

- A. General: Furnish engineering, labor, materials, apparatus, tools, equipment, transportation, temporary construction and special or occasional services as required to make a complete working security system installation, as described in these specifications.
- B. Section Includes:
 - 1. Labeling of wire, cable, security devices, enclosures, and raceways.
- C. Related Sections:
 - 1. Consult other Sections, determine the extent and character of related work and properly coordinate work specified herein with that specified elsewhere to produce a complete and operable system.
 - 2. Section 280000 Basic Security Requirements: includes general project requirements, submittal formats, warranty, and installation requirements.

1.02 SUBMITTALS

- A. Product Data: Submit the following:
 - 1. Product information for components specified herein.
 - 2. List of equipment (wire, cable, devices, enclosures, and raceways) and the corresponding text for the label.

PART 2 - PRODUCTS

2.01 LABELS

- A. Manufacturer:
 - 1. Brady
 - 2. Thomas and Betts
- B. Wire and Cable Labels:
 - 1. Self-laminating adhesive laser labels.
 - 2. Machine printable with a laser printer.
 - 3. Printable area: X inches by X inches.
 - 4. Cable size: 0.16 – 0.32” OD
 - 5. Color: white with black lettering
 - 6. Manufacturer: Brady wire marking labels WML-211-295 and WML-311-292
- C. Device Labels:
 - 1. Self-laminating, type on tape, adhesive labels. Use Helvetica 12 pt text

PART 1 EXECUTION

2.02 INSTALLATION

- A. General Requirements
 - 1. Label the security system components. The components include, but are not limited to, the following:
 - a. Equipment Enclosures
 - b. Conduits
 - c. Security Devices
 - d. Batteries

4. Typical Communication Types
 - a. 100BASE-T

END OF SECTION

SECTION 28 0800

SECURITY SYSTEM ACCEPTANCE TESTING

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. General: Furnish engineering, labor, materials, apparatus, tools, equipment, and transportation required to test a completed security system installation as described in these specifications.
- B. Base Bid Work
 - 1. Full testing of a completed security system which includes:
 - a. A complete pretest of the security system
 - b. A final walk test with the Engineer and/or Owner
 - c. Test Results Record Documentation
- C. Related Sections:
 - 1. Section 280000 Basic Security Requirements: for submittal format.

1.02 SUMMARY OF ACCEPTANCE TESTING ACTIVITIES

- A. Overview
 - 1. The purpose of acceptance testing is to ensure the security system operates properly when it is needed most. Security systems are very complex from both an equipment and programming standpoint, and thorough testing is necessary to ensure correct operation.
 - 2. Perform testing activities after-hours or on weekends when the system is “quiet” and the building is generally unoccupied. This will minimize the amount of irrelevant activity in the system activity reports that will be used as a record of the pre and final test results.
- B. Pre-Test
 - 1. Perform a 100% pre-test of system aspects to verify correct operation prior to scheduling the final test. The pre-test will help to make the final test run smoothly when demonstrating the system’s operation to the Owner and Engineer.
 - 2. Document the results of the pre-test using the approved test forms and submit a copy to the Engineer along with the system activity reports
- C. Final Test
 - 1. Perform a final test of the system in the presence of the Engineer and/or Owner to demonstrate correct operation of the security system.

1.03 SUBMITTALS

- A. Operation and Maintenance Manuals: Submit the following for review and comment at the completion of the project:
 - 1. Functional Design Manual: Includes a detailed explanation of the operation of the system.
 - 2. Hardware Manual which includes:
 - a. Pictorial parts list and part numbers
 - b. Pictorial and schematic electrical drawings of wiring systems, including devices, control panels, instrumentation and annunciators
 - c. Telephone numbers for the authorized parts and service distributors
 - d. Include service bulletins
 - 3. Software Manual which includes:
 - a. Use of system and applications software
 - b. Initialization, start-up, and shut down procedures
 - 4. Operator’s Manual which fully explains procedures and instructions for the operation of the system and includes:
 - a. Computers and peripherals
 - b. System start up and shut down procedures

- c. Use of system, command, and applications software
 - d. Recovery and restart procedures
 - e. Use of report generator and generation of reports
 - f. Data entry operator commands
 - g. Alarm messages and reprinting formats
 - h. System access requirements
 5. Maintenance Manual which includes:
 - a. Instructions for routine maintenance listed for each component, and a multi-page summary of component's routine maintenance requirements.
 - b. Detailed instructions for repair of the security system.
 - c. A summary of the software licenses, including license numbers, quantity of clients, summary of the software options provided and database capabilities.
 - d. A summary of the TCP/IP address used and which system component they are associated with. Include the gateway address, subnet mask, DNS server, and host name information.
 6. Test Results Manual, which includes the document results of tests, required under this Specification, organized by System, Floor, and Door.
 7. Record Drawings Manual which includes 11"x17" prints of record drawings as described below.
- B. Record Drawings: Submit the following for review and comment at the completion of the project:
1. Drawings to fully represent installed conditions including actual locations of devices, actual cable and terminal block numbering, and correct wire sizing as well as routing. Record changes in the work during the course of construction on blue or black line prints.
 2. Include drawings submitted as part of the Shop Drawing package, plus additional information required to accurately document installed conditions.
 3. Include the following additional information:
 - a. Device addresses & IP address information.
 - b. Settings for each camera (lens specs, mm setting, auto shutter setting, and other available camera settings, etc.)
 4. Final acceptance will not be made until the Engineer approves the record drawings.

1.04 QUALITY ASSURANCE

- A. Provide a project manager to coordinate the security system acceptance testing work with other trades.

PART 2 - PRODUCTS

2.01 NOT USED

PART 3 - EXECUTION

3.01 SCHEDULING

- A. Coordinate acceptance testing with the General Contractor, and provide specific information on pre-test and final-testing activities to be entered into the overall project construction schedule.

3.02 TESTING REQUIREMENTS

- A. Site Tests
 1. Perform a 100% pretest of the system prior to final testing by the Engineer. Provide the Engineer with a minimum of a 5 day notice prior to scheduling testing.
 2. At the completion of the work, test the entire system to verify proper operation. At a minimum, include these tests:
 - a. VSS Recording System Test: Test the recording system for correct programming, camera view, camera focus, and event retrieval.
- B. Test Preparation
 1. Provide device identification numbers that differ from or were not included on the original contract drawing set.

2. Provide a complete systems point list.
3. Provide paper and toner for the printer so that an event log can be printed out and attached to the test reports as verification of test sequence and systems response.
4. During testing, provide a minimum of three technicians familiar with the installation to assist with the test. Stage the technicians as follows: one at the host, one at the device being tested, and one runner responsible to furnishing tools, step ladders, etc.
5. Provide radios for use by the Engineer and Owner during testing.
6. Provide pre-programmed access cards for use during testing. Provide one card for each access level.

3.03 TEST PROCEDURES

- A. Refer to the test forms for testing procedures for each type of device/system.

3.04 DOCUMENTATION

- A. Provide a full-sized drawing containing a detailed wiring diagram (layout of equipment/elevation, complete parts list, and a complete wiring diagram for each ACU & I/O Board) for each SEC. Fold the diagram and place it inside a clear plastic pocket affixed to the inside door of the SEC.

3.05 DEMONSTRATION

- A. On completion of the acceptance test, instruct the owner's representatives, at a time convenient to them, in the operation and testing of the system.
- B. Utilize the database for the project during training to give the users a project specific example to learn from.
- C. Provide a minimum of 20 hours of on-site training by a factory trained representatives. Maintain a sign in sheet with names and dates of persons trained and forwarded to owner upon completion of training.

END OF SECTION

SECTION 28 2300

VIDEO SURVEILLANCE SYSTEM

PART 1 - GENERAL

1.01 SUMMARY

- A. General: Provide engineering, labor, materials, apparatus, tools, equipment, transportation, temporary construction, and special or occasional services as required to make a complete working video surveillance system installation, as described in this specification.
- B. Section Includes:
 - 1. VSS Monitoring and Recording System Software
 - 2. VSS cameras, mounts, and housing
 - 3. Interfaces and connections between VSS subsystems to allow communication with one another
- C. Products Supplied But Not Installed Under This Section:
 - 1. None
- D. Products Installed But Not Supplied Under This Section:
 - 1. None
- E. Products Specified But Not Installed Under This Section:
 - 1. None
- F. Products Furnished and Installed Under Another Section:
 - 1. 120V power
 - 2. Network ports in the IDF for VSS connectivity via LAN/WAN
- G. Related Sections:
 - 1. Consult other Divisions, determine the extent and character of related work and properly coordinate work specified herein with that specified elsewhere to produce a complete and operable system.
 - 2. Section 280000, "Basic Security Requirements", for general requirements, submittal formats, installation, and warranty requirements
 - 3. Section 280513, "Security System Cabling", for product information for wire and cable
 - 4. Section 280553, "Security System Labeling" for label types and formats
 - 5. Section 280800, "Security System Acceptance Testing", for integrating testing requirements

1.02 SYSTEM DESCRIPTION

- A. VSS System
 - 1. Provide rack mount NVR's to handle the recording of the cameras. Locate NVR's in building 36 second floor IDF Room.
 - 2. Provide heater/blower for all exterior cameras.

1.03 SUBMITTALS

- A. Contractor Qualifications: Submit certifications for the manufacturers of the video surveillance equipment.
- B. Product Data: Submit product information for components specified herein.
- C. Shop Drawings:
 - 1. Device placement on site plans.
 - 2. Point-to-Point Diagrams: Include wiring, points of connection and interconnecting devices between the following:
 - a. Video surveillance system, monitors, and recording equipment
 - b. Devices connected to the system

- c. Miscellaneous control relays
 - d. Conductors (identify conductors on the point-to-point diagrams with the same tag as the installed conductor)
 3. Block Diagram/Riser Diagram: Show the video surveillance system components, conduit, wire types, and sizes between them, including cabling interties between termination hardware.
 4. User interface graphics with icons and control buttons displayed.
 5. Custom mounting details

1.04 EXTRA MATERIALS

- A. Provide 10% spare parts of total installed the following: (Round up to the next complete device)
 1. Fuses (Place five (5) of each type of fuse inside each SEC and power supply housing).
 2. Relays

1.05 WARRANTY

- A. VSS System
 1. Provide a manufacturer's warranty covering repair or replacement of defective parts for a period of two years from the date of shipment from the factory.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Video Surveillance System
 1. Network Video Recording
 - a. Match existing system
 2. Cameras
 - a. 180 degreee - Arecont to match campus standard
- B. Exterior 180 degree fixed IP Camera
 1. Complete prepackaged unit containing:
 - a. Superior megapixel image sensor quality with progressive scan
 - b. Resolution: 12 frames per second at 1280x1024 and 30 frames per second at 640x480
 - c. Video streaming: Simultaneous Motion JPEG and MPEG-4
 - d. Auto iris, varifocal lens of 2.8-10mm
 - e. Security: IP address filtering and HTTPS encryption
 - f. Power over Ethernet (IEEE 802.3af), Class 1
 - g. Connectors:
 - 1) Ethernet 10/100 BaseT, RJ-45
 - 2) Terminal block for alarm inputs, output, and RS-485/422
 - 3) Audio line output, mini-jack
 - h. Vandal resistant dome housing
 2. Manufacturer:
 - a. Arecont #AV8185DN-HB; 180 degree 8MP H.264 Day night megapixel camera
 3. Accessories:
 - a. Arecont #MD-PMA; Pole Mount adapter
 - b. Arecont #SV-WMT; Wall Mount adapter
 - c. Pelco #WCS1-4; Power Supply

2.02 NETWORK VIDEO RECORDING SYSTEM

- A. Features
 1. Complete Network Video Recorder platform that encompasses recording video, viewing video, reviewing recorded video, and storing video for indefinite periods of time.
 2. Full control of camera selections, sequencing, and viewing modes.

3. The system simultaneously records, displays live video, and plays back video. None of the video operations interfere with each other. Live view and video playback does not interrupt the recording process.
 4. Recorders capture, digitize, and store video. Recorders may record full-time, in response to an alarm, or based on a user-defined schedule. Full-time recording refers to 24 hours per day, 7 days per week, 365 days per year.
 5. Capable of integrating with ACAMS via software without hardwired inputs/outputs and without third party software or middleware.
 6. Recorders
 7. Video Information
 - a. Store the time, date, and source of the video and be available during playback.
 - b. Store for each clip video source, capture date, start time, and stop time. Source identified as either a monitor or a camera.
 - c. Store alarm information in the database on the main server when the video is in response to an alarm condition.
 8. Recording Configuration
 - a. Utilize TCP/IP network protocol to communicate to head end.
 - b. Captures camera signals from fixed cameras, PTZ cameras, and low light cameras. Camera signals may be color, black and white, or both.
 - c. Capable of simultaneously recording each camera at 1.3mp resolution (1280x1024) at 30 frames per second NTSC.
 - d. Capable of recording video from cameras in Motion JPEG, MPEG-4 Part 2, and H.264 compression formats.
 9. Video Storage
 - a. Video stored in clips on the recorder's internal hard drive. As the hard drive become full, groom oldest clips to make room for new video.
 - b. Ability to utilize a variety of network storage devices such as external disk arrays, RAID and NAS devices, and external disk drives for exporting, backup, or sharing images.
 - c. Ability to modify video quality per camera with respect to recorder and server configurations, length of time video to be store.
 - d. Size the hard drive to allow for 30 days of video recording
 10. Video Authentication
 - a. Fingerprint each video clip through a mathematical algorithm during the video capture process. The fingerprint becomes part of the clip and used by the playback software to verify the video has not been altered.
 11. Alarm recording
 - a. Recording Options
 - 1) Internal video motion detection
 - b. Recording programmable by camera and by time and date schedule.
 - c. Allow a mix and match of continuous recording and alarm recording, based on camera input and capture card connection.
 - d. Pre and post alarm recording
 12. Video Motion Detection
 - a. Each video input capable of detecting activity from camera input and to initiate an alarm condition.
 - b. Video motion detection areas operator selectable for each camera input. If the scene changes within the alarm area, an alarm condition is initiated.
 13. Viewing of both live and archived images, from multiple remote systems.
 14. Remote event notification
 15. Password protected via user authorization, with profiles assigned by the system administrator, and database tracking of events.
- B. Video Management Software:
1. Include software licenses:
 - a. Exacq #EVIP-01; Camera licenses to support devices shown on project drawings

PART 3 - EXECUTION

3.01 INSTALLATION

- B. VSS Cameras
 - a. Provide outdoor housing and mounts for exterior cameras.
 - b. Field determine exact placement of cameras to ensure complete coverage.
 - c. Field determine fixed camera lens size to ensure complete coverage.
 - a. Route watertight flex from junction box to camera housing from below on exterior cameras.
- C. VSS Network Recording System
 - 1. Rack mount VSS equipment located in the building 36 second floor IDF room.

3.02 PROGRAMMING

- D. Prior to the completion of construction schedule a meeting with the Owner to determine the programming criteria. Discuss the following:
 - 1. Camera naming.
 - 2. VSS camera call-up & recording features (including video motion detection)
 - 3. System data base backup
- A. Document the results of the meeting and perform necessary programming to achieve the Owner's requests.
- E. Setup and program the system such that no additional programming required.
- F. Use the camera naming convention agreed upon at in the programming meeting when programming point names into the system.
- G. Perform 2 full system back-ups at completion of initial programming and deliver one copy to the Owner with a Letter of Transmittal explaining information included in back-up and brief description of recovery procedures. Label the second DAT and store onsite. Perform back-ups on a regular bases through the remainder of the project.
- H. Customize menus with the assistance of the factory to "gray-out" features not used on project (such as elevator control).
- I. Perform field software changes after the initial programming session to "fine tune" operating parameters and sequence of operations based on revised operating requirements.

3.03 TESTING

- A. Test the video surveillance system in accordance with Section 280800.

END OF SECTION

SECTION 31 10 00

SITE PREPARATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section describes general requirements, products, and methods of execution relating to site preparation, unless otherwise noted. This section applies to:
 - 1. Surface and subsurface demolition.
 - 2. Backfilling of excavations and depressions.
 - 3. Coordination, demolition and/or relocation of existing utilities.
 - 4. Prior to start of demolition of facilities, shut-off, disconnect, cut, and cap where required, underground utility services to facilities.
 - 5. Removal of A.C. pavement driveway and concrete pavement, concrete pads, and A.C. curbing.
 - 6. Removal of cyclone wire, wood fences and barricades.
 - 7. Removal of storm drainage piping, catch basins, and manholes.
 - 8. Removal of vegetation and trees as specified herein.
- B. Contractor shall provide labor, material and equipment required for demolishing, cutting, removing and disposing of existing construction as designated and shown on the Plans for the following as required, unless otherwise noted.
- C. Related Sections:
 - 1. Section 31 2333- Trenching, Backfilling, and Compacting.

1.3 SUBMITTALS

- A. Comply with requirements of Section 01 3219 – Submittal Procedures.
- B. Submit all permits and certificates required for the project, for record purposes.
- C. Demolition schedule and proposed methods and operations.
- D. Permits and notices authorizing demolition.
- E. Letter or certificates of severance of utilities services from the affected agencies or utilities.
- F. Proposed haul route(s) from the demolition worksite to an authorized disposal site.
- G. Permit for transport and disposal of debris.
- H. Make arrangements of disposing of waste and excess materials at a legally licensed landfill/disposal facility outside worksite and pay cost thereof.
- I. Photograph existing conditions of existing structure surfaces, equipments, and adjacent improvements that might be misconstrued as damage related to removal operations. File photographs with Project

Manager prior to start of work.

- J. Submit Proposed dust control measures.
- K. Submit Proposed noise control measures.
- L. Work Schedule: Submit a proposed schedule of work items to be performed, and a description of how the work is to be accomplished, for the Project Manager's review.
- M. Report of inspections conducted with the Project Manager before and after performing work.

1.4 QUALITY ASSURANCE

- A. Comply with the following Standards: American National Standards Institute, Inc. "American National Standard Safety Requirements for Demolition" (ANSI A10.6 and A10.8).
- B. Regulatory Agencies:
 - 1. Comply with rules and regulations of State of California, California Code of Regulations, Title 8, Industrial Relations, Chapter 4, Subchapter 4, "Construction Safety Order."
 - 2. Comply with applicable local and state agencies having jurisdiction.
 - 3. Comply with governing EPA notification regulations.
- C. Secure all required Permits or Certificates for demolition or discontinuance of utilities, prior to beginning the work.

1.5 PROJECT CONDITIONS

- A. Disposition of Existing Improvements:
 - 1. All materials indicated to be removed shall become the property of the Contractor; dispose of these outside the project site.
 - a. Do not dispose of removed materials to the general public by sale, gift or in any other manner at the Site.
 - b. These provisions shall not be construed as limiting or prohibiting sale or disposal of such materials at the Site to duly licensed Contractors or material suppliers, provided materials are removed from the construction site by the Contractor.
 - 2. All removal of debris from the site, including removal of inventory to site of storage, is part of this Contract and shall be done by Contractor's employees and no others.
- B. Salvage and Reuse:
 - 1. Where units or items of existing work are designated to be removed and reused in the new work or are to become salvage, remove such units or items carefully.
 - a. Use tools and methods that will not damage such units or items.
 - b. Protect underlying or adjoining work from damage.
 - c. Salvaged items shall be cleaned by the Contractor.
- C. Protection:
 - 1. Erect and maintain temporary bracing, shoring, lights, barricades, except construction barricades for subsequent new construction, warning signs, and guards necessary to protect public, the District's employees, finishes, improvements to remain and adjoining property from damage, all in accordance with applicable regulations.
 - 2. Wet down areas affected by this work as required preventing dust and dirt from rising.

- D. Scheduling:
 - 1. Coordinate with the District in scheduling noisy or dirty work.
 - 2. Schedule work at the District's convenience to cause minimal interference with the District's normal operations.
 - 3. Jackhammering shall be coordinated with the District and College to minimize disturbance of classes.

- E. Traffic Circulations: Ensure minimum interference with roads, streets, driveways, sidewalks, and adjacent facilities.
 - 1. Do not close or obstruct public thoroughfares without first obtaining the required permit or permission of the responsible jurisdiction.
 - 2. Where closing of a vehicular or pedestrian traffic circulation route is necessary, provide adequate directional signs to minimize the potential for confusion.

PART 2- PRODUCTS (NOT USED)

PART 3- EXECUTION

3.1 EXAMINATION

- A. Examine areas affected by work of this Section and verify following:
 - 1. Disconnection of utilities as required.
 - 2. That utilities serving occupied portions of buildings on and off the site will not be disturbed or that temporary utility services have been provided.
 - 3. Removal by the District of the District's personal property, movable furniture and equipment items not designated for relocation.

- B. Where existing conditions conflict with representations of the Construction Documents, notify the Project Manager and obtain clarifications. Do not perform work affecting the conflicting conditions until clarification of the conflict is received.

3.2 PREPARATION

- A. Verify that the area to be demolished or removed has been vacated, or adequate space made available to perform the work.

- B. Arrange for, and verify termination of utility services to include removing meters and capping of lines.

- C. Lay out cutting work at Job Site and coordinate with related work for which cutting is required.

3.3 DEMOLITION

- A. If confirmed or suspected hazardous materials are encountered during operations, stop operations immediately and notify the Project Manager.

- B. Perform work in accordance with ANSI A10.6-1969 unless otherwise noted.

- C. Provide noise and dust abatement as required to prevent contamination of adjacent areas.
 - 1. Remove all materials not designated as salvage, in their entirety.
 - 2. Remove building foundations in their entirety, unless otherwise indicated on the plans.

