



**FAIRFIELD CAMPUS
EARLY LEARNING CENTER PROJECT**

**PROJECT MANUAL
PROJECT NUMBER: 23-003
DSA NUMBER: 02-120119**

SOLANO COMMUNITY COLLEGE DISTRICT

AUGUST 24th, 2022

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SOLANO COMMUNITY COLLEGE
EARLY LEARNING CENTER
 4000 SUISUN VALLEY ROAD
 FAIRFIELD, CA 94534

IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT

APP: 02-120119 INC:
 REVIEWED FOR

SS FLS ACS

DATE: 08/23/2022

CONSULTANT STAMPS



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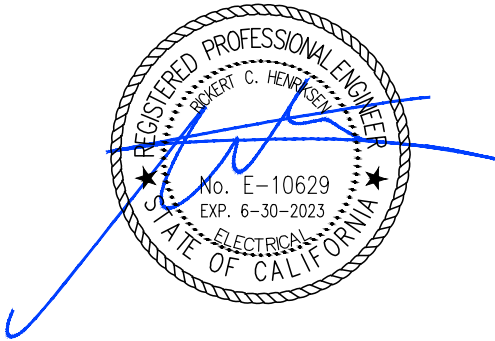
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- Solano Community College – Fairfield Campus – Underground Utilities Plan, dated January 26th, 2020
- Geotechnical Evaluation and Geologic Hazard Assessment, New Modular Building Solano Community College – Fairfield Campus, dated February 7th, 2022
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LIST OF SCHEDULES

BID PHASE SCHEDULE

- Mandatory Pre-Bid Conference (web-based meeting via Microsoft Teams): Thursday, September 1st, 2022, 11:00 am.
 - **Interested Parties need to register through the following link.**
[REGISTER HERE](#)
- Optional Site Walk: Friday, September 2nd, 2022, 10:00 am – 12:00 pm.
- Last date to submit questions to Noe.Ramos@Solano.edu : By Wednesday, August 14th, 2022, 2:00 pm.
- Last addendum will be issued: By Wednesday, September 21st, 2022, 2:00 pm.
- **Bids Due: By Wednesday, September 28th, 2022, 2:00 pm.**
- Mandatory Post Bid Interview: Thursday, September 29th, 2022, Time TBD.
- Solano Community College Board of Trustees Approval: Wednesday, October 19th, 2022
- Notice of Award: Anticipated by Thursday, October 20th, 2022.
- Notice to Proceed: Anticipated by Monday, November 7th, 2022.

CONSTRUCTION SCHEDULE

- Overall Project Duration: November 7th, 2022 – July 28th, 2023
 - Phase 1: November 7th, 2022 – June 9th, 2023
 - Owner Move-In: June 19th, 2023 – June 23rd, 2023 (Needs to happen during Summer Break 2023)
 - Phase 2: June 26th, 2023 – July 28th, 2023
- Building Delivery (American Modular Systems): February 15th, 2023 – February 16th, 2023
 - Full Modular Milestones shown in Reference Project Schedule.
- Project Schedule is provided as a reference document in order to show possible sequence of work / coordination needed between the modular building manufacturer (American Modular Systems) and the General Contractor. The General Contractor is still responsible for producing an actual construction schedule and all coordination with the Modular Building Manufacturer (American Modular Systems).

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SOLANO COMMUNITY COLLEGE BREAKS

- Winter Break: December 17th, 2022 – January 11th, 2023
- Spring Break: April 10th, 2023 – April 16th, 2023
- Summer Break: May 26th, 2023 – August 9th, 2023

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NOTICE TO BIDDERS

1. Notice is hereby given that the governing board ("Board") of the **Solano Community College District** ("District") will receive sealed bids for the following project, **Bid No. 23-003** ("Project" or "Contract"):

EARLY LEARNING CENTER PROJECT

2. The Project consists of:
 - a. All labor, materials, equipment, and supplies necessary for the completion of the entire scope of work as outlined in the contract documents. Includes all associated civil, architectural, structural, plumbing, mechanical and/or electrical work as indicated in the Drawings and Specifications.
 - b. Modular building will be provided and set under a sperate contract. Contractor is required to coordinate installation of new building with modular company. Contractor is required to coordinate delivery and installation of modular building. Contractor must be present to provide access and assistance to modular company during delivery and installation.
 - c. General Contractor scope of work includes all work necessary to prepare for the delivery the modular building. This includes relocation of existing underground utilities, installation of new underground utilities, completion of building pad, and backfill after foundations.
 - d. Scope of work also includes all sitework, including all new hardscaping, landscaping, exterior canopy structure, etc., as indicated in the Drawings and Specifications.
 - e. Scope of work also includes all work associated with the building as noted in the Drawings and Specifications. This is includes, but is not limited to; fire alarm, low voltage, exterior door hardware, signage, etc.
 - f. Contractor shall include safe-off of all utilities, including but not limited to all electrical, fire alarm, data, security, and plumbing.
 - g. This project will require "Phasing" and barricading of work areas as indicated in the Contract Documents. The Early Learning Department will have access to the Play Yard during construction as noted in the Drawings.
 - h. The scope of this project is further defined in the Contract Documents. The Contractor will provide all security fencing, safety barriers, portable toilets, and debris bins per the Contract Specifications. Multiple relocations of site fencing/ safety barriers may be required for the completion of this project. All campus pedestrian access shall be maintained, and existing buildings shall remain functional during the duration of the project.

3. To bid on this Project, the Bidder is required to possess one or more of the following State of California contractor license(s):

A – General Engineering OR B – General Building Contractor

The Bidder's license(s) must remain active and in good standing throughout the term of the Contract.

4. To bid on this Project, the Bidder is required to be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code.
5. Contract Documents will be available on or after August 24th, 2022, and may be viewed and/or downloaded from the District's website at;
<http://www.solano.edu/measureq/vendor.php>
6. **Sealed Bids will be received until 2:00 p.m., October 19th, 2022, at Solano Community College**, 4000 Suisun Valley Road, Fairfield, California 94534, at or after which time the bids will be opened and publicly read aloud. Any bid that is submitted after this time shall be non-responsive and returned to the bidder. Any claim by a bidder of error in its bid must be made in compliance with section 5100, et seq. of the Public Contract Code.

If mailing, the District suggests delivery one day prior to bid date to allow for sufficient time for receiving, processing and delivery to the appropriate department. **It is each bidder's sole responsibility to ensure its bid is delivered timely and received at the location designated as specified. The District will not be responsible for errors in delivery, including not receiving bids via email under any circumstance. Any bid received at the designated location after the scheduled closing time for receipt of bids shall be returned to the bidder unopened.**

Bidders choosing to mail bids shall send them to;

Attn: Noe Ramos, Kitchell
Early Learning Center Project – Bid Number 23-003
4000 Suisun Valley Road, Building 1102 (Kitchell Bond Office)
Fairfield, CA 94534

Due to the impacts of COVID-19, an in-person Bid Opening will not be held. The Bid Opening will be conducted in the District's Board Room and will be live streamed over the internet. This will take place at approximately 2:30pm, on the bid due date. Potential bidders can view the live opening on the District's website on the following link:

<https://welcome.solano.edu/scc-bids/>

7. All bids shall be on the form provided by the District. Each bid must conform and be responsive to all pertinent Contract Documents, including, but not limited to, the Instructions to Bidders.

8. A bid bond by an admitted surety insurer on the form provided by the District, or a cashier's check or a certified check, drawn to the order of the Solano Community College District, in the amount of ten percent (10%) of the total bid price, shall accompany the Bid Form and Proposal, as a guarantee that the Bidder will, within seven (7) calendar days after the date of the Notice of Award, enter into a contract with the District for the performance of the services as stipulated in the bid.
9. **One Virtual Mandatory Pre-Bid Conference (via Microsoft Teams) will be held on Wednesday, September 1st, 2022, at 11:00 a.m. All interested parties must register to attend through the link below.**

[REGISTER HERE](#)

https://teams.microsoft.com/registration/jhZd30UUUSZrreYSqKTBg,bo6xqpYufU2RP3Z1kUx1nw,sjNQ8bZN20ihkAUb638Khg,eO2sadJFpEitdx2R_YiDng,65XzRTi2Q02JiFOErWIS6A,HI43YmkY0EO4FcUBDUItHA?mode=read&tenantId=dc5d168e-14e5-44b1-99ae-b7984aa29306

(Copy and paste link above if issues with link)

Failure to attend or tardiness will render the bid ineligible

An Independent Site-Visit must also be conducted by potential bidders during the bidding period.

10. All pre-bid questions must be submitted in writing to the Project Manager, Noe Ramos, at Noe.Ramos@solano.edu. **Pre-Bid questions must be submitted on or before 2:00 p.m., Wednesday, September 14th, 2022.**
11. The successful Bidder shall be required to furnish a 100% Performance Bond and a 100% Payment Bond if it is awarded the contract for the Work.
12. The successful Bidder may substitute securities for any monies withheld by the District to ensure performance under the Contract, in accordance with the provisions of section 22300 of the Public Contract Code.
13. The successful bidder will be expected to meet a twenty percent (20%) Small, Local and Diverse Business Enterprise Program (SLDBE) goal by listing their small, local, and diverse subcontractors and/or suppliers on the SLDBE Bid Form and submitting this with their bid. Contractors who fail to meet the twenty percent (20%) SLDBE goal must submit evidence of having made a Good Faith Effort to attempt to achieve the twenty percent (20%) SLDBE goal.
14. The successful bidder will be required to certify that it either meets the Disabled Veteran Business Enterprise ("DVBE") goal of three percent (3%) participation or made a good faith effort to solicit DVBE participation in this Contract if it is awarded the contract for the Work. Note that DVBE participation will count towards SLDBE Program Goal.
15. The Contractor and all Subcontractors under the Contractor shall pay all workers on all work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be

performed within the boundaries of the District, pursuant to section 1770, et seq. of the California Labor Code. Prevailing wage rates are also available from the District or on the Internet at: <<http://www.dir.ca.gov>>.

16. This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and subject to the requirements of Title 8 of the California Code of Regulations. The successful Bidder shall comply with all requirements of Division 2, Part 7, Chapter 1, Articles 1-5 of the Labor Code.
17. The Contractor and all Subcontractors under the Contractor shall comply with applicable federal, State, and local requirements relating to COVID-19 or other public health emergency/epidemic/pandemic including, if required, preparing, posting, and implementing a Social Distancing Protocol.
18. The District shall award the Contract, if it awards it at all, to the lowest responsive responsible bidder based on:
 - A. The base bid amount only.
19. The Board reserves the right to reject any and all bids and/or waive any irregularity in any bid received. If the District awards the Contract, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (90) days after the date of the bid opening.

END OF DOCUMENT

DOCUMENT 00 21 13

INSTRUCTIONS TO BIDDERS

Bidders shall follow the instructions in this document, and shall submit all documents, forms, and information required for consideration of a Bid.

Solano Community College District ("District") will evaluate information submitted by the apparent low Bidder and, if incomplete or unsatisfactory to District, Bidder's bid may be rejected at the sole discretion of District.

1. Bids are requested for a general construction contract, or work described in general, for the following project ("Project" or "Contract"):

EARLY LEARNING CENTER PROJECT

2. Bidder and its subcontractors must possess the appropriate State of California contractors' license and must maintain the license throughout the duration of the project. Bidders must also be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code. Bids submitted by a contractor who is not properly licensed or registered shall be deemed nonresponsive and will not be considered.
3. District will receive sealed bids from bidders as stipulated in the Notice to Bidders.
 - a. All bids must be sealed in an envelope, marked with the name and address of the Bidder, name of the Project, the Project Number and/or bid number, and time of bid opening.
 - b. Bids must be submitted to **Solano Community College, 4000 Suisun Valley Road, Fairfield California 94534, Building 1102, Kitchell Bond Office** by date and time shown in the Notice to Bidders.
 - c. Bids must contain all documents as required herein.
4. Bidders are advised that on the date that bids are opened, telephones will not be available at the District Offices for use by bidders or their representatives.
5. Bids will be opened at or after the time indicated for receipt of bids.

Due to the impacts of COVID-19, an in-person Bid Opening will not be held. The Bid Opening will be conducted in the District's Board Room and will be live streamed over the internet. Bids will be opened and publicly read aloud via the live stream. This will take place approximately 30 minutes after bids are due. Potential bidders can view the live opening on the District's website on the following link:

<https://welcome.solano.edu/scc-bids/>

6. Bidders must submit Bids on the documents titled Bid Form and Proposal, and must submit all other required District forms. Bids not submitted on the District's required

forms shall be deemed nonresponsive and shall not be considered. Additional sheets required to fully respond to requested information are permissible.

7. Bidders shall not modify the Bid Form and Proposal or qualify their bids. Bidders shall not submit to the District a re-formatted, re-typed, altered, modified, or otherwise recreated version of the Bid Form and Proposal or other District-provided document.
8. Bids shall be clearly written and without erasure or deletions. District reserves the right to reject any bid containing erasures, deletions, or illegible contents.
9. Bidders must supply all information required by each Bid Document. Bids must be full and complete. 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 must complete and submit all of the following documents with the Bid Form and Proposal:
 - a. Bid Bond on the District's form, or other security. Specification Section 00 43 13.
 - b. Designated Subcontractors List. Specification Section 00 43 36.
 - c. Site Visit Certification, if a site visit was required. Specification Section 00 45 01.
 - d. Non-Collusion Declaration. Specification Section 00 45 19.
 - e. Iran Contracting Act Certification. Specification Section 00 45 19.01.
 - f. Small, Local and Diverse Business Program (SLDBE). Specification Section 00 45 20.
10. Bidders must submit with their Bids cash, a cashier's check or a certified check payable to District, or a bid bond by an admitted surety insurer of not less than ten percent (10%) of amount of Base Bid, plus all additive alternates ("Bid Bond"). If Bidder chooses to provide a Bid Bond as security, Bidder must use the required form of corporate surety provided by District. The Surety on Bidder's Bid Bond must be an insurer admitted in the State of California and authorized to issue surety bonds in the State of California. Bids submitted without necessary bid security will be deemed non-responsive and will not be considered.
11. If Bidder to whom the Contract is awarded fails or neglects to enter into the Contract and submit required bonds, insurance certificates, and all other required documents, within **SEVEN (7)** calendar days after the date of the Notice of Award, District may deposit Bid Bond, cash, cashier's check, or certified check for collection, and proceeds thereof may be retained by District as liquidated damages for failure of Bidder to enter into Contract, in the sole discretion of District. It is agreed that calculation of damages District may suffer as a result of Bidder's failure to enter into the Contract would be extremely difficult and impractical to determine and that the amount of the Bidder's required bid security shall be the agreed and conclusively presumed amount of damages.
12. Bidders must submit with the Bid the Designated Subcontractors List for those subcontractors who will perform any portion of Work, including labor, rendering of service, or specially fabricating and installing a portion of the Work or improvement according to detailed drawings contained in the plans and specifications, in excess of one half of one percent (0.5%) of total Bid. Failure to submit this list when required

- by law shall result in bid being deemed nonresponsive and the bid will not be considered.
13. All of the listed subcontractors are required to be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code.
- a. An inadvertent error in listing the California contractor license number on the Designated Subcontractors List shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the correct contractor's license number is submitted to the District within 24 hours after the bid opening and the corrected number corresponds with the submitted name and location for that subcontractor.
 - b. An inadvertent error listing an unregistered subcontractor shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive provided that any of the following apply:
 - (1) The subcontractor is registered prior to the bid opening.
 - (2) The subcontractor is registered and has paid the penalty registration fee within 24 hours after the bid opening.
 - (3) The subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.
14. If a mandatory pre-bid conference and site visit ("Site Visit") is required as referenced in the Notice to Bidders, then Bidders must submit the Site-Visit Certification with their Bid. District will transmit to all prospective Bidders of record such Addenda as District in its discretion considers necessary in response to questions arising at the Site Visit. Oral statements shall not be relied upon and will not be binding or legally effective. Addenda issued by the District as a result of the Site Visit, if any, shall constitute the sole and exclusive record and statement of the results of the Site Visit.
15. Bidders shall submit the Non-Collusion Declaration with their Bids. Bids submitted without the Non-Collusion Declaration shall be deemed non-responsive and will not be considered.
16. Bidders shall submit the Small, Local and Diverse Program (SLDBE) forms with their Bids.
17. The Contractor and all Subcontractors under the Contractor shall pay all workers on all work performed pursuant to the Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code. 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 Department of Industrial Relations, are available upon request at the District's principal office. Prevailing wage rates are also available on the internet at <http://www.dir.ca.gov>.

18. Pursuant to Education Code section 71028 and Public Contract Code section 10115, the District has a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended each year on District projects. In order to meet this requirement by demonstrating a good faith effort, Bidder must advertise for DVBE-certified subcontractors and suppliers before submitting its Bid. The lowest responsive responsible Bidder awarded the Contract must submit certification of compliance with the procedures for implementation of DVBE contracting goals with its signed Agreement. DVBE Certification form is attached. Do not submit this form with your Bid. Note that DVBE participation will count towards SLDBE Program Goal.

19. Submission of Bid signifies careful examination of Contract Documents and complete understanding of the nature, extent, and location of Work to be performed. Bidders must complete the tasks listed below as a condition to bidding, and submission of a Bid shall constitute the Bidder's express representation to District that Bidder has fully completed the following:
 - a. Bidder has visited the Site, if required, 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 that relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto;
 - b. Bidder has conducted or obtained and has understood all examinations, investigations, explorations, tests, reports, and studies that pertain to the subsurface conditions, as-built conditions, underground facilities, and all other physical conditions at or contiguous to the Site or otherwise that may affect the cost, progress, performance, or furnishing of Work, as Bidder considers necessary for the performance or furnishing of Work at the Contract Sum, within the Contract Time, and in accordance with the other terms and conditions of Contract Documents, including specifically the provisions of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies, or similar information or data are or will be required by Bidder for such purposes;
 - c. Bidder has correlated its knowledge and the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents;
 - d. Bidder has given the District prompt written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in or among the Contract Documents and the actual conditions, and the written resolution(s) thereof by the District, is/are acceptable to Bidder;
 - e. Bidder has made a complete disclosure in writing to the District of all facts bearing upon any possible interest, direct or indirect, that Bidder believes any representative of the District or other officer or employee of the District presently has or will have in this Contract or in the performance thereof or in any portion of the profits thereof;

- f. Bidder must, prior to bidding, perform the work, investigations, research, and analysis required by this document and that Bidder represented in its Bid Form and Proposal and the Agreement that it performed prior to bidding. Contractor under this Contract is charged with all information and knowledge that a reasonable bidder would ascertain from having performed this required work, investigation, research, and analysis. Bid prices must include entire cost of all work "incidental" to completion of the Work.
- g. Conditions Shown on the Contract Documents: Information as to underground conditions, as-built conditions, or other conditions or obstructions, indicated in the Contract Documents, e.g., on Drawings or in Specifications, has been obtained with reasonable care, and has been recorded in good faith. However, District only warrants, and Bidder may only rely, on the accuracy of limited types of information.
- (1) As to above-ground conditions or as-built conditions shown or indicated in the Contract Documents, there is no warranty, express or implied, or any representation express or implied, that such information is correctly shown or indicated. This information is verifiable by independent investigation and Bidder is required to make such verification as a condition to bidding. In submitting its Bid, Bidder shall rely on the results of its own independent investigation. In submitting its Bid, Bidder shall not rely on District-supplied information regarding above-ground conditions or as-built conditions.
- (2) As to any subsurface condition shown or indicated in the Contract Documents, Bidder 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. District is not responsible for the completeness of such information for bidding or construction; nor is District responsible in any way for any conclusions or opinions that the Bidder has drawn from such information; nor is the District responsible for 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).
- h. Conditions Shown in Reports and Drawings Supplied for Informational Purposes: Reference is made to the document entitled Geotechnical Data, and the document entitled Existing Conditions, for identification of:
- (1) Subsurface Conditions: Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that have been utilized by Architect in preparing the Contract Documents; and
- (2) Physical Conditions: Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that has been utilized by Architect in preparing the Contract Documents.
- (3) These reports and drawings are **not** Contract Documents and, except for any "technical" data regarding subsurface conditions specifically

identified in Geotechnical Data and Existing Conditions, and underground facilities data, Bidder may not in any manner rely on the information in these reports and drawings. Subject to the foregoing, Bidder must make its own independent investigation of all conditions affecting the Work and must not rely on information provided by District.

20. Bids shall be based on products and systems specified in Contract Documents or listed by name in Addenda. Whenever in the Specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, that Specification shall be deemed to be followed by the words "or equal." Bidder may, unless otherwise stated, offer any material, process, or article that shall be substantially equal or better in every respect to that so indicated or specified. The District is not responsible and/or liable in any way for a Contractor's damages and/or claims related, in any way, to that Contractor's basing its bid on any requested substitution that the District has not approved in advance and in writing. Contractors and materials suppliers who submit requests for substitutions prior to the award of the Contract must do so in writing and in compliance with Public Contract Code section 3400. All requests must comply with the following:
 - a. District must receive any notice of request for substitution of a specified item a minimum of **TEN (10)** calendar days prior to bid opening. The Successful Bidder will not be allowed to substitute specified items unless properly noticed.
 - b. Within 35 days after the date of the Notice of Award, the Successful Bidder shall submit data substantiating the request(s) for all substitution(s) containing sufficient information to assess acceptability of product or system and impact on Project, including, without limitation, the requirements specified in the Special Conditions and the Specifications. Insufficient information shall be grounds for rejection of substitution.
 - c. Approved substitutions, if any, shall be listed in Addenda. District reserves the right not to act upon submittals of substitutions until after bid opening.
 - d. Substitutions may be requested after Contract has been awarded only if indicated in and in accordance with requirements specified in the Special Conditions and the Specifications.
21. Bidders may examine any available "as-built" drawings of previous work by giving District reasonable advance notice. District will not be responsible for accuracy of "as-built" drawings. The document entitled Existing Conditions applies to all supplied "as-built" drawings.
22. All questions about the meaning or intent of the Contract Documents are to be directed via email to the District to Noe Ramos, Noe.Ramos@solano.edu. Interpretations or clarifications considered necessary by the District in response to such questions will be issued in writing by Addenda and emailed to all parties recorded by the District as having received the Contract Documents and posted on the District's website at <http://www.solano.edu/measureq/vendor.php> . Questions received less than **SEVEN (7)** calendar days prior to the date for opening Bids may

not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

23. Addenda may also be issued to modify other parts of the Contract Documents as deemed advisable by the District.
24. Each Bidder must acknowledge each Addendum in its Bid Form and Proposal by number or its Bid shall be considered non-responsive. Each Addendum shall be part of the Contract Documents. A complete listing of Addenda may be secured from the District.
25. This Contract may include alternates. Alternates are defined as alternate products, materials, equipment, systems, methods, or major elements of the construction that may, at the District's option and under terms established in the Contract and pursuant to section 20103.8 of the Public Contract Code, be selected for the Work.
26. The District shall award the Contract, if it awards it at all, to the lowest responsive responsible bidder based on the criteria as indicated in the Notice to Bidders. In the event two or more responsible bidders submit identical bids, the District shall select the Bidder to whom to award the Contract by lot.
27. Discrepancies between written words and figures, or words and numeral, will be resolved in favor of figures or numerals.
28. Bidders in contention for contract awards shall be required to attend a Post Bid interview, which will be set within three (3) calendar days following bid opening. A duly authorized representative of the apparent low bidder is required to attend the Post Bid Interview, in person. The apparent low bidder's authorized representative(s) must have (1) knowledge of how the bid submitted was prepared, (2) the person responsible for supervising performance of the Work, and (3) the authority to bind the apparent low bidder. Failure to attend the Post Bid Interview as scheduled will be considered just cause for the District to reject the Bid as nonresponsive.
29. Any bid protest by any Bidder regarding any other bid must be submitted in writing to the District, before 5:00 p.m. of the **THIRD (3rd)** business day following bid opening.
 - a. Only a Bidder who has actually submitted a bid, and who could be awarded the Contract if the bid protest is upheld, is eligible to submit a bid protest. Subcontractors are not eligible to submit bid protests. A Bidder may not rely on the bid protest submitted by another Bidder.
 - b. A bid protest must contain a complete statement of any and all bases for the protest and all supporting documentation. Materials submitted after the bid protest deadline will not be considered.
 - c. The protest must refer to the specific portions of all documents that form the basis for the protest.
 - (1) Without limitation to any other basis for protest, an inadvertent error in listing the California contractor's license number on the Designated

Subcontractors List shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the correct contractor's license number is submitted to the District within 24 hours after the bid opening and the corrected number corresponds with the submitted name and location for that subcontractor.

(2) Without limitation to any other basis for protest, an inadvertent error listing an unregistered subcontractor shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive provided that any of the following apply:

- (i) The subcontractor is registered prior to the bid opening.
- (ii) The subcontractor is registered and has paid the penalty registration fee within 24 hours after the bid opening.
- (iii) The subcontractor is replaced by another registered subcontractor pursuant to Public Contract Code section 4107.

- d. The protest must include the name, address and telephone number of the person representing the protesting party.
- e. The party filing the protest must concurrently transmit a copy of the protest 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 or proposers 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 each bidder's sole and exclusive remedy in the event of bid protest. 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.

30. The Bidder to whom Contract is awarded shall execute and submit the following documents by 5:00 p.m. of the **SEVENTH (7th)** calendar day following the date of the Notice of Award. Failure to properly and timely submit these documents entitles District to reject the bid as nonresponsive.

- a. Agreement: To be executed by successful Bidder. Submit three (3) copies, each bearing an original signature, or valid electronic signature shall be deemed to be the equivalent of the actual original signature.
- b. Escrow of Bid Documentation: This must include all required documentation. See the document titled Escrow Bid Documentation for more information.
- c. Performance Bond (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.

- d. Payment Bond (Contractor's Labor and Material Bond) (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
 - e. Insurance Certificates and Endorsements as required.
 - f. Workers' Compensation Certification.
 - g. Prevailing Wage and Related Labor Requirements Certification.
 - h. Disabled Veteran Business Enterprise Participation Certification.
 - i. Drug-Free Workplace Certification.
 - j. Tobacco-Free Environment Certification.
 - k. Hazardous Materials Certification.
 - l. Lead-Based Materials Certification.
 - m. Imported Materials Certification.
 - n. Sex Offender Registration Act_Certification.
 - o. Federal Debarment Certification.
 - p. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers.
31. Time for Completion: District may issue a Notice to Proceed within **NINETY (90)** days from the date of the Notice of Award. Once Contractor has received the Notice to Proceed, Contractor shall complete the Work within the period of time indicated in the Contract Documents.
- a. In the event that the District desires to postpone issuing the Notice to Proceed beyond this 90-day period, it is expressly understood that with reasonable notice to the Contractor, the District may postpone issuing the Notice to Proceed.
 - b. It is further expressly understood by Contractor that Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of the issuance of the Notice to Proceed beyond a 90-day period. If the Contractor believes that a postponement of issuance of the Notice to Proceed will cause a hardship to the Contractor, the Contractor may terminate the Contract. Contractor's termination due to a postponement beyond this 90-day period shall be by written notice to District within **TEN (10)** calendar days after receipt by Contractor of District's notice of postponement.
 - c. It is further understood by the Contractor that in the event that Contractor terminates the Contract as a result of postponement by the District, the District shall only be obligated to pay Contractor for the Work that Contractor

had performed at the time of notification of postponement and which the District had in writing authorized Contractor to perform prior to issuing a Notice to Proceed.

- d. Should the Contractor terminate the Contract as a result of a notice of postponement, District shall have the authority to award the Contract to the next lowest responsive responsible bidder.
32. District reserves the right to reject any or all bids, including without limitation the right to reject any or all nonconforming, non-responsive, unbalanced, or conditional bids, to re-bid, and to reject the bid of any bidder if District believes that it would not be in the best interest of the District 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. District also reserves the right to waive any inconsequential deviations or irregularities in any bid. For purposes of this paragraph, an "unbalanced bid" is one having nominal prices for some work items and/or enhanced prices for other work items.
33. It is the policy of the District that no qualified person shall be excluded from participating in, be denied the benefits of, or otherwise be subjected to discrimination in any consideration leading to the award of contract, based on race, color, gender, sexual orientation, political affiliation, age, ancestry, religion, marital status, national origin, medical condition or disability. The Successful Bidder and its subcontractors shall comply with applicable federal and state laws, including, but not limited to the California Fair Employment and Housing Act, beginning with Government Code section 12900, and Labor Code section 1735.
34. Prior to the award of Contract, District reserves the right to consider the responsibility of the Bidder. District may conduct investigations as District deems necessary to assist in the evaluation of any bid and to establish the responsibility, including, without limitation, qualifications and financial ability of Bidders, proposed subcontractors, suppliers, 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.
35. Bidder expressly acknowledges that it is familiar with and capable of complying with applicable federal, State, and local requirements relating to COVID-19 or other public health emergency/epidemic/pandemic including, if required, preparing, posting, and implementing a Social Distancing Protocol, and such costs shall be included in the bid.

END OF DOCUMENT

DOCUMENT 00 31 19

EXISTING CONDITIONS

1. Summary

This document describes existing conditions at or near the Project, and use of information available regarding existing conditions. This document is **not** part of the Contract Documents. See General Conditions for definition(s) of terms used herein.

2. Reports and Information on Existing Conditions

- a. Documents providing a general description of the Site and conditions of the Work may have been collected by Solano Community College District ("District"), its consultants, contractors, and tenants. These documents may, but are not required to, include previous contracts, contract specifications, tenant improvement contracts, as-built drawings, utility drawings, and information regarding underground facilities.
- b. Information regarding existing conditions may be inspected at the District offices or the Construction Manager's offices, if any, and copies may be obtained at cost of reproduction and handling upon Bidder's agreement to pay for such copies. These reports, documents, and other information are **not** part of the Contract Documents. These reports, documents, and other information do **not** excuse Contractor from fulfilling Contractor's obligation to independently investigate any or all existing conditions or from using reasonable prudent measures to avoid damaging existing improvements.
- c. Information regarding existing conditions may also be included in the Project Manual, but shall **not** be considered part of the Contract Documents.
- d. Prior to commencing this Work, Contractor and the District's representative shall survey the Site to document the condition of the Site. Contractor will record the survey in digital videotape format and provide an electronic copy to the District within fourteen (14) days of the survey.
- e. Contractor may also document any pre-existing conditions in writing, provided that both the Contractor and the District's representative agree on said conditions and sign a memorandum documenting the same.
- f. The reports and other data or information regarding existing conditions and underground facilities at or contiguous to the Project are the following:
 - (1) Geotechnical Evaluation and Geologic Hazard Assessment, New Modular Building Solano Community College – Fairfield Campus, dated February 7th, 2022.
 - (2) Solano Community College – Fairfield Campus – Underground Utilities Plan, dated January 26th, 2020.
 - (3) Original Irrigation Drawings (Project Area) – Fairfield Campus

3. Use of Information

- a. Information regarding existing conditions was obtained only for use of District and its consultants, contractors, and tenants for planning and design and is **not** part of the Contract Documents.
- b. District does not warrant, and makes no representation regarding, the accuracy or thoroughness of any information regarding existing conditions. Bidder represents and agrees that in submitting a bid it is not relying on any information regarding existing conditions supplied by District.
- c. Under no circumstances shall District be deemed to warrant or represent existing above-ground conditions, as-built conditions, or other actual conditions, verifiable by independent investigation. These conditions are verifiable by Bidder by the performance of its own independent investigation that Bidder must perform as a condition to bidding and Bidder should not and shall not rely on this information or any other information supplied by District regarding existing conditions.
- d. Any information shown or indicated in the reports and other data supplied herein with respect to existing underground facilities at or contiguous to the Project may be based upon information and data furnished to District by the District's employees and/or consultants or builders of such underground facilities or others. District does not assume responsibility for the completeness of this information, and Bidder is solely responsible for any interpretation or conclusion drawn from this information.
- e. District shall be responsible only for the general accuracy of information regarding underground facilities, and only for those underground facilities that are owned by District, and only where Bidder has conducted the independent investigation required of it pursuant to the Instructions to Bidders, and discrepancies are not apparent.

4. Investigations/Site Examinations

- a. Before submitting a Bid, each Bidder is responsible for conducting or obtaining any 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, that may affect cost, progress, performance, or furnishing of Work or that relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or that Bidder 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.
- b. On request, District will provide each Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies, as each Bidder deems necessary for submission of a Bid. Bidders must fill all holes and clean up and restore the Site to its former condition upon completion of its explorations, investigations, tests, and studies. Such investigations and Site examinations may be performed during any and all Site visits indicated in

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the Notice to Bidders and only under the provisions of the Contract Documents, including, but not limited to, proof of insurance and obligation to indemnify against claims arising from such work, and District's prior approval.

END OF DOCUMENT

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DOCUMENT 00 31 32

GEOTECHNICAL DATA

1. Summary

This document describes geotechnical data at or near the Project that is in the District's possession available for Contractor's review, and use of data resulting from various investigations. This document is **not** part of the Contract Documents. See General Conditions for definition(s) of terms used herein.

2. Geotechnical Reports

- a. Geotechnical reports may have been prepared for and around the Site and/or in connection with the Work by soil investigation engineers hired by Solano Community College District ("District"), and its consultants, contractors, and tenants.
- b. Geotechnical reports may be inspected at the District offices or the Construction Manager's offices, if any, and copies may be obtained at cost of reproduction and handling upon Bidder's agreement to pay for such copies. These reports are **not** part of the Contract Documents.
- c. The reports and drawings of physical conditions that may relate to the Project are the following:

Geotechnical Evaluation and Geologic Hazard Assessment, New Modular Building Solano Community College – Fairfield Campus, dated February 7th, 2022

3. Use of Data

- a. Geotechnical data were obtained only for use of District and its consultants, contractors, and tenants for planning and design and are **not** a part of Contract Documents.
- b. Except as expressly set forth below, District does not warrant, and makes no representation regarding, the accuracy or thoroughness of any geotechnical data. Bidder represents and agrees that in submitting a Bid it is not relying on any geotechnical data supplied by District, except as specifically allowed below.
- c. Under no circumstances shall District be deemed to make a warranty or representation of existing above ground conditions, as-built conditions, geotechnical conditions, or other actual conditions verifiable by independent investigation. These conditions are verifiable by Bidder by the performance of its own independent investigation that Bidder should perform as a condition to bidding and Bidder must not and shall not rely on information supplied by District.

4. Limited Reliance Permitted on Certain Information

- a. Reference is made herein for identification of:

Reports of explorations and tests of subsurface conditions at or contiguous to the Site that have been utilized by District in preparation of the Contract Documents.

Drawings of physical conditions in or relating to existing subsurface structures (except underground facilities) that are at or contiguous to the Site and have been utilized by District in preparation of the Contract Documents.

- b. Bidder may rely upon the general accuracy of the "technical data" contained in the reports and drawings identified above, but only insofar as it relates to subsurface conditions, provided Bidder has conducted the independent investigation required pursuant to Instructions to Bidders, and discrepancies are not apparent. The term "technical data" in the referenced reports and drawings shall be limited as follows:
- (1) The term "technical data" shall include actual reported depths, reported quantities, reported soil types, reported soil conditions, and reported material, equipment or structures that were encountered during subsurface exploration. The term "technical data" does not include, and Bidder may not rely upon, any other data, interpretations, opinions or information shown or indicated in such drawings or reports that otherwise relate to subsurface conditions or described structures.
 - (2) The term "technical data" shall not include the location of underground facilities.
 - (3) Bidder may not rely on the completeness of reports and drawings for the purposes of bidding or construction. Bidder may rely upon the general accuracy of the "technical data" contained in such reports or drawings.
 - (4) Bidder is solely responsible for any interpretation or conclusion drawn from any "technical data" or any other data, interpretations, opinions, or information provided in the identified reports and drawings.

5. Investigations/Site Examinations

- a. Before submitting a Bid, each Bidder is responsible for conducting or obtaining any 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, that may affect cost, progress, performance, or furnishing of Work or that relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or that Bidder 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.

- b. On request, District will provide each Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies, as each Bidder deems necessary for submission of a Bid. Bidders must fill all holes and clean up and restore the Site to its former condition upon completion of its explorations, investigations, tests, and studies. Such investigations and Site examinations may be performed during any and all Site visits indicated in the Notice to Bidders and only under the provisions of the Contract Documents, including, but not limited to, proof of insurance and obligation to indemnify against claims arising from such work, and District's prior approval.