- D. Fill voids in the land left by the removal of existing structures as follows:

1. Grade finished remaining surface to the contours shown, or if not shown, to match the existing natural contours.

E. Lower, or remove, heavy structural framing members by hoist or crane.

F. Concrete and Masonry:

1. Demolish concrete and masonry in sections, less than 3 feet in any direction.
2. Method of cutting shall be limited to saw cutting and torch.

3.4 CUTTING

A. Make new openings neat.

B. Do not cut or alter structural members and any utilities including appurtenances unless indicated to do so in the Construction Documents, or written approval is received from the Project Manager.

C. Take care not to damage reinforcing or structural steel scheduled to remain in place.

D. Concrete: Cut new openings in concrete by coring and saw cutting. Saw run-bys will not be permitted.

3.5 PREPARATION FOR NEW FINISH WORK

A. Where demolished surfaces are scheduled to receive new finishes, Contractor shall restore such substrate to a condition ready to receive the scheduled new finishes, including grinding or leveling.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

B. Burning of demolished materials off District's property in a legal manner.

3.7 FIELD QUALITY CONTROL

A. The Project Manager will accompany the Contractor before and after performance of work to observe physical condition of existing structures or improvements involved.

END OF SECTION

SECTION 31 1300

TREE PROTECTION & TRIMMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the protection and trimming, or removal of existing trees and shrubs that are within limits of the work, interfere with, or are affected by, execution of the Work, whether temporary or permanent construction.

1.3 RELATED SECTIONS

- A. Section 31 0000 "Earthwork and Grading" for building and utility trench excavation, backfilling, compacting and grading requirements, and soil materials.
- B. Section 31 1000 "Site Preparation" for removal limits of trees, shrubs, and other plantings affected by new construction.
- C. Section 32 9119 "Landscaping Grading" for work near, or within the "Tree Protection Zone" under the direct supervision of a certified Arborist.
- D. Section 32 9300 "Landscaping" for tree and shrub planting, tree support systems, and soil materials.

1.4 DEFINITIONS

- A. Tree Protection Zone: Area surrounding individual trees or groups of trees to remain during construction, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. Tree Pruning and Removal Schedule: Written schedule from an arborist detailing scope and extent of removing trees, or pruning of trees to remain, that interfere with or may be affected by construction. Arborist must meet the qualifications listed in the Quality Assurance article of this section.
- B. Qualification Data: For both tree service firm and arborist.
- C. Certification: From arborist, certifying that trees indicated to remain have been protected prior to, and during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- D. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.

1.6 QUALITY ASSURANCE

- A. Arborist Qualifications: An arborist certified by International Society of Arboriculture (ISA), and licensed in the jurisdiction where Project is located. License shall be California C27 and D49 licenses.
- B. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed tree protection and trimming work similar to that required for this Project and that will assign a qualified, experienced, ISA certified arborist to Project site during execution of tree protection and trimming.
- C. Tree Pruning Standard: Comply with ANSI A300 (Part 1), "Tree, Shrub, and Other Woody Plant Maintenance--Standard Practices (Pruning)", as well as Class I, per ISA standards.
- D. Any pruning, cutting trimming or trimming of any trees shall be performed by an International Society of Arboriculture (ISA) Certified Arborist, or certified tree worker in accordance with the National Arborist Association and/or ISA pruning standards.
- E. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings."
 - 1. Prior to the beginning of clearing, grubbing, trenching, tree pruning or removal, or excavation on site, the Contractor, grading contractor, project arborist, landscape contractor, tree removal firm, Landscape Architect, and the Architect shall meet in a pre-construction conference to discuss grading near existing trees, tree protection and trimming procedures, and responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 3/4-inch (19 mm) in diameter; and free of subsoil and weeds, roots, toxic and other non-soil materials. Refer to Section 32 9300 "Landscaping" for more information.
- B. Obtain topsoil only from well-drained sites where topsoil is 4 inches (100 mm) deep or more; do not obtain from bogs or marshes.
- C. Filter Fabric: Manufacturer's standard, nonwoven, pervious, geotextile fabric of polypropylene, nylon, or polyester fibers similar to Mirafi N-Series "140N", or equal.
- D. Chain-Link Fence: Metallic-coated steel chain-link fence fabric of 0.120-inch- (3-mm-) diameter wire; a minimum of 72 inches (1800 mm) high; with 1.9-inch- (48-mm-) diameter line posts; 2-3/8-inch- (60-mm-) diameter terminal and corner posts; 1-5/8-inch- (41-mm-) diameter top rail; and 0.177-inch- (4.5-mm-) diameter bottom tension wire; with tie wires, hog ring ties, and other accessories for a complete fence system.
- E. Organic Mulch: Wood and bark, free of deleterious materials as specified in Section 32 9300 "Landscaping".

PART 3 - EXECUTION

3.1 GENERAL

- A. The contractor shall protect all existing trees and shrubs scheduled to remain against injury or damage, including cutting, breaking or skinning of roots, trunks or branches. No blasting of rock shall occur in any area adjacent to existing trees without prior written consent of the Architect.

- B. No trees or shrubs are to be removed, trimmed, or cut without prior approval of the Landscape Architect.
- C. Prior to the beginning of the clearing and grading phase of the project, a continuous temporary, six foot high chain link fence shall be erected around the dripline of trees scheduled to remain, unless otherwise specified by the Landscape Architect. The temporary fence shall be erected prior to commencing any other work on the project. No construction activity shall be allowed within the limits of this fencing unless directed by the Landscape architect. The temporary fence shall remain in place during the entire construction period and shall not be removed until directed by the Landscape Architect.
- D. Grading beneath trees to be saved shall be given special attention. Every effort shall be made to avoid creating conditions adverse to the tree's health. The natural ground within the drip lines of trees to be preserved shall remain as undisturbed as possible. Grading within the protected root zone of trees to be preserved will not be permitted unless specifically approved by the Architect prior to beginning of proposed grading.
- E. If during construction or grading (grading, excavation, etc.) tree roots of 2-inches in diameter or greater are encountered, work shall stop immediately and the Arborist, approved in advance by the Architect, shall be contracted for a root inspection. Root cutting of any roots over 2-inches in diameter must have prior approval from the Landscape Architect. All cuts are to be made with appropriate equipment, as to not affect the plant material.
 - 1. Major roots 1-inch or greater in diameter encountered within the "Tree Protection Zone" in the course of hand excavation or hand trenching shall not be cut and shall be kept moist and covered with earth as soon as possible.
 - 2. Roots one half inch (1/2") to one inch (1") in diameter which are severed shall be trimmed cleanly and covered with earth as soon as possible.
- F. All trenching beneath the "Tree Protection Zone" of trees scheduled to remain shall be done with hand tools only. No mechanical trenching or excavation is allowed within the drip line of existing trees at any time, or where roots are encountered outside the "Tree Protection Zone".
- G. Branches interfering with construction but not designated for removal may be removed only as directed by the Architect.
- H. Procure a permit where required prior to pruning or removing any trees, as required by applicable local codes or ordinances.
- I. Parking of vehicles, equipment or storage of materials under the drip line of existing trees shall not occur at any time.
- J. The areas outside the perimeter Loop Road are infested with poison oak and ground yellow jacket nests. It is the Contractor's responsibility to provide workers with adequate warnings and protection for this situation. Contractor shall hold harmless the College and all other parties for any poison oak and yellow jacket related issues.

3.2 TREE REMOVAL AND PRUNING SCHEDULE

- A. Trees to be removed in the future parking areas within the "Loop Road" are identified on the Civil Demolition Plans.

3.3 PREPARATION

- A. Temporary Fencing: Install temporary fencing around "Tree Protection Zones" (as defined in Part 2 of this Section) to protect remaining trees and vegetation from construction damage. The temporary fencing shall be erected prior to commencing any other work on the project. No construction activity shall be allowed

within the limits of this fencing unless directed by the Architect. The temporary fencing shall remain in place during the entire construction period and shall not be removed until directed by the Architect.

- B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
- C. Mulch areas inside tree protection zones and within drip line of trees to remain and other areas indicated.
 - 1. Apply 6-inch (150-mm) average thickness of organic mulch. Do not place mulch within 6 inches (150 mm) of tree trunks.
- D. Do not store construction materials, debris, or excavated material inside tree protection zones. Do not permit vehicles or foot traffic within tree protection zones; prevent soil compaction over root systems.
- E. Maintain tree protection zones free of weeds and trash.
- F. Do not add or remove soil within the "Tree Protection Zone".
- G. Do not allow fires within tree protection zones.

3.4 TREE REMOVAL

- A. Remove trees designated for removal prior to the construction of new improvements in the vicinity.
- B. Refer to Tree Removal and Pruning Schedule in this Section for specific tree removal and pruning information.
- C. Perform tree removal work in a safe and proper manner, adhering to CAL-OSHA and ANSI Standards.
- D. All trees to be demolished shall be removed in such a way as to not damage branches, trunks, or root systems of adjacent trees, including small existing Oak trees and Oak bushes.
- E. When demolishing trees indicated to be removed within the perimeter of the existing Loop Road, remove tree, stump to a depth of two (2) feet below finish grade, and all roots located in the top twelve (12) inches of soil. Remove wood chips created from grinding process down to remaining stump then refill void and re-compact to 80% relative compaction. Use import soil as indicated in specifications for this purpose. Import soil and compaction in future paved areas shall comply with civil paving plans and specifications.
- F. When demolishing trees located outside the perimeter of the existing Loop Road, removal shall be done in one of the following ways:
 - 1. For trees located in accessible areas, remove tree and grind stump to four (4) inches below finish grade. Backfill the void and re-compact to 80% relative compaction. Use import soil as indicated in specifications for this purpose. Do not remove existing roots.
 - 2. For trees located in inaccessible areas, cut stump flush with finish grade, and cover with 3 inches of bark mulch. Do not grind the stump and do not remove existing roots.

3.5 CLEANING

- A. Wash all existing and new trees weekly to remove dust and debris during construction.

3.6 EXCAVATION

- A. Install shoring or other protective support systems to minimize sloping or benching of excavations.
- B. Do not excavate within "Tree Protection Zones", without prior written consent of the Landscape Architect.

1. Excavation within the "Tree Protection Zone" for existing trees shall be done under the direct supervision of the Arborist.
- C. Where excavation for new construction is required within tree protection zones, hand clear and excavate to minimize damage to root systems. Use narrow-tine spading forks and comb soil to expose roots.
 1. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches (75 mm) back from new construction.
 2. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.
- D. Where utility trenches are required within tree protection zones, tunnel under or around roots by drilling, auger boring, pipe jacking, or digging by hand.
 1. Mechanical trenching of any kind is prohibited.
 2. Root Pruning: Prune Roots only with the approval of the Landscape Architect. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots with sharp pruning instruments; do not break or chop.

3.7 REGRADING

- A. No regrading of any kind, either cut or fill will be permitted within the "Tree Protection Zone" without prior written consent of the Landscape Architect. Regrading shall be done under the direct supervision of the certified Arborist.
 1. Grade Lowering: Where new finish grade is indicated below existing grade around trees, slope grade beyond tree protection zones. Maintain existing grades within tree protection zones.
 2. Minor Fill: Where existing grade is 6 inches (150 mm) or less below elevation of finish grade within the "Tree Protection Zone", fill with topsoil. Place topsoil in a single uncompacted layer and hand grade to required finish elevations.

3.8 TREE PRUNING

- A. Prune trees to remain that are affected by temporary and permanent construction as directed by Arborist.
- B. Refer to Tree Removal and Pruning Schedule in this Section for specific tree removal and pruning information.
- C. Prune trees to remain to compensate for root loss caused by damaging or cutting root system. Provide subsequent maintenance during Contract period as recommended by arborist.
- D. Pruning Standards: Prune trees according to ANSI A300 (Part 1) as follows:
 1. Type of Pruning as follows:
 - a. Cleaning: Selective pruning to remove one or more of the following parts: dead, diseased, and/or broken branches (5.6.1).
 - b. Thinning: Selective pruning to reduce density of live branches (5.6.2).
 - c. Raising: Selective pruning to provide vertical clearance (5.6.3).
 - d. Reduction: Selective pruning to decrease height and/or spread (5.6.4).
 2. Branches interfering with construction but not designated for removal may be removed only as directed by the Architect.
 3. Cutting of 2" diameter limbs or greater or major dead wooding shall require approval of the Architect.
 4. Lion's Tailing is not permitted.

5. Remove interfering leaders or crossing branches.
 6. Never remove more than 20 to 30 percent of the tree mass.
- E. Additional Pruning Standards: Trees shall be pruned so that they are laced out and balanced per Class I, ISA standards.
- F. Cut branches with sharp pruning instruments; do not break or chop.
- G. All trees shall be pruned, and cleared in such a way as to not damage branches, trunks, or root systems of adjacent trees, including small existing Oak trees and Oak bushes.
- H. Chip removed tree branches and dispose of off-site.

3.9 TREE REPAIR AND REPLACEMENT

- A. Promptly repair trees or shrubs scheduled to remain, damaged by construction operations within 24 hours to prevent progressive deterioration. Treat damaged trunks, limbs, and roots according to arborist's written instructions at no additional expense to the Owner.
1. Damaged trees and shrubs shall be repaired promptly. Repair or replacement of trees and shrubs shall be as determined by the Landscape Architect.
- B. Remove and replace trees indicated to remain that die or are damaged during construction operations that arborist determines are incapable of restoring to normal growth pattern.
1. Provide new trees of same size and species as those being replaced; plant and maintain as specified in Section 32 9300 "Landscaping".
 - a. Take caliper measurements 6 inches (150 mm) above the ground for trees up to 4-inch (100-mm) caliper size, and 12 inches (300 mm) above the ground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.
 2. Provide new trees of 6-inch (150-mm) caliper size and of a species selected by Architect when damaged trees more than 6 inches (150 mm) in caliper size, measured 12 inches (300 mm) above grade, are required to be replaced. Plant and maintain new trees as specified in Section 32 9300 "Landscaping".
- C. Damages: Trees which cannot not be replaced of equal caliper size and species shall compensate the Owner at a rate of \$ 750.00 per inch difference in caliper size between the original tree and the replacement tree.
1. Contractor shall be held liable for damage caused to trees and shrubs shall be assessed fees based on the International Society of Arboriculture (ISA) "Guide for Plant Appraisal", as determined by the project Arborist; fees will be assessed for: 1). any injury to the trunk, limbs, or root system, and 2). for the value of any tree requiring removal subsequent to injury or treatment that varies from these Specifications.

3.10 DISPOSAL OF WASTE MATERIALS

- A. Burning is not permitted.
- B. Disposal: Remove excess excavated material and displaced trees from Owner's property.

END OF SECTION

SECTION 32 0190

LANDSCAPE MAINTENANCE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Furnish all labor, material, equipment and services required to maintain landscape in a healthy growing condition and in a neat and attractive appearance throughout the maintenance period.

1.3 RELATED WORK

- A. Section 32 8400 "Planting Irrigation" for installation of underground piping and control systems.
- B. Section 32 9300 "Landscaping" for planting, soil treatment, soil testing, soil amendments and planting accessories.

1.4 QUALITY ASSURANCE

- A. The Maintenance Contractor shall be experienced in horticulture and landscape maintenance, practices and techniques, and shall provide sufficient number of workers with adequate equipment to perform the work during the maintenance period.

1.5 MAINTENANCE PERIOD

- A. Continuously maintain the entire project area during the progress of the work and during the ninety (90) calendar-day, maintenance period until final acceptance of the project by the Landscape Architect,
 - 1. Maintenance Period begins following "Final Completion" of the Project.
- B. Maintenance period shall not start until final completion, when all elements of construction, planting and irrigation for the entire project are in accordance with Plans and Specifications. A prime requirement is that all lawn and landscape areas shall be planted and that all lawn areas shall show an even, healthy stand of grass seedlings which shall have been mown twice. If such criteria is met to the satisfaction of the Landscape Architect, a written notification shall be issued to establish the effective beginning date of maintenance period.
- C. Any day of improper maintenance, as determined by the Landscape Architect, shall not be credited as an acceptable maintenance period day. The maintenance period shall be extended on a daily basis if the work is not in accordance to the Plans and Specifications. Project shall not be segmented into maintenance areas or phases, unless authorization of the Landscape Architect is obtained.
- D. Maintenance shall continue beyond the ninety (90) day maintenance period, as required, until final acceptance is given by the Landscape Architect.
- E. Contractor shall provide protection to the project site during the maintenance period.

1.6 GUARANTEE AND REPLACEMENT

- A. Guarantee: All plant material and other materials installed under the Contract shall be guaranteed for one year after the beginning of the duration of the landscape maintenance period against any and all poor, inadequate or inferior materials and/or workmanship or improper maintenance, as determined by the Landscape Architect, and shall be replaced by the Contractor at his expense.
- B. Replacement: Any materials found to be dead, missing, or not in a satisfactory or healthy condition during the maintenance period shall be replaced immediately. The Landscape Architect shall be sole judge as to the condition of material. Material to be replaced within the guarantee period shall be replaced by the Contractor within five (5) days of written notification by the Landscape Architect. All replacement materials and installations shall comply to the Plans and Specifications. Any plant missing due to suspected theft shall be replaced by the Contractor. If the Contractor suspects that theft may be a problem, the Contractor shall provide written documentation to the Landscape Architect that security on this site needs to be intensified.
- C. The Contractor may relieve himself of theft responsibility if after the security notice, with no result, a written notice to the Landscape Architect shall be given that plant material will not be replaced for theft or vandalism due to lack of site security being maintained. This procedure may take place only during the Landscape Maintenance Period.

1.7 OBSERVATION SCHEDULE

- A. Normal progress observations shall be requested by the Contractor from the Landscape Architect as per observations listed in specifications Division 02 Section "Landscape Work".

1.8 FINAL ACCEPTANCE OF THE PROJECT

- A. Upon completion of all project work, including maintenance period, the Landscape Architect will, upon proper request, make an observation to determine final project acceptability.
- B. Where observed work does not comply with the Plans and Specifications, replace rejected work and continue specified maintenance period until reinspected by the Landscape Architect and determined to be acceptable. All replacement materials and installations shall be in accordance with the Plans and Specifications. Remove rejected work and materials immediately from project. Prior to the date of final observation, Contractor shall provide the Landscape Architect with all Record Drawings in accordance with the Plans and Specifications.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All materials used shall either conform to Specifications in other sections or shall otherwise be acceptable to the Landscape Architect. The Landscape Architect shall be given a monthly record of all herbicides, insecticides and disease control chemicals used.
- B. Turf maintenance fertilizer: shall be "Best Turf Supreme 16-6-8":
 - 1. 16% nitrogen
 - 2. 6% phosphoric acid
 - 3. 8% potash
- C. Slow Release maintenance fertilizer: shall be "Best Superturf 25-5-5 with Polyon" and shall consist of the following percents by weight:
 - 1. 25% nitrogen
 - 2. 5% phosphoric acid
 - 3. 5% potash

PART 3 - EXECUTION

3.1 MAINTENANCE

- A. General: Proper maintenance, including watering, weeding, mowing, edging, fertilization, repairing and protection shall be required until entire project is finally accepted, but in any event for a period of not less than the specified maintenance period after planting.
- B. Watering: Thoroughly water to insure vigorous and healthy growth until work is accepted. Water in a manner to prevent erosion due to application of excessive quantities of water. When hand watering use a water wand to break the water force.
- C. Weeding:
 - 1. Keep plant basins and areas between plants free of weeds. Control weeds with preemergent herbicides. If weeds develop, use legally approved herbicides. Avoid frequent soil cultivation that destroys shallow roots. Weeding also shall be included in all paved areas including public or private sidewalks.
 - 2. Apply a final application of pre-emergent herbicide at the end of the maintenance period, just prior to final acceptance.
- D. Tree basins in turf areas: Remove turf from around each tree to create a 3'- 0" diameter basin.
- E. Pruning
 - 1. Trees: Prune trees to select and develop permanent scaffold branches; to eliminate narrow V-shaped branch forks that lack strength; to reduce toppling and wind damage by thinning out crowns; to maintain a natural appearance and to balance crown with roots. All trees shall be maintained and pruned in accordance with the accepted practices of the International Society of Arboriculture (ISA). Prune only as directed by the Landscape Architect.
 - 2. Shrubs: Same objectives as for trees. Shrubs shall not be clipped into balled or boxed forms unless such is required by the landscape plans. All pruning cuts shall be made to lateral branches, buds or flush with the trunk. Stubbing and heading shall not be permitted.
 - 3. Only skilled workers shall perform pruning work in accordance with standard horticultural pruning practices. Remove from the project all pruned branches and material. Remove and replace any plant material excessively pruned or malformed resulting from improper pruning practices at no additional costs to the owner.
- F. Staking: Stakes shall remain in place through the guarantee period and shall be inspected and adjusted to prevent rubbing that causes bark wounds. Remove nursery stake from all trees that are staked with lodgepole stakes per specifications unless directed otherwise by Architect.
- G. Insect, Animal, Rodent and Disease Control: Maintain proper control with legally approved materials as required as part of the Contract.
- H. Protection: The Contractor shall maintain protection of the planted areas. Damaged areas shall be repaired or replaced at the Contractor's expense.
- I. Trash: Remove trash weekly in all planted areas, pedestrian walkways and parking areas.
- J. Replacement: As per Guarantee and Replacement Specifications of this Section.
- K. Fertilization: Fertilize all planting areas, just prior to end of maintenance period with the slow release maintenance fertilizer at manufacturer's recommended rate.