END OF DOCUMENT

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DOCUMENT 00 41 13
BID FORM AND PROPOSAL

To: **Solano Community College District** ("District" or "Owner")

From: _____
(Proper Name of Bidder)

The undersigned declares that Bidder has read and understands the Contract Documents, including, without limitation, the Notice to Bidders and the Instructions to Bidders, and agrees and proposes to furnish all necessary labor, materials, and equipment to perform and furnish all work in accordance with the terms and conditions of the Contract Documents, including, without limitation, the Drawings and Specifications of **Bid No. 23-003**, for the following project known as:

EARLY LEARNING CENTER PROJECT

("Project" or "Contract") and will accept in full payment for that Work the following total lump sum amount, all taxes included:

_____ dollars	\$ _____
BASE BID	
_____ dollars	\$ _____
5% Owner's Allowance of Base Bid	
_____ dollars	\$ _____
TOTAL BID AMOUNT	
(CUMULATIVE TOTAL OF BASE BID AMOUNT AND 5% OWNER'S ALLOWANCE)	
<i>Bidder acknowledges and agrees that the Total Bid Amount accounts for any and all Allowance(s).</i>	

Additive/Deductive Alternates:

Alternate #1

_____ dollars	\$ _____
ADDITIVE	
PROVIDE AND INSTALL INTRUSION ALARM SYSTEM AT BUILDING	

Descriptions of alternates are primarily scope definitions and do not necessarily detail the full range of materials and processes needed to complete the construction.

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Additional Detail Regarding Calculation of Base Bid

1. **Owner's Allowance**. The Bidder's Base Bid shall include a five percent (5%) allowance for the Owner's use. Do not include alternates when calculating the Allowance Amount.

The above allowance shall only be used by authorization by the Owner. Contractor shall not bill for or be due any portion of this allowance unless the District has identified specific work, Contractor has submitted a price for that work or the District has proposed a price for that work, the District has accepted the cost for that work, and the District has prepared an Allowance Expenditure Directive incorporating that work. Contractor hereby authorizes the District to execute a unilateral deductive change order at or near the end of the Project for all or any portion of the allowance not allocated. Any unused portion of the allowance will revert back to the District documented by a deductive change order.

2. The undersigned has reviewed the Work outlined in the Contract Documents and fully understands the scope of Work required in this Proposal, understands the construction and project management function(s) is described in the Contract Documents, and that each Bidder who is awarded a contract shall be in fact a prime contractor, not a subcontractor, to the District, and agrees that its Proposal, if accepted by the District, will be the basis for the Bidder to enter into a contract with the District in accordance with the intent of the Contract Documents.
3. The undersigned has notified the District in writing of any discrepancies or omissions or of any doubt, questions, or ambiguities about the meaning of any of the Contract Documents, and has contacted the Construction Manager before bid date to verify the issuance of any clarifying Addenda.
4. The undersigned agrees to commence work under this Contract on the date established in the Contract Documents and to complete all work within the time specified in the Contract Documents.
5. The liquidated damages clause of the General Conditions and Agreement is hereby acknowledged.
6. It is understood that the District reserves the right to reject this bid and that the bid shall remain open to acceptance and is irrevocable for a period of ninety (90) days.
7. The following documents are attached hereto:
 - Bid Bond on the District's form or other security
 - Designated Subcontractors List
 - Site Visit Certification
 - Non-Collusion Declaration
 - Iran Contracting Act Certification
 - Small, Local, and Diverse Business Program (SLDBE)

8. Receipt and acceptance of the following Addenda is hereby acknowledged:

No. _____, Dated _____	No. _____, Dated _____
No. _____, Dated _____	No. _____, Dated _____
No. _____, Dated _____	No. _____, Dated _____

- 9. Bidder acknowledges that the license required for performance of the Work is an A-General Engineering Contractor License **or** B-General Contractor License.
- 10. Bidder hereby certifies that Bidder is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work.
- 11. Bidder specifically acknowledges and understands that if it is awarded the Contract, that it shall perform the Work of the Project while complying with all requirements of the Department of Industrial Relations.
- 12. Bidder hereby certifies that its bid includes sufficient funds to permit Bidder to comply with all local, state or federal labor laws or regulations during the Project, including payment of prevailing wage, and that Bidder will comply with the provisions of Labor Code section 2810(d) if awarded the Contract.
- 13. The Bidder represents that it is competent, knowledgeable, and has special skills with respect to the nature, extent, and inherent conditions of the Work to be performed. Bidder further acknowledges that there are certain peculiar and inherent conditions existent in the construction of the Work that may create, during the Work, unusual or peculiar unsafe conditions hazardous to persons and property.
- 14. Bidder expressly acknowledges that it is aware of such peculiar risks and that it has the skill and experience to foresee and to adopt protective measures to adequately and safely perform the Work with respect to such hazards.
- 15. Bidder expressly acknowledges that it is familiar with and capable of complying with applicable federal, State, and local requirements relating to COVID-19 or other public health emergency/epidemic/pandemic including, if required, preparing, posting, and implementing a Social Distancing Protocol.
- 16. Bidder expressly acknowledges that it is aware that if a false claim is knowingly submitted (as the terms "claim" and "knowingly" are defined in the California False Claims Act, Gov. Code, § 12650 et seq.), the District will be entitled to civil remedies set forth in the California False Claim Act. It may also be considered fraud and the Contractor may be subject to criminal prosecution.
- 17. The undersigned Bidder certifies that it is, at the time of bidding, and shall be throughout the period of the Contract, licensed by the State of California to do the type of work required under the terms of the Contract Documents and registered as a public works contractor with the Department of Industrial Relations. Bidder further

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certifies that it is regularly engaged in the general class and type of work called for in the Contract Documents.

Furthermore, Bidder hereby certifies to the District that all representations, certifications, and statements made by Bidder, as set forth in this bid form, are true and correct and are made under penalty of perjury.

Dated this _____ day of _____ 20 ____

Name of Bidder: _____

Type of Organization: _____

Signature: _____

Print Name: _____

Title: _____

Address of Bidder: _____

Taxpayer Identification No. of Bidder: _____

Telephone Number: _____ Fax Number: _____

E-mail: _____ Web Page: _____

Contractor's License No(s): No.: _____ Class: _____ Expiration Date: _____

No.: _____ Class: _____ Expiration Date: _____

No.: _____ Class: _____ Expiration Date: _____

Public Works Contractor Registration No.: _____

END OF DOCUMENT

DOCUMENT 00 43 13

BID BOND

(Note: If Bidder is providing a bid bond as its bid security, Bidder must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

That the undersigned, _____, as Principal ("Principal"),
and, _____, as Surety ("Surety"), a
corporation organized and existing under and by virtue of the laws of the State of _____ and
authorized to do business as a surety in the State of California, are held and firmly bound
unto the Solano Community College District ("District") of Solano County, State of
California, as Obligee, in an amount equal to ten percent (10%) of the Base Bid plus
alternates, in the sum of

_____ Dollars (\$ _____)

lawful money of the United States of America, for the payment of which sum well and truly
to be made, we, and each of us, bind ourselves, our heirs, executors, administrators,
successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted a
bid to the District for all Work specifically described in the accompanying bid for the
following project: **Early Learning Center Project** ("Project" or "Contract").

NOW, THEREFORE, if the Principal is awarded the Contract and, within the time and manner
required under the Contract Documents, after the prescribed forms are presented to
Principal for signature, enters into a written contract, in the prescribed form in accordance
with the bid, and files two bonds, one guaranteeing faithful performance and the other
guaranteeing payment for labor and materials as required by law, and meets all other
conditions to the Contract between the Principal and the District becoming effective, or if
the Principal shall fully reimburse and save harmless the District from any damage
sustained by the District through failure of the Principal to enter into the written contract
and to file the required performance and labor and material bonds, and to meet all other
conditions to the Contract between the Principal and the District becoming effective, then
this obligation shall be null and void; otherwise, it shall be and remain in full force and
effect. The full payment of the sum stated above shall be due immediately if Principal fails
to execute the Contract within seven (7) days of the date of the District's Notice of Award to
Principal.

Surety, for value received, hereby stipulates and agrees that no change, extension of time,
alteration or addition to the terms of the Contract or the call for bids, or to the work to be
performed thereunder, or the specifications accompanying the same, shall in any way affect
its obligation under this bond, and it does hereby waive notice of any such change,
extension of time, alteration or addition to the terms of the Contract or the call for bids, or
to the work, or to the specifications.

Solano Community College District

Early Learning Center Project

Project Number: 23-003

In the event suit is brought upon this bond by the District and judgment is recovered, the Surety shall pay all costs incurred by the District in such suit, including a reasonable attorneys' fee to be fixed by the Court.

If the District awards the bid, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (90) days after the date of the bid opening.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named, on the _____ day of _____, 20____.

Principal

By

Surety

By

Name of California Agent of Surety

Address of California Agent of Surety

Telephone Number of California Agent of Surety

Bidder must attach Power of Attorney and Certificate of Authority for Surety and a Notarial Acknowledgment for all Surety's signatures. The California Department of Insurance must authorize the Surety to be an admitted Surety Insurer.

END OF DOCUMENT

DOCUMENT 00 43 36

DESIGNATED SUBCONTRACTORS LIST
(Public Contract Code Sections 4100-4114)

PROJECT: **Early Learning Center Project**

Bidder acknowledges and agrees that it must clearly set forth below the name, location and California contractor license number of each subcontractor who will perform work or labor or render service to the Bidder in or about the construction of the Work or who will specially fabricate and install a portion of the Work according to detailed drawings contained in the plans and specifications in an amount in excess of one-half of one percent (0.5%) of Bidder's total Base Bid and the kind of Work that each will perform. Vendors or suppliers of materials only do not need to be listed.

Bidder acknowledges and agrees that, if Bidder fails to list as to any portion of Work, or if Bidder lists more than one subcontractor to perform the same portion of Work, Bidder must perform that portion itself or be subjected to penalty under applicable law. In case more than one subcontractor is named for the same kind of Work, state the portion of the kind of Work that each subcontractor will perform.

If alternate bid(s) is/are called for and Bidder intends to use subcontractors different from or in addition to those subcontractors listed for work under the Base Bid, Bidder must list subcontractors that will perform Work in an amount in excess of one half of one percent (0.5%) of Bidder's total Base Bid, plus alternate(s).

If further space is required for the list of proposed subcontractors, attach additional copies of page 2 showing the required information, as indicated below.

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

CA Cont. Lic. #: _____ Location: _____

DIR Registration #: _____

Portion of Work: _____

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 01

SITE VISIT CERTIFICATION

**TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID
IF SITE VISIT WAS MANDATORY**

PROJECT: **EARLY LEARNING CENTER PROJECT**

Check option that applies:

_____ I certify that I visited the Site of the proposed Work, and became fully acquainted with the conditions relating to construction and labor. I fully understand the facilities, difficulties, and restrictions attending the execution of the Work under contract.

_____ I certify that _____ (Bidder's representative) visited the Site of the proposed Work, and became fully acquainted with the conditions relating to construction and labor. The Bidder's representative fully understood the facilities, difficulties, and restrictions attending the execution of the Work under contract.

Bidder fully indemnifies the Solano Community College District, its Architect, its Engineers, its Construction Manager, its Program Manager, and all of their respective officers, agents, employees, and consultants from any damage, or omissions, related to conditions that could have been identified during my visit and/or the Bidder's representative's visit to the Site.

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

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

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DOCUMENT 00 45 19

NON-COLLUSION DECLARATION
(Public Contract Code Section 7106)

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.
[Title] [Name of Firm]

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

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

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____,
[Date]
at _____, _____.
[City] [State]

Date: _____

Proper Name of Bidder: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

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DOCUMENT 00 45 19.01

IRAN CONTRACTING ACT CERTIFICATION
(Public Contract Code Sections 2202-2208)

PROJECT/CONTRACT NO.: **Early Learning Center Project/23-003** between the **Solano Community College District** ("District") and _____
_____ ("Contractor" or "Bidder") ("Contract" or "Project").

Prior to bidding on or submitting a proposal for a contract for goods or services of \$1,000,000 or more, the bidder/proposer must submit this certification pursuant to Public Contract Code section 2204.

The bidder/proposer must complete **ONLY ONE** of the following two options. To complete OPTION 1, check the corresponding box **and** complete the certification below. To complete OPTION 2, check the corresponding box, complete the certification below, and attach documentation demonstrating the exemption approval.

- OPTION 1.** Bidder/Proposer is not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("DGS") pursuant to Public Contract Code section 2203(b), and we are not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.
- OPTION 2.** Bidder/Proposer has received a written exemption from the certification requirement pursuant to Public Contract Code sections 2203(c) and (d). *A copy of the written documentation demonstrating the exemption approval is included with our bid/proposal.*

CERTIFICATION:

I, the official named below, CERTIFY UNDER PENALTY OF PERJURY, that I am duly authorized to legally bind the bidder/proposer to the OPTION selected above. This certification is made under the laws of the State of California.

<i>Vendor Name/Financial Institution (Printed)</i>	<i>Federal ID Number (or n/a)</i>
<i>By (Authorized Signature)</i>	
<i>Printed Name and Title of Person Signing</i>	<i>Date Executed</i>

END OF DOCUMENT

DOCUMENT 00 45 20

SMALL, LOCAL AND DIVERSE BUSINESS ENTERPRISES PROGRAM (SLDBE)

1. Solano Community College District has established a Small, Local, and Diverse Business Enterprises Program (SLDBE Program) to ensure access, equity and inclusion of Solano County businesses in the area of construction contracting associated with Measure Q Bond expenditures. This Small, Local and Diverse Business Program reflects the District's commitment to its core value of *Equity*. The SLDBE program is innovative and inclusionary; defining and promoting *Diversity* in contracting and procurement by extending Measure Q Bond Program opportunities to Solano County small businesses, minority-owned business, women-owned business and those owned by disabled veterans.

2. Program Goals

a. The SLDBE participation goal is 20% of the total construction contract amount. SLDBE requirements may be achieved through the combined participation of the following:

- Local DBE Businesses (minimum 10%)
- Local non-DBE Businesses
- Non-local DBE Businesses

b. DBE businesses include:

- Certified Small Business Enterprises (SBEs)
- Certified Minority-owned Business Enterprises (MBEs)
- Certified Women-owned Business Enterprises (WBEs)
- Certified Disadvantaged Business Enterprises (DBEs)
- Certified Disabled Veteran-owned Business Enterprises (DVBEs)

c. Prior to award, Contractor is required to submit certification documents for all SLDBE businesses included in their bids. As the District is not a certifying agency, it will accept the certifications listed below.

- State of California Department of General Services (SBE, Microbusiness, DVBE)
- Federal Department of Transportation/California Department of Transportation
DBE, MBE, WBE
- California Unified Certification Program (CUPC)—All Member Agencies – DBE
- California Public Utilities Commission (CPUC) – MBE,WBE
- Western Region National Minority Supplier Development Council (MBE)
- Women Business Enterprise National Council (WBENC)

3. SLDBE Bid Form

The general contractor is required to meet the 20% SLDBE goal by listing its small, local, and diverse subcontractors and/or suppliers on the SLDBE Bid Form (SLDBE Information Bid Form) and **submitting this with its bid**. The participation of a

general contractor that meets the criteria for SLDBE shall be counted toward the 20% goal. DVBE participation required to be documented separately shall also be included on the SLDBE form and shall be counted towards the 20% goal. The District will count one hundred percent (100%) of the materials, supplies and services purchased from SLDBEs towards reaching the combined 20% goal.

4. Good Faith Effort

Contractors who fail to meet the 20% SLDBE goal must submit evidence of having made a Good Faith Effort to attempt to achieve the 20% SLDBE goal:

- a. These contractors must submit the Good Faith Effort Checklist (GFE Checklist) **with the bid**;
- b. The apparent low bidder must submit Good Faith Effort Documentation within two business days after bid opening.
- c. The District or its designee will review these efforts and make a determination of whether the contractor made a Good Faith Effort to attain the goals. **Failure to make a Good Faith Effort or to comply with these requirements will render the bid or solicitation submitted non-responsive.**

5. Tracking and Reporting

The project construction manager will monitor the general contractor's progress in achieving the 20% SLDBE goal throughout the contract and coordinate with the Bond Program Manager for overall program compliance. The general contractor will be required to submit quarterly SLDBE contractor/subcontractor reporting sheets that track and display contract values with these firms. The quarter reporting periods are as follows: January - March, April - June, July - September, and October - December. Contractor will submit SLDBE Status Reports within eight (8) calendar days of the end of each quarter.

6. Participation

All contractors working on the District's Bond program will be expected to participate in good faith with the Small, Local, and Diverse Business Enterprise program.

No SLDBE listed on the general contractor's bid form may be substituted or removed from the contract or have its contract modified without prior written College approval. In the event of a SLDBE substitution, the general contractor must make a good faith effort to replace the substituted subcontractor with another SLDBE and must submit evidence of this effort to the District.

During the term of a contract any willful failure to comply with the participation goals agreed upon shall be deemed a material breach of contract.

7. Definitions

The following is a list of definitions for terms used throughout this SLDBE Program. The terms are arranged in alphabetical order.

- a. "Bid" shall mean and include an offer by a bidder or contractor to perform or provide labor, materials, or equipment to the District for a price.
- b. "Bidder" shall mean a person or firm who submits a bid.

- c. "Contract" shall mean and include any agreement between the College and a person or company to provide labor, services, materials and/or equipment for construction work.
- d. "Contractor" (See definition of prime contractor).
- e. "College" shall mean the Solano Community College District.
- f. "District" shall mean the Solano Community College District.
- g. "Diverse" shall mean a firm whose ownership has been certified by one of the certifying agencies recognized by the District **as either**: 1) at least 51% minority (MBE or DBE), 2) at least 51% female (WBE or DBE), 3) at least 51% disabled veteran or veteran (DVBE).
- h. "Goals" shall mean the relevant share of Small Local and Diverse Business Enterprise participation.
- i. "Joint venture" shall mean an association of two or more businesses to carry out a single business enterprise for profit, for which purpose they combine their property, capital, efforts, skills and knowledge. Each party to the joint venture must hold a current, active license in good standing and must share in risks and gains to the extent of the party's participation in the joint venture. To be counted for the purposes of this program, the individual firms of the joint ventures must be certified by an agency on the District's recognized list of certifying agencies.
- j. "Local" shall mean a business enterprise with a business location in Solano County and the City of Winters.
- k. "Small" shall mean a business enterprise which together with any affiliates has 100 or fewer employees and has averaged annual gross receipts of fourteen million dollars (\$14M) or less over the previous three years. Such firms include any that are certified by the State of California General Services Agency.
- l. "Participation" shall mean using one or more SLDBE firms to satisfy the District's subcontracting goals in the execution of the contract.
- m. "Prime Contractor" shall mean any person(s), firm, partnership, corporation, or joint venture that submits a bid to perform construction related work, and/or enters into a contract with the District.
- n. "Project" shall mean a contract or series of contracts required to complete construction related work that meets prescribed occupancy and use criteria.
- o. "Subcontractor" shall mean any individual, partnership, corporation or other legal entity entering into a contract with the prime contractor to perform a portion of the work or supply materials, services and equipment required to complete the project.
- p. "Supplier" is a firm that owns, operates or maintains a warehouse, production facility or store in which the materials, supplies or equipment described in the Specifications and required under the contract are both kept in stock and regularly sold to the public in the usual course of business.

SLDBE INFORMATION BID FORM - PAGE 1

PROJECT NO.: 23-003 BID OPENING DATE: _____ BIDDER: _____

PROJECT NAME: EARLY LEARNING CENTER PROJECT

BIDDER REPRESENTATIVE COMPLETING THIS FORM: _____

NAME: _____ EMAIL: _____ PHONE NUMBER: _____

NAME OF SLD BE	CERTIFIED BY	CERTIFICATION FILE NO.	DESCRIPTION OF WORK OR SUPPLY	LOCAL	MBE	DVBE	DBE	WBE	Small	DOLLAR VALUE OF CONTRACT

LOCAL DBE BID AMOUNT \$ _____ = ACHIEVED _____ %
 (Minimum 10%)

LOCAL NON-DBE BIDAMOUNT \$ _____ = ACHIEVED _____ %

NON-LOCAL DBE BID AMOUNT \$ _____ = ACHIEVED _____ %

SMALL LOCAL DIVERSE BUSINESS BIDDER INFORMATION – PAGE 2

PROVIDE THE NAME, ADDRESS, & TELEPHONE NO. FOR EACH SLDBE FIRM LISTED ON THE PAGE 1 OF THIS FORM.

NAME OF SLDBE	ADDRESS	LICENSE #	PHONE	EMAIL

**SOLANO COMMUNITY COLLEGE DISTRICT
SMALL, LOCAL AND DIVERSE BUSINESS PROGRAM**

**EARLY LEARNING CENTER PROJECT
BID 23-003**

GOOD FAITH EFFORT (GFE) CHECKLIST SHEET (2 pages)

To be completed by all Bidders who do not achieve SLDBE participation goals

Name of Bidder (please print legibly)

PLEASE INITIAL TO INDICATE EACH ACTION TAKEN

_____ Bidder attended pre-solicitation or pre-bid meeting scheduled by Solano Community College District

_____ Bidder identified and selected specific items of project for which the contract will be awarded to be performed by SLDBE.

_____ Bidder advertised, not less than 10 calendar days before the bid opening date in one or more daily or weekly newspapers, trade association publications, minority or trade oriented publications, trade journals, or other media, as specified by Solano Community College, for SLDBEs interested in participating in the project.

Name of publication in which advertisement was placed

Date advertisement appeared

_____ Bidder provided written notice of his/her interest in bidding on the contract to SLDBEs at least 10 calendar days prior to the opening of bids.

_____ Bidder followed up initial solicitations of interest by contacting SLDBEs to determine, with certainty, whether enterprises were interested in performing specific items of the project.

_____ Bidder provided interested SLDBEs with information about the plans, specifications, and requirements for the selected subcontracting of material supply work.

_____ Bidder requested assistance from community organizations; SLDBE contractor groups; veterans groups; local, state or federal disadvantaged business assistance officers; and/or other organizations that provide assistance in the recruitment and placement of SLDBEs as they are available.

_____ Bidder negotiated in good faith with SLDBEs and did not unjustifiably reject as unsatisfactory bids prepared by any SLDBEs.

Solano Community College District

Early Learning Center Project

Project Number: 23-003

Bidder certifies that all actions marked on the checklist were performed by the Bidder prior to the bid opening date. Failure to complete the above checklist may result in finding the proposal to be non-responsive, subject to the Solano Community College's determination. This checklist is provided as a courtesy to the bidder and is not intended to be a waiver of or modification to any of the Specifications included in the Contract Specifications or in other Contract documents, including but not limited to the SLDBE Program. Each bidder must comply with all Specifications and Contract documents. The undersigned states that the representations made herein are made under penalty of perjury.

Name of Authorized Firm Representative (Please Print)

Title

Signature of Authorized Firm Representative

Date

SLDB PROGRAM CONTRACT PARTICIPATION TRACKING - QUARTERLY

PROJECT: _____
 DATE: _____

ORIGINAL CONTRACT AMOUNT
 APPROVED CHANGE ORDERS
 CURRENT CONTRACT AMOUNT

Firm Name	Contractor License #	City/State	DBE Certification No.	DIR #	Prime	Sub	Local	DBE	DVBE	MBE	WBE	SBE	Services Provided or Performed	Contract Date	Contract Value	Sub Contract %	Local DBE	Local Non-DBE	Non-Local DBE	Non-Local Contract %			
																	Contract %	Contracts	Contracts	Contracts			
TOTALS																							

Instructions:
 1. Enter info for each contracted subcontractor.
 2. Enter '1' in each applicable column to indicate whether a contractor/subcontractor is Local or certified as DBE/DVBE/MBE/WBE/SBE.
 3. A 'Local' business is one which has a business address in Solano County or City of Winters.

END OF DOCUMENT

DOCUMENT 00 45 26

WORKERS' COMPENSATION CERTIFICATION

PROJECT/CONTRACT NO.: **Early Learning Center Project/23-003** between the **Solano Community College District** ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

Labor Code section 3700, in relevant part, provides:

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

- a. By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state; and/or
- b. By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees.

I am 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 I will comply with such provisions before commencing the performance of the Work of this Contract.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

(In accordance with Labor Code sections 1860 and 1861, the above certificate must be signed and filed with the awarding body prior to performing any Work under this Contract.)

END OF DOCUMENT

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DOCUMENT 00 45 46. 01

**PREVAILING WAGE AND
RELATED LABOR REQUIREMENTS CERTIFICATION**

PROJECT/CONTRACT NO.: **Early Learning Center Project/23-003** between the **Solano Community College District** ("District") and _____
_____ ("Contractor" or "Bidder") ("Contract" or "Project").

I hereby certify that I will conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hours' notice, payroll records, and apprentice and trainee employment requirements, for all Work on the above Project including, without limitation, labor compliance monitoring and enforcement by the Department of Industrial Relations.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

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DOCUMENT 00 45 46.02

**DISABLED VETERAN BUSINESS
 ENTERPRISE PARTICIPATION CERTIFICATION**

PROJECT/CONTRACT NO.: **Early Learning Center/23-003** between the **Solano Community College District** ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

GENERAL INSTRUCTIONS

Pursuant to Education Code section 71028 and Public Contract Code section 10115, the District has a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended each year by District on projects that receive state funding. Therefore, the lowest responsive responsible bidder awarded the Contract must submit this document to the District with its executed Agreement, identifying the steps contractor took to solicit DVBE participation in conjunction with this Contract. **Do not submit this form with your bids.**

PART I – Method of Compliance with DVBE Participation Goals. Check the appropriate box to indicate your method of committing the contract dollar amount.

YOUR BUSINESS ENTERPRISE IS:	AND YOU WILL	AND YOU WILL
A. <input type="checkbox"/> Disabled veteran owned and your forces will perform at least 3% of this Contract	Include a copy of your DVBE letter from Office of Small Business and Disabled Veterans Business Enterprise Services ("OSDS")*	Complete Part 1 of this form and the Certification
B. <input type="checkbox"/> Disabled veteran owned but is unable to perform 3% of this Contract with your forces	Use DVBE subcontractors /suppliers to bring the Contract participation to at least 3%	Include a copy of each DVBE's letter from OSDS (including yours, if applicable), and complete Part 1 of this form and the Certification
C. <input type="checkbox"/> NOT disabled veteran owned	Use DVBE subcontractors /suppliers for at least 3% of this Contract	
D. <input type="checkbox"/> Unable to meet the required participation goals after good faith efforts	Make good faith efforts, including contacts, advertisement and DVBE solicitation	Complete all of this form and the Certification

* A DVBE letter from OSDS is obtained from the participating DVBE.

You must complete the following table to show the dollar amount of DVBE participation:

	TOTAL CONTRACT PRICE
A. Prime Bidder, if DVBE (own participation)	\$
B. DVBE Subcontractor or Supplier	
1.	
2.	
3.	
4.	
C. Subtotal (A & B)	
D. Non-DVBE	
E. Total Bid	

PART II – Contacts. To identify DVBE subcontractors/suppliers for participation in your contract, you must contact each of the following categories. You should contact several DVBE organizations.

CATEGORY	TELEPHONE NUMBER	DATE CONTACTED	PERSON CONTACTED
1. The District, if any			*
2. OSDS, provides assistance locating DVBEs at https://caleprocure.ca.gov/pages/PublicSearch/supplier-search.aspx	(916) 375-4940		*
3. DVBE Organization (List)			*

*Write "recorded message" in this column, if applicable.

PART III – Advertisement. You must advertise for DVBE participation in both a trade and focus paper. List the advertisement you place to solicit DVBE participation. Advertisements should be published at least fourteen (14) days prior to bid/proposal opening; if you cannot advertise fourteen (14) days prior, advertisements should be published as soon as possible. Advertisements must include that your firm is seeking DVBE participation, the project name and location, and you firm’s name, your contact person, and telephone number. Attach copies of advertisements to this form.

FOCUS/TRADE PAPER NAME	CHECK ONE		DATE OF ADVERTISEMENT
	TRADE	FOCUS	

PART IV – DVBE Solicitations. List DVBE subcontractors/suppliers that were invited to bid. Use the following instructions to complete the remainder of this section (read the three columns as a sentence from left to right). If you need additional space to list DVBE solicitations, please use a separate page and attach to this form.

IF THE DVBE.....	THEN.....	AND.....		
was selected to participate	Check "YES" in the "SELECTED" column	include a copy of their DVBE letter(s) from OSDS		
was NOT selected to participate	Check "NO" in the "SELECTED" column	state why in the "REASON NOT SELECTED" column		
did not respond to your solicitation	Check the "NO RESPONSE" column.			
DVBE CONTACTED	SELECTED		REASON NOT SELECTED	NO RESPONSE
	YES	NO		

A copy of this form must be retained by you and may be subject to a future audit.

CERTIFICATION

I, _____, certify that I am the bidder's _____
_____ and that I have made a diligent effort to ascertain the
facts with regard to the representations made herein. In making this certification, I am
aware of section 12650 et seq. of the Government Code providing for the imposition of
treble damages for making false claims.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 46.03

DRUG-FREE WORKPLACE CERTIFICATION

PROJECT/CONTRACT NO.: **Early Learning Center Project/23-003** between the **Solano Community College District** ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

This Drug-Free Workplace Certification form is required from the successful Bidder pursuant to Government Code section 8350 et seq., the Drug-Free Workplace Act of 1990. The Drug-Free Workplace Act of 1990 requires that every person or organization awarded a contract or grant for the procurement of any property or service from any state agency must certify that it will provide a drug-free workplace by doing certain specified acts. In addition, the Act provides that each contract or grant awarded by a state agency may be subject to suspension of payments or termination of the contract or grant, and the contractor or grantee may be subject to debarment from future contracting, if the contracting agency determines that specified acts have occurred.

The District is not a "state agency" as defined in the applicable section(s) of the Government Code, but the District is a local agency and community college district under California law and requires all contractors on District projects to comply with the provisions and requirements of the Drug-Free Workplace Act of 1990.

Contractor must also comply with the provisions of Health & Safety Code section 11362.3 which prohibits the consumption or possession of cannabis or cannabis products in any public place, including on campus.

Contractor shall certify that it will provide a drug-free workplace by doing all of the following:

- a. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the person's or organization's workplace and specifying actions which will be taken against employees for violations of the prohibition.
- b. Establishing a drug-free awareness program to inform employees about all of the following:
 - (1) The dangers of drug abuse in the workplace.
 - (2) The person's or organization's policy of maintaining a drug-free workplace.
 - (3) The availability of drug counseling, rehabilitation, and employee-assistance programs.
 - (4) The penalties that may be imposed upon employees for drug abuse violations.
- c. Requiring that each employee engaged in the performance of the contract or grant be given a copy of the statement required above, and that, as a

condition of employment on the contract or grant, the employee agrees to abide by the terms of the statement.

I, the undersigned, agree to fulfill the terms and requirements of Government Code section 8355 listed above and will publish a statement notifying employees concerning (a) the prohibition of controlled substance at the workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by section 8355(a), and requiring that the employee agree to abide by the terms of that statement.

I also understand that if the District determines that I have either (a) made a false certification herein, or (b) violated this certification by failing to carry out the requirements of section 8355, that the Contract awarded herein is subject to termination, suspension of payments, or both. I further understand that, should I violate the terms of the Drug-Free Workplace Act of 1990, I may be subject to debarment in accordance with the requirements of the aforementioned Act.

I acknowledge that I am aware of the provisions of and hereby certify that I will adhere to the requirements of the Drug-Free Workplace Act of 1990 and Health and Safety Code section 11362.3.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 46.04

TOBACCO-FREE ENVIRONMENT CERTIFICATION

PROJECT/CONTRACT NO.: **Early Learning Center Project/23-003** between the **Solano Community College District** ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

This Tobacco-Free Environment Certification form is required from the successful Bidder.

Pursuant to, without limitation, 20 U.S.C. section 6083, Labor Code section 6400 et seq., Health & Safety Code section 104350, et seq., Business and Professions Code section 22950 et seq., and District Board policies, all District sites, including the Project site, are tobacco-free environments. Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school-owned vehicles and vehicles owned by others while on District property. The prohibition on smoking includes the use of any electronic smoking device that creates an aerosol or vapor, in any manner or in any form, and the use of any oral smoking device for the purpose of circumventing the prohibition of tobacco smoking. Further, Health & Safety Code section 11362.3 prohibits the smoking or use of cannabis or cannabis products in any place where smoking tobacco is prohibited.

I acknowledge that I am aware of the District's policy regarding tobacco-free environments at District sites, including the Project site and hereby certify that I will adhere to the requirements of that policy and not permit any of my firm's employees, agents, subcontractors, or my firm's subcontractors' employees or agents, to use tobacco and/or smoke on the Project site.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

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DOCUMENT 00 45 46.05

HAZARDOUS MATERIALS CERTIFICATION

PROJECT/CONTRACT NO.: **Early Learning Center Project/23-003** between the **Solano Community College District** ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

1. Contractor hereby certifies that no asbestos, or asbestos-containing materials, polychlorinated biphenyl (PCB), or any material listed by the federal or state Environmental Protection Agency or federal or state health agencies as a hazardous material, or any other material defined as being hazardous under federal or state laws, rules, or regulations, ("New Hazardous Material"), shall be furnished, installed, or incorporated in any way into the Project or in any tools, devices, clothing, or equipment used to affect any portion of Contractor's work on the Project for District.
2. Contractor further certifies that it has instructed its employees with respect to the above-mentioned standards, hazards, risks, and liabilities.
3. Asbestos and/or asbestos-containing material shall be defined as all items containing but not limited to chrysotile, crocidolite, amosite, anthophyllite, tremolite, and actinolite. Any or all material containing greater than one-tenth of one percent (0.1%) asbestos shall be defined as asbestos-containing material.
4. Any disputes involving the question of whether or not material is New Hazardous Material shall be settled by electron microscopy or other appropriate and recognized testing procedure, at the District's determination. The costs of any such tests shall be paid by Contractor if the material is found to be New Hazardous Material.
5. All Work or materials found to be "New Hazardous Material" or Work or material installed with equipment containing "New Hazardous Material" will be immediately rejected and this Work will be removed at Contractor's expense at no additional cost to the District.
6. Contractor has read and understood the document titled Hazardous Materials Procedures & Requirements, and shall comply with all the provisions outlined therein. Contractor certifies that it is knowledgeable of, and shall comply with, all laws applicable to the Work including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work.

Date: _____
Proper Name of Contractor: _____
Signature: _____
Print Name: _____
Title: _____

END OF DOCUMENT

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DOCUMENT 00 45 46.06

LEAD-BASED MATERIALS CERTIFICATION

PROJECT/CONTRACT NO.: **Early Learning Center Project/23-003** between the **Solano Community College District** ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

This certification provides notice to the Contractor that:

- (1) Contractor's work may disturb lead-containing building materials.
- (2) Contractor shall notify the District if any work may result in the disturbance of lead-containing building materials.
- (3) Contractor shall comply with the Renovation, Repair and Painting Rule, if lead-based paint is disturbed in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors.

1. Lead as a Health Hazard

Lead poisoning is recognized as a serious environmental health hazard facing children today. Even at low levels of exposure, much lower than previously believed, lead can impair the development of a child's central nervous system, causing learning disabilities, and leading to serious behavioral problems. Lead enters the environment as tiny lead particles and lead dust disburse when paint chips, chalks, peels, wears away over time, or is otherwise disturbed. Ingestion of lead dust is the most common pathway of childhood poisoning; lead dust gets on a child's hands and toys and then into a child's mouth through common hand-to-mouth activity. Exposures may result from construction or remodeling activities that disturb lead paint, from ordinary wear and tear of windows and doors, or from friction on other surfaces.

Ordinary construction and renovation or repainting activities carried out without lead-safe work practices can disturb lead-based paint and create significant hazards. Improper removal practices, such as dry scraping, sanding, or water blasting painted surfaces, are likely to generate high volumes of lead dust.