3.2 LAWN AND TURF MAINTENANCE

- A. Mowing and Edging
 - 1. Mowing of turf will commence when the grass has reached a height of two and one-half (2-1/2) inches. The height of cut will be two (2) inches. Mowing will be at least every 4-6 days for the second through fifth cuttings, and at least once per week after that. Turf must be well established and free of bare spots and weeds to the satisfaction of the Landscape Architect prior to final acceptance.
 - 2. Excess grass clippings shall be picked up and removed from the site and premises. Let turf areas dry out enough so that mower wheels do not skid, tear or mark the lawn. Edges shall be trimmed at 90 degrees to pavement, at least twice monthly or as needed for neat appearance. Clippings shall be removed from paved and planting areas, etc. and disposed of from the site.
- B. Watering: Lawns shall be watered at such frequency as weather conditions require to replenish soil moisture below root zone and to establish healthy strands of grass.
 - 1. Contractor is responsible for water audits and payment of any local penalties by local water districts at no additional cost to the Owner.
- C. Disease control: Control turf diseases throughout the maintenance period with legally approved fungicides and herbicides.
- D. Weed Control:
 - 1. Control broad leaf weeds with selective, legally approved herbicides throughout maintenance period.
 - 2. A final application of selective herbicide shall be applied at the end of the landscape maintenance period, acceptance, just prior to final acceptance.
- E. Fertilization:
 - 1. During maintenance period an application of turf maintenance fertilizer, as specified, shall be made at thirty (30) day intervals from the date of maintenance period start at a rate of five (5) pounds per 1,000 square feet, or as per manufacturer's recommendations.
 - 2. Final application (just prior to final acceptance) shall be made with the slow-release maintenance fertilizer at the manufacturer's recommended application rate.
 - 3. Replacement: At conclusion of maintenance period a final observation of lawn and turf areas shall be made. Remove diseased areas and unhealthy strands of grass from the site; do not bury into the soil. Replant areas with material and in a manner as specified on the Plans and Specifications at no additional cost to the Owner.

3.3 IRRIGATION SYSTEM

- A. System Observation: The Contractor shall check all systems for proper operation. Lateral lines shall be flushed out after removing the last sprinkler head or two at each end of the lateral. All heads are to be adjusted as necessary for unimpeded head to head coverage.
- B. Valves: Contractor shall set, and verify that all pressure regulating valves to the operating pressure specified on the drawings.
- C. Controllers: Set and program automatic controllers for seasonal water requirements. Give the Owner's Representative instructions on how to turn off system in case of emergency.
- D. This irrigation system is designed and specified to be operable from a central irrigation computer controller located off site. Contractor shall demonstrate to Landscape Architect, Owner's Representative and future maintenance contractor that the central irrigation system is fully installed and operational from this off site control system as described and specified. Contractor shall make all adjustments as necessary to insure this operation prior to final acceptance.

- E. Contractor shall set up and coordinate training for the Maintenance Contractor (Provider) on the central irrigation controller, with the manufactures representative. Maintenance period shall not end, and the project will not be accepted until this training has been completed.
- F. Repairs: Repair all damages to irrigation system at the Contractor's expense. Repairs shall be made within twenty-four (24) hours.

3.4 CLEANING

- A. During maintenance work, keep pavements clean and work area in an orderly condition. Haul away and remove all debris from landscape areas, and do not leave any prunings, clippings, and or other material from landscape planting and/or maintenance period.
- B. Powerwash all paving and flatwork as necessary to remove all staining and tire marks and provide a clean surface caused by maintenance vehicles, prior to final acceptance.

END OF SECTION

SECTION 32 10 00

DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Provide labor, material, and equipment required for demolishing, cutting, removing and disposing of existing construction as designated or required to provide for new work.
- B. Related Sections:
 - 1. Section 31 1000 – Site Preparation.

1.3 SUBMITTALS

- A. Comply with requirements of the Section 01 3219 – Submittal Procedures.
- B. Photographs or videotape, sufficiently detailed, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing.
- C. Submit as-built drawings indicating location of all abandoned and capped utilities.
- D. After site demolition is complete, submit a list of items that have been removed and salvaged.

1.4 QUALITY ASSURANCE

- A. Comply with the following Standards: American National Standards Institute, Inc. “American National Standard Safety Requirements for Demolition” (ANSI A10.6 and A10.8).
- B. Regulatory Agencies:
 - 1. Comply with rules and regulations of State of California, California Code of Regulations, Title 8, Industrial Relations, Chapter 4, Subchapter 4, “Construction Safety Order.”
 - 2. Comply with applicable local and state agencies having jurisdiction.
 - 3. Comply with governing EPA notification regulations.
 - 4. Comply with applicable state and local regulations regarding dust and noise mitigation during construction.
- C. Secure all required Permits or Certificates for demolition prior to beginning the work.

1.5 PROJECT CONDITIONS

- A. District assumes no responsibility for actual condition of the site to be altered.
 - 1. Conditions existing at time of inspection for bidding purpose will be maintained by District as far as practical.
- B. Disposal of Existing Improvements:
 - 1. Unless otherwise indicated, all demolition waste shall become the property of the Contractor, except materials to be recycled. Dispose of demolished material outside the project site.
 - a. Do not dispose of removed materials to the general public by sale, gift or in any other

- manner at the project site.
- b. These provisions shall not be construed as limiting or prohibiting sale or disposal of such materials at the Site to duly licensed Contractors or material suppliers, provided materials are removed from construction site by the Contractor.
2. All removal of debris from the site, including removal of inventory to site of storage, is part of this Contract and shall be done by Contractor's employees and no others.
- C. Recycling:
1. Recycle AC pavement and Class II AB where indicated on plans to the greatest extent possible in accordance with the geotechnical recommendations.
 2. Recycled concrete shall be ground and reused to meet the gradation and quality of Class II Aggregate Base as specified in Section 26-1.02A of the Caltrans Standard Specifications, 2006. Recycled concrete shall not be used for fill in areas to receive landscaping.
 3. Items indicated to be salvaged shall be removed carefully, cleaned, and returned to the District. Coordinate with the Project Manager.
- D. Protection:
1. Erect and maintain temporary bracing, shoring, lights, barricades, except construction barricades for subsequent new construction, warning signs, and guards necessary to protect public, the District's employees, adjacent improvements to remain, and adjoining property from damage, all in accordance with applicable regulations.
 2. Wet down areas affected by this work as required to prevent dust and dirt from rising.
- E. Scheduling:
1. Coordinate with the Project Manager in scheduling noisy or dirty work.
 2. The Project Manager will supply a schedule of days on which no construction will be allowed.
 3. Contractor shall take College schedule into consideration during construction.
 4. Coordinate and schedule temporary water shut-downs and temporary water service with the Project Manager, District Facilities, and the Fire Department.
- F. Traffic Circulations: Ensure minimum interference with roads, streets, driveways, sidewalks, and adjacent facilities.
1. Minimize obstruction to public thoroughfares by first obtaining the required approval or permission of the responsible jurisdiction.
 2. Coordinate all closures of on-campus roads, driveways, sidewalks and pedestrian pathways with the District.
 3. Where closing of a vehicular traffic circulation route is necessary, provide adequate directional signs to minimize the potential for confusion. Provide access at all times for emergency vehicles.
- G. Safety:
1. The College of San Mateo campus has a history of serpentine rock. The Contractor shall take all necessary precautions to eliminate the exposure of workers, students, staff, and the public to asbestos fibers, including but not limited to: dust control measures and measures included in Sections 93106 and 93105 of California Code of Regulations, Title 17.

PART 2- PRODUCTS (NOT USED)

PART 3- EXECUTION

3.1 EXAMINATION

- A. Where existing conditions conflict with representations of the Construction Documents, notify the Project Manager and obtain clarifications. Do not perform work affecting the conflicting conditions until clarification of the conflict is received.

3.2 PREPARATION

- A. Verify that the area to be demolished or removed has been vacated, and adequate space has been made available to perform the work.
- B. Lay out saw cutting and coordinate with related work for which saw cutting is required.
- C. Contractor shall coordinate and arrange the shut down of utilities serving the site with Facilities, the Fire Department, and the Project Manager.
- D. Maintain continuous service to the campus fire loop and fire hydrants. If any interruption of service is necessary, notify the District a minimum of 72 hours in advance and cooperate fully with the District in managing the temporary interruption.

3.3 DEMOLITION

- A. If known or suspected hazardous materials are encountered during operations, stop operations immediately and notify the Project Manager.
- B. Perform work in accordance with ANSI A10.6-1969 unless otherwise noted.
- C. Provide noise and dust abatement as required to prevent contamination of adjacent areas.
- D. Remove all materials, including the concrete utility trench, not designated to be recycled or salvaged, in their entirety.
- E. If unknown items such as human remains are encountered during operations, stop operations immediately and notify the Project Manager.
- F. Stockpile salvaged items at a location on campus, determined by the Project Manager.
- G. Stockpile recycled concrete and asphalt concrete in areas designated and approved by the District.
- H. Construction activities shall be limited to the hours of 7:00 am and 7:00 pm Monday through Friday. Noise-generating construction activities shall be limited to the hours of 8:00 am and 5:00 pm. Work on Saturdays shall require special approval of the District. No construction activity shall be permitted on Sundays or State and Federal Holidays.

3.4 DEMOLITION AND REMOVAL OF PAVEMENT

- A. Sawcut pavement at edge of demolition area.
- B. Break pavement and remove.
- C. Remove any base material, gravel, and/or any other non-native soil deemed unsuitable per Geotechnical recommendations.

3.5 SAW CUTTING

- A. Make new openings neat.
- B. Take care not to damage existing concrete or asphalt concrete pavement designated to remain in place.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Burning of demolished materials is prohibited.

3.7 FIELD QUALITY CONTROL

- A. The Project Manager will accompany the Contractor before and after performance of work to observe physical condition of existing structures or improvements involved.

END OF SECTION

SECTION 32 12 33

PAVING AND SURFACING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes (but is not necessarily limited to):
1. Asphalt Concrete Paving.
 2. Vehicular Concrete Paving.
 3. Liquid Asphalt and Asphalt Emulsion.
 4. Aggregate Base.
- B. Section Excludes (refer to Section 32 1313 –Concrete Paving for excluded items):
1. Concrete Walkways.
 2. Concrete Aprons, Curbs and Gutters.
 3. Concrete Site Walls.
 4. Concrete Mow Strips.
 5. Precast Wheel Stops.
 6. Concrete Finishes.
- C. Related work furnished under other sections but conforming to the provisions of this section:
1. Subgrade preparation.
 2. Aggregate Base installation.
- D. Related Sections:
1. Section 32 1000 – Demolition.
 2. Section 32 1313 – Concrete Paving.
 3. Section 32 1723 – Pavement Markings.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM):
1. A615: Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 2. C150: Portland Cement.
 3. D1557: Moisture Unit Weight Relations of Soils and Aggregate Mixtures Using a 10 lb (4.5 kg) Rammer and 18 in. (457 mm) Drop.
 4. D1682: Breaking Loads and Elongation of Textile Fabrics.
- B. California Code of Regulations (CCR): Title 24, Chapter 2-71, Site development Requirements for Handicapped Accessibility.
- C. California Department of Transportation (C.D.T.):
1. Standard Specifications:
 - a. Section 26 Aggregate Bases.
 - b. Section 37 Bituminous Seals.
 - c. Section 39 Asphalt Concrete.
 - d. Section 51 Concrete Structures.
 - e. Section 52 Reinforcement.

- f. Section 73 Concrete Curbs and Sidewalks.
 - g. Section 90 Portland Cement Concrete.
 - h. Section 92 Asphalts.
 - i. Section 93 Liquid Asphalts.
 - j. Section 94 Asphaltic Emulsions.
- 2. Traffic Manual.
 - 3. Highway Design.

D. Institute of Transportation Engineers: Transportation and Traffic Engineering Handbook.

1.4 SUBMITTALS

- A. Requirements: Refer to Section 01 3219 – Submittal Procedures.
- B. Asphalt Concrete Paving:
 - 1. Provide two copies of material certificates signed by the material producer and the Contractor, certifying that each material item complies with or exceeds specified requirements.
 - 2. The Contractor shall furnish a certified weight or load slip for each load of material used in the construction of the asphalt concrete pavement.
- C. Concrete Paving: The Contractor shall furnish mill test reports on the cement, reinforcement bars, and aggregates, showing compliance with the respective specifications. The Testing Engineer may make concrete test cylinders and slump tests as deemed necessary to determine compliance with the Specifications.
- D. Liquid Asphalt: The Contractor shall furnish product data and manufacturer specifications.
- E. Pavement Reinforcement Fabric: The Contractor shall furnish product data and manufacturer specifications.
- F. Tack Coat: The Contractor shall furnish product data and manufacturer specifications.
- G. Pavement Reinforcement Mesh: The Contractor shall furnish product data and manufacturer specifications.
- H. Structural Geotextile Fabric: The Contractor shall furnish product data and manufacturer specifications.

1.5 PROJECT CONDITIONS

- A. Liquid Asphalt and Asphalt Emulsion:
 - 1. Prime coat, seal coat, and paint binder shall be applied only when the ambient temperature is above 50° Fahrenheit and when temperature has not been below 35° Fahrenheit for 12 hours immediately prior to application.
 - 2. Prime coat, fog coat, seal coat, and paint binder shall not be applied when base or surfaces are wet or contain excess moisture.
- B. Asphalt Concrete Paving: Asphalt concrete surfaces shall be constructed only when ambient temperature is above 50° Fahrenheit and when base is dry.

1.6 GENERAL DESIGN CRITERIA

- A. Services Areas: Approach ramps, driveways, and paved work areas in excess of 4 percent slope

shall be provided with a rough texture for non-skid surface.

- B. Walks and Paths: Concrete exterior slabs (walks, terraces, etc.) shall have a pitch of at least 2 percent.
- C. Pavement Markings: All traffic control striping and pavement markings shall conform to the standards illustrated in the C.D.T. Standard Plans Book issued July 1992, General Road Work Section.

PART 2 - PRODUCTS

2.1 PAVING MATERIALS

- A. Aggregate Base: Aggregate base shall conform to Caltrans Class 2 (R value 78 min) aggregate base, 3/4" maximum size, as specified in Section 26 of the C.D.T. Standard Specifications.
- B. Asphalt Concrete Paving:
 - 1. Paving asphalt to be mixed with aggregate shall be steam-refined asphalt, AR-4000, conforming to Section 92 of the C.D.T. Standard Specifications.
 - 2. Mineral aggregate shall be Type B mineral aggregate as specified in Section 39 of the C.D.T. Standard Specifications.
 - 3. Maximum aggregate size shall be as follows:

<u>A.C. Thickness</u>	<u>Max. Ag.</u>
3/4" - 1 1/2"	1/2"
2 & 2 1/2"	1/2"
3" & 4"	3/4"

- 4. Liquid asphalt for prime coat shall be Grade SC-70 in conformance with Section 93 of the C.D.T. Standard Specifications.
- 5. Asphaltic emulsion for paint binder, fog coat, and seal coat shall be emulsified asphalt, Type SS-1h, conforming to Section 94 of the C.D.T. Standard Specifications.
- C. Portland Cement Concrete:
 - 1. Concrete shall be Class A concrete conforming to Section 90 of the C.D.T. Standard Specifications.
 - 2. Cement shall be Type II cement conforming to ASTM C150 as modified by Section 90 of the C.D.T. Standard Specifications.
 - 3. Aggregate shall be 3/4-inch maximum size conforming to Section 90 of the C.D.T. Standard Specifications.
 - 4. Water shall be potable and free of organic matter and injurious amounts of oil, acid, alkali, or other deleterious substances.
 - 5. Reinforcing bars shall be deformed and shall conform to ASTM A615.
 - 6. Filled joints, unless noted otherwise on the Drawings, shall be 1/4-inch thick, the full depth of the concrete section and conforming to Section 51 of the C.D.T. Standard Specifications.
 - 7. Joint filler shall conform to Section 51 of the C.D.T. Standard Specifications for pre-molded expansion joint filler and expanded polystyrene joint filler.
 - 8. No admixtures will be allowed without prior approval of the Project Manager.
- D. Pavement Reinforcement Fabric: Pavement reinforcement fabric shall meet Caltrans Section 88-1.02, BP Petromat or approved equivalent.
- E. Crack Sealant:
 - 1. Crack sealant shall be rubberized hot-pour type and shall meet ASTM D 3405, Husky 1611 or approved equivalent.
 - 2. Blotting Agent shall be one of: Screened sand, cement, or fly ash.

- F. Tack coat: Tack coat shall meet Caltrans Section 39-4.02.
- G. Pavement reinforcement mesh: Pavement reinforcement mesh for use in Type 2 Overlay shall be Glasgrid Model 8501 or approved equivalent.
- H. Structural geotextile fabric: Structural geotextile fabric shall be Mirafi 500X or approved equivalent.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Subgrade and Aggregate Base:
 - 1. Prepare a subgrade and over excavation paragraph reference 3.4 of Section 31 0000 – Earthwork and Grading.
 - 2. Aggregate base shall be compacted to 95 percent ASTM D1557. Sections 26-1.04B and 26-1.05 of the C.D.T. Standard Specifications shall apply.
 - 3. Soil sterilant shall be applied to prepared subgrade or after installation of rock or aggregate base uniformly at the rate recommended by the manufacturer.
- B. Crack Sealing:
 - 1. Before sealing, cracks shall be cleared of dirt, dust, and all other deleterious materials to a depth of 1/4-inch to 1/2-inch.
 - 2. Cracks 1/8-inch in width and greater shall be sealed.
 - 3. Application of crack sealer shall be in accordance with the manufacturer's recommendations unless otherwise directed.

3.2 ASPHALT CONCRETE PAVING

- A. General:
 - 1. Asphalt concrete shall be proportioned, mixed, placed, spread, and compacted in conformance with Section 39 of the C.D.T. Standard Specifications.
 - 2. Before placing asphalt concrete on untreated base, a liquid asphalt prime coat shall be applied to the base course in conformance with Section 39 of the C.D.T. Standard Specifications. Prime coat shall be applied at the rate of 0.25 gallons per square yard.
 - 3. Before placing asphalt concrete, an asphalt emulsion tack coat shall be applied to all vertical surfaces of existing pavement, curbs, gutters, construction joints, and all existing pavement to be surfaced, in conformance with Section 39 of the C.D.T. Standard Specifications.
 - 4. Spreading and compacting asphalt concrete shall be performed in accordance with Section 39 of the C.D.T. Standard Specifications.
 - 5. Fog seal shall be applied to all finished surfaces of asphalt concrete pavement at a rate of 0.05 gallons per square yard, in accordance with Section 37 of the C.D.T. Standard Specifications.
 - 6. After fog seal has been applied, ample time shall be allowed for drying before traffic is allowed on the pavement or paint striping is applied.

3.3 CONCRETE CONSTRUCTION

- A. General:
 - 1. All concrete shall be mixed in accordance with applicable provisions of Section 90 of the C.D.T. Standards Specifications.
 - 2. Construction of concrete substructures shall conform to applicable provisions of Section 51 of the C.D.T. Standard Specifications. Unless noted otherwise in the Specifications, all exposed surfaces of structure shall have Class 1 surface finish or finished to match existing adjacent paving.
 - 3. No pigment shall be used in curing compounds for construction of concrete curbs, gutters,

and structures.

4. All work shall be subject to field inspection. No concrete shall be placed until the Project Manager has approved the forms and reinforcement.
5. Expansion joints on curbs and gutters shall be placed 20 feet on centers, adjacent to structures, and at all returns, and shall be filled with joint filler. Control joints shall be formed 10 feet on centers. The score shall 1-inch deep minimum.
6. Concrete shall not be dropped freely where reinforcing bars will cause segregation, nor shall it be dropped freely more than 6 feet. Spouts, elephant trunks, or other approved means shall be used to prevent segregation.

3.4 FIELD QUALITY CONTROL

A. Asphalt Concrete Paving:

1. The specified thickness of the finished pavement shall be the minimum acceptable.
2. Conforms shall form a smooth, pond-free transition between existing and new pavement.
3. Depressions in paving between high spots are not to exceed 1/8-inch when measured below a 10 feet long straight edged placed anywhere on surface in any direction.
4. The finished asphalt pavement shall have positive drainage without ponding.

3.5 CLEANUP

A. General:

1. Surplus material remaining upon completion of paving operations shall become the property of the Contractor, to be removed from the work site and disposed of in a lawful manner.
2. Surfaces shall be left in a clean, neat, and workmanlike condition, and all construction waste, rubbish, and debris shall be removed from the work site and disposed of in a lawful manner.

END OF SECTION

SECTION 32 1313

PEDESTRIAN CONCRETE PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes exterior cement concrete pavement and architectural concrete walls for the following:
 - 1. Pedestrian concrete walkways, including integral color and special finishes.
 - 2. Concrete aprons, curbs and gutters.
 - 3. Concrete site walls.
 - 4. Concrete mow strips.
 - 5. Precast wheel stops.
 - 6. Concrete amphitheatre seating
 - 7. Concrete retaining walls.

1.3 RELATED SECTIONS

- A. Section 03 10 00 "Formwork" for general formwork requirements including formwork for architectural concrete walls and surfaces.
- B. Section 03 3000 "Cast-in-Place Concrete" for general building applications of concrete.
- C. Section 31 0000 "Earthwork and Grading" for building and utility trench excavation, backfilling, compacting and grading requirements, and soil materials.
- D. Section 32 1233 "Paving and Surfacing" for AC paving, vehicular concrete paving, liquid asphalt and asphalt emulsion, and aggregate base.
- E. Section 32 1373 "Concrete Paving Joint Sealants" for joint sealants of joints in concrete pavement and at isolation joints of concrete pavement with adjacent construction.