Because the Contractor and its employees will be providing services for the District, and because the Contractor's work may disturb lead-containing building materials, CONTRACTOR IS HEREBY NOTIFIED of the potential presence of lead-containing materials located within certain buildings utilized by the District. All school buildings built prior to 1978 are presumed to contain some lead-based paint until sampling proves otherwise.

2. Overview of Law

Both the Federal Occupational Safety and Health Administration ("Fed/OSHA") and the California Division of Occupational Safety and Health ("Cal/OSHA") have implemented safety orders applicable to all construction work where a contractor's employee may be occupationally exposed to lead.

The OSHA Regulations apply to all construction work where a contractor's employee may be occupationally exposed to lead. The OSHA Regulations contain specific and detailed requirements imposed on contractors subject to those regulations. The OSHA Regulations define construction work as work for construction, alteration, and/or repair, including painting and decorating. Regulated construction work includes, but is not limited to, the following:

- a. Demolition or salvage of structures where lead or materials containing lead are present;
- b. Removal or encapsulation of materials containing lead;
- c. New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;
- d. Installation of products containing lead;
- e. Lead contamination/emergency cleanup;
- f. Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed; and
- g. Maintenance operations associated with the construction activities described in the subsection.

Because it is assumed by the District that all painted surfaces (interior as well as exterior) within the District contain some level of lead, it is imperative that the Contractor, its workers and subcontractors fully and adequately comply with all applicable laws, rules and regulations governing lead-based materials (including title 8, California Code of Regulations, section 1532.1).

Contractor shall notify the District if any Work may result in the disturbance of lead-containing building materials. Any and all Work that may result in the disturbance of lead-containing building materials shall be coordinated through the District. A signed copy of this Certification shall be on file prior to beginning Work on the Project, along with all current insurance certificates.

3. Renovation, Repair and Painting Rule, Section 402(c)(3) of the Toxic Substances Control Act

The EPA requires lead safe work practices to reduce exposure to lead hazards created by renovation, repair and painting activities that disturb lead-based paint. Pursuant to the Renovation, Repair and Painting Rule (RRP), renovations in homes, childcare facilities, and schools built prior to 1978 must be conducted by certified renovations firms, using renovators with training by a EPA-accredited training provider, and fully and adequately complying with all applicable laws, rules and regulations governing lead-based materials, including those rules and regulations appearing within title 40 of the Code of Federal Regulations as part 745 (40 CFR 745).

The RRP requirements apply to all contractors who disturb lead-based paint in a six-square-foot or greater area indoors or a 20-square-foot or greater area outdoors. If a DPH-certified inspector or risk assessor determines that a home constructed before 1978 is lead-free, the federal certification is not required for anyone working on that particular building.

4. Contractor's Liability

If the Contractor fails to comply with any applicable laws, rules, or regulations, and that failure results in a site or worker contamination, the Contractor will be held solely responsible for all costs involved in any required corrective actions, and shall defend, indemnify, and hold harmless the District, pursuant to the indemnification provisions of the Contract, for all damages and other claims arising therefrom.

If lead disturbance is anticipated in the Work, only persons with appropriate accreditation, registrations, licenses, and training shall conduct this Work.

It shall be the responsibility of the Contractor to properly dispose of any and all waste products, including, but not limited to, paint chips, any collected residue, or any other visual material that may occur from the prepping of any painted surface. It will be the responsibility of the Contractor to provide the proper disposal of any hazardous waste by a certified hazardous waste hauler. This company shall be registered with the Department of Transportation (DOT) and shall be able to issue a current manifest number upon transporting any hazardous material from any school site within the District.

The Contractor shall provide the District with any sample results prior to beginning Work, during the Work, and after the completion of the Work. The District may request to examine, prior to the commencement of the Work, the lead training records of each employee of the Contractor.

THE CONTRACTOR HEREBY ACKNOWLEDGES, UNDER PENALTY OF PERJURY, THAT IT:

1. HAS RECEIVED NOTIFICATION OF POTENTIAL LEAD-BASED MATERIALS ON THE OWNER'S PROPERTY;
2. IS KNOWLEDGEABLE REGARDING AND WILL COMPLY WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS GOVERNING WORK WITH, AND DISPOSAL, OF LEAD.

THE UNDERSIGNED WARRANTS THAT HE/SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF AND BIND THE CONTRACTOR. THE DISTRICT MAY REQUIRE PROOF OF SUCH AUTHORITY.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

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DOCUMENT 00 45 46.07

IMPORTED MATERIALS CERTIFICATION

PROJECT/CONTRACT NO.: **Early Learning Center Project/23-003** between the **Solano Community College District** ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

This form shall be executed by all entities that, in any way, provide or deliver and/or supply any soils, aggregate, or related materials ("Fill") to the Project Site and shall be provided to the District at least ten (10) days before delivery. All Fill shall satisfy all requirements of any environmental review of the Project performed pursuant to the statutes and guidelines of the California Environmental Quality Act, section 21000, et seq., of the Public Resources Code ("CEQA"), and all requirements of section 17210, et seq., of the Education Code, including requirements for a Phase I environmental assessment acceptable to the State of California Community Colleges Chancellor's Office and Department of Toxic Substances Control.

Certification of: Delivery Firm/Transporter Supplier Manufacturer
 Wholesaler Broker Retailer
 Distributor Other _____

Type of Entity Corporation General Partnership
 Limited Partnership Limited Liability Company
 Sole Proprietorship Other _____

Name of firm ("Firm"): _____

Mailing address: _____

Addresses of branch office used for this Project: _____

If subsidiary, name and address of parent company: _____

By my signature below, I hereby certify that I am aware of section 25260 of the Health and Safety Code and the sections referenced therein regarding the definition of hazardous material. I further certify on behalf of the Firm that all soils, aggregates, or related materials provided, delivered, and/or supplied or that will be provided, delivered, and/or supplied by this Firm to the Project Site are free of any and all hazardous material as defined in section 25260 of the Health and Safety Code. I further certify that I am authorized to make this certification on behalf of the Firm.

Date: _____

Proper Name of Firm: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

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DOCUMENT 00 45 46.08

SEX OFFENDER REGISTRATION ACT CERTIFICATION

PROJECT/CONTRACT NO.: **Early Learning Center Project/23-003** between the **Solano Community College District** ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

This certification provides notice to the Contractor that:

- Penal Code section 290.001 requires every person required to register pursuant to sections 290 to 290.009, inclusive, of the Sex Offender Registration Act who is carrying on a vocation at the community college for more than fourteen (14) days, or for an aggregate period exceeding thirty (30) days in a calendar year, shall, in addition to the registration required by the Sex Offender Registration Act, register with the campus police department within five (5) working days of commencing employment at that community college on a form as may be required by the Department of Justice. The terms "employed or carries on a vocation" include employment whether or not financially compensated, volunteered, or performed for government or educational benefit.
- If the community college has no campus police department, the registrant shall instead register with the police of the city in which the campus is located or the sheriff of the county in which the campus is located if the campus is located in an unincorporated area or in a city that has no police department, on a form as may be required by the Department of Justice.
- The registrant shall also notify the campus police department within five (5) working days of ceasing to be employed, or ceasing to carry on a vocation, at the community college.

Contractor hereby acknowledges, under penalty of perjury, that it is aware of the provisions of section 290.001 of the Penal Code, and it will provide notice of the above provisions to all of its employees, subcontractors, and employees of subcontractors regardless of whether they are designated as employees or acting as independent contractors of the Contractor at least five (5) working days before commencing the performance of the Work of this Contract.

THE UNDERSIGNED WARRANTS THAT HE/SHE HAS THE AUTHORITY TO SIGN ON BEHALF OF AND BIND THE CONTRACTOR. THE DISTRICT MAY REQUIRE PROOF OF SUCH AUTHORITY.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

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DOCUMENT 00 45 46.11

FEDERAL DEBARMENT CERTIFICATION

PROJECT/CONTRACT NO.: **Early Learning Center Project/23-003** between the **Solano Community College District** ("District") and _____ ("Contractor" or "Bidder") ("Contract" or "Project").

1. Bidder certifies to the best of its knowledge and belief, that it and its principals:
 - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or Board;
 - b. Have not within a three-year period preceding this bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
 - d. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2. Where Bidder is unable to certify to any of the statements in this certification, Bidder shall attach an explanation to this certification.

3. Bidder agrees to include the following certification in all subcontracts, for all lower tiers:

"Debarment and Suspension Certification - By submission of its proposal, the contractor (or vendor, or consultant, depending on the transaction) certifies to the best of its knowledge and belief that it and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency in accordance with 2 CFR 200.213 and 2 CFR 180."

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

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DOCUMENT 00 45 49

REGISTERED SUBCONTRACTORS LIST
(Labor Code Section 1771.1)

PROJECT: **EARLY LEARNING CENTER PROJECT**

Date Submitted (for Updates): _____

Contractor acknowledges and agrees that it must clearly set forth below the name and Department of Industrial Relations (DIR) registration number of each subcontractor **for all tiers** who will perform work or labor or render service to Contractor or its subcontractors in or about the construction of the Work **at least two (2) weeks before the subcontractor is scheduled to perform work**. This document is to be updated as all tiers of subcontractors are identified.

Contractor acknowledges and agrees that, if Contractor fails to list as to any subcontractor of any tier who performs any portion of Work, the Contract is subject to cancellation and the Contractor will be subjected to penalty under applicable law.

If further space is required for the list of proposed subcontractors, attach additional copies of page 2 showing the required information, as indicated below.

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

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Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Subcontractor Name: _____

DIR Registration #: _____

Portion of Work: _____

Date: _____

Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

DOCUMENT 00 45 90

POST BID INTERVIEW

PART 1 – GENERAL

1.01 SUMMARY

If requested by the District, this Section requires the apparent low bidder to attend and participate in a Post Bid Interview with the Construction Manager, prior to award of any contract by the District. The Post Bid Interview will be scheduled by the Construction Manager within three (3) calendar days after the date of bid.

1.02 REQUIRED ATTENDANCE

- A. A duly authorized representative of the apparent low bidder is required to attend the Post Bid Interview, in person.
- B. The apparent low bidder's authorized representative(s) must have (1) knowledge of how the bid submitted was prepared, (2) the person responsible for supervising performance of the Work, and (3) the authority to bind the apparent low bidder.
- C. Failure to attend the Post Bid Interview as scheduled will be considered just cause for the District to reject the Bid as nonresponsive.

1.03 POST BID INTERVIEW PROCEDURE

- A. The Construction Manager will review the Bid with the attendees.
- B. The Construction Manager will review the Contract Documents with the attendees, including but not limited to:
 - (1) Insurance
 - (2) Bonding
 - (3) Addenda
 - (4) Pre-Bid Clarifications
 - (5) Scope of Work
 - (6) Bid Packages Descriptions
 - (7) Bid Alternates
 - (8) Contract Plans
 - (9) Contract Specifications
 - (10) Project Schedule and Schedule Requirements

- (11) Critical Dates Requirement for Other Bid Packages
- (12) Prevailing Wage Requirements
- (13) Liquidated Damages
- (14) Required Documentation for Contract Administration
- (15) Contract Coordination Requirements

1.04 POST BID INTERVIEW DOCUMENTATION

The Construction Manager will document the Post Bid Interview on the form attached to this Section. Both the apparent low bidder and the Construction Manager are required to sign the Post Bid Interview Documentation.

POST BID INTERVIEW

CONSTRUCTION MANAGER

KITCHELL CEM
4000 Suisun Valley Road, Building 1102
Fairfield, California 94534

BIDDER: _____

DATE: _____ TIME: _____ PHONE: _____

I. INTRODUCTIONS:

A. Present

CONTRACTOR

CONTRACTOR

Kitchell CEM

II. PROPOSED CONTRACT: **Early Learning Center Project**

III. PURPOSE OF INTERVIEW IS TO ASSURE A MUTUAL UNDERSTANDING OF THE FOLLOWING:

- A. Do you acknowledge submission of a complete and accurate bid? Yes No
- B. Do you acknowledge the Bid Document submittal timelines after NOA and NTP and can you meet those timelines? Yes No
- C. Do you acknowledge the requirements for the escrow of bid documents? Yes No
- D. Are you comfortable with your listed subcontractors? Yes No

IV. CONTRACTUAL REQUIREMENTS:

- A. Do you understand you are a prime contractor? Yes No
- B. Can you meet specified insurance requirements? Yes No
 - 1. Do any of your policies that require Additional Insured endorsements exceed the minimum coverage requirements? Yes No
 - 2. Are you requesting that the District accept an Umbrella or Excess Liability Insurance Policy to meet the policy limit? Yes No

- 3. Will there be a gap between the per occurrence amount of any underlying policy and the start of the coverage under the Umbrella or Excess Liability Insurance Policy? Yes No

- C. Will you provide the Performance Bond and Labor and Material Bond for 100% of the Contract Price as stipulated? Yes No
 - 1. Cost for bond: _____% Yes No
 - 2. Is the cost of your bond in your base bid? Yes No
 - 3. Is your surety licensed to issue bonds in California? Yes No

- D. Do you understand the sex offender registration requirements? Yes No

- E. Is it understood that all workers must be paid prevailing wage? Yes No

- F. Is it understood that all subcontractors of every tier must be registered as a public works contractor with the Department of Industrial Relations Yes No

- V. SCOPE OF WORK:
 - A. Acknowledged Receipt of Addenda #1-___ Yes No
 - B. Are the costs for addenda items included in your bid? (if applicable) Yes No
 - C. Do you have a complete understanding of your Scope of Work under the proposed Agreement? Yes No
 - D. You have re-reviewed the documents and understand the Scope of the Work. Are there any items that require clarification? Yes No

If yes, please identify them.

- 1. _____

- 2. _____

- 3. _____

Is (are) there additional cost(s) for the above item(s)? Yes No

- | | | | |
|----|--|-----|----|
| E. | Have you reviewed bid alternative(s) #1-___? (If applicable) | Yes | No |
| F. | Are the costs for bid alternatives included in your bid? | Yes | No |
| G. | Are the plans and specifications clear and understandable to your satisfaction? | Yes | No |
| H. | Do you acknowledge that the time to submit notice of requests for substitution of specified materials has expired? | Yes | No |

VI. SCHEDULE:

- | | | | |
|----|--|-----|----|
| A. | Do you acknowledge and agree to the stipulated completion dates and milestones in the contract? | Yes | No |
| 1. | Will you provide a detailed construction schedule to _____ within the required ten (10) days of the Notice to Proceed, per the contract? | Yes | No |
| 2. | Can you meet the submittal deadline? | Yes | No |
| 3. | It is understood that the Project schedule is critical and that that weekend and overtime work may be required to meet the milestones. | Yes | No |
| 4. | It is understood that if rain does occur, then all dewatering and protection of work is required, per the contract. If not, what do you believe must change and why? _____ | Yes | No |

- | | | | |
|----|---|-----|----|
| B. | Identify critical materials, deliveries, long lead items and other dependencies, including Owner Furnished items that could affect the completion of your work. | Yes | No |
| 1. | _____ | | |
| 2. | _____ | | |
| 3. | _____ | | |
| 4. | _____ | | |
| 5. | _____ | | |

C. Do you understand that there is going to be maintenance and other construction taking place on site during the course of the project? Yes No

VII. EXECUTION OF WORK

A. Do you understand the access to the site? Yes No

B. Do you understand the staging area restrictions? Yes No

C. Have you included protection of [asphalt, floors, and roofs]? Yes No

D. Do you understand that the site is occupied by students, teachers, administrators, parents, etc.? Yes No

VIII. CONTRACTOR COMMENTS/SUGGESTIONS:

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____

IX. CONTRACTOR

You agree the information contained herein is part of your contractual obligations. Your signature acknowledges your agreement to perform all Work in the Contract Documents, and that costs for all Work are included in your bid.

The foregoing information is true and accurate, and I am authorized to sign as an officer of the company I am representing.

[Company Name]

Signature _____ Title: _____

Date: _____

X. CONSTRUCTION MANAGER

KITCHELL CEM

Signature _____ Title: _____

Date: _____

Title of Document: POST BID INTERVIEW

Number of Pages: _____

Date of Document: _____

END OF DOCUMENT

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DOCUMENT 00 51 00

NOTICE OF AWARD

Dated: _____ 20__

To: _____ (Contractor)

(Address)

From: Governing Board ("Board") of the Solano Community College District ("District")

Re: **Early Learning Center Project, Project No. 23-003** ("Project").

Contractor has been awarded the Contract for the above referenced Project on _____
_____, 20__, by action of the District's Board.

The Contract Price is _____ Dollars (\$_____), and
includes alternates _____.

You must comply with the following conditions precedent within **SEVEN (7)** calendar days
of the date of this Notice of Award.

The Contractor shall execute and submit the following documents by 5:00 p.m. of the
SEVENTH (7th) calendar day following the date of the Notice of Award.

- a. Agreement: To be executed by successful Bidder. Submit three (3) copies, each bearing an original signature, or valid electronic signature shall be deemed to be the equivalent of the actual original signature.
- b. Escrow of Bid Documentation: This must include all required documentation. See document titled Escrow Bid Documentation for more information.
- c. Performance Bond (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
- d. Payment Bond (Contractor's Labor & Material Bond) (100%): On the form provided in the Contract Documents and fully executed as indicated on the form.
- e. Insurance Certificates and Endorsements as required.
- f. Workers' Compensation Certification.
- g. Prevailing Wage and Related Labor Requirements Certification.
- h. Disabled Veteran Business Enterprise Participation Certification.
- i. Drug-Free Workplace Certification.

Solano Community College District

Early Learning Center Project

Project Number: 23-003

- j. Tobacco-Free Environment Certification.
- k. Hazardous Materials Certification.
- l. Lead-Based Materials Certification.
- m. Imported Materials Certification.
- n. Sex Offender Registration Act Certification.
- o. Federal Debarment Certification.
- p. Registered Subcontractors List: Must include Department of Industrial Relations (DIR) registration number of each subcontractor for all tiers.

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, as well as any other rights the District may have against the Contractor.

After you comply with those conditions, District will return to you one fully signed counterpart of the Agreement.

SOLANO COMMUNITY COLLEGE DISTRICT

BY: _____

NAME: _____

TITLE: _____

END OF DOCUMENT

DOCUMENT 00 52 13

AGREEMENT

THIS AGREEMENT IS MADE AND ENTERED INTO THIS _____ DAY OF _____
_____, 20____, by and between the **Solano Community College District** ("District") and _____
_____ ("Contractor")
("Agreement").

WITNESSETH: That the parties hereto have mutually covenanted and agreed, and by these presents do covenant and agree with each other, as follows:

1. **The Work:** Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor, and material necessary to perform and complete in a good and workmanlike manner, the work of the following project:

EARLY LEARNING CENTER PROJECT

("Project" or "Contract" or "Work")

It is understood and agreed that the Work shall be performed and completed as required in the Contract Documents including, without limitation, the Drawings and Specifications and submission of all documents required to secure funding or by the Division of the State Architect for close-out of the Project, under the direction and supervision of, and subject to the approval of, the District or its authorized representative.

2. **The Contract Documents:** The complete Contract consists of all Contract Documents as defined in the General Conditions and incorporated herein by this reference. Any and all obligations of the District and Contractor are fully set forth and described in the Contract Documents. All Contract Documents are intended to cooperate so that any Work called for in one and not mentioned in the other or vice versa is to be executed the same as if mentioned in all Contract Documents.
3. **Interpretation of Contract Documents:** Should any question arise concerning the intent or meaning of Contract Documents, including the Drawings or Specifications, the question shall be submitted to the District for interpretation. If a conflict exists in the Contract Documents, valid, written modifications, beginning with the most recent, shall control over this Agreement (if any), which shall control over the Special Conditions, which shall control over any Supplemental Conditions, which shall control over the General Conditions, which shall control over the remaining Division 0 documents, which shall control over Division 1 Documents which shall control over Division 2 through Division 49 documents, which shall control over figured dimensions, which shall control over large-scale drawings, which shall control over small-scale drawings. In the case of a discrepancy or ambiguity solely between and among the Drawings and Specifications, the discrepancy or ambiguity shall be resolved in favor of the interpretation that will provide District with the functionally complete and operable Project described in the Drawings and Specifications. In no case shall a document calling for lower quality and/or quantity material or workmanship control. The decision of the District in the matter shall be final.

- 4. Time for Completion:** It is hereby understood and agreed that the Work under this Contract shall be completed by **July 28th, 2023**, per the milestone dates specified in Specification Section 00 01 20 "List of Schedules" ("Contract Time").
- 5. Completion - Extension of Time:** Should the Contractor fail to complete this Contract, and the Work provided herein, within the time fixed for completion, due allowance being made for the contingencies provided for herein, the Contractor shall become liable to the District for all loss and damage that the District may suffer on account thereof. The Contractor shall coordinate its Work with the Work of all other contractors. The District shall not be liable for delays resulting from Contractor's failure to coordinate its Work with other contractors in a manner that will allow timely completion of Contractor's Work. Contractor shall be liable for delays to other contractors caused by Contractor's failure to coordinate its Work with the Work of other contractors.
- 6. Liquidated Damages:** Time is of the essence for all work under this Agreement. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage that the District will sustain in the event of and by reason of Contractor's delay; therefore, Contractor agrees that it shall pay to the District the sum of Two-Thousand Dollars and 00/100 (\$2,000.00) per day as liquidated damages for each and every day's delay beyond the time herein prescribed in completion of the Work.

It is hereby understood and agreed that this amount is not a penalty.

In the event that any portion of the liquidated damages is not paid to the District, the District may deduct that amount from any money due or that may become due the Contractor under this Agreement, and such deduction does not constitute a withholding or penalty. The District's right to assess liquidated damages is as indicated herein and in the General Conditions.

The time during which the Contract is delayed for cause, as hereinafter specified, may extend the time of completion for a reasonable time as the District may grant, provided that Contractor has complied with the claims procedure of the Contract Documents. This provision does not exclude the recovery of damages by either party under other provisions in the Contract Documents.

- 7. Loss Or Damage:** The District and its agents and authorized representatives shall not in any way or manner be answerable or suffer loss, damage, expense, or liability for any loss or damage that may happen to the Work, or any part thereof, or in or about the same during its construction and before acceptance, and the Contractor shall assume all liabilities of every kind or nature arising from the Work, either by accident, negligence, theft, vandalism, or any cause whatsoever; and shall hold the District and its agents and authorized representatives harmless from all liability of every kind and nature arising from accident, negligence, or any cause whatsoever.
- 8. Limitation Of District Liability:** District's financial obligations under this Contract shall be limited to the payment of the compensation provided in this Contract. Notwithstanding any other provision of this Contract, in no event shall District be liable, regardless of whether any claim is based on contract or tort, for any special, consequential, indirect or incidental damages, including, but not limited to, lost

profits or revenue, lost bonding capacity, arising out of or in connection with this Contract for the services performed in connection with this Contract.

- 9. Insurance and Bonds:** Prior to issuance of the Notice to Proceed by the District, Contractor shall provide all required certificates of insurance, insurance endorsements, and payment and performance bonds as evidence thereof.
- 10. Prosecution of Work:** If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this Contract, the District, may, pursuant to the General Conditions and without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.
- 11. Authority of Architect, Project Inspector, and DSA:** Contractor hereby acknowledges that the Architect(s), the Project Inspector(s), and the Division of the State Architect ("DSA") have authority to approve and/or suspend Work if the Contractor's Work does not comply with the requirements of the Contract Documents, Title 24 of the California Code of Regulations, and all applicable laws and regulations. The Contractor shall be liable for any delay caused by its non-compliant Work.
- 12. Assignment of Contract:** Neither the Contract, nor any part thereof, nor any moneys due or to become due thereunder, may be assigned by the Contractor without the prior written approval of the District, nor without the written consent of the Surety on the Contractor's Performance Bond (the "Surety"), unless the Surety has waived in writing its right to notice of assignment.
- 13. Classification of Contractor's License:** Contractor hereby acknowledges that it currently holds valid Type _____ Contractor's license(s) issued by the State of California, Contractors' State License Board, in accordance with division 3, chapter 9, of the Business and Professions Code and in the classification called for in the Contract Documents.
- 14. Registration as Public Works Contractor:** The Contractor and all Subcontractors currently are registered as public works contractors with the Department of Industrial Relations, State of California, in accordance with Labor Code section 1771.1.
- 15. Payment of Prevailing Wages:** The Contractor and all Subcontractors shall pay all workers on all Work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to sections 1770 et seq. of the California Labor Code.
- 16. Labor Compliance Monitoring and Enforcement:** This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and Title 8 of the California Code of Regulations. Contractor specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable provisions of Division 2, Part 7, Chapter 1, of the Labor Code, including, without

limitation, the requirement that the Contractor and all of its Subcontractors shall timely submit complete and accurate electronic certified payroll records as required by the Contract Documents, or the District may not issue payment.

- 17. **Contract Price:** In consideration of the foregoing covenants, promises, and agreements on the part of the Contractor, and the strict and literal fulfillment of each and every covenant, promise, and agreement, and as compensation agreed upon for the Work and construction, erection, and completion as aforesaid, the District covenants, promises, and agrees that it will well and truly pay and cause to be paid to the Contractor in full, and as the full Contract Price and compensation for construction, erection, and completion of the Work hereinabove agreed to be performed by the Contractor, the following price:

_____ **DOLLARS**
AND xx/100 (\$ _____)

in lawful money of the United States, which sum is to be paid according to the schedule provided by the Contractor and accepted by the District and subject to additions and deductions as provided in the Contract. This amount supersedes any previously stated and/or agreed to amount(s).

- 18. **Owner's Allowance:** Included in the Contract Price above is a five percent (5% Percent) allowance for the Owner's use only, for the following price:

_____ **DOLLARS**
AND xx/100 (\$ _____)

The above allowance shall only be used by authorization by the Owner. Contractor shall not bill for or be due any portion of this allowance unless the District has identified specific work, Contractor has submitted price for that work or the District has proposed a price for that work, the District has accepted the cost for that work, and the District has prepared a change order incorporating that work. Contractor hereby authorizes the District to execute a unilateral deductive Change Order at or near the end of the Project for all or any portion of the Allowance no allocated.

- 19. **ALTERNATE #01:** Included in the Contract Price above is Alternate #01, for a complete Intrusion Alarm System, for the following price:

_____ **DOLLARS AND xx/100 (\$ _____)**

- 20. **No Representations:** No representations have been made other than as set forth in writing in the Contract Documents, including this Agreement. Each of the Parties to this Agreement warrants that it has carefully read and understood the terms and conditions of this Agreement and all Contract Documents, and that it has not relied upon the representations or advice of any other Party or any attorney not its own.

- 21. **Entire Agreement:** The Contract Documents, including this Agreement, set forth the entire agreement between the parties hereto and fully supersede any and all prior agreements, understandings, written or oral, between the parties hereto pertaining to the subject matter thereof.

- 22. Severability:** If any term, covenant, condition, or provision in any of the Contract Documents is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions in the Contract Documents shall remain in full force and effect and shall in no way be affected, impaired, or invalidated thereby.
- 23. Authority of Signatories:** Each party has the full power and authority to enter into and perform this Contract, and the person signing this Contract on behalf of each party has been properly authorized and empowered to enter into this Contract. This Contract may be executed in one or more counterparts, each of which shall be deemed an original. For this Agreement, and for all Contract Documents requiring a signature, a facsimile or electronic signature shall be deemed to be the equivalent of the actual original signature. All counterparts so executed shall constitute one Contract binding all the Parties hereto.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, accepted and agreed on the date indicated above:

CONTRACTOR

SOLANO COMMUNITY COLLEGE DISTRICT

By: _____

By: _____

Title: _____

Title: _____

NOTE: If the party executing this Contract is a corporation, a certified copy of the by-laws, or of the resolution of the Board of Directors, authorizing the officers of said corporation to execute the Contract and the bonds required thereby must be attached hereto.

END OF DOCUMENT

DOCUMENT 00 55 00

NOTICE TO PROCEED

Dated: _____, 20__

TO: _____
("Contractor")

ADDRESS: _____

PROJECT: **EARLY LEARNING CENTER PROJECT**

PROJECT/CONTRACT NO.: **Early Learning Center Project/23-003** between the **Solano Community College District** and Contractor ("Contract").

You are notified that the Contract Time under the above Contract will commence to run on _____, 20__. By that date, you are to start performing your obligations under the Contract Documents. In accordance with the Agreement executed by Contractor, **the date of completion is July 28th, 2022.**

You must submit the following documents by 5:00 p.m. of the TENTH (10th) calendar day following the date of this Notice to Proceed:

- a. Contractor's preliminary schedule of construction.
- b. Contractor's preliminary schedule of values for all of the Work.
- c. Contractor's preliminary schedule of submittals, including Shop Drawings, Product Data, and Samples submittals
- d. Contractor's Safety Plan specifically adapted for the Project.
- e. Registered Subcontractors List: A complete subcontractors list for all tiers, including the name, address, telephone number, email address, facsimile number, California State Contractors License number, license classification, Department of Industrial Relations registration number, and monetary value of all Subcontracts.

Thank you. We look forward to a very successful Project.

SOLANO COMMUNITY COLLEGE DISTRICT

BY: _____

NAME: _____

TITLE: _____

END OF DOCUMENT

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DOCUMENT 00 56 00

ESCROW BID DOCUMENTATION

1. Requirement to Escrow Bid Documentation

- a. Contractor shall submit, within **SEVEN (7)** calendar days after the date of the Notice of Award, one copy of all documentary information received or generated by Contractor in preparation of bid prices for this Contract, as specified herein. This material is referred to herein as "Escrow Bid Documentation." The Escrow Bid Documentation of the Contractor will be held in escrow for the duration of the Contract.
- b. Contractor agrees, as a condition of award of the Contract, that the Escrow Bid Documentation constitutes all written information used in the preparation of its bid, and that no other written bid preparation information shall be considered in resolving disputes or claims. Contractor also agrees that nothing in the Escrow Bid Documentation shall change or modify the terms or conditions of the Contract Documents.
- c. The Escrow Bid Documentation will not be opened by District except as indicated herein. The Escrow Bid Documentation will be used only for the resolution of change orders and claims disputes.
- d. Contractor's submission of the Escrow Bid Documentation, as with the bonds and insurance documents required, is considered an essential part of the Contract award. Should the Contractor fail to make the submission within the allowed time specified above, District may deem the Contractor to have failed to enter into the Contract, and the Contractor shall forfeit the amount of its bid security, accompanying the Contractor's bid, and District may award the Contract to the next lowest responsive responsible bidder.
- e. NO PAYMENTS WILL BE MADE, NOR WILL DISTRICT ACCEPT PROPOSED CHANGE ORDERS UNTIL THE ABOVE REQUIRED INFORMATION IS SUBMITTED AND APPROVED.
- f. The Escrow Bid Documentation shall be submitted in person by an authorized representative of the Contractor to the District.

2. Ownership of Escrow Bid Documentation

- a. The Escrow Bid Documentation is, and shall always remain, the property of Contractor, subject to review by District, as provided herein.
- b. Escrow Bid Documentation constitute trade secrets, not known outside Contractor's business, known only to a limited extent and only by a limited number of employees of Contractor, safeguarded while in Contractor's possession, extremely valuable to Contractor, and could be extremely valuable to Contractor's competitors by virtue of it reflecting Contractor's contemplated techniques of construction. Subject to the provisions herein, District agrees to safeguard the Escrow Bid Documentation, and all

information contained therein, against disclosure to the fullest extent permitted by law.

3. Format and Contents of Escrow Bid Documentation

- a. Contractor may submit Escrow Bid Documentation in its usual cost-estimating format; a standard format is not required. The Escrow Bid Documentation shall be submitted in the language (e.g., English) of the specification.
- b. Escrow Bid Documentation must clearly itemize the estimated costs of performing the work of each bid item contained in the bid schedule, separating bid items into sub-items as required to present a detailed cost estimate and allow a detailed cost review. The Escrow Bid Documentation shall include all subcontractor bids or quotes, supplier bids or quotes, quantity takeoffs, crews, equipment, calculations of rates of production and progress, copies of quotes from subcontractors and suppliers, and memoranda, narratives, add/deduct sheets, and all other information used by the Contractor to arrive at the prices contained in the bid proposal. Estimated costs should be broken down into Contractor's usual estimate categories such as direct labor, repair labor, equipment ownership and operation, expendable materials, permanent materials, and subcontract costs as appropriate. All labor rates must be broken down to specify any and all burden costs including, but not limited to, health and welfare pay, vacation and holiday pay, pension contributions, training rates, benefits of any kind, insurance of any kind, workers' compensation, liability insurance, truck expenses, supply expenses of any kind, payroll taxes, and any other taxes of any kind. Plant and equipment and indirect costs should be detailed in the Contractor's usual format. The Contractor's allocation of indirect costs, contingencies, markup, and other items to each bid item shall be identified.
- c. All costs shall be identified. For bid items amounting to less than \$10,000, estimated unit costs are acceptable without a detailed cost estimate, provided that labor, equipment, materials, and subcontracts, as applicable, are included and provided that indirect costs, contingencies, and markup, as applicable, are allocated.
- d. Bid Documentation provided by District should not be included in the Escrow Bid Documentation unless needed to comply with the following requirements.

4. Submittal of Escrow Bid Documentation

- a. The Escrow Bid Documentation shall be submitted by the Contractor in a sealed container within **SEVEN (7)** calendar days after the date of the Notice of Award. The container shall be clearly marked on the outside with the Contractor's name, date of submittal, project name and the words "Escrow Bid Documentation – Intended to be opened in the presence of Authorized Representatives of Both District and Contractor".
- b. By submitting Escrow Bid Documentation, Contractor represents that the material in the Escrow Bid Documentation constitutes all the documentary information used in preparation of the bid and that the Contractor has

personally examined the contents of the Escrow Bid Documentation container and has found that the documents in the container are complete.

- c. If Contractor's proposal is based upon subcontracting any part of the work, each subcontractor whose total subcontract price exceeds 5 percent of the total contract price proposed by Contractor, shall provide separate Escrow Documents to be included with those of Contractor. Those documents shall be opened and examined in the same manner and at the same time as the examination described above for Contractor.
- d. If Contractor wishes to subcontract any portion of the Work after award, District retains the right to require Contractor to submit Escrow Documents for the Subcontractor before the subcontract is approved.

5. Storage, Examination and Final Disposition of Escrow Bid Documentation

- a. The Escrow Bid Documentation will be placed in escrow, for the life of the Contract, in a mutually agreeable institution. The cost of storage will be paid by Contractor for the duration of the project until final Contract payment. The storage facilities shall be the appropriate size for all the Escrow Bid Documentation and located conveniently to both District's and Contractor's offices.
- b. The Escrow Bid Documentation shall be examined by both District and Contractor, at any time deemed necessary by either District or Contractor, to assist in the negotiation of price adjustments and change orders or the settlement of disputes and claims. In the case of legal proceedings, Escrow Bid Documentation shall be used subject to the terms of an appropriate protective order if requested by Contractor and ordered by a court of competent jurisdiction. Examination of the Escrow Bid Documentation is subject to the following conditions:
 - (1) As trade secrets, the Escrow Bid Documentation is proprietary and confidential to the extent allowed by law.
 - (2) District and Contractor shall each designate, in writing to the other party **SEVEN (7)** calendar days prior to any examination, the names of representatives who are authorized to examine the Escrow Bid Documentation. No other person shall have access to the Escrow Bid Documentation.
 - (3) Access to the documents may take place only in the presence of duly designated representatives of the District and Contractor. If Contractor fails to designate a representative or appear for joint examination on **SEVEN (7)** calendar days' notice, then the District representative may examine the Escrow Bid Documents alone upon an additional **THREE (3)** calendar days' notice if a representative of the Contractor does not appear at the time set.
 - (4) If a subcontractor has submitted sealed information to be included in the Escrow Bid Documents, access to those documents may take place only in the presence of a duly designated representative of the District,

Contractor and that subcontractor. If that subcontractor fails to designate a representative or appear for joint examination on **SEVEN (7)** calendar days' notice, then the District representative and/or the Contractor may examine the Escrow Bid Documentation without that subcontractor present upon an additional **THREE (3)** calendar days' notice if a representative of that subcontractor does not appear at the time set.

- c. The Escrow Bid Documentation will be returned to Contractor at such time as the Contract has been completed and final settlement has been achieved.

END OF DOCUMENT

DOCUMENT 00 57 00

ESCROW AGREEMENT IN LIEU OF RETENTION
(Public Contract Code Section 22300)

(Note: Contractor must use this form.)