1.4 DEFINITIONS & STANDARDS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.
- B. ASTM C494 - Standard specifications for chemical admixtures for concrete
- C. ASTM C979 - Standard specifications for pigments for integrally colored concrete
- D. ASTM C3 09 - Liquid membrane forming compounds for curing concrete

- E. ACI 302 JR - Guide for concrete floor and slab construction
- F. ACT 305 R - Hot weather concreting
- G. ACT 306 R - Cold weather concreting
- H. ACT 3 18 - Building code requirements for reinforced concrete
- I. NRMCA - CJP5 - Plastic shrinkage cracking

1.5 SUBMITTALS

- A. Product Data: For each type of manufactured material and product indicated.
 - 1. Submit manufacturer's tech-data sheets and certificates of compliance to applicable ASTM requirements.
- B. Design Mixtures: For each concrete pavement mixture. Include alternate mixture designs when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
 - 1. Design Mixes shall be stamped by a licensed engineer in the State of California.
- C. Samples:
 - 1. Manufacturer's color chip for colored concrete colors.
- D. Qualification Data: For testing agency.
- E. Material Test Reports: From a qualified testing agency provided by the Owner indicating and interpreting test results for compliance of the following with requirements indicated, based on comprehensive testing of current materials:
 - 1. Aggregates. Include service record data indicating absence of deleterious expansion of concrete due to alkali-aggregate reactivity.
- F. Material Certificates: Signed by manufacturers certifying that each of the following materials complies with requirements:
 - 1. Cementitious materials.
 - 2. Steel reinforcement and reinforcement accessories.
 - 3. Admixtures.
 - 4. Curing compounds.
 - 5. Applied finish materials.
 - 6. Joint fillers.
- G. Mock-up: Contractor shall provide an on-site 5 foot by 5 foot mock-up of each concrete finish and color with respective score/sawcut and expansion joints for approval by the Architect.
 - 1. Upon request, the Architect may require modifications to be made to the mock-ups. The revised mock-ups shall be provided at no additional cost to owner. Once mock-ups have approved by the Architect, contractor shall retain approved mock-ups during construction as standard for judging completed work.
 - a. Paving Module: Construct a mock-up of one special paving module, including banding, 12'-0" x 12'-0".
 - b. Construct a mock-up of curved radial paving, approximately 180 sq.ft.

2. Walls: Construct at least 6 linear feet of straight or curved special finished concrete site wall, including detailed reveal and skateboard deterrents as detailed on Drawings.
3. Location: Construct mock-ups on site where directed. Approved mock-ups shall not become part of the final installation. Mock-ups will be used to establish acceptable quality, color and texture; remove and repeat until results satisfactory to the Architect are achieved. Maintain exact record of variables associated with each mock-up to facilitate the matching of approved mock-ups in actual construction
4. Contractor to remove mockups at contractor's cost when directed by owner's representative.

H. Field quality-control test reports.

I. Pour Sequence and Joint Layout Plan. This plan will show how paving contractor intends to sequence paving and where he intends to provide required contraction, construction, and isolation joints.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products who complies with ASTM C 94/C 94M requirements for production facilities and equipment.
 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- B. Installer Qualifications: Provide a minimum of five (5) similar architectural concrete paving projects totaling at least 100,000 SF within 100 miles of project site. Reference list to contain following information:
 1. Contact people with current (confirmed) telephone numbers:
 - a. Property Owner.
 - b. Architect of Record.
 - c. Landscape Architect of Record.
 - d. Project's Chief Operating Manager.
 2. Two digital photos (.jpg format at min. 1mb resolution) of each project installed:
 - a. Photo #1 – general overview of the architectural concrete paving and architectural concrete walls
 - b. Photo #2 – close-up of architectural concrete paving and architectural concrete walls taken 2-3' from surface with joints clearly shown.
 3. Supervision - placement and finishing of concrete work to be supervised by a person having a minimum of three (3) years of experience in placement and finishing of architectural concrete paving similar to this project.
- C. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by requirements in the Contract Documents.
- D. Concrete Testing Service: Owner shall engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.
- E. Pre-installation Conference: Conduct conference at Project site to comply with all civil specifications.
 1. Before submitting design mixtures, review concrete pavement mixture designs and examine procedures for ensuring quality of concrete materials and concrete pavement construction practices. Require representatives, including the following, of each entity directly concerned with concrete pavement, to attend conference:

- a. Contractor's superintendent.
 - b. Independent testing agency responsible for concrete design mixtures.
 - c. Ready-mix concrete producer.
 - d. Concrete subcontractor.
2. Identify mockup cast-in-place locations, and verify types and quantity of mockups during the pre-installation meeting.
- a. Mock-ups to be reviewed by Architect 7 to 14 days after the concrete pour.
 - b. Notify Architect a minimum of 72 hours prior to the contractor's request for review of field mock-ups.

1.7 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

1.8 WARRANTY

- A. Warranty: In addition to manufacturer's guarantees for products required to install architectural concrete paving, concrete work to be warranted for one (1) year from date of Final acceptance by Owner against defects in materials, workmanship, and damage caused by Concrete Subcontractor's employees.

PART 2 - PRODUCTS

2.1 FORMS

- A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.
 1. Use flexible or curved forms for curves with a radius 100 feet or less.
- B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

2.2 STEEL REINFORCEMENT

- A. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- B. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.
- C. Epoxy-Coated Welded Wire Fabric: ASTM A 884/A 884M, Class A, plain steel.
- D. Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.
- E. Plain Steel Wire: ASTM A 82, as drawn.
- F. Joint Dowel Bars: Plain steel bars, ASTM A 615/A 615M, Grade 60. Cut bars true to length with ends square and free of burrs, similar to "Speed Dowel" assembly manufactured by Greenstreak, Inc. St. Louis, MI (800) 325-9504.

- G. Hook Bolts: ASTM A 307, Grade A, internally and externally threaded. Design hook-bolt joint assembly to hold coupling against pavement form and in position during concreting operations, and to permit removal without damage to concrete or hook bolt.
- H. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete, and as follows:
 - 1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.
 - 2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.

2.3 CONCRETE MATERIALS

- A. Concrete material shall comply with ASTM C94, Ready-Mixed Concrete, and the State of California Standard Specifications, Section 90, except as herein specified.
- B. Fine and Coarse Aggregates: ASTM C33, 3/4-inch maximum size; clean, crushed permanent limestone aggregate free of materials which may cause staining; use Olympia natural sand for fine aggregate.
- C. Water: Clean, free from injurious amounts of oil, alkali, organic matter, or other deleterious material, and not detrimental to concrete per ASTM C 94/C 94M.
- D. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source throughout the Project:
 - 1. Portland Cement: ASTM C 150, Type II, or IV, gray [white].
 - a. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
- E. Air-Entraining Admixture: ASTM C 260.
- F. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.
 - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
 - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
 - 4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
 - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
 - 6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.4 CURING MATERIALS

- A. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- B. Water: Potable.

- C. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
1. Products:
 - a. Burke by Edeco; BurkeFilm.
 - b. ChemMasters; Spray-Film.
 - c. Dayton Superior Corporation; Sure Film.
 - d. Euclid Chemical Company (The); Eucobar.
 - e. Kaufman Products, Inc.; Vapor Aid.
 - f. Lambert Corporation; Lambco Skin.
 - g. L&M Construction Chemicals, Inc.; E-Con.
 - h. Meadows, W. R., Inc.; Sealtight Evapre.
 - i. Nox-Crete Products Group, Kinsman Corporation; Monofilm.
 - j. Sika Corporation, Inc.; SikaFilm.
- D. Curing and Sealing Materials-Colored Concrete:
1. Manufactures:
 - a. Materials Basis-of-Design Product: The design is based on L.M. Scofield Company, Los Angeles, CA, tel: (800) 800-9900, www.scofield.com.
 - b. Subject to compliance with requirements, provide the named product or a comparable product by one of the following manufactures:
 - 1) Davis Colors.
 - 2) Solomon Colors.
 2. Curing and sealing-exterior and/or interior: Colorcure concrete cureseal manufactured by L.M. Scofield Company. Color-matched, water-based curing and sealing compound that complies with ASTM C-309. Application per tech-data A-634.03
 3. Concrete surface repellent-vertical and/or flatwork: Repello surface treatment, invisible chemical treatment barrier system.

2.5 HARDENERS & SEALERS

- A. Curing and finishing-exterior: Sinak HLQ-125 as manufactured by Sinak Corporation. Clear, non-yellowing water-based curing compound that complies with ASTM C-309.

2.6 AGGREGATE BASE

- A. Granular Fill: Clean mixture of crushed stone or crushed or uncrushed gravel; ASTM D 448, Size 57, with 100 percent passing a 1-1/2-inch (37.5-mm) sieve and 0 to 5 percent passing a No. 8 (2.36-mm) sieve.
- B. Fine-Graded Granular Material: Clean mixture of crushed stone, crushed gravel, and manufactured or natural sand; ASTM D 448, Size 10, with 100 percent passing a 3/8-inch (9.5-mm) sieve, 10 to 30 percent passing a No. 100 (0.15-mm) sieve, and at least 5 percent passing No. 200 (0.075-mm) sieve; complying with deleterious substance limits of ASTM C 33 for fine aggregates.

2.7 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.
- B. Color Pigment: ASTM C 979, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, free of carbon black, nonfading, and resistant to lime and other alkalis.

1. Integral Color Admixture: Basis of Design: All concrete designated as integrally colored concrete in plans or specifications shall contain the proper proportion of Solomon ColorFlo Liquid Color Pigments for color conditioned concrete as manufactured by the Solomon Colors. It shall be certified that the colored admixtures comply with the requirements of paragraph 407 of ACI 318-83 (Building code requirements for reinforced concrete) as water-reducing admixtures, and that their water-reducing components have tested for compliance with ASTM C494. The color-conditioned admixture shall be a single-component pigmented, water-reducing concrete admixture, factory formulated, and packaged in pails, not multiple additives and pigments to dosed separately into the mix. The pigment portion of the colored admixture shall comply with ASTM C979.
 2. Other Acceptable Manufacturers:
 - a. Davis Colors.
 - b. LM Scofield Company.
 3. Color: Match color as indicated on drawings.
- C. Slip-Resistive Aggregate Finish: Factory-graded, packaged, rustproof, nonglazing, abrasive aggregate of fused aluminum-oxide granules or crushed emery with emery aggregate containing not less than 50 percent aluminum oxide and not less than 20 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials.

2.8 PAVEMENT MARKINGS

- A. Pavement-Marking Paint: Latex, waterborne emulsion, lead and chromate free, ready mixed, complying with FS TT-P-1952, with drying time of less than 3 minutes.
1. Color: As indicated on drawings.
- B. Glass Beads: AASHTO M 247, Type 1.

2.9 WHEEL STOPS

- A. Wheel Stops: Precast, air-entrained concrete, 2500-psi (17.2-MPa) minimum compressive strength, 4-1/2 inches (115 mm) high by 9 inches (225 mm) wide by 72 inches (1820 mm) long. Provide chamfered corners and drainage slots on underside and holes for anchoring to substrate.
1. Dowels: Galvanized steel, 3/4-inch (19-mm) diameter, 16-inch (406-mm) minimum length.

2.10 CONCRETE MIX, DESIGN, AND TESTING

- A. Comply with requirements of applicable Division 3 sections for concrete mix design, sampling and testing, and quality control and as herein specified.
- B. Design mix to produce normal-weight concrete consisting of portland cement, aggregate, water-reducing or high-range water-reducing admixture (superplasticizer), air-entraining admixture, and water to produce the following properties:
1. Compressive Strength:
 - a. Typical: 3000 psi, minimum at 28 days, unless otherwise indicated.
 - b. Curbs & Gutters: 3500 psi, minimum at 28 days.
 2. Slump Limit: 8 inches minimum for concrete containing high-range water-reducing admixture (superplasticizer, limited to flatwork only, not for use on walls); 4 inches for other concrete.
 3. Water/Cement Ratio: 0.5

- C. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M and ASTM C 1116. Furnish batch certificates for each batch discharged and used in the Work.
 - 1. When air temperature is between 85 deg F and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
- D. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.
 - 1. For concrete mixes of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
 - 2. For concrete mixes larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd.
 - 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixing time, quantity, and amount of water added.

2.11 INTEGRAL COLORED PROPORTIONING AND MIXES

- 1. Mixing of integrally colored concrete- The concrete color admixture shall be added at the concrete batch plant. Minimum batch size shall be three (3) yards. The same brand of cement, source of sand, and water/cement ratio must be maintained for each load of the same color. The batching procedures shall be as follows: Before adding color-conditioning admixture, the mixing drum must be thoroughly cleaned and wetted with approximately 40 gallons of the mix water and/or a portion of the aggregates. The contents of each pail of admixture needed to properly color the concrete should be added to the mixer. Proceed with normal batching of balance of ingredients After loading is complete, mix at mixing speed for a minimum of 130 revolutions before discharging. No water should be added after a portion of the load has been discharged.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.
- B. Proof-roll prepared subbase surface below concrete pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding.
 - 1. Completely proof-roll subbase in one direction and repeat in perpendicular direction. Limit vehicle speed to 3 mph.
 - 2. Subbase with soft spots and areas of pumping or rutting exceeding depth of 1/2 inch require correction according to requirements in Section 31 0000 "Earthwork and Grading".
- C. Proceed with concrete pavement operations only after nonconforming conditions have been corrected and subgrade is ready to receive pavement.

3.2 PREPARATION

- A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.
- C. Slope step treads at 1/4-inch per foot to drain

3.4 AGGREGATE BASE

- A. Granular Course: Cover subgrade with granular fill, moisten, and compact with mechanical equipment to elevation tolerances of plus 0 inch (0 mm) or minus 3/4 inch (19 mm).
 - 1. Place and compact a 1/2-inch- (13-mm-) thick layer of fine-graded granular material over granular fill.

3.5 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.
- D. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

3.6 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.
 - 1. When joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour unless pavement terminates at isolation joints.
 - 1. Continue steel reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of pavement strips, unless otherwise indicated.
 - 2. Provide tie bars at sides of pavement strips where indicated.
 - 3. Butt Joints: Use bonding agent at joint locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
 - 4. Keyed Joints: Provide preformed keyway-section forms or bulkhead forms with keys, unless otherwise indicated. Embed keys at least 1-1/2 inches into concrete.
 - 5. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt-coat one-half of dowel length to prevent concrete bonding to one side of joint.

- C. Isolation (Expansion) Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.
 - 1. Locate expansion joints at intervals of 20 feet, unless otherwise indicated on plans and drawings.
 - 2. Extend joint fillers full width and depth of joint.
 - 3. Terminate joint filler not less than 1/2 inch or more than 1 inch below finished surface if joint sealant is indicated.
 - 4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
 - 5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
 - 6. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.

- D. Contraction (Control) Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows to match jointing of existing adjacent concrete pavement:
 - 1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/8-inch radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
 - 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.
 - 3. Do not continue steel across joint.

- E. Edging: Tool edges of pavement, gutters, curbs, and joints in concrete after initial floating with an edging tool to a 3/4-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.

3.7 CONCRETE PLACEMENT

- A. Inspection: Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast in. Notify other trades to permit installation of their work.

- B. Remove snow, ice, or frost from subbase surface and reinforcement before placing concrete. Do not place concrete on frozen surfaces.

- C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

- D. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.

- E. Do not add water to concrete during delivery or at Project site.

- F. Do not add water to fresh concrete after testing.

- G. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

- H. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.
 - 1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only

square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.

- I. Screed pavement surfaces with a straightedge and strike off.
- J. Commence initial floating using bull floats or darbies to impart an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.
- K. Curbs and Gutters: When automatic machine placement is used for curb and gutter placement, submit revised mix design and laboratory test results that meet or exceed requirements. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing as specified for formed concrete. If results are not approved, remove and replace with formed concrete.
- L. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 - 1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
 - 2. Do not use frozen materials or materials containing ice or snow.
 - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mix designs.
- M. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:
 - 1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 - 2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
 - 3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.8 FLOAT FINISHING

- A. General: Do not add water to concrete surfaces during finishing operations.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
- C. Broom Finish: Perform broom finishing immediately after float finishing.
 - 1. Medium-to-Fine-Textured Broom Finish: Draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
 - 2. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.

- D. Final Tooling: Tool edges of paving, gutters, curbs, and joints formed in fresh concrete with a jointing tool to the following radius. Repeat tooling of edges and joints after applying surface finishes. Eliminate tool marks on concrete surfaces.
1. 3/8-inch wide radius at surface, tapered, with top edges rounded to 1/8-inch radius.

3.9 SPECIAL FINISHES

- A. Integral Colored Finish:
1. Flatwork: Strike off concrete to specified level using wooden strike off bar, immediately following strike off, further level and consolidate concrete with wooden bull float or wood darby. Begin floating operation before free moisture rises to the surface. After the concrete has reached a point where bleed water disappears, finishing may proceed. For uniformity of appearance, consistent finishing practices must be used when applying specified finish. Water must not be sprinkled or otherwise added to the surface while finishing. All final hand finishing must be done in the same direction. Furnish appropriate curing and/or sealing compound as per manufacturer's recommendations (see section 2.0 1E) reference tech-data A304. 10
 2. Vertical Concrete: Formwork for vertical colored concrete shall be a resin, high density overlay, an epoxy or urethane coated plywood. Release agents must be non-staining approved by the color admixture manufacturer. Joints shall be sealed with a urethane or silicone sealant. Form ties shall leave no metal closer than 1 ½ inches from the surface. The location of form ties shall be selected to minimize the impact on the overall appearance of the structure. All walls shall be cast in such a manner as to eliminate cold joints or lift lines in the finished product. All forms shall be stripped at the same age and a light sandblasting performed to remove minor form marks and surface residue. Patching and repair shall be performed using a compatible concrete patch in a matching color. Finished surfaces shall receive an application of a clear water repellent after the walls have been allowed to cure a minimum of 28 days.
- B. Abrasive-Blast (Sandblast) Finish: Perform abrasive blasting after compressive strength of concrete exceeds 2000 psi (13.8 MPa). Coordinate with formwork removal to ensure that surfaces to be abrasive blasted are treated at same age for uniform results.
1. Surface Continuity: Perform abrasive-blast finishing in as continuous an operation as possible, maintaining continuity of finish on each surface or area of Work. Maintain required patterns or variances in depths of blast to match design reference sample or mockup.
 2. Abrasive Blasting: Abrasive blast corners and edges of patterns carefully, using backup boards, to maintain uniform corner or edge line. Determine type of nozzle, nozzle pressure, and blasting techniques required to match design reference sample or mockup.
 3. Depth of Cut: Use an abrasive grit of proper type and gradation to expose aggregate and surrounding matrix surfaces to match design reference sample or mockup, as follows:
 - a. Light Sandblast: Approximately 1/32 to 3/32-inches deep.
 - b. Medium Sandblast: Approximately 1/16 to 1/8-inches deep.
 - c. Heavy Sandblast: Approximately 3/32 to 5/32-inches deep.
 4. Allow concrete to cure minimum 28 days prior to commencing sandblasting operations.
 5. Protect adjacent materials and finishes from dust, dirt and other surface or physical damage during finishing operations,; provide protection as required and remove at completion of Work.
 6. Repair or replace other work damaged by sandblasting operations to the Owner's satisfaction.
 7. Comply with applicable codes and requirements of applicable authorities for sandblasting operations.
 8. Perform sandblast finishing in as continuous an operation as possible, utilizing same work crew to maintain continuity of finish.

- C. Portland Cement-based surface treatment:
 - 1. ARDEX Finish – to match existing site walls on CSM campus.
 - a. Mix Design_
 - 1) One 40 lb. bag of Ardex CD- Fine concrete dressing – Portland cement based modified with high performance polymers.
 - 2) One 10 lb. bag of Ardex Tilt Wall (TWP) Portland cement-based finishing compound
 - 3) 3 teaspoons of Davis color Black #8084 (dry material), or equal.
 - 4) Mix well the two Ardex materials and color together DRY.
 - 5) Take from this dry mixture the quantity of material desired and water as needed to achieve the correct working consistency.
 - b. After Ardex is applied, and thoroughly dried, lightly sandblast as described above.
 - c. Final wall color and finish shall match existing walls on the CSM Main Campus as constructed under CSM CIP2 Site Package.

3.10 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Comply with ACI 306.1 for cold-weather protection.
- C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:
 - 1. Moist Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.11 PAVEMENT TOLERANCES

- A. Comply with tolerances of ACI 117 and as follows:
 - 1. Elevation: 1/4 inch.
 - 2. Thickness: Plus 3/8 inch, minus 1/4 inch.
 - 3. Surface: Gap below 10-foot- long, unlevelled straightedge not to exceed 1/4 inch.
 - 4. Lateral Alignment and Spacing of Tie Bars and Dowels: 1 inch.

5. Vertical Alignment of Tie Bars and Dowels: 1/4 inch.
6. Alignment of Tie-Bar End Relative to Line Perpendicular to Pavement Edge: 1/2 inch.
7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Pavement Edge: Length of dowel 1/4 inch per 12 inches.
8. Joint Spacing: 3 inches, unless otherwise indicated.
9. Contraction Joint Depth: Plus 1/4 inch, no minus.
10. Joint Width: Plus 1/8 inch, no minus.

3.12 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Owner and Engineer of Record.
- B. Allow concrete pavement to cure for 28 days and be dry before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings of dimensions indicated with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.
 1. Spread glass beads uniformly into wet pavement markings at a rate of 6 lb/gal.

3.13 WHEEL STOPS

- A. Securely attach wheel stops into pavement with not less than two galvanized steel dowels embedded in holes drilled or cast into wheel stops at one-quarter to one-third points. Firmly bond each dowel to wheel stop and to pavement. Securely install dowels into pavement and bond to wheel stop. Recess head of dowel beneath top of wheel stop.

3.14 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
 1. Testing Frequency: Obtain at least 1 composite sample for each 20 cu. yd. or fraction thereof of each concrete mix placed each day.
 - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mix. Perform additional tests when concrete consistency appears to change.
 3. Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.
 4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
 5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.

6. Compressive-Strength Tests: ASTM C 39/C 39M; test 1 specimen at 7 days and 2 specimens at 28 days.
 - a. A compressive-strength test shall be the average compressive strength from 2 specimens obtained from same composite sample and tested at 28 days.
- C. Strength of each concrete mix will be satisfactory if average of any 3 consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
- D. Test results shall be reported in writing to Owner, Architect and Engineer of Record, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer of Record but will not be used as sole basis for approval or rejection of concrete.
- F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Engineer of Record.
- G. Remove and replace concrete pavement where test results indicate that it does not comply with specified requirements.
- H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- I. Design Team Review – contractor to contract Design Team requesting review of the following stages of paving construction:
 1. Pre-Installation Meeting
 2. Formwork string layout
 3. Formwork layout
 4. Formwork placement prior to concrete pour
 5. First Concrete pour
 6. Layout of paving joints to be sawcut
 7. First day of paving joint sawcutting
 8. First day of paving sealing.

3.15 REPAIRS AND PROTECTION

- A. Remove and replace concrete pavement that is broken, cracked, damaged, or defective or that does not comply with requirements in this Section.
- B. Drill test cores, where directed by Engineer of Record, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with portland cement concrete bonded to pavement with epoxy adhesive.

- C. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.
- D. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

3.16 CLEANUP

- A. Remove all concrete over pours, and waste from the site.
- B. Provide a final power wash of all concrete surfaces.

END OF SECTION

SECTION 32 1373

CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Exterior joints in the following horizontal traffic surfaces:
 - 1. Isolation (Expansion) and contraction joints within cement concrete pavement.
 - 2. Joints between cement concrete and asphalt pavement.
 - 3. Isolation (Expansion) Joints between building and site concrete.
 - 4. Joints between plant-precast architectural concrete paving units.
 - 5. Joints between different materials listed above.
 - 6. Other joints as indicated.

1.3 RELATED SECTIONS

- A. Section 32 1233 – Paving and Surfacing, for constructing joints between concrete and asphalt pavement.
- B. Section 32 1313 – Concrete Paving, for constructing joints in concrete pavement.

1.4 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Verification: For each type and color of joint sealant required. Install joint-sealant samples in 1/2-inch- (13-mm-), and 1/4-inch (6.4-mm) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Product Certificates: For each type of joint sealant and accessory, signed by product manufacturer.
- D. Qualification Data: For Installer.
- E. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
- F. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
- G. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
- H. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for sealants.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.
- C. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
- D. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
- E. Submit not fewer than eight pieces of each type of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.
- F. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
- G. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
- H. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing of current sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.
- I. Product Testing: Obtain test results for "Product Test Reports" Paragraph in "Submittals" Article from a qualified testing agency based on testing of current sealant products within a 36-month period preceding the commencement of the Work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multi-component materials.
- B. Store and handle materials to comply with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.7 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
- B. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (4.4 deg C).
- C. When joint substrates are wet or covered with frost.
- D. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
- E. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Landscape Architect from manufacturer's full range.

2.3 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- C. Multicomponent Pourable Urethane Sealant (Sealant #1):
 - 1. Available Products:
 - a. Bostik Findley; Chem-Calk 550.
 - b. Meadows, W. R., Inc.; Pourthane.
 - c. Pacific Polymers, Inc.; Elasto-Thane 227 Type I (Self Leveling).
 - d. Pecora Corporation; Urexpan NR-200.
 - e. Polymeric Systems Inc.; PSI-270SL.
 - f. Schnee-Morehead, Inc.; Permathane SM 7201.
 - g. Sika Corporation, Inc.; Sikaflex - 2c SL.
 - h. Sonneborn, Division of ChemRex Inc.; SL 2.
 - i. Tremco; THC-900/901.
 - j. Tremco; Vulkem 245.
 - 2. Type and Grade: M (multicomponent) and P (pourable).
 - 3. Class: 25.
 - 4. Use Related to Exposure: T (traffic).
 - 5. Uses Related to Joint Substrates: M, A, and, as applicable to joint substrates indicated, O.
- D. Multicomponent Nonsag Urethane (Sealant #2):
 - 1. Available Products:
 - a. Pacific Polymers, Inc.; Elasto-Thane 227 High Shore Type II (Gun Grade).
 - b. Pecora Corporation; Dynatred.
 - c. Polymeric Systems Inc.; PSI-270.
 - 2. Type and Grade: M (multicomponent) and NS (nonsag).
 - 3. Class: 25.
 - 4. Use Related to Exposure: T (traffic).

5. Uses Related to Joint Substrates: M, A, and, as applicable to joint substrates indicated, O.
 - a. Use O Joint Substrates: Galvanized steel.

2.4 JOINT-SEALANT BACKER MATERIALS

- A. General: Provide joint-sealant backer materials that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint-sealant manufacturer based on field experience and laboratory testing.
- B. Round Backer Rods for Cold- and Hot-Applied Sealants: ASTM D 5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.
- C. Backer Strips for Cold- and Hot-Applied Sealants: ASTM D 5249; Type 2; of thickness and width required to control sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.
- D. Round Backer Rods for Cold-Applied Sealants: ASTM D 5249, Type 3, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.

2.5 PRIMERS

- A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
- B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install backer materials of type indicated to support sealants during application and at position

required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of backer materials.
 2. Do not stretch, twist, puncture, or tear backer materials.
 3. Remove absorbent backer materials that have become wet before sealant application and replace them with dry materials.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
 2. Completely fill recesses provided for each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Provide joint configuration to comply with joint-sealant manufacturer's written instructions, unless otherwise indicated.
- F. Provide recessed joint configuration for silicone sealants of recess depth and at locations indicated.

3.4 CLEANING

- A. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations with repaired areas are indistinguishable from the original work.

3.6 SCHEDULE

- A. Horizontal Joints, less than 5 percent slope; Sealant #1.
- B. Horizontal Joints, grades steeper than 5 percent; Sealant #2.
- C. Vertical Joints; Sealant #2.

END OF SECTION

SECTION 32 1723

PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Provide requirements for materials, fabrications, and installation of traffic control and pavement markings.

1.3 SUBMITTALS

- A. Comply with provisions of Section 01 3219 – Submittal Procedures.
- B. Shop Drawings: Show complete layout and location of pavement markings prior to demolition or obliteration of the existing markings.
- C. Submit samples as follows:
 - 1. Traffic paint.
 - 2. Pavement markers and adhesives.
 - 3. Reflectorized markers and posts.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Comply with Division 1 requirements, specifications, and the Project Manager.
- B. Deliver and store packaged products in original containers with seals unbroken and labels intact until time of installation.
- C. Provide proper facilities for handling and storage of products to prevent damage. Where necessary, stack products off ground on level platform, fully protected from weather.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Parking/Traffic Markings and Symbols
 - 1. Parking Stalls, Traffic Markings and Symbols:
 - a. Traffic Marking and Symbol Paint: Water-Born, Fast-Dry, Traffic Paint distributed by Fuller-O'Brien Corp. D.J. Simpson (#108-273, White); (#108-280, Blue); or approved equivalent.
 - 2. Limit Line:
 - a. Thermoplastic Stripes and Markings:
 - 1) Thermoplastic stripes and markings shall be hot applied conforming to CSS Section 84 and shall be Cataphote-Catatherm brand, Pavemark thermoplastic brand, or approved equal.

- 2) Thermoplastic stripes and markings shall have a minimum skid friction value of BPN 35.
- B. International Symbol of Accessibility Logo Background Paint: Blue Color. Glidden Co. "Glid-Guard Lifemaster Finish No. 5200 /series, Color 1/M 79", or approved equivalent.
- C. Pavement Markers and Adhesives:
1. Fire hydrant pavement markers shall be two-way retroreflective "Blue" markers and shall conform to the applicable requirements of CSS Section 85.
 2. Adhesive for pavement markers shall be standard set epoxy adhesive conforming to the requirements of CSS Section 95-2.05.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine receiving surfaces and verify that surfaces are clean and proper for installation.
- B. Do not start work until unsatisfactory conditions have been corrected.

3.2 APPLICATION

- A. Preparation:
 1. Clean and prepare surfaces to receive traffic paint in accordance with CSS Section 84-3.05 and these special provisions. Where required, remove existing striping and markings by wet blasting or equivalent method. Do not use dry sandblasting or other dust producing methods.
- B. Traffic Paint:
 1. Traffic paint shall be machine applied in accordance with CSS Section 84-3.04.
- C. Striping Layout:
 1. Traffic stripe shall be single and double, solid and broken, and of the color to match existing conditions.
 2. Traffic striping shall be placed in patterns to match existing conditions, contractor shall document.
- D. Thermoplastic Stripes and Markings:
 1. Thermoplastic stripes and markings shall be applied hot in conformance with manufacturer's recommended instructions and the applicable requirements of CSS Section 84-2.06.
- E. Pavement Markers:
 1. Blue pavement markers shall be installed to delineate the location of fire hydrants along the loop road. No markers shall be installed until the surface has been approved by the Project Manager and until at least 10 days after the slurry seal on asphalt concrete has been placed. Place markers in accordance with CSS Section 85-1.06.
- F. Apply marking paint in accordance with approved manufacturer's recommendations.
- G. Density of paint coverage shall hide color and texture of substate.
- H. Parking Stripes: Paint four inches wide unless otherwise noted. Provide blue outline of loading aisles of accessible parking stalls.
- I. Symbol Marking: Paint to match existing conditions.

3.3 CLEANING AND PROTECTION

- A. Upon completion of work, remove surplus materials and rubbish and clean off spilled or splattered paint resulting from this work.
- B. Permit no surface traffic until pavement and symbol marking has dried thoroughly.

END OF SECTION

SECTION 32 50 00

RESTORATION OF SURFACES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes but is not limited to:
 - 1. General surface restoration.
 - 2. Asphalt concrete surface restoration.
 - 3. Concrete surface restoration.
 - 4. Pavement Marking
 - 5. Landscape/Planting restoration.
- B. Related Sections:
 - 1. Section 32 1233 – Paving and Surfacing.
 - 2. Section 32 1313 – Concrete Paving.
 - 3. Section 32 1723 – Pavement Markings.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Refer to Section 31 2333 – Trenching, Backfilling, and Compacting.
- B. Refer to Section 32 1233 – Paving and Surfacing.
- C. Refer to Section 32 1313 – Pedestrian Concrete Paving.
- D. Refer to Section 32 1723 – Pavement Markings.

PART 3 - EXECUTION

3.1 GENERAL

- A. Surface restoration shall be in kind or better.

3.2 ASPHALT CONCRETE SURFACE RESTORATION

- A. The base course for permanent asphalt concrete surface restoration shall be Class II Aggregate Base, equal in depth to the existing pavement structural section, but not less than 8 inches in depth.
- B. The wearing surface for permanent surface restoration on improved streets shall be asphalt concrete equal in thickness to the existing pavement, but not less than 3 inches in depth. The asphalt concrete shall be Type B Asphalt Concrete, in accordance with Section 32 1233 – Paving and Surfacing.

3.3 CONCRETE SURFACE RESTORATION

- A. The base for permanent concrete surface restoration shall be Class II Aggregate base, equal in depth to the existing section, but not less than 6 inches in depth.
- B. The wearing surface for permanent concrete surface restoration shall be concrete equal in thickness to the existing concrete section, but not less than 4 inches in depth. The concrete shall be 6-sack concrete, in accordance with Section 32 1233 – Paving and Surfacing and Section 32 1313 –Concrete Paving.

3.4 PAVEMENT MARKING RESTORATION

- A. Replace pavement marking disturbed by construction operations/activity to the satisfaction of the Project Manager in kind in accordance with Section 32 1723 – Pavement Markings.

3.5 LANDSCAPE RESTORATION

- A. Replace landscaping, planting, trees, shrubs, ground cover, irrigation systems disturbed by construction operations/activity to the satisfaction of the Project Manager in kind or better.
- B. Disturbed lawn areas shall be replaced with Sod in kind or better to the satisfaction of the Project Manager.

END OF SECTION

SECTION 32 8400

PLANTING IRRIGATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Work Included: Order and furnish all labor, materials, supplies, tools and transportation and perform all operations in connection with and reasonably incidental to complete installation of the automatic sprinkler irrigation systems as shown on the drawings. Items hereinafter are included as an aid to take off, and are not necessarily a complete list of work items.
 - 1. Trenching, stockpiling, excavation, backfill materials and refilling trenches.
 - 2. Furnishing materials and installation for complete system including piping, backflow prevention assembly, valves, fittings, sprinkler heads, automatic controls and final adjustment of heads to insure complete and uniform coverage.
 - 3. Line voltage connections to the irrigation controllers and low voltage control wiring from controllers to remote control valves.
 - 4. Replacement of unsatisfactory materials.
 - 5. Clean-up, inspection and approval.
 - 6. All work of every description mentioned in the specification and/or addenda thereto, and all other labor, and materials reasonably incidental to the satisfactory completion of the work, including clean-up of the site as directed by the Architect.
 - 7. Tests.
 - 8. Record drawings.
- B. Work Not Included:
 - 1. Irrigation water stub-out.
 - 2. 120 volt A.C. electrical stub-out to controller location.
 - 3. Irrigation sleeves.

1.3 GENERAL REQUIREMENTS

- A. OSHA Compliance: All articles and services covered by this specification shall meet or exceed the safety standards established under the Federal Occupational Safety and Health Act of 1970, together with all amendments in effect as of the date of this specification.
- B. Codes and Standards: Comply with all applicable codes and standards.
 - 1. All work and materials shall be in full accordance with the latest rules and regulations of the National Electric Code; the Uniform Plumbing Code, published by Western Plumbing Officials Association; and other State or local laws or regulations. Nothing in these drawings or specifications is to be construed to permit work not conforming to these codes.
 - 2. When the specifications call for materials or construction of a better quality or larger size than required by the above mentioned rules and regulations, the provision of the specifications shall take precedence over the requirements of the said rules and regulations.
 - 3. The Contractor shall furnish, without any extra charge, any additional material and labor when required by the compliance with these rules and regulations, though the work be not mentioned in these particular specifications or shown on the drawings.

4. The Contractor shall erect and maintain barricades, guards, warning signs and lights as necessary or required by OSHA regulations for the protection of the public or workmen.
5. Any existing buildings, equipment, piping, pipe covering sewers, sidewalks, landscaping, etc., damaged by the Contractor during the course of this work shall be replaced or repaired by the Contractor in a manner satisfactory to Architect and at Contractor's expense, and before final payment is made. The Contractor shall be responsible for damage caused by leaks in the piping systems being installed or having been installed by him. He shall repair, at his own expense, all damage so caused, in a manner satisfactory to Architect.
6. The Contractor shall pay for all permits, licenses and fees required.

1.4 SUPERVISION AND WORKMANSHIP

- A. The Contractor, personally or through an authorized and competent representative, shall supervise the work constantly, and shall as far as possible keep the same foreman and workmen on the job from commencement to completion. The workmanship of the entire job must in every way be first class, and only experienced and competent workmen will be allowed on the job.

1.5 LAYOUT OF WORK

- A. The Contractor shall stake out the irrigation system as shown on the drawings. These areas shall be checked by the Contractor and Architect before construction is started. Any changes, deletions or additions shall be determined at this check.

1.6 INSTRUCTION

- A. After the system has been installed and approved, the Contractor shall instruct the Owner's Representative in complete operation and maintenance of the irrigation system.

1.7 SUBMITTALS

- A. Substitutions: Submit 6 copies of catalogue information on materials which are to be submitted for substitution. No substitution will be permitted without prior written approval by the Architect. Complete material list shall be submitted prior to performing any work.
- B. Record Drawings:
 1. The Contractor shall maintain in good order in the field office one complete set of black line prints of all sprinkler drawings which form a part of the contract, showing all water lines, sprinklers, valves, controllers and stub-outs. In the event any work is not installed as indicated on the drawings, such work shall be corrected and dimensioned accurately from the building walls.
 2. All underground stub-outs for future connections and valves shall be located and dimensioned accurately from building walls on all record drawings.
 3. Upon completion of the work, obtain reproducible prints from Architect and neatly correct the prints to show the as-built conditions.

PART 2 - MATERIALS

2.1 PIPE AND FITTINGS

- A. Main lines (constant pressure); 3" and larger shall be polyvinylchloride (PVC) 1120-200 PSI with ring-tite connections; 2 1/2" and smaller shall be PVC 1120-Schedule 40 plastic pipe.
 1. Join lengths of pipe by means of integrally formed bell end on pipe using rubber ring seal. Use Schedule 40 PVC solvent weld couplings on Schedule 40 pipe.
 2. Ring-tite main line: At changes in direction or branch mains, use appropriate Ductile Iron rubber ring seal fittings.

3. Solvent weld main lines: At changes in direction or branch mains, use appropriate Schedule 40 PVC solvent weld fittings as approved by the Uniform Plumbing Code.

- B. Lateral lines (non-pressure): 3/4" and larger shall be 1120-200 PSI PVC plastic pipe. All lateral lines shall be connected with Schedule 40, Type I, Grade I, PVC solvent weld fittings.
- C. Connections between main lines and RCV's shall be of Schedule 80 PVC (threaded both ends) nipples and fittings.
- D. Risers shall be as follows:
- E. Schedule 80 PVC threaded nipples and Schedule 80 PVC ells as shown in the construction details. Offset risers shall be Cobra connector Model CC-600 (1/2"x6").

2.2 QUICK COUPLING VALVES

- A. Quick coupling valves shall be as listed on the drawings.

2.3 CONTROLLERS

- A. Controllers shall be as listed on the drawings.

2.4 REMOTE CONTROL VALVES

- A. Remote control valves shall be globe/angle pattern with plastic (Irritrol, Toro) brass/plastic flow stem and manual bleed petcock. Sizes of remote control valves shall be as listed on the drawings.

2.5 GATE VALVES

- A. 2 1/2" and smaller shall be bronze construction with cross handle and screwed connections. 3" and larger shall be cast iron with operating nut (2" square) and "O" ring connections for PVC plastic pipe. Install in 10" diameter plastic valve box as detailed.

2.6 CONTROL WIRE

- A. Control wire shall be copper with U.L. approval for direct burial in ground, size #14-Common ground wire shall have white insulating jacket; control wire shall have insulating jacket of color other than white. Splices shall be made with 3M-DBY seal packs. Provide a separate ground wire for each controller.

2.7 BOXES FOR REMOTE CONTROL VALVES

- A. NDS Pro Series Plus Model 1419 plastic valve box with plastic lid. Lid shall be marked: "Irrigation Control Valve."

2.8 SPRINKLER HEADS

- A. All sprinkler heads shall be as listed on the drawings.

2.9 BACKFLOW PREVENTION DEVICE

- A. Backflow prevention device shall be the reduced pressure type with gate valves, check valves, test cocks, reduced pressure chamber and air vent. Install 12" above finish grade.

2.10 EMITTERS

- A. Emitters shall be as listed on the drawings.

2.11 STRAINER

- A. Emitter strainer shall have a plastic housing, MIPT x MIPT connections with removable screen and integral flush valve with hose threads. Amiad model.39-0 with 155 mesh stainless steel screen.

2.12 MISCELLANEOUS INSTALLATION MATERIALS

- A. Solvent cement and primer for solvent weld joints shall be of make and type approved by manufacturer(s) of pipe and fittings. Cement shall be maintained at proper consistency throughout use.
- B. Lubricant for assembling rubber ring seal joints shall be of make and type approved by manufacturer of pipe.
- C. Pipe joint compound shall be non-hardening, non-toxic materials designed specifically for use on threaded connections in water carrying pipe. Performance shall be same as RectorSeal #5.

2.13 MISCELLANEOUS EQUIPMENT

- A. Provide all equipment called for by the drawings.
- B. Provide to the Owner, at completion of the maintenance period, three (3) each of all operating and servicing keys and wrenches required for complete maintenance and operation of all heads and valve. Include all wrenches necessary for complete disassembly of all heads and valves.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Schedule and coordinate placement of materials and equipment in a manner to effect the earliest completion of work in conformance with construction and progress schedule.

3.2 HANDLING AND STORAGE

- A. Protect work and materials from damage during construction and storage as directed by Architect.
- B. Handle plastic pipe carefully; especially protect it from prolonged exposure to sunlight.

3.3 LAYOUT

- A. Lay out work as accurately as possible in accordance with diagrammatic drawings.
- B. Where site conditions do not permit location of piping, valves and heads where shown, notify Architect immediately and determine relocation in joint conference.
- C. Run pipelines and automatic control wiring in common trenches wherever practical.

3.4 EXCAVATION AND TRENCHING

- A. Excavation shall be in all cases ample in size to permit the pipes to be laid at the elevations intended and to permit ample space for joining.
- B. Make trenches for pipelines deep enough to provide minimum cover from finish grade as follows:
 - 1. 18" minimum cover over main lines to control valves and quick coupling valves.

2. 18" minimum cover over control wires from controller to valves.
 3. 12" minimum cover over RCV controlled lateral lines to sprinkler heads.
- C. Restore surfaces, existing underground installations, etc., damaged or cut as a result of excavations, to original conditions in a manner approved by Architect.
- D. Where other utilities interfere with irrigation trenching and pipe work, adjust the trench depth as instructed by Architect.