This Escrow Agreement in Lieu of Retention ("Escrow Agreement") is made and entered into this _____ day of _____, 20____, by and between the **Solano Community College District** ("District"), whose address is 4000 Suisun Valley Road, Fairfield, California 94534, and _____ ("Contractor"), whose address is _____, and _____ ("Escrow Agent"), a state or federally chartered bank in the state of California, whose address is _____.

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, which is hereby incorporated by reference, Contractor has the following two (2) options:
 - Deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by District pursuant to the Construction Contract No. _____ entered into between District and Contractor for the _____ Project, in the amount of _____ Dollars (\$ _____) dated, _____, 20____, (the "Contract"); **or**
 - On written request of Contractor, District shall make payments of the retention earnings for the above referenced Contract directly to Escrow Agent.

When Contractor deposits the securities as a substitute for Contract earnings (first option), Escrow Agent shall notify District within ten (10) calendar days of the deposit. The market value of the securities at the time of substitution and at all times from substitution until the termination of the Escrow Agreement shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between District and Contractor.

Securities shall be held in name of Solano Community College School District, and shall designate Contractor as 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 above.
3. When District makes payment of retention earned directly to Escrow Agent, Escrow Agent shall hold them 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. The District will charge Contractor \$_____ for each of District's deposits to the escrow account. These 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 and/or withdraw amounts from the Escrow Account in the event of default by Contractor. Upon seven (7) days' written notice to Escrow Agent from District of the default, if applicable, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by District. Escrow Agent shall not be authorized to determine the validity of any notice of default given by District pursuant to this paragraph, and shall promptly comply with District's instructions to pay over said escrowed assets. Escrow Agent further agrees to not interplead the escrowed assets in response to a conflicting demand.
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 monies 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 Escrow Agreement and District and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of securities and interest as set forth above.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

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:

Title

Title

Name

Name

Signature

Signature

Address

Address

On behalf of Escrow Agent:

Title

Name

Signature

Address

At the time that the Escrow Account is opened, District and Contractor shall deliver to Escrow Agent a fully executed copy of this Agreement.

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

On behalf of District:

On behalf of Contractor:

Title

Title

Name

Name

Signature

Signature

Address

Address

END OF DOCUMENT

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DOCUMENT 00 61 13.13

PERFORMANCE BOND
(100% of Contract Price)

(Note: Contractor must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the **Solano Community College District** ("District") and _____ ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project: **Early Learning Center Project** ("Project" or "Contract") which Contract dated _____, 20____, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, said Principal is required under the terms of the Contract to furnish a bond for the faithful performance of the Contract.

NOW, THEREFORE, the Principal and _____ ("Surety") are held and firmly bound unto the Board of the District in the penal sum of _____ Dollars (\$ _____), lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents, to:

- Promptly perform all the work required to complete the Project; and
- Pay to the District all damages the District incurs as a result of the Principal's failure to perform all the Work required to complete the Project.

Or, at the District's sole discretion and election, the Surety shall obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by the District of the lowest responsible bidder, arrange for a contract between such bidder and the District and make available as Work progresses sufficient funds to pay the cost of completion less the "balance of the Contract Price," and to pay and perform all obligations of Principals under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages. The term "balance of the Contract Price," as used in this paragraph, shall mean the total amount payable to Principal by the District under the Contract and any modifications thereto, less the amount previously paid by the District to the Principal, less any withholdings by the District allowed under the Contract. District shall not be required or obligated to accept a tender of a completion contractor from the Surety for any or no reason.

The condition of the obligation is such that, if the above bound Principal, its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract and any alteration thereof made as therein provided, on its part to be kept and performed at the time and in the intent and meaning, including all contractual guarantees and warranties of materials and workmanship, and shall indemnify and save harmless the

District, its trustees, officers and agents, as therein stipulated, then this obligation shall become null and void, otherwise it shall be and remain in full force and virtue.

Surety expressly agrees that the District may reject any contractor or subcontractor proposed by Surety to fulfill its obligations in the event of default by the Principal. Surety shall not utilize Principal in completing the Work nor shall Surety accept a Bid from Principal for completion of the Work if the District declares the Principal to be in default and notifies Surety of the District's objection to Principal's further participation in the completion of the Work.

As a condition precedent to the satisfactory completion of the Contract, the above obligation shall hold good for a period equal to the warranty and/or guarantee period of the Contract, during which time Surety's obligation shall continue if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the District from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the District's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond. The Surety also stipulates and agrees that it shall not be exonerated or released from the obligation of this bond by any overpayment or underpayment by the District that is based upon estimates approved by the Architect. The Surety does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of the Contract or to the work or to the specifications.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____, 20__.

Principal	Surety
By	By
	Name of California Agent of Surety
	Address of California Agent of Surety
	Telephone No. of California Agent of Surety

Contractor must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.

END OF DOCUMENT

DOCUMENT 00 61 13.16

PAYMENT BOND
Contractor's Labor & Material Bond
(100% Of Contract Price)

(Note: Contractor must use this form, NOT a surety company form.)

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the **Solano Community College District**, ("District") and _____, ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

Early Learning Center Project ("Project" or "Contract") which Contract dated _____, 20____, and all of the Contract Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, pursuant to law and the Contract, the Principal is required, before entering upon the performance of the work, to file a good and sufficient bond with the body by which the Contract is awarded in an amount equal to one hundred percent (100%) of the Contract price, to secure the claims to which reference is made in sections 9000 through 9510 and 9550 through 9566 of the Civil Code, and division 2, part 7, of the Labor Code.

NOW, THEREFORE, the Principal and _____ ("Surety") are held and firmly bound unto all laborers, material men, and other persons referred to in said statutes in the sum of _____ Dollars (\$ _____), lawful money of the United States, being a sum not less than the total amount payable by the terms of Contract, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally, by these presents.

The condition of this obligation is that if the Principal or any of its subcontractors, or the heirs, executors, administrators, successors, or assigns of any, all, or either of them shall fail to pay for any labor, materials, provisions, or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal or any of its subcontractors of any tier under Section 13020 of the Unemployment Insurance Code with respect to such work or labor, that the Surety will pay the same in an amount not exceeding the amount herein above set forth, and also in case suit is brought upon this bond, will pay a reasonable attorney's fee to be awarded and fixed by the court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under section 9100 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Solano Community College District

Early Learning Center Project

Project Number: 23-003

Should the condition of this bond be fully performed, then this obligation shall become null and void; otherwise it shall be and remain in full force and affect.

And the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of Contract or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____, 20__.

Principal	Surety
By	By
	Name of California Agent of Surety
	Address of California Agent of Surety
	Telephone No. of California Agent of Surety

Contractor must attach a Notarial Acknowledgment for all Surety's signatures and a Power of Attorney and Certificate of Authority for Surety. The California Department of Insurance must authorize the Surety to be an admitted surety insurer.

END OF DOCUMENT

DOCUMENT 00 63 40

ALLOWANCE EXPENDITURE DIRECTIVE FORM

Solano Community College District
 4000 Suisun Valley Road
 Fairfield, CA 94534

ALLOWANCE EXPENDITURE DIRECTIVE NO.:

ALLOWANCE EXPENDITURE DIRECTIVE

Project: Early Learning Center Project
Bid No.: 23-003

Date:
DSA File No.:
DSA Appl. No.:

The following parties agree to the terms of this Allowance Expenditure Directive ("AED"):

Owner Name, Address, Telephone:

Contractor Name, Address, Telephone:

Reference	Description	Allowance Authorized for Expenditure
Request for AED # Requested by: Performed by: Reason:	[Description of unforeseen item relating to Work] [Requester] [Performer] [Reason]	\$
Request for AED # Requested by: Performed by: Reason:	[Description of unforeseen item relating to Work] [Requester] [Performer] [Reason]	\$
Request for AED # Requested by: Performed by: Reason:	[Description of unforeseen item relating to Work] [Requester] [Performer] [Reason]	\$

Total Contract Allowance Amount:	\$
Amount of Previously Approved Allowance Expenditure Directive(s):	\$
Amount of this Allowance Expenditure Directive:	\$

Solano Community College District

Early Learning Center Project

Project Number: 23-003

The undersigned Contractor approves the foregoing release of allowance for completion of each specified item, and agrees to furnish all labor, materials and services and perform all work necessary to complete any additional work specified for the consideration stated therein ("Work"). Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650, et seq.

This Allowance Expenditure Directive must be signed by an authorized District representative.

It is expressly understood that the authorized allowance expenditure granted herein represent a full accord and satisfaction for any and all cost impacts of the items herein, and Contractor waives any and all further compensation based on the items herein. The value of the extra work or changes expressly includes any and all of the Contractor's costs and expenses, and its subcontractors, both direct and indirect. Any costs, expenses, or damages not included are deemed waived.

Signatures:

DISTRICT: SOLANO COMMUNITY COLLEGE DISTRICT Date: _____ By: _____ [Print Name and Title here]	PROJECT / CONSTRUCTION MANAGER: KITCHELL CEM Date: _____ By: _____ [Print Name and Title here]
CONTRACTOR: _____ Date: _____ By: _____ [Print Name and Title here]	ARCHITECT: _____ Date: _____ By: _____ [Print Name and Title here]
PROJECT INSPECTOR: _____ Date: _____ By: _____ [Print Name and Title here]	

END OF DOCUMENT

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DOCUMENT 00 63 47

DAILY FORCE ACCOUNT REPORT

From: Contractor
[Name/Address]

To: Solano Community College District
4000 Suisun Valley Road
Fairfield, CA

Project: EARLY LEARNING CENTER PROJECT

Contractor hereby submits this Daily Force Account Report for Work performed, pursuant to Force Account Directive No. _____, on _____.
[Date of Work]

Contractor attests that the material, labor, and equipment itemized herein were used only on the force account work.

A. Material: Attach all applicable invoices not provided in prior Daily Force Account Reports and complete the information below.

Description	Unit Price	Quantity	Cost

Daily subtotal (w/out markup): \$ _____

B. Labor: Labor must be fully Burdened. Attach timesheets, if applicable, and complete the information below.

Name	Craft	Regular Hrs.	Rate	OT Hrs.	Rate

Daily subtotal (w/out markup): \$ _____

C. Equipment: Attach all applicable invoices not provided in prior Daily Force Account Reports and complete the information below.

Type / Model	Hrs. Operated	Rate

Daily subtotal (w/out markup): \$ _____

Complete based on information reported above.

	<u>WORK PERFORMED OTHER THAN BY CONTRACTOR</u>	<u>ADD</u>
i.	<u>Material</u>	
ii.	<u>Add Labor</u>	
iii.	<u>Add Equipment</u>	
iv.	<u>Subtotal</u>	
v.	<u>Add overhead and profit for any and all tiers of Subcontractor</u> , the total not to exceed ten percent (10%) of Item (d)	
vi.	<u>Subtotal</u>	
vii.	<u>Add Overhead and Profit for Contractor</u> , not to exceed five percent (5%) of Item (f)	
viii.	<u>Subtotal</u>	
ix.	<u>Add Bond and Insurance</u> , not to exceed two percent (2%) of Item (h)	
x.	<u>TOTAL</u>	

	<u>WORK PERFORMED BY CONTRACTOR</u>	<u>ADD</u>
(a)	<u>Material</u>	
xi.	<u>Add Labor</u>	
xii.	<u>Add Equipment</u>	
xiii.	<u>Subtotal</u>	
xiv.	<u>Add Overhead and Profit for Contractor</u> , not to exceed fifteen percent (15%) of Item (d)	
xv.	<u>Subtotal</u>	
xvi.	<u>Add Bond and Insurance</u> , not to exceed two percent (2%) of Item (f)	
xvii.	<u>TOTAL</u>	

Solano Community College District

Early Learning Center Project

Project Number: 23-003

Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act (Gov. Code, § 12650, et seq.).

It is expressly understood that all force account work for the date stated above must be reported herein, and Contractor may not claim any labor, equipment, material or any other costs or expenses not reported herein. Contractor is not entitled to separately recover amounts for overhead or other indirect costs. Any costs, expenses, or damages, not included are deemed waived.

SUBMITTED BY:

REVIEWED BY:

Contractor:

Solano Community College District:

[Name]

Date

[Name]

Date

District may require additional information from Contractor to review this Daily Force Account Report. Upon District's return of the Daily Force Account Report, Contractor may invoice the Work reflected therein. District's review and return of the Daily Force Account Report and/or payment for the force account work does not constitute acceptance of the Work or waiver of any Contract rights or criteria.

END OF DOCUMENT

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DOCUMENT 00 63 57

PROPOSED CHANGE ORDER FORM

Solano Community College District
4000 Suisun Valley Road
Fairfield, CA 94534

PCO NO.:

Project: Early Learning Center Project
Bid No.: 23-003
RFI #:

Date:
DSA File No.:
DSA Appl. No.:

Contractor hereby submits for District’s review and evaluation this Proposed Change Order (“PCO”), submitted in accordance with and subject to the terms of the Contract Documents, including Sections 17.7 and 17.8 of the General Conditions. Any spaces left blank below are deemed no change to cost or time.

Contractor understands and acknowledges that documentation supporting Contractor’s PCO must be attached and included for District review and evaluation. Contractor further understands and acknowledges that failure to include documentation sufficient to, in District’s discretion, support some or all of the PCO, shall result in a rejected PCO.

	<u>WORK PERFORMED OTHER THAN BY CONTRACTOR</u>	<u>ADD</u>	<u>DEDUCT</u>
(a)	<u>Material</u> (attach suppliers’ invoice or itemized quantity and unit cost plus sales tax)		
(b)	<u>Add Labor</u> (attach itemized hours and rates, fully Burdened, and specify the hourly rate for each additional labor burden, for example, payroll taxes, fringe benefits, etc.)		
(c)	<u>Add Equipment</u> (attach suppliers’ invoice)		
(d)	<u>Subtotal</u>		
(e)	<u>Add overhead and profit for any and all tiers of Subcontractor</u> , the total not to exceed ten percent (10%) of Item (d)		
(f)	<u>Subtotal</u>		
(g)	<u>Add General Conditions</u> (if Time is Compensable) (attach supporting documentation)		
(h)	<u>Subtotal</u>		
(i)	<u>Add Overhead and Profit for Contractor</u> , not to exceed five percent (5%) of Item (h)		
(j)	<u>Subtotal</u>		
(k)	<u>Add Bond and Insurance</u> , not to exceed two percent (2%) of Item (j)		
(l)	<u>TOTAL</u>		
(m)	<u>Time</u> (zero unless indicated; “TBD” not permitted)	<div style="border-bottom: 1px solid black; width: 50px; display: inline-block;"></div> Calendar Days	

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]

	<u>WORK PERFORMED BY CONTRACTOR</u>	<u>ADD</u>	<u>DEDUCT</u>
(a)	<u>Material</u> (attach itemized quantity and unit cost plus sales tax)		
(b)	<u>Add Labor</u> (attach itemized hours and rates, fully Burdened, and specify the hourly rate for each additional labor burden, for example, payroll taxes, fringe benefits, etc.)		
(c)	<u>Add Equipment</u> (attach suppliers' invoice)		
(d)	<u>Add General Conditions</u> (if Time is Compensable) (attach supporting documentation)		
(e)	<u>Subtotal</u>		
(f)	<u>Add Overhead and Profit for Contractor</u> , not to exceed fifteen percent (15%) of Item (e)		
(g)	<u>Subtotal</u>		
(h)	<u>Add Bond and Insurance</u> , not to exceed two percent (2%) of Item (g)		
(i)	<u>TOTAL</u>		
(j)	<u>Time</u> (zero unless indicated; "TBD" not permitted)	_____ Calendar Days	

The undersigned Contractor approves the foregoing as to the changes, if any, to the Contract Price specified for each item, and as to the extension of time allowed, if any, for completion of the entire Work as stated herein, and agrees to furnish all labor, materials, and service, and perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq. It is understood that the changes herein to the Contract shall only be effective when approved by the governing board of the District.

It is expressly understood that the value of the extra Work or changes expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project including, without limitation, cumulative impacts. Contractor is not entitled to separately recover amounts for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

SUBMITTED BY:

Contractor:

[Name]

Date

END OF DOCUMENT

DOCUMENT 00 63 63

CHANGE ORDER FORM



Change Order

Solano Community College District
 4000 Suisun Valley Road
 Fairfield, CA 94534
 Tel: 707-864-7189 Fax: 707-646-771C

[Project Manager / Construction Manager]
 [Address]
 [City, State, Zip]

Change Order # [NUMBER]
 Project No.: [NUMBER]
 Date: [DATE]

DSA File No.: [FILE NO]
 DSA App. No.: [DSA APPLICATION NO]

Project: **Solano Community College District**
 [BUILDING/CAMPUS]
 [PROJECT]

[ARCHITECT]
 [STREET ADDRESS]
 [CITY, STATE ZIP]

To: **[CONTRACTOR]**
 [STREET ADDRESS]
 [CITY, STATE ZIP]

The Contract is Changed as Follows:

PCO No.

[PCO NO] [PCO DESCRIPTION]

[PCO AMT]

[PCO NO] [PCO DESCRIPTION]

[PCO AMT]

TOTAL COST OF CHANGE ORDER

**ADD
Deduct**

FINAL CHANGE ORDER AMOUNT

\$0.00

Original Contract Sum:	[ORIG CONTRACT]
Total change By Previous Change Orders:	\$ -
Contract Sum Prior to This Change Order:	\$ -
Original Contract Sum will be Increased by This Change Order:	\$ -
The New Contract Sum Including This Change Order Will Be:	\$ -
The New Contract Completion Date Will Be:	
Contract Time Will be Unchanged by This Change Order:	Days
The Current Contract Completion Date is:	

The undersigned Contractor approved the foregoing as to the changes, if any, to the Contract Price specified for each item, and as to the extension of time allowed, if any, for completion of the entire work as stated therein, and agrees to furnish all labor, materials and services and perform all work necessary to complete any additional work specified for the consideration stated therein. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq.

This change order is subject to approval by the governing board of this District and must be signed by the District. Until such time as this change order is approved by the District's governing board and executed by a duly authorized District representative, this change order is not effective and not binding.