3.5 ASSEMBLING PIPELINES

- A. All pipe shall be assembled free from dirt and pipe scale. Field cut ends shall be reamed only to full pipe diameter with rough edges and burrs removed.
- B. Rubber Ring Seal Joint:
1. Use factory made male end or prepare field-cut male end to exact specifications of factory made end.
 2. Carefully clean bell or coupling and insert rubber ring without lubricant. Position ring carefully according to manufacturer's instructions.
 3. Lubricate male end according to manufacturer's instruction and insert male end to specified depth. Use hands only when inserting PVC pipe.
 4. Thrust blocks shall be provided where necessary to resist system pressure on ring-tite pipe and fittings. Blocks shall be concrete and the size shall be based on an average soil safe bearing load of 700# per square foot.
 5. Form thrust blocks in such a manner that concrete comes in contact only with the fittings. Thrust blocks shall be between solid soil and the fittings.
- C. Solvent Weld Joint:
1. Prepare joint by first making sure the pipe end is square, then deburring the pipe end and cleaning pipe and fitting of dirt, dust and moisture.
 2. Dry-insert pipe into fitting to check for missizing. Pipe should enter fitting 1/3 to 2/3 depth of socket.
 3. Coat the inside socket surface of the fitting and the male end of the pipe with P-70 primer (manufactured by Weld-On). Then without delay, apply Weld-On 711 cement liberally to the male end of the pipe and also apply 711 cement lightly to the inside of the socket. At this time, apply a second coat of cement to the pipe end.
 4. Insert pipe immediately into fitting and turn 1/4 turn to distribute cement and remove air bubbles. The pipe must seat to the bottom of the socket and fitting. Check alignment of the fitting. Pipe and fitting shall be aligned properly without strain to either.
 5. Hold joint still for approximately thirty (30) seconds and then wipe the excess cement from the pipe and fitting.
 6. Cure joint a minimum of thirty (30) minutes before handling and at least six (6) hours before allowing water in the pipe.
- D. Threaded Joint:
1. Field threading of plastic pipe or fittings is not permitted. Factory-formed threads only will be permitted.
 2. Factory made nipples shall be used wherever possible. Field cut threads in metallic pipe will be permitted only where absolutely necessary. When field threading, cut threads accurately on axis with sharp dies.
 3. All threaded joints shall be made up with joint compound. Apply compound to male threads only.
 4. Where assembling metallic pipe to metallic fitting or valve, not more than three (3) full threads shall show when joint is made up.
 5. Where assembling to threaded plastic fitting, take up joint no more than one full turn beyond hand tight.

6. Where assembling soft metal (brass or copper) or plastic pipe, use strap type friction wrench only; do not use metal-jawed wrench.
- E. Cap or plug openings as pipeline is assembled to prevent entrance of dirt or obstructions. Remove caps or plugs only when necessary to continue assembly.
- F. Where pipes or control wires pass through sleeves, provide removable non-decaying plug at ends of sleeve to prevent entrance of earth.

3.6 REMOTE CONTROL VALVES

- A. Install where shown on drawings and group together where practical. Limit one remote control valve per box. No exceptions!
- B. Locate valve boxes 12" from and perpendicular to walk edges, buildings and walls. Provide 12" between valve boxes where valves are grouped together.
- C. Thoroughly flush main line before installing valves.
- D. Install in shrub or groundcover areas where possible.
- E. Label control line wire at each valve with a 2 1/4" x 2 3/4" polyurethane I.D. tag, indicating identification number of valve (controller and station number). Attach label to control wire.

3.7 AUTOMATIC CONTROL WIRE

- A. Run lines along mains wherever practical. Tie wires in bundles with pipe wrapping tape at 10' intervals and allow slack for contraction between strappings.
- B. Loop a minimum of three (3) feet of extra wire in each valve box; both control wire and ground wire.
- C. Connections shall be made by crimping bare wires with brass connectors and sealing with watertight resin sealer packs.
- D. Splicing will be permitted only on runs exceeding 2500'. Locate all splices at valve locations within valve boxes.
- E. Where control lines pass under paving, they shall pass through Schedule 40 electrical PVC conduit. Do not tape wire in bundles inside conduit.

3.8 AUTOMATIC CONTROLLER

- A. Provide and install automatic irrigation controller in approximate locations shown on drawings. The exact location will be determined on the site by the Architect. Provide conduit and wire and connect to 120 volt switch accessible to controller for ease of maintenance.
- B. Connect control lines to controller in sequential arrangement according to assigned identification number on valve. Each control line wire shall be labeled at controller with a permanent non-fading label indicating station number of valve controlled. Attach label to control wire.

3.9 SPRINKLER HEADS AND QUICK COUPLING VALVES

- A. Thoroughly flush lines before installing heads or QCV's.

- B. Locate heads and QCV's as shown in the drawings and details.
- C. Adjust sprinkler heads for proper distribution and trim.
- D. Install lawn heads 1" above grade in seeded lawn area at time of installation. Lower to finished grade after turf is well established and as directed by Architect.

3.10 BACKFILLING

- A. Backfill only after piping has been tested, inspected and approved.
- B. Backfill material shall be the earth excavated from the trenches, free from rocks, concrete chunks, and other foreign or coarse materials. Carefully select backfill that is to be placed next to plastic pipe to avoid any sharp objects which may damage the pipe.
- C. All pipe under asphalt paving shall be backfilled with 4" of clean sand on all sides of pipe.
- D. Place backfill materials in 6" layers and compact by jetting or tamping to a minimum compaction of 90 percent of original soil density.
- E. Dress off areas to finish grades and remove excess soil, rocks or debris remaining after backfill is completed.
- F. If settlement occurs along trenches, and adjustments in pipes, valves and sprinkler heads, soil, sod or paving are necessary to bring the system, soil, sod or paving to the proper level or the permanent grade, the Contractor, as part of the work under this contract, shall make all adjustments without extra cost to the Owner.

3.11 TESTING

- A. Perform test as specified below. Remake any faulty joints with all new materials. Use of cement or caulking to seal leaks is absolutely prohibited.
- B. The Contractor shall:
 - 1. Notify Architect at least three (3) days in advance of testing.
 - 2. Perform testing at his own expense.
 - 3. Center load piping with small amount of backfill to prevent arching or slipping under pressure. No fitting shall be covered.
 - 4. Apply the following tests after welded plastic pipe joints have cured at least 24 hours.
 - a. Test live (constant pressure) and QCV lines hydrostatically at 125 PSI minimum. Lines will be approved if test pressure is maintained for six (6) hours. The lines shall be restored to the original test pressure and the amount of water required to do so shall be measured. Approved tables of allowable loss will be consulted, and the line will be approved or not approved as such results may indicate. The Contractor shall make tests and repairs as necessary until test conditions are met.
 - b. Test RCV controlled lateral lines with water at line pressure and visually inspect for leaks. Retest after correcting defects.

3.12 GUARANTEE

- A. It shall be the responsibility of the Contractor to fill and repair all depressions and replace all necessary lawn and planting due to the settlement of irrigation trenches for one year following completion and acceptance of the job.

- B. The Contractor shall also guarantee all materials, equipment and workmanship furnished by him to be free of all defects of workmanship and materials, and shall agree to replace at his expense, at any time within one year after installation is accepted, any and all defective parts that may be found.

3.13 CLEAN-UP

- A. When work of this section has been completed and at such other times as may be directed, remove all trash, debris, surplus materials and equipment from site.

END OF SECTION

SECTION 32 9119

LANDSCAPE GRADING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section includes the following:
 - 1. Weeding.
 - 2. Finish grading for lawns
 - 3. Finish grading for planting areas.

1.3 RELATED SECTIONS

- A. Section 31 1000 "Site Preparation" for removal limits of trees, shrubs, and other plantings affected by new construction.
- B. Section 31 0000 "Earthwork and Grading" for building and utility trench excavation, backfilling, compacting and grading requirements, and soil materials.
- C. Section 31 1300 "Tree Protection & Trimming" for pruning and protection of existing site trees.
- D. Section 32 1540 "Decomposed Granite Surfacing".
- E. Section 32 9300 "Landscaping" for tree and shrub planting, tree support systems, and soil materials.

1.4 DEFINITIONS

- A. Finish Grading: finish grading shall consist of adjusting and finishing soil surfaces with site or imported topsoil, raking grades to a smooth, even, uniform plane. Remove and legally dispose of all extraneous matter off site. Facilitate natural run-off of water and establish grades and drainage indicated as part of the contract work.
- B. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 3/4-inches (19 mm) in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.
- C. Finish Grading: Finish grading shall consist of finishing surfaces by raking smoothly and evenly to facilitate natural run-off water, and by removing and disposing of extraneous matter.
- D. Sub-grade: The surfaces upon which additional specified materials are to be placed, prepared, or constructed.
- E. Rough Grade: The establishment of grades to required tolerances.

- F. Finish Grade: Spot elevations (grades) are indicated based on the best available data. Contract Civil Drawings are referenced to provide additional site grading information. It is intended that constant slopes are maintained between spot elevations.
- G. Tree Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

1.5 MATERIAL OWNERSHIP

- A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.6 EXISTING UTILITIES

- A. Stake and mark the location of existing utilities before commencing work.
- B. Retain and protect in operating condition all active utilities traversing the site designated to remain.

1.7 QUALITY ASSURANCE

- A. Finish grade shall conform to contours, grades, lines, and shapes, as indicated on Contract Drawings, with uniform slopes between finish grades or between finish grades and existing grades.
- B. Establish finish landscape grades in a continuous, uniform line, resulting in a uniform surface with no ridges or water pockets.
- C. Finish landscape grade tolerance shall be 0.04-feet plus-or-minus from finish elevations indicated on site drawings.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Topsoil: A natural, fertile, friable soil, free from stones, excessive gravel, roots, clods larger than 1" in diameter, noxious seeds, weeds, subsoil, undesirable insects, plant disease or any other natural objects detrimental to normal plant growth.
 - 1. Silt plus clay content of the import soil shall not exceed 20% by weight with a minimum 95% passing 2.0-millimeter sieve.
 - 2. Total pore space content on a volume/volume basis shall be at least 15 percent at field capacity.
 - 3. Permeability rate shall be not less than one inch per hour or more than 20 inches per hour.
 - 4. The sodium absorption ratio (SAR) shall not exceed 6 and the electrical conductivity (ECe) shall not exceed 2.0 millimhos per centimeter at 25 degrees centigrade.
 - 5. Soluble boron shall be no greater than 1.0 part per million (mg/l).
 - 6. Soil pH range shall be 6.0 – 7.9.
 - 7. Maximum concentration of soluble chloride shall be 150 parts per million.
 - 8. Maximum concentration of heavy metals shall not exceed the following when the pH is between 6 and 7:
 - a. Arsenic: 1 ppm
 - b. Cadmium: 1 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
9. Petroleum hydrocarbons shall not exceed 100 mg/kg dry soil.
10. Aromatic volatile organic hydrocarbons shall not exceed 2 mg/kg dry soil.
- B. Obtain imported topsoil from approved local sources.
- C. Soil obtained from the Lot 10A stockpile shall not be placed or otherwise used in any way in landscape areas.
- D. Spoils from demolition or ground up concrete buildings shall not be placed or otherwise used in any way in landscape areas.
- E. All topsoil to be used for planting, regardless of whether import or on-site in origin, shall be tested as described in Part 3 of Section 32 9300 "Landscaping".

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of conditions: Prior to commencing the finish grading, review the installed work of other trades and verify that their work is complete.
- 1. Rough Grading: Grading in planting areas (except raised planter areas) shall be established to within plus or minus 0.10 foot prior to beginning of finish grading.
- B. Import topsoil only when necessary to supplement site soil to achieve grades shown on Drawings, or if site soil is unsuitable for planting.

3.2 PREPARATION

- A. Weeding: Before finish grading, weeds and grasses shall be dug out by the root or sprayed with an herbicide and disposed of off-site. This procedure is outlined in Section 32 9300 "Landscaping".
- B. Remove debris, roots, branches, weeds, stones, in excess of 3/4-inch (9 mm) in size and clumps of earth that do not break up. Before and during finish grading, remove weeds and grasses, including roots, and dispose off-site.
- C. Remove soil contaminated with petroleum products and legally dispose off-site.

3.3 INSTALLATION

- A. General: When rough grading and weeding have been completed, and the soil has dried sufficiently to be readily worked, lawn and planting areas shall be graded to the elevations indicated on the Drawings.
- 1. Grades indicated on Drawing are grades that will result after thorough settlement and compaction of the soil.
 - 2. Grades not otherwise indicated shall be uniform finish grades and, if required, shall be made at the direction of the Architect.
 - 3. Finish grades shall be smooth, even, and a uniform plane with no abrupt change of surfaces.

4. Soil areas adjacent to buildings shall slope away from the building to allow a natural run-off of water, and surface drainage shall be directed as indicated on the drawings by remodeling surfaces to facilitate the run off water at 2% minimum grade.
 5. Low spots and pockets shall be graded to drain properly.
- B. Drainage: Finish grade with proper slope to drains.
1. Flow lines, designated or not, shall be graded and maintained to allow free flow of surface water.
 2. If any drainage problems arise during construction period due to Contractor's work (such as, but not limited to, low spots, slides, gullies and general erosion), the Contractor shall be responsible for repairing these areas to a condition equal to their original condition, and in so doing shall prevent further drainage problems from occurring.
- C. Prior to placing backfill, remove rock, aggregate base, concrete, and deleterious materials to a depth of 18 inches below soil grade in planter areas. Cross-rip subsoil of friable soil to a depth of 12-inches.
1. Place a minimum of 15-inches of topsoil backfill in planters.
 2. Refer to Section 32 9300 "Landscaping" for soil materials.
- D. Toe of slope: To prevent soil creep or erosion across pavement, where pavement (walk, curb, etc.) is at the toe of a slope, finish grade is to level out or swale slightly at least 12-inches before reaching pavement.
- E. Moisture Content: The soil shall not be worked when the moisture content is so great that excessive compaction occurs, nor when it is so dry that dust may form in the air or that clods do not break readily. Water may be applied, if necessary, to provide moisture content for tilling and planting operations. It is the Contractor's responsibility to control dust that is spread as a result of grading operations.
- F. Grades: The finish grade in areas to be planted with turf shall be 1-inch below grade of adjacent pavement, walks, curbs, or headers. Finish grade in shrub areas shall be 1 1/2-inches below adjacent surfaces. Exceptions may be made when drainage conditions require flush grades, as directed by the Architect.
- G. Compaction: Soils in planted areas shall be loose and friable, yet firm enough that no settling occurs from normal foot traffic or irrigation.

3.4 FIELD OBSERVATION

- A. It is the Contractor's responsibility to contact the Architect 48 hours or two working days in advance of each agreed observation or conference.
- B. Schedule for On-Site Reviews: at completion of finish grading and prior to any planting operations.
 1. See "Site Observation" in Part 3 of Section 32 9300 "Landscaping" to coordinate inspections and review of work.

END OF SECTION

SECTION 32 9300

LANDSCAPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Extent of landscape development work is shown on drawings and in schedules. The work includes, but is not limited to:
 - 1. Soil Prep and Fertilization.
 - 2. Planting Operation.
 - 3. Planting Materials.
 - 4. Topsoil and Planting Mix.
 - 5. Agronomic Testing.
 - 6. Drainage Materials.
 - 7. Jute Mesh and Erosion Control.
 - 8. Mulching.
 - 9. Hydroseeding.
 - 10. Sod.
 - 11. Pruning.
 - 12. Tree stabilization.
 - 13. Edgings.
 - 14. Tree grates.

1.3 RELATED SECTIONS

- A. Section 05 5000 "Metal Fabrications" for miscellaneous sitework metal fabrications.
- B. Section 31 0000 "Earthwork and Grading" for stockpiling of stripped topsoil.
- C. Section 31 1300 "Tree Protection & Trimming" for pruning and protection of existing site trees.
- D. Section 32 0190 "Landscape Maintenance" for maintenance work beyond Substantial Completion.
- E. Section 32 8400 "Planting Irrigation" installation of underground piping and control systems.
- F. Section 32 9119 "Landscape Grading" placement and treatment of topsoil over rough grade.

1.4 REFERENCES

- A. American Association of Nurserymen, Inc. (AAN)
 - 1. American Standard for Nursery Stock, latest edition (ANSI).

1.5 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Balled and Burlapped Stock: Exterior plants dug with firm, natural balls of earth in which they are grown, with ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of tree or shrub required; wrapped, tied, rigidly supported, and drum laced as recommended by ANSI Z60.1.

- C. Balled and Potted Stock: Exterior plants dug with firm, natural balls of earth in which they are grown and placed, unbroken, in a container. Ball size is not less than diameter and depth recommended by ANSI Z60.1 for type and size of exterior plant required.
- D. Bare-Root Stock: Exterior plants with a well-branched, fibrous-root system developed by transplanting or root pruning, with soil or growing medium removed, and with not less than minimum root spread according to ANSI Z60.1 for type and size of exterior plant required.
- E. Clump: Where three or more young trees were planted in a group and have grown together as a single tree having three or more main stems or trunks.
- F. Container-Grown Stock: Healthy, vigorous, well-rooted exterior plants grown in a container with well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of exterior plant required.
- G. Fabric Bag-Grown Stock: Healthy, vigorous, well-rooted exterior plants established and grown in-ground in a porous fabric bag with well-established root system reaching sides of fabric bag. Fabric bag size is not less than diameter, depth, and volume required by ANSI Z60.1 for type and size of exterior plant.
- H. Finish Grade: Elevation of finished surface of planting soil.
- I. Sub-grade Elevations: Excavation, filling and grading required to establish elevations is shown on drawings. Coordinate all work with grading contractor in order to arrive at rough grades that will allow tolerance for topsoil in planting areas, soil amendments and ornamental mulch as required in other sections of this specification. Contractor to assume tolerance of rough grades established at ± 0.09 feet (less than 1 tenths of a foot)
- J. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- K. Multi-Stem: Where three or more main stems arise from the ground from a single root crown or at a point right above the root crown.
- L. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.
- M. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil.
- N. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- O. Pruning: As designated on contract drawings. Items not specifically indicated or specified, but normally required to conform with such work, are considered part of the work.

1.6 SUBMITTALS

- A. WITHIN 30 DAYS OF START OF THE PROJECT:
 - 1. Submit a certificate indicating all plant material has been secured for the project and is available.
 - 2. Submit documentation that all plant material has been ordered in accordance with Article 1.7 of this section.
- B. CERTIFICATION: Submit the following:

1. Certificates of inspection as required by governmental authorities when transporting materials into the state.
 2. Agronomic Soils Laboratory Test Report.
 3. In accordance with Section 01 3219, submit complete manufacturer descriptive literature and specifications for proprietary materials and any additional items required by the Architect.
 - a. Soil Amendments (as identified in Agronomic Soils Report – Part 2).
 - b. Fertilizer (as identified in Agronomic Soils Report).
 - c. Stakes.
 - d. Tree Ties and Vine Ties.
 - e. Seed Mixtures
 - f. Hydroseeding: Furnish certificate, in writing, stating that the hydroseeding has been installed as specified.
 - g. Accessory Material.
 - h. Other soil additives per Agronomic Soils Report.
 - i. Prior to start of construction and submittals, furnish to the Architect the list of items to be reviewed.
 4. Submit other data substantiating that materials comply with specified requirements. Such certificates may be tags, labels, and/or manufacturers literature. All submittals shall be reviewed and accepted by the Architect before contractor begins work.
 5. Substitution Request
 - a. If any plant specified is not obtainable, submit a written substitution request to the Architect during the bidding period.
 - b. Substitutions of plant material will not be permitted unless accepted in advance in accordance with the provisions of Section 01 3219.
 6. With submittal of Bid Documents, submit complete list of plant materials to be provided, including unit prices for plants and for installation. Include:
 - a. Quantity.
 - b. Size.
 - c. Botanical Name.
 - d. Plant Unit Price.
 - e. Installation Unit Price.
 7. Bulk Materials: Submit a certificate of delivery for all material in containers or bulk.
- C. PLANTING SCHEDULE: Submit proposed planting schedule at least two weeks prior to planting any materials, indicating dates for each type of landscape work coinciding with normal seasons for such work. Correlate with specified maintenance periods to provide maintenance from date of substantial completion. If dates need to be revised after acceptance of planting schedule, document reasons for delays and submit for acceptance.
- D. Submit two photos of each tree with a person in the image, as well as a representative photo of each shrub/groundcover to be used on the project to the architect for review. No plants may be delivered or planted prior to approval by Architect.

1.7 QUALITY ASSURANCE

A. QUALIFICATIONS

1. Nursery Qualifications: Regularly engaged, for the preceding ten years, in the production of planting materials equivalent in species and size to those required.
2. Stocked, and having a demonstrated ability to provide plant materials required within the constraints of the accepted construction schedule.
3. Landscaper's Qualifications: Regularly engaged and specializing, for the preceding ten years, in the installation and maintenance of planting materials equivalent in species and size to those required.
 - a. Capable of furnishing a verifiable list of not less than five projects of equivalent type successfully completed within the preceding two years.

- b. Subcontracts: Landscape work to a single firm specializing in landscape installation.
- B. Pre-Installation Conference: Schedule in advance of beginning work of this section. Arrange for attendance by Owner, Architect, and landscaping subcontractor. Review intent of Contract Documents and resolve conflicts. Prepare minutes of conference and distribute to attendees within five (5) days.
- C. SOURCE QUALITY CONTROL
 - 1. General: Comply with regulations applicable to shipping of landscape materials.
 - 2. Analysis and Standards: All materials shall be of standard, approved and first-grade quality and shall be in prime condition when installed and accepted. Any commercially processed or packaged material shall be delivered to the site in the original unopened container bearing the manufacture's guaranteed analysis. The Contractor shall supply the Architect with a sample of all materials accompanied by analytical data from a approved laboratory source illustrating compliance of bearing the manufactures guaranteed analysis.
- D. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
- E. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; sodium absorption ratio; deleterious material; pH; and mineral and plant-nutrient content of topsoil.
 - 1. Report suitability of topsoil for plant growth. State recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.
- F. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 3/4-inches (19 mm) in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.
 - 1. Obtain topsoil only from naturally, well drained sites where topsoil occurs in a depth of not less than 4"; do not obtain from bogs or marshes. All topsoil is to be tested and analyzed by an independent laboratory before delivery to site, as indicated in Article 3.3.
 - 2. Obtain imported topsoil from approved local sources.
 - 3. Soil obtained from the Lot 10A stockpile shall not be placed or otherwise used in any way in landscape areas.
 - 4. Spoils from demolition or ground up concrete buildings shall not be placed, or otherwise used in landscape areas.
 - 5. Refer to Section 32 9119 for topsoil specifications.
- G. Contractor shall provide the Architect with location of soil, crops previously planted on such soil within the last two years, and the USGS soil survey classification and name.
- H. Trees, Shrubs and Plants: Provide trees, shrubs and plants of quantity, size, genus, species and variety shown and scheduled for landscape work and complying with recommendations and requirements of ANSI Z60.1-1980 "American Standard for Nursery Stock". Provide healthy, vigorous stock, grown in recognized nursery in accordance with good horticultural practice and free from disease, insects, insect eggs, larvae and defects such as knots, sun-scald, injuries, abrasions, overlapping surface roots, or disfigurement. Central leaders of all trees shall be intact, undamaged, with evenly spaced lateral branches.
 - 1. Tree and Shrub Measurements: Measure according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6 inches (150 mm) above the ground for trees up to 4-inch (100-mm) caliper size, and 12 inches (300 mm) above the ground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.

- I. Label all trees and shrubs with securely attached waterproof tag bearing legible designation of botanical and common name. Where formal arrangements and consecutive order of trees is shown, select stock for uniform height/spread, and label with number to assure symmetry in planting.
- J. Stock Review: The Architect will review trees and shrubs either at place of growth or at site before planting at his option, for compliance with requirements for genus, species, variety, size and quality. The Architect retains right to further review trees and shrubs for size and condition of balls and root systems, insects, injuries and latent defects, and to reject unsatisfactory or defective material at any time during progress of the work. Remove rejected vegetation immediately from project site. Contractor shall request review of such stock by the Architect by delivering notice, in writing, 72 hours in advance.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Deliver exterior plants freshly dug.
 - 1. Immediately after digging up bare-root stock, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting.
- B. Packaged Materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.
 - 1. Protect plants from sun or drying winds. Protect and maintain plants that cannot be planted immediately upon delivery.
 - 2. Do not drop plant material.
 - 3. Do not pick up container plant material by stems or trunks.
 - 4. Protect from wind.
 - 5. Water as required.
- C. Do not prune trees and shrubs before delivery except as approved by Architect. Do not bend or bind trees or shrubs in such manner as to damage bark, break branches or destroy natural shape. Provide protective covering during delivery, and provide protection on site from traffic, pedestrians, and deleterious effects of climate while planting operations are in progress. Dropped or damaged stock will not be accepted.
- D. Deliver trees and shrubs after preparations for planting have been completed and plant immediately after approval of plant materials locations. If planting is delayed more than 6 hours after delivery, set trees and shrubs in shade, protect from weather and mechanical damage, and keep roots moist by covering with mulch, burlap or other acceptable means of retaining moisture. Do not remove container grown stock from containers until planting time.
- E. Do not pick up plants by stems or truck. Handle planting stock by root ball.
- F. Plant material shall not be stored on the jobsite for more than 48 hours before planting. Contractor shall schedule nursery deliveries in sub-groups as necessary to comply with this requirement.
- G. All trees are pre-tagged and available through the Nursery.
- H. Deliver accessory materials in manufacturer's original, unopened packaging with identifying labels affixed and legible in accordance with state law. Deliver plants with identifying tags affixed. Contractor shall notify Architect 48 hours in advance of plant material delivery for observation. Review plants with Architect to confirm that they are the plants which had previously been tagged and supplied. The Architect reserves the right to reject the following:
 - 1. Plant materials not identifiable as previously selected.
 - 2. Materials not accompanied by required certificates.
 - 3. Plant materials where damage to rootball, trunks, or desiccation of leaves has been caused by inadequate protection during delivery.

4. Plant material not matching the form, shape, or growth habit required for the design intent of the Project.
5. Horticultural or visual defects in material.

1.9 Project CONDITIONS

- A. Proceed with and complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of landscape work required.
 1. Plant or install materials during normal planting seasons for each type of landscape work required.
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed without having detrimental effects on the plant material, or finished product.
- C. Coordination with Lawns: Plant trees and shrubs after finish grades are established and before planting lawns unless otherwise acceptable to Architect.
 1. When planting trees and shrubs after lawns, protect lawn areas and promptly repair damage caused by planting operations.
- D. Contractor shall verify locations of all existing utilities, whether shown on plans or not. The Contractor shall notify members of Underground Service Alert (U.S.A.) two (2) working days in advance of performing any excavation work by calling the toll-free number 1-800-227-2600
- E. After determining location of underground utilities, perform work in a manner which will avoid possible damage. Hand excavate, as required. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.
- F. When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify the Architect before planting. Remove all material deemed unsuitable for plant growth as directed by the Architect.
- G. No landscape materials may be planted before an irrigation operation and coverage test is completed and approved by the Architect.
- H. No landscape materials may be planted before finish grade is inspected and approved by the Architect.

1.10 SCHEDULING

- A. Within one month after the commencement of initial grading, furnish documentation to the Architect that all plant material has been obtained. Contractor shall be responsible for payments required by the grower to secure, maintain, and grow plant material indicated on the Contract Drawings.

1.11 WARRANTY

- A. Warrant plant material, shrubs and trees installed, or relocated under the contract, in writing, for a period of one year (after beginning of maintenance period) against defects including death, and unsatisfactory growth, except for defects resulting from neglect, abuse or damage by others, or unusual phenomena or incidents which are beyond landscape installer's control, as determined by the Architect.
- B. Remove and replace trees, shrubs or other plants found to be dead, yellowing, defoliating, or in unhealthy condition, or other defective materials during warranty period at no additional cost to the Owner. Replace trees and shrubs, which in the opinion of the Architect, are in unhealthy condition at end of warranty period. The Architect shall be the sole judge as to the condition of the material. All replacement materials

- and installation shall comply to the drawings and specifications. Another inspection will be conducted at end of warranty period to determine acceptance or rejection.
- C. Upon receipt of written notice from Owner of the loss of any warranted plant materials during the warranty period, the subject plant materials shall be promptly replaced with the same species originally planted, and of a size closely approximating the size of the plant, if normal growth had occurred since the original planting. Replacements shall be subject to the requirements of this specification.
 - D. When plants are replaced, advise the Owner, in writing, of the new establishment maintenance period.
 - E. Plant material must be replaced within fifteen (15) days of written notification, and shall be installed in accordance with these specifications.
 - F. Refer to Section 32 0190 "Landscape Maintenance" for maintenance work beyond Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Design is based on the use of products manufactured by the following:
 - 1. Best Fertilizer Company, Lathrop, CA
 - 2. Cabot Stains, Samuel Cabot, Inc. Newburyport, MA 508-465-1900.
 - 3. Cascade Rock, Sacramento, CA 916-383-1300.
 - 4. Curlex Erosion Control Fabric, American Excelsior CO 800-777-7645.
 - 5. Deep Root Corporation, Burlington, CA 800-458-7668.
 - 6. Fore Sight Products, Inc. Commerce City, CO 800-925-5360.
 - 7. Greenstake USA, 877-205-2400
 - 8. Horizon, Roseville, CA 916-780-2033.
 - 9. Landscape Forms, represented by John Towns Associates 800-222-6036.
 - 10. Mirafi, Inc. Charlotte, NC., 800-438-1855.
 - 11. NDS Drainage Products, 800-726-1998.
 - 12. Pacific Sod, Patterson, CA 800-542-7633.
 - 13. S&S Seeds, Camarillo, CA 805-684-0436.
 - 14. Silverado Building Material, Sacramento, CA 916-361-7374.
 - 15. Stabilizer, Inc. Phoenix, AZ 800-336-2468.
 - 16. Stoneware, Carson City, NV 800-297-8663.
 - 17. Sunland Analytical Labs, Rancho Cordova, CA 916-852-8557.
 - 18. V.I.T. Company, Escondido, CA 760-480-6702.
 - 19. Wayside Lumber, Rancho Cordova, CA 916-635-9090.
 - 20. Whitecap, Inc. Rancho Cordova, CA 916-636-3215.
 - 21. EPIC Plastics, Cerritos, CA 562-403-3848.
 - 22. Redi-row Corporation, Sacramento, CA 800-654-4358.
- B. Materials shall be the products of one manufacturer and shall be either the ones upon which the design is based, or the products of manufacturer accepted in advance in accordance with Division 01 Section Submittal Procedures.

2.2 SOIL

- A. TOPSOIL: Site to be rough graded to elevations shown on Civil Drawings. Topsoil will be required behind curb areas and in planting area. Provide on-site, import, or non-processed topsoil in planting areas as needed to complete rough grading which is fertile, friable, and natural loam in accordance with Article 2.3. Topsoil shall be from agricultural sources, surface soil, reasonably free of subsoil, clay lumps, brush, weeds

and other litter, and free of roots, stumps, stones larger than 3/4-inch in any dimension, and other extraneous or toxic matter harmful to plant growth.

- B. All topsoil to be used for planting, regardless of whether import or on-site in origin, shall be tested as described in Part 3 of this Section.
- C. Refer to Section 32 9119 for topsoil specifications

2.3 SOIL AMENDMENTS

- A. On Grade:
 - 1. The initial application of fertilizers and amendments to be tilled into the soil during soil preparation operations shall be established after soil testing has been conducted by Contractor. An estimated quantity is indicated below for bid purposes only. This estimated quantity does not include mulching, fertilizer tablets, additional topsoil necessary to meet specified grades and fertilizer applications for after planting. After soils analysis recommendations are made to the Architect quantifying the actual amount of amendments required and recommendations have been accepted by the Architect, the Contractor shall, without delay, determine any cost impacts whether credit, no change, or addition, to the Contract Amount. As an integral part of the bid for Landscape Work, provide a Lump Sum bid amount for fertilizers and amendments as described below.
 - 2. Application Rates (FOR BID PURPOSES ONLY):
 - a. Sixty (60) lbs. of Tri-C Humate per 1,000 square feet.
 - b. Nineteen (19) lbs. of 6-20-20 fertilizer per 1,000 square feet.
 - c. Six (6) cubic yards of Aguiñaga GPS2, nitrogen stabilized compost per 1,000 square feet.
 - d. 50-lbs Agricultural Gypsum, per 1,000 square feet.
- B. Pot Soil Mix:: Prepare and backfill pots with a mix of the following per cubic yard:
 - 1. Jardinier Capillary Soil
 - 2. 12-12-12 Commercial Fertilizer
 - 3. Organic Amendment - 1/3 cubic yard
 - 4. Fine Sand - 1/3 cubic yard
 - 5. 12-12-12 Commercial Fertilizer - 1 pound
 - 6. Iron Sulfate - 2 pounds
- C. Imported Topsoil
 - 1. Provide natural, fertile, friable soil free from stones, noxious weeds, seeds, roots, subsoil or other material detrimental to normal plant growth. Topsoil acidity range (pH) shall be between 6.5 to 7.5 containing a minimum of 4 percent and a maximum of 25 percent organic matter.
 - 2. Obtain imported topsoil from local sources acceptable to the Architect.
 - 3. Silt plus clay content of soil shall not exceed 15 percent by weight with a minimum 95 percent passing a 2-millimeter sieve.
 - 4. Soil obtained from the Lot 10A stockpile shall not be placed or otherwise used in any way in landscape areas.
 - 5. Spoils from demolition or ground up concrete buildings shall not be placed, or otherwise used in landscape areas.
 - 6. Refer to Section 32 9119 for topsoil specifications.
- D. After soils testing is completed, amendment and/or fertilizer recommendations may include one or more of the following:
 - 1. Nitrified Redwood Compost: 0.56 to 0.84% N based on dry weight, treated with relative form of nitrogen (NH₃).
 - a. Particle Size
 - b. 95% - 100% passing 6.35 mm standard sieve.
 - c. 80% - 100% passing 2.33mm standard sieve.

- d. Salinity: The saturation extract conductivity shall not exceed 3.5 millimhos/centimeter at 25 degrees (25N) centigrade as determined by saturation extract method.
- e. Iron Content: Minimum 0.08% dilute acid soluble Fe on dry weight basis.
- f. Ash: 0 - 6.0% (dry weight)
- g. Acidity range (ph) shall be between 5.5 and 7.5.
- h. Actual organic content shall be a minimum 280 pounds (lbs.) per cubic yard.
- i. As available from:
Redi-Grow Corporation
8909 Elder Creek Road
Sacramento, CA 95828
(916) 381-6063
(800) 654-4358

E. Fertilizers

1. Tri-C Humate. Provide per manufacturers specification.
2. Fertilizer Tablets: Fertilizer Tablets: The following is to be used in the planting of container grown material. Follow manufacturer's application rates.
 - a. Best-Paks "20-10-5" fertilizer packets. Packets to be made up of a minimum of 20% Nitrogen, 10% Phosphorus, 5% Potash. Use 1 Pak per 1-gallon container, (G.C.), 3 Paks per 5 G.C., 9 Paks per 15 G.C. and 12 Paks per boxed specimen. Evenly distribute as shown in details.
3. Commercial Fertilizer: First Quality Commercial Fertilizer, as specified in Agronomic Soils Report.
4. Related Materials:
 - a. Pre-Planting Herbicide: Round-up, or equal.
 - b. Pre-Emergent Weed Control: Ronstar-G, Treflan, Eptam, Vegitex, or equal.
 - c. Organic Soil Amendment:
 - d. Peat Moss: Sphagnum peat moss, Canadian or European variety., free from alkali.
 - e. Soil Sulfur: First quality commercial grade.
 - f. Ferrous Iron Sulfate: Chelated first quality commercial grade.
 - g. Agricultural Gypsum: First quality commercial grade.
 - h. Best "Ammonium Phosphate" 16-20-0 with net less than 16% total nitrogen, 20% available phosphoric acid and 0% soluble potash.
 - i. Good Humus:
 - j. Root Hormone: Super Thrive.

2.4 PLANT MATERIALS

- A. Furnish trees from the Nursery that have been pre-selected and pre-tagged by Architect.
- B. Quality: Provide trees, shrubs, and other plants of size, form, genus, species and variety shown and scheduled for landscape work and complying with recommendations and requirements of ANSI Z60.1 "American Standard for Nursery Stock".
- C. Deciduous Trees: Provide trees of height and caliper scheduled or shown and with branching configuration recommended by ANSI Z60.1 for type and species required. Provide single stem trees except where special forms are shown or listed.
 1. Lateral scaffolds shall be radially distributed around the trunk. The lateral branch shall be no more than 2/3 the diameter of the trunk. Trunk to be measured 1" above the branch (lateral scaffold).
 2. The minimum acceptable length of the most recent season's shoot growth for slow growing trees shall be not less than 8"; for fast growing trees not less than 12".
 3. The minimum acceptable height of 15 gallon size trees is 6'-0" when planted, or as determined by Architect.
- D. Needle Leafed And Broad Leafed Evergreen Trees: Provide evergreens of sizes shown or listed. Where dimensions are shown, they indicate minimum spread for spreading and semi-spreading type evergreens

and height for other types, such as globe, dwarf, cone, pyramidal, broad upright, and columnar. Provide normal quality evergreens with well-balanced form complying with requirements for other size relationships to the primary dimension shown.

1. The minimum acceptable height of 15 gallon size trees is 6'-0" when planted, or as determined by Architect.

E. Multi-Trunk Trees: Provide sizes shown or listed. Tree is to have a minimum of three (3) dominant trunks with appropriate caliper size and adequate spread.

F. Shrubs: Provide shrubs of the size shown and with not less than the minimum number of canes required by ANSI Z60.1 for type of shrub required. Provide container grown stock.

G. Ground Cover: Provide plants established and well-rooted in removable containers, in flats, or integral peat pots and with not less than minimum number and length of runners required by ANSI Z60.1 for the size shown or listed.

H. Vines: Provide vines with good, well-established root systems within the container, and devoid of any abrasions, and or damage to stem.

2.5 SOD

A. Lawn Sod:

1. Nursery-grown sod shall have the following characteristics:

- a. Sod shall be dense, healthy, field-grown on fumigated soil with the grass having been mowed at 1-inch height before lifting from field.
- b. Sod shall be dark green in color, relatively free of thatch, free from disease, weeds and harmful insects.
- c. Sod shall be reasonably free of objectionable grassy and broadleaf weeds. Sod shall be considered weed free if no more than 10 such weeds are found per 100 square feet of sod.
- d. Sod shall be rejected if found to contain the following weeds: common bermudagrass, quackgrass, johnsongrass, nimbleweed, thistle, bindweed, bentgrass, perennial sorrel, and brome grass.

2. Sod variety shall be:

- a. Medallion Plus 90% Tall Fescue/10% Bluegrass Blend, as produced by Pacific Sod.
- b. No Mow Fine Fescue Blend, as produced by Pacific Sod.

B. Lawn Seed:

1. Turf Grass: Seed mix shall consist of 90% Shortstop II Dwarf Fescue and 10% Nustar Kentucky Bluegrass at a rate of 523/ lbs/acre.
2. As indicated on Contract Drawings.

2.6 TREE GRATES

A. Tree Grates and Frames: ASTM A 48/A 48M, Class 35 (Class 250) or better, gray-iron castings and ASTM A 36/A 36M steel-angle frames of shape, pattern, and size indicated; steel frames hot-dip galvanized.

B. Shape and Size: As indicated.

C. Finish: Powder-coat finish.

1. Color: Low-gloss black.

2.7 MISCELLANEOUS LANDSCAPE MATERIALS:

- A. Tree Stakes: Provide stakes of sound new lodgepole pine 2" minimum diameter with minimum height, as indicated on Contract Drawings. Stakes shall have been treated with copper naphthanate to a minimum wood depth of 1/16". All stakes shall be free of knots larger than 1/2" in diameter, holes and other defects.
- B. Tree Straps: Provide VIT "Cinch-tie" tree straps. Tree straps shall be attached to tree stake as shown in staking detail on the plans, color to be black.
 1. Provide for 24-inch box size and smaller tree.
 2. 36-inch box size and larger tree; provide VIT "Cinch-Belt" tree straps.
- C. Vine Ties: Plastic vine ties, as specified on plans.
- D. Guying Materials
 1. At On-Grade Planting:
 - a. Guy Wire: No. 9 gage, galvanized, twisted clothesline type.
 - b. Anchor System: Duckbill Earth Anchor System, as manufactured by Fore Site Products, Inc.
 - 1) Box trees, sizes 24-inch box to 72-inch box: Model 68 DTS.
 - 2) Box trees, sizes 84-inch and larger: Model 88 DTS.
 - c. Hose: White neoprene hose, 3/4-inch diameter, covering the entire length of wire.
 2. At Raised Planters:
 - a. Guy Wire: No 9 gage, galvanized, twisted clothesline type.
 - b. Anchors for Holding Guys: 1-inch galvanized eyebolt with lead expansion shield.
 - c. Hose: White neoprene hose, 3/4-inch diameter, covering the entire length of wire.
 3. Turnbuckle: 51/16 inches by 6 inches long galvanized steel type.
- E. Headerboards And Edging
 1. Wood Polymer
 - a. All wood used shall be "Trex" or "EPIC Plastics" wood-polymer lumber.
 - b. Headerboards shall be:
 - 1) 2" x 6" (for straight runs)
 - 2) 1" x 6", double thickness (for smooth curves)
 - c. Splices shall be made with 1" x 6" not less than 12" in length.
 - d. Stakes shall be made with 1" x 3" x 16" or 1" x 2" x 18".
 - e. 1/4", #8 plated deck screws.
 - f. Refer to manufacturer's literature for product handling and installation.
 - g. Backing at splices, 1" x 4".
 2. Concrete edger: Dimension as specified on plans, poured in place concrete edger, color per plan.
 3. Steel Edge Restraint for Decomposed Granite Walk or Landscape Areas:
 - a. Available Manufacturers and Products: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:
 - 1) Pave Tech, Inc.
 - 2) J.T. Ryerson & Son, Inc.
 - 3) Or equal (no known equal)
 - b. Material: Steel.
 - c. Size: 1/4" x 5".
 - d. Color: Black.
 - e. Stakes: 4 foot maximum spacing.
 4. Aluminum: Black anodized finish aluminum with 12-inch long aluminum stakes. Cleanline, as manufactured by Permaloc Corporation.
- F. Mulch
 1. Rock Mulch: Washed drain rock blend consisting of 1-1/2 to 3 inch diameter cobbles. Place 8" minimum depth on top of Mirafi 14ON weed control fabric.
 2. Bark Mulch:

- a. Mulch shall be walk-on fir bark mulch. (Shredded bark is not acceptable).
 - 1) Physical properties:

<u>Percent Passing Sieve Size</u>
90-100 1" (25.4mm)Dia.
80-100 1/2" (12.7mm)Dia.
20-60 1/4" (6.35mm)Dia.
 - 2) Chemistry
 - a) Acid in reaction, max pH 5.0.
 - b) Maximum ash Chemistry: 7% based on dry weight.
 - c) Minimum moisture 35% at time of delivery based on fresh weight.
 - 3) As available from Redi-Grow Corporation, Sacramento, CA.
- G. Weed Control Fabric: Place Mirafi Mirascape landscape fabric below rock mulch or as shown on drawings. Overlap all seams 12" minimum and pin down every 36" typical. Mirascape fabric available from: Towns & Associates, 800-222-6036
- H. Root Control Barriers: High-density polypropylene root control barriers. Acceptable products include:
 1. Deep Root; Deep Root Corporation.
 2. Install per manufactures details.
- I. Drainage Materials
 1. Gravel in raised planters on structural slab and in pots shall be clean, coarse 3/8-inch to 3/4-inch diameter.
 2. Synthetic filter membrane cover over drainage course shall be woven synthetic fabrics.
 - a. Model 140N, as manufactured by Mirafi.
 3. Drain Pipe: 4-inch diameter NDS styrene perforated, or non-perforated PVC drain pipe with 4-inch black ABS cleanout plug and 4-inch styrene female adapter.
- J. Sand: Washed plaster sand.
- K. Jute Netting: A uniform open plan weave, single jute yarn not varying in thickness by more than 1/2 of its normal diameter, in rolled strips approximately 50 to 75 yards long and 50 to 60 inches wide. Contractor shall submit sample for approval prior to installation.
 1. Staples: 11 gage with 1-inch top and 6-inch legs.
- L. Sod Pegs: 1-inch square by 6-inch long pine or 6-inch lengths of lath.
- M. Weed Control: Round-up, Rodeo, or equal.
- N. Landscape Drainage System:
 1. Catch Basin: NDS Model #1200 12x12 catch basin; black color with NDS #1217 riser extension as necessary.
 2. Grate: NDS Model #1290 atrium grate in planting area, NDS Model #1211 in turf area; black color.
 3. Outlet adapter: NDS Model#1266 universal outlet; as necessary. NDS Model #1206 universal plug; as necessary.
 4. Pipe: PVC (Polyvinyl Chloride) Sewer Pipe and Fittings: ASTM D 3034, SDR 35, for solvent cement.
 5. Solvent Cement: ASTM D 2564.
- O. Hydromulch Bonded Fiber Matrix (BFM)
 1. The BFM shall be Hydro-Blankt GFM as manufactured by Profile Products LLC. 1-866-325-6262, www.profileproducts.com.
 2. Uniformly apply at a rate of 3500 pounds per acre. Install per manufacturers instruction.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive exterior plants for compliance with requirements and conditions affecting installation and performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected, and Architect has reviewed and accepted materials as defined within the section.

3.2 SITE OBSERVATION SCHEDULE

- A. General: Notify Architect at least 48 hours in advance when requesting on-site reviews.
- B. Prior to commencement of site visits, items noted in previous observation reports shall have been either completed or remedied, unless such compliance has been waived. Failure to complete prior tasks or failure to prepare adequately for scheduled observations shall obligate Contractor to reimburse Architect for additional hourly services, plus transportation costs.
- C. Schedule For On-Site Reviews by the Landscape Architect:
 - 1. Pre-construction conference with general contractor, grading contractor, landscape contractor, project arborist and landscape architect to discuss grading and protective measures to be followed in the vicinity of existing trees, or existing structures.
 - 2. Review of soil sampling.
 - 3. At completion of finish grading, and roto-tilling prior to installation of any planting material.
 - 4. Review of irrigation coverage prior to installation of any planting material.
 - 5. At completion of fine grading and at delivery of plant materials, together with plant layout; prior to excavating pits.
 - 6. Review of drainage system, standpipes, and plant material locations.
 - 7. After planting pits have been excavated, but prior to backfilling.
 - 8. After initial planting operations (One tree with each type of specified staking shall be approved prior to planting of trees).
- D. See "Final Review and Acceptance" at the end of Part 3 in this Section for final site observations and acceptance of work.

3.3 TESTING

- A. Planting Soil: Agronomic Soil Testing
 - 1. Test shall be paid for by the Contractor. Testing lab shall be:
 - a. Wallace Labs.
 - b. Soil and Plant Labs.
 - c. Sunland Analytical Labs.
 - 2. Agronomic Soils Testing
 - a. Take four samples of site soil at a depth of 6 to 12 inches, within proposed planting areas, after completion of final grading and prior to weed control and soil preparation. See Plans for sampling locations.
 - b. Take samples to agronomic soils testing laboratory indicated above for soil evaluation.
 - c. Request testing for fertility and suitability analysis with written recommendations for soil amendment, fertilizer and chemical conditioners, application rates for soil preparation, planting backfill mix, pot-soil mix, hydrospray, and post-maintenance fertilization programs. Test shall specify the rate of grow power or TRI-C Humate.
 - d. Soils report recommendations shall take precedence over the amendment and fertilizer application rates specified in this section.

- e. Submit testing laboratory's interpretation, recommendations, and comments to Architect within 14 days after the completion of rough grading.
3. Furnish a soils analysis of import soil, and organic soil amendment prior to backfill.
 - a. Submit soil testing laboratory's findings to Architect within 5 days prior to backfilling.
4. Take four additional soil samples after completion of planting in the soil preparation and backfill mix areas, to be determine effectiveness to amendments prior and during planting. Submit to the testing laboratory the original amendment specification with previously issued bulletins for soil amendments and installation procedures. Re-apply necessary amendments based on recommendation of new soils test.

3.4 PREPARATION

- A. Final Grades
 1. Finished grading shall insure proper drainage of the site. Conform to Section 31 0000 "Earthwork and Grading" and Section 32 9119 "Landscape Grading".
 2. The following areas shall be graded so that the final grades shall be established below adjacent paved areas, sidewalks, valve boxes, headers, clean outs, drains, manholes, etc. as follows:
 - a. Shrub/Groundcover Areas: 1-1/2 inches.
 - b. Turf areas: 1-inch.
 3. Surface drainage shall be away from all building foundations, 2% minimum.
 4. Dispose of excess or unacceptable soil from the site at no expense to the Owner.
 5. Verify that final grades have been established prior to beginning planting operations.
- B. Parking Lot Planting areas
 1. All aggregate base rock, soil sterilents, lime treated soil, and other non-organic materials shall be removed from all parking lot planting areas down to the level of native soil. Backfill planting areas to specified finish grade with native or approved topsoil and amend as specified.
- C. Protect planting areas from compaction by trucks and heavy equipment.

3.5 Planting Bed Establishment

- A. Preparation Of Planting Area
 1. Cross-rip on-grade planting areas to a minimum depth of 12 inches. Remove stones over 1 inch (13mm) in any dimension and sticks, roots, rubbish and other deleterious matter per Section 32 9119 "Landscape Grading".
 2. Where additional soil is needed, place approximately 1/2 of total amount of topsoil required. Work into top of loosened subgrade to create a transition layer and then place remainder of planting soil.
 3. Broadcast soil amendments uniformly over surface of the area to be treated. Roto-till the top eight inches (8") of planting areas to evenly distribute the amendments and conditioners into the soil.
 4. Leach soil prior to amending. After approximate finished grades have been established, and soil has been leached, soil shall be conditioned and fertilized in the following manner. Soil conditioner shall, at the rate specified in the approved soils test recommendations, be uniformly spread and cultivated thoroughly by means of mechanical tiller into the top eight inches (8") of soil.
 5. All soil areas shall be compacted and settled by application of irrigation to a minimum depth of six (6) inches prior to any plant materials being installed.
 6. At time of planting, the top 12 inches of all areas to be planted shall be free of stones, stumps, or other deleterious matter one 1-inch in diameter or larger, and shall be free from all debris, or similar objects that would be a hindrance to planting and maintenance.
- B. Weed Control: All planting areas, both turf and shrub/groundcover shall be weed free at the time of plant material installation.
 1. Irrigate all areas to be planted for one week prior to spraying herbicide.

2. Apply herbicide to actively growing weeds, in warm, sunny weather if possible. Avoid overspray onto non-target plant material. Follow manufacturer's recommendations for mixing and application of herbicide.
 3. Spray all planting areas with Roundup (Glyphosate) or approved equal to kill all weeds per manufacturer's instructions.
 4. Irrigate all areas to be planted an additional two weeks to germinate any residual weed seed.
 5. Apply a second application of Roundup (Glyphosate) or approved equal to all planting areas.
 6. Planting can begin 48-hours after the second application has been completed.
 7. Pre-planting Herbicide: Apply pre-planting herbicide to visible weeds, before and after soil placement.
 8. Pre-emergent Weed Control: Immediately after planting, apply pre-emergent weed control to planted areas which will not be seeded.
- C. Excavation For Trees And Shrubs
1. Excavate pits, beds, and trenches as shown in details on the drawings.
- D. Preparation for Lawn Areas: Limit preparation to areas which will be planted promptly after preparation.
1. Fine grade lawn areas to smooth, even surface with loose, uniformly fine texture. Roll, rake and drag lawn areas, remove ridges and fill depressions, as required to meet finish grades. Establish smooth uniform surface. Limit fine grading to areas which can be planted immediately after grading.
 2. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.
- E. Restore lawn areas to specified conditions if eroded or otherwise disturbed after fine grading and prior to planting.

3.6 JUTE MESH

- A. Make check slots before the netting is rolled out. Dig a narrow trench across the slope perpendicular to the direction of the flow. Fold jute, the same length as the trench, and press together. Location of check slots shall be maximum of 50 feet apart.
- B. Installation: Roll netting parallel to slope contours. The netting shall completely cover all areas as indicated on Contract Drawings. Overlaps shall be ample and well stapled.
1. Lay netting smoothly, and in continuous contact with the soil surface at all points.
 2. Install without stretching. Where one roll of netting ends and a second roll starts, the up slope piece shall be brought over the buried end of the second roll so that there is a 12-inch overlap. Where two or more widths of netting are applied, side by side, the overlap shall be not less than 3 inches.
- C. Staple overlapping edges that run parallel to the direction of the flow at 2-inch intervals. Outside edges, centers, and overlaps on banks shall be stapled across the slope at 6-inch intervals.
- D. Top dress jute netting area with a thin layer of topsoil. After the top dressing, the yarns shall still be visible.
- E. Spread loose topsoils over outside edges of netting to allow for smooth entry of water.
- F. Clods that hold the jute off the ground shall be stamped into the soil. Force jute netting down into depressions and hold there with a staple.
- G. Install plant material through netting.
- H. Place bark mulch over the top of jute netting.

- I. Maintenance: Maintain jute netting until work on the Project has been completed and accepted and during the 90-day maintenance period. Maintenance shall consist of the repair of eroded areas and the repair or replacement and re-stapling of loose or undermined netting. Replace damaged planting materials as required.
- J. Install jute netting in all areas of 30 percent slope or greater.

3.7 SOD

- A. Sod shall be laid with closely fitted joints on a smooth, level surface which has been prepared as previously specified. Ends of strips shall be staggered. On irregular areas, sod shall be laid in both directions from the longest straight line that can be drawn through the area.
- B. After a light initial watering immediately after installation, the sod shall be rolled to eliminate all irregularities.
- C. After compaction, the sodded area shall be wetted to a soil depth of at least 8 inches.
- D. Sod shall be as specified on the Contract Drawings

3.8 HYDRO-MULCH / HYDRO-SEED

- A. Hydromulch & Hydroseeding
 - 1. Examination:
 - a. Verify that soil is prepared and fine graded in accordance with Division 02 "Finish Grading"..
 - b. Verify that large trees and shrubs (5-gallon and larger) are installed if they occur in hydroseeded area.
 - c. Verify that small trees and shrubs (1-gallon) and groundcover from flats are installed if they occur in hydroseeded area.
 - 2. Hydroseeding Operation:
 - a. Before filling tanks, completely clean tank of seed and debris in the presence of, and to the satisfaction of, the Architect.
 - b. Mixes shall be as indicated in Plant Legend on Contract Drawings.
 - c. Hydroseeded areas shall be applied by an approved hydromulch company.
 - d. The hydromulch shall be applied in the form of a slurry consisting of cellulose fiber, seed, chemical additives, commercial fertilizer, and water. When hydraulically sprayed on the surface, the hydromulching shall form a blotter-like groundcover impregnated uniformly with seed and fertilizer and shall allow the absorption of moisture and rainfall to percolate to the underlying soil.
 - e. Preparation: The slurry preparation shall take place at the site and shall begin by adding water to the tank when the engine is half throttle. When the water level has reached the height of the agitator shaft, full re-circulation shall be established. At this time, the seed shall be added, followed by fertilizer and then mulch.
 - 1) The mulch shall only be added to the mixture after the seed and the tank is at least one-third filled with water. The mulch shall be added by the time the tank is two-thirds to three-fourths full. Spraying shall commence immediately when the tank is full.
 - f. Application: The operator shall spray with a uniform visible coat by using the green color of the mulch as a guide. The slurry shall be applied in a sweeping motion, in an arched stream, so as to fall like rain allowing the wood fibers to build on each other until a good coat is achieved and the material is spread at the required rate per acre.
 - g. Time Limit: Slurry mixture that has not been applied within 2 hours after mixing shall be removed from the project and disposed of in a legal manner.

- h. Daily work sheets shall be prepared by nozzlelemen. One copy shall be sent to the Architect. This worksheet shall be signed by the nozzleleman and the Architect. The following information shall be indicated:
 - 1) Seed: Type and amount.
 - 2) Fertilizer: Analysis and amount.
 - 3) Mulch: Type and amount.
 - 4) Seeding Additive: Type and amount.
 - 5) Loads: Number.
 - 6) Water: Amount.
 - 7) Coverage: Area in acres.
 - 8) Equipment Used: Capacity, and vehicle license number, if applicable.
- i. Protection: Special care shall be exercised by the Contractor in preventing any of the slurry from being sprayed inside reservoir basin or into drainage ditches and channels that may impede the free flow of rain or irrigation water.
- j. Immediately following application of hydromulch, the Contractor shall wash excess material from previously planted materials and architectural features. Care shall be exercised to avoid washing or eroding mulch materials from area.
 - 1) Slurry spilled on restricted areas shall be cleaned up immediately.
- k. Equipment: Hydraulic equipment used for the application of the fertilizer, seed and slurry of prepared wood pulp shall have a built-in agitation system and operating capacity sufficient to agitate, suspend and homogeneously mix a slurry containing not less than 40 pounds of fiber mulch plus a combined total of 7 pounds fertilizer solids for each 100 gallons of water.
- l. The slurry distribution lines shall be large enough to prevent stoppage and shall be equipped with a set of hydraulic spray nozzles that will provide a continuous non-fluctuating discharge. The slurry tank shall have a minimum capacity of 1500 gallons and shall be mounted on a traveling unit, either self-propelled or drawn by a separate vehicle that will place the slurry tank and spray nozzles within sufficient proximity to the areas to be seeded.
- 3. Apply slurry at the rate of 12 pounds per acre, mixed with commercial fertilizer at 600 pounds per acre. Mix the specified seed material with water and spray, resulting slurry under high-pressure and evenly, and uniformly over area to be seeded.

3.9 PLANTING

A. General

- 1. Actual planting shall be performed during those periods when weather and soil conditions are suitable and in accordance with locally accepted practice, as approved by the Architect.
- 2. Only as many plants as can be planted and watered on that same day shall be distributed in a planting area.
- 3. Container shall be opened and plants shall be removed in such a manner that the ball of earth surrounding the roots is not broken and they shall be planted and watered as herein specified immediately after removal from the containers. Containers shall not be opened prior to placing the plants in the planting area.

B. Layout individual tree and shrub locations and areas for multiple plantings. Stake locations and outline areas and secure acceptance by the Architect before start of planting work. Make minor adjustments as may be requested.

C. Excavation for Trees and Shrubs:

- 1. Excavate pits, beds and trenches as shown in details on the Drawings.
- 2. Roughen and score edges of planting pit to eliminate any glazing of the sides of the pit.
- 3. Field Samples: Prior to planting, prepare one plant pit with standpipe, gravel, filter fabric, and root barriers for each tree size to be reviewed by the Architect.
 - a. Do not cover standpipes.

4. Excavation for planting shall include the stripping and stockpiling of all acceptable topsoil encountered within the areas to be excavated for trenches, tree pits, plant pits, and planting beds.
- D. Container Removal
1. Cut containers on two sides with an acceptable cutter. Do not cut containers with spade or ax. Do not injure the rootball.
 2. Carefully remove plants from containers without injury or damage to rootball.
 3. After removing plants, superficially cut edge roots with knife on three sides.
 4. For plants with sensitive roots, place container intact in flat pit 1½ times the size of a standard plant pit. Insert blades of sharp, needle-nose shears into a drain hole and cut the container bottom away. Remove bottom from pit. Follow with a cut down one side of the container from top to bottom. Repeat cut on opposite side. Fill plant pit with prepared plant pit mixture. Carefully remove the detached pieces.
 5. Box Removal:
 - a. Remove bottom of planting boxes before planting.
 - b. Remove sides of box without damage to rootball after positioning plant and partially backfilling.
- E. Planting Trees and Shrubs: Set container-grown stock, plumb and in center of pit or trench. Set top of rootball 2-inches above finish grade at trees, 1-inch above finish grade at shrubs, or as indicated on Contract Drawings. Do not use plant, if root system has severely kinked or circling roots, or if rootball is cracked, disturbed or broken. If root system is healthy, loosen spiraling roots and set in plant pit.
- F. Planting pit shall be backfilled with the following soil conditioner and organic amendment, per cubic yard:
1. Application Rates, as determined by contractor's soils tests:
 - a. Potassium Sulfate - 0-0-50, ¼-pound
 - b. Single Superphosphate - 0-20-0, ¼-pound
 - c. Ammonium Sulfate - 21-0-0, ¼-pound
 - d. Agricultural Gypsum - 1.5 pounds
 - e. Good Humus - 15% bv volume
- G. When set, place additional fill around base and sides of ball, and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 1/2-full, place appropriate number of fertilizer tablets and complete backfill operations.
- H. After backfilling, an earthen basin shall be constructed around each plant. Each basin shall be as indicated on the Contract Drawings. Basin shall be of a size suitable for the individual plant. In no case shall the basin for fifteen (15) gallon plant be less than four (4) feet in diameter; a five (5) gallon plant less than three (3) feet in diameter. The basins shall be constructed of amended backfill materials, and shall not be constructed for trees in turf areas.
- I. Repeat watering until no more is absorbed.
- J. Apply pre-emergent herbicide as per manufacturer's recommendations to all shrub and ground cover planting areas after planting.
- K. Mulch all planted areas that do not receive jute netting, other than lawn areas, at not less than 2" thickness of mulch.
 1. Areas greater than 30% slope shall be protected with jute mesh.
- L. Equally space and align trees and shrubs in both directions where designated on Contract Drawings.
- M. Pull bark mulch away from the rootballs of all plants to insure proper air circulation.

- N. Prune, thin out and shape trees and shrubs in accordance with standard horticultural practices. Prune trees and other plantings only if required. Pruning shall be limited to remove injured wigs and branches, and to compensate for loss of roots during transplanting, but never exceed 1/3 of the branch structure. Never prune without prior review with Architect.
- O. Prune shrubs to retain natural character. Unless directed by the Architect, do not prune leaders or apices of any plant material. Do not prune into balled or boxed forms without prior written approval of the Architect.
- P. Remove and replace excessively pruned or malformed stock resulting from improper pruning.
- Q. Planting Ground Cover
 - 1. Space plants as shown or scheduled.
 - 2. Dig holes large enough to allow for spreading of roots and compact area around plant. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water. Water thoroughly after planting, taking care not to cover crowns of plants with wet soils.
 - 3. Mulch areas between ground cover plants with not less than 2" deep mulch.
- R. Miscellaneous Landscape Work: Install headers and edgings where shown. See appropriate details. Install 5" minimum layer of gravel, where shown, as specified in Section 2.04, compacted and leveled to fill voids at areas around building as shown on drawings.
- S. Planting Vines: Plant in accordance with Section 3.06. Attach vine to columns with vine ties as per manufacturer's recommendations.
- T. Tree Staking And Guying: Stake or guy all trees per landscape details, and tie with tree ties as specified. Remove all nursery stakes from trees unless directed otherwise by the Architect. Immediately after planting, stake and guy all trees in accordance with details indicated on Contract Drawings. One tree of each size shall be staked and guyed, and reviewed by Architect prior to continue work.
- U. Hardpan Conditions
 - 1. Where hardpan exists, whether it is in the form of caliche, rock or other impervious matter, and it is within the top 2½ feet of soil, or within the plant pit, use powered equipment to break through completely at each plant location to allow drainage and root growth. Remove hardpan at least 1½ feet greater than the rootball diameter of plant. Backfill with soil mix as specified.
 - 2. Where hardpan is within the first 12-inches of soil, it shall be completely penetrated for all trees and shrubs.

3.10 CLEANUP AND PROTECTION:

- A. During landscape work, keep pavements clean and work area in an orderly condition. Haul away and remove all debris from landscape areas, and do not leave any prunings, clippings, and or other material from landscape planting and/or maintenance period.
- B. Protect landscape work and materials from damage due to landscape operations, operations by other contractors and/or other trades. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged landscape work as directed.
- C. Powerwash all paving and flatwork as necessary to remove all staining and tire marks and provide a clean surface.

3.11 FINAL REVIEW & ACCEPTANCE

- A. General: Notify Architect at least 48 hours in advance when requesting on-site reviews.

- B. Final Site Observation requirements:
 - 1. Punch list at substantial completion.
 - 2. Final review of grading, irrigation and planting (to begin Maintenance Period).
 - 3. Final acceptance of project (at end of Maintenance Period).

- C. Refer to Section 32 0190 - Landscape Maintenance.

END OF SECTION