It is expressly understood that the compensation and time, if any, granted herein represent a full accord and satisfaction for any and all time and cost impacts of the items herein, and Contractor waives any and all further compensation or time extension based on the items herein. The value of the extra work or changes expressly includes any and all of the Contractor's costs and expenses, and its subcontractors, both direct and indirect, resulting from additional time required on the project or resulting from delay to the project including without limitation, cumulative impacts. Any costs, expenses, damages or time extensions not included are deemed waived.

**CONSTRUCTION
MANAGER**

[Representative Name]
[Firm Name]
[Firm Address]

Date: _____

ARCHITECT

[Representative Name]
[Firm Name]
[Firm Address]

Date: _____

**DSA PROJECT
INSPECTOR**

[Representative Name]
[Firm Name]
[Firm Address]

Date: _____

CONTRACTOR

[Representative Name]
[Firm Name]
[Firm Address]

Date: _____

OWNER

Lucky Lofton
Executive Bonds Manager
Solano Community College District

Date: _____

END OF DOCUMENT

DOCUMENT 00 65 19.26

AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS

THIS AGREEMENT AND RELEASE OF CLAIMS ("Agreement and Release") IS MADE AND ENTERED INTO THIS _____ DAY OF _____, 20__ by and between the **SOLANO COMMUNITY COLLEGE DISTRICT** ("District") and _____ ("Contractor"), whose place of business is _____.

RECITALS

WHEREAS, District and Contractor entered into **PROJECT/CONTRACT NO.: Early Learning Center Project/23-003** ("Contract" or "Project") in the County of Solano, California; and

WHEREAS, the Work under the Contract was completed on _____, and a Notice of Completion was recorded with the County Recorder on _____.

NOW, THEREFORE, it is mutually agreed between District and Contractor as follows:

AGREEMENT AND RELEASE

1. Contractor will only be assessed liquidated damages as detailed below:

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

2. Subject to the provisions hereof, District shall forthwith pay to Contractor the undisputed sum of _____ Dollars (\$ _____) under the Contract, less any amounts 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 performance of work under the Contract, except for the claims described in Paragraph 6 and continuing obligations described in Paragraph 8. 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 and all of its respective agents, employees, trustees, inspectors, assignees, consultants and transferees, except for any Disputed Claim that may be set forth in Paragraph 4 and the continuing obligations described in Paragraph 6 hereof.

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>Description of Claim</u>	<u>Amount of Claim</u>	<u>Date Claim Submitted</u>
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____
_____	_____	\$ _____	_____

[If further space is required, attach additional sheets showing the required information.]

5. Consistent with California Public Contract Code section 7100, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 4 hereof, Contractor hereby releases and forever discharges District, all its agents, employees, 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 including, without limitation, the duty to defend, indemnify and hold harmless the District, shall remain in full force and effect as specified in the Contract Documents.
7. Contractor 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 OR RELEASING PARTY DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, AND THAT, IF KNOWN BY HIM OR HER WOULD HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR OR RELEASED PARTY.
8. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable. 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 regulations, then such provision, or part thereof, shall remain in force and effect 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.

9. All rights of District shall survive completion of the Work or termination of Contract, and execution of this Release.

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

SOLANO COMMUNITY COLLEGE DISTRICT

Signature: _____

Print Name: _____

Title: _____

CONTRACTOR: _____

Signature: _____

Print Name: _____

Title: _____

END OF DOCUMENT

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DOCUMENT 00 65 36

GUARANTEE FORM

_____ ("Contractor") hereby agrees that the _____
_____ ("Work" of Contractor) which Contractor has installed for the **Solano
Community College District** ("District") for the following project:

PROJECT: **Early Learning Center Project**

("Project" or "Contract") has been performed in accordance with the requirements of the Contract Documents and that the Work as installed will fulfill the requirements of the Contract Documents.

The undersigned agrees to repair or replace any or all of such Work that may prove to be defective in workmanship or material together with any other adjacent Work that may be displaced in connection with such replacement within a period of **ONE (1) year(s)** from the date of completion as defined in Public Contract Code section 7107, subdivision (c), ordinary wear and tear and unusual abuse or neglect excepted. The date of completion is _____, 20____.

In the event of the undersigned's failure to comply with the above-mentioned conditions within a reasonable period of time, as determined by the District, but not later than seven (7) days after being notified in writing by the District, the undersigned authorizes the District to proceed to have said defects repaired and made good at the expense of the undersigned. The undersigned shall pay the costs and charges therefor upon demand.

Date: _____

Proper Name of Contractor: _____

Signature: _____

Print Name: _____

Title: _____

Representatives to be contacted for service subject to terms of Contract:

Name: _____

Address: _____

Phone No.: _____

Email: _____

END OF DOCUMENT

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GENERAL CONDITIONS

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Solano Community College District

Early Learning Center Project

Project Number: 23-003

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GENERAL CONDITIONS

1. CONTRACT TERMS AND DEFINITIONS

1.1 Definitions

Wherever used in the Contract Documents, the following terms shall have the meanings indicated, which shall be applicable to both the singular and plural thereof:

1.1.1 Adverse Weather: Shall be only weather that satisfies all of the following conditions: (1) unusually severe precipitation, sleet, snow, hail, or extreme temperature conditions in excess of the norm for the location and time of year it occurred based on the closest weather station data averaged over the past five years, (2) that is unanticipated and would cause unsafe work conditions and/or is unsuitable for scheduled work that should not be performed during inclement weather (i.e., exterior finishes), and (3) at the Project.

1.1.2 Allowance Expenditure Directive: Written authorization for expenditure of allowance, if any.

1.1.3 Approval, Approved, and/or Accepted: Written authorization, unless stated otherwise.

1.1.4 Architect (or "Design Professional in General Responsible Charge"): The individual, partnership, corporation, joint venture, or any combination thereof, named as Architect, who will have the rights and authority assigned to the Architect in the Contract Documents. The term Architect means the Design Professional in General Responsible Charge as defined in DSA PR 13-02 on this Project or the Architect's authorized representative.

1.1.5 As-Builts: Reproducible blue line prints of drawings to be prepared on a monthly basis pursuant to the Contract Documents, that reflect changes made during the performance of the Work, recording differences between the original design of the Work and the Work as constructed since the preceding monthly submittal. See **Record Drawings**.

1.1.6 Bidder: A contractor who intends to provide a proposal to the District to perform the Work of this Contract.

1.1.7 Burdened: The labor rate for Contractor or any Subcontractor inclusive of any and all burden costs including, but not limited to, health and welfare pay, vacation and holiday pay, pension contributions, training rates, benefits of any kind, insurance of any kind, workers' compensation, liability insurance, truck expenses, supply expenses of any kind, payroll taxes, and any other taxes of any kind.

1.1.8 Change Order: A written order to the Contractor authorizing an addition to, deletion from, or revision in the Work, and/or authorizing an adjustment in the Contract Price or Contract Time.

1.1.9 Claim: A Dispute that remains unresolved at the conclusion of the all the applicable Dispute Resolution requirements provided herein.

1.1.10 Construction Change Directive: A written order prepared and issued by the District, the Construction Manager, and/or the Architect and signed by the District and the Architect, directing a change in the Work.

1.1.11 Construction Manager: The individual, partnership, corporation, joint venture, or any combination thereof, or its authorized representative, named as such by the District. If no Construction Manager is used on the Project that is the subject of this Contract, then all references to Construction Manager herein shall be read to refer to District.

1.1.12 Construction Schedule: The progress schedule of construction of the Project as provided by Contractor and approved by District.

1.1.13 Contract, Contract Documents: The Contract consists exclusively of the documents evidencing the agreement of the District and Contractor, identified as the Contract Documents. The Contract Documents consist of the following documents:

- 1.1.13.1** Notice to Bidders
- 1.1.13.2** Instructions to Bidders
- 1.1.13.3** Bid Form and Proposal
- 1.1.13.4** Bid Bond
- 1.1.13.5** Designated Subcontractors List
- 1.1.13.6** Site Visit Certification (if a site visit was required)
- 1.1.13.7** Non-Collusion Declaration
- 1.1.13.8** Notice of Award
- 1.1.13.9** Notice to Proceed
- 1.1.13.10** Agreement
- 1.1.13.11** Escrow of Bid Documentation
- 1.1.13.12** Escrow Agreement for Security Deposits in Lieu of Retention (if applicable)
- 1.1.13.13** Performance Bond
- 1.1.13.14** Payment Bond (Contractor's Labor & Material Bond)
- 1.1.13.15** General Conditions
- 1.1.13.16** Special Conditions
- 1.1.13.17** Hazardous Materials Procedures and Requirements
- 1.1.13.18** Workers' Compensation Certification
- 1.1.13.19** Prevailing Wage Certification
- 1.1.13.20** Disabled Veteran Business Enterprise Participation Certification (if applicable)
- 1.1.13.21** Small, Local, Diverse Business Program (SLDBE) (if applicable)
- 1.1.13.22** Project Labor Agreement (PLA) (if applicable)
- 1.1.13.23** Drug-Free Workplace Certification
- 1.1.13.24** Tobacco-Free Environment Certification
- 1.1.13.25** Hazardous Materials Certification
- 1.1.13.26** Lead-Based Materials Certification
- 1.1.13.27** Imported Materials Certification (if applicable)
- 1.1.13.28** Sex Offender Registration Act Certification
- 1.1.13.29** Buy American Certification (if certain federal funds used)

- 1.1.13.30** Roofing Project Certification (if applicable)
- 1.1.13.31** Registered Subcontractors List
- 1.1.13.32** Iran Contracting Act Certification (if applicable)
- 1.1.13.33** Federal Debarment Certification (if applicable)
- 1.1.13.34** Post Bid Interview
- 1.1.13.35** All Plans, Technical Specifications, and Drawings
- 1.1.13.36** Any and all addenda to any of the above documents
- 1.1.13.37** Any and all change orders or written modifications to the above documents if approved in writing by the District

1.1.14 Contract Price: The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

1.1.15 Contract Time: The time period stated in the Agreement for the completion of the Work.

1.1.16 Contractor: The person or persons identified in the Agreement as contracting to perform the Work to be done under this Contract, or the legal representative of such a person or persons.

1.1.17 Daily Job Report(s): Daily Project reports prepared by the Contractor's employee(s) who are present on Site, which shall include the information required herein.

1.1.18 Day(s): Unless otherwise designated, day(s) means calendar day(s).

1.1.19 Department of Industrial Relations (or "DIR"): is responsible, among other things, for labor compliance monitoring and enforcement of California prevailing wage laws and regulations for public works contracts.

1.1.20 Design Professional in General Responsible Charge: See definition of **Architect** above.

1.1.21 Dispute: A separate demand by Contractor for a time extension, or payment of money or damages arising from Work done by or on behalf of the Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or Contractor is not otherwise entitled to; or an amount of payment disputed by the District.

1.1.22 District: The public agency or the district for which the Work is performed. The governing board of the District or its designees will act for the District in all matters pertaining to the Contract. The District may, at any time,

1.1.22.1 Direct the Contractor to communicate with or provide notice to the Construction Manager or the Architect on matters for which the Contract Documents indicate the Contractor will communicate with or provide notice to the District; and/or

1.1.22.2 Direct the Construction Manager or the Architect to communicate with or direct the Contractor on matters for which the Contract Documents indicate the District will communicate with or direct the Contractor.

1.1.23 Drawings (or "Plans"): The graphic and pictorial portions of the Contract Documents showing the design, location, scope and dimensions of the work, generally including plans, elevations, sections, details, schedules, sequence of operation, and diagrams.

1.1.24 DSA: Division of the State Architect.

1.1.25 Force Account Directive: A process that may be used when the District and the Contractor cannot agree on a price for a specific portion of work or before the Contractor prepares a price for a specific portion of work and whereby the Contractor performs the work as indicated herein on a time and materials basis.

1.1.26 Job Cost Reports: Any and all reports or records detailing the costs associated with work performed on or related to the Project that Contractor shall maintain for the Project. Specifically, Job Cost Reports shall contain, but are not limited by or to, the following information: a description of the work performed or to be performed on the Project; quantity, if applicable, of work performed (hours, square feet, cubic yards, pounds, etc.) for the Project; Project budget; costs for the Project to date; estimated costs to complete the Project; and expected costs at completion. The Job Cost Reports shall also reflect all Contract cost codes, change orders, elements of non-conforming work, back charges, and additional services.

1.1.27 Labor Commissioner's Office (or "Labor Commissioner", also known as the Division of Labor Standards Enforcement ("DLSE")): Division of the DIR responsible for adjudicating wage claims, investigating discrimination and public works complaints, and enforcing Labor Code statutes and Industrial Welfare Commission orders.

1.1.28 Municipal Separate Storm Sewer System (or "MS4"): A system of conveyances used to collect and/or convey storm water, including, without limitation, catch basins, curbs, gutters, ditches, man-made channels, and storm drains.

1.1.29 Plans: See **Drawings**.

1.1.30 Premises: The real property owned by the District on which the Site is located.

1.1.31 Product(s): New material, machinery, components, equipment, fixtures and systems forming the Work, including existing materials or components required and approved by the District for reuse.

1.1.32 Product Data: Illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate a material, product, or system for some portion of the Work.

1.1.33 Program Manager: The individual, partnership, corporation, joint venture, or any combination thereof, or its authorized representative, named as such by the District. If no Program Manager is designated for Project that is the subject of this Contract, then all references to Project Manager herein shall be read to refer to District.

1.1.34 Project: The planned undertaking as provided for in the Contract Documents.

1.1.35 Project Inspector (or "Inspector"): The individual(s) retained by the District in accordance with title 24 of the California Code of Regulations to monitor and inspect the Project.

1.1.36 Project Labor Agreement (or "PLA"): a prehire collective bargaining agreement in accordance with Public Contract Code section 2500 *et seq.* that establishes terms and conditions of employment for a specific construction project or projects and/or is an agreement described in Section 158(f) of Title 29 of the United States Code.

1.1.37 Proposed Change Order (or "PCO"): a written request prepared by the Contractor requesting that the District and the Architect issue a Change Order based upon a proposed change to the Work.

1.1.38 Provide: Shall include "provide complete in place," that is, "furnish and install," and "provide complete and functioning as intended in place" unless specifically stated otherwise.

1.1.39 Qualified SWPPP Practitioners (or "QSP"): certified personnel that attended a State Water Resources Control Board sponsored or approved training class and passed the qualifying exam.

1.1.40 Record Drawings: Reproducible drawings (or Plans) prepared pursuant to the requirements of the Contract Documents that reflect all changes made during the performance of the Work, recording differences between the original design of the Work and the Work as constructed upon completion of the Project. See also **As-Builts**.

1.1.41 Request for Information (or "RFI"): A written request prepared by the Contractor requesting that the Architect provide additional information necessary to clarify or amplify an item in the Contract Documents that the Contractor believes is not clearly shown or called for in the Drawings or Specifications or other portions of the Contract Documents, or to address problems that have arisen under field conditions.

1.1.42 Request for Substitution for Specified Item: A request by Contractor to substitute an equal or superior material, product, thing, or service for a specific material, product, thing, or service that has been designated in the Contract Documents by a specific brand or trade name.

1.1.43 Safety Orders: Written and/or verbal orders for construction issued by the California Division of Occupational Safety and Health ("CalOSHA") or by the United States Occupational Safety and Health Administration ("OSHA").

1.1.44 Safety Plan: Contractor's safety plan specifically adapted for the Project. Contractor's Safety Plan shall comply with all provisions regarding Project safety, including all applicable provisions in these General Conditions.

1.1.45 Samples: Physical examples that illustrate materials, products, equipment, finishes, colors, or workmanship and that, when approved in accordance with the Contract Documents, establish standards by which portions of the Work will be judged.

1.1.46 Shop Drawings: All drawings, prints, diagrams, illustrations, brochures, schedules, and other data that are prepared by the Contractor, a subcontractor, manufacturer, supplier, or distributor, that illustrate how specific portions of the Work shall be fabricated or installed.

1.1.47 Site: The Project site as shown on the Drawings.

1.1.48 Small, Local, and Diverse Business Program (SLDBE): The District's SLDBE Program will have a goal of 20% of the contract price performed by disadvantaged and/or local firms (prime and subcontractors, suppliers).

1.1.49 Specifications: That portion of the Contract Documents, Division 1 through Division 49, and all technical sections, and addenda to all of these, if any, consisting of written descriptions and requirements of a technical nature of materials, equipment, construction methods and systems, standards, and workmanship.

1.1.50 State: The State of California.

1.1.51 Storm Water Pollution Prevention Plan (or "SWPPP"): A document which identifies sources and activities at a particular facility that may contribute pollutants to storm water and contains specific control measures and time frames to prevent or treat such pollutants.

1.1.52 Subcontractor: A contractor and/or supplier who is under contract with the Contractor or with any other subcontractor, regardless of tier, to perform a portion of the Work of the Project.

1.1.53 Submittal Schedule: The schedule of submittals as provided by Contractor and approved by District.

1.1.54 Surety: The person, firm, or corporation that executes as surety the Contractor's Performance Bond and Payment Bond, and must be a California admitted surety insurer as defined in the Code of Civil Procedure section 995.120.

1.1.55 Work: All labor, materials, equipment, components, appliances, supervision, coordination, and services required by, or reasonably inferred from, the Contract Documents, that are necessary for the construction and completion of the Project.

1.2 Laws Concerning the Contract

Contract is subject to all provisions of the Constitution and laws of California and the United States governing, controlling, or affecting District, or the property, funds, operations, or powers of District, and such provisions are by this reference made a part hereof. Any provision required by law to be included in this Contract shall be deemed to be inserted.

1.3 No Oral Agreements

No oral agreement or conversation with any officer, agent, or employee of District, either before or after execution of Contract, shall affect or modify any of the terms or obligations contained in any of the documents comprising the Contract.

1.4 No Assignment

Contractor shall not assign this Contract or any part thereof including, without limitation, any Work or money to become due hereunder without the prior written consent of the District. Assignment without District's prior written consent shall be null and void. Any assignment of money due or to become due under this Contract shall be subject to a prior lien for services rendered or material supplied for performance of work called for under this Contract in favor of all persons, firms, or corporations rendering services or supplying material to the extent that claims are filed pursuant to the Civil Code, Code of Civil Procedure, Government Code, Labor Code, and/or Public Contract Code, and shall also be subject to deductions for liquidated damages or withholding of payments as determined by District in accordance with this Contract. Contractor shall not assign or transfer in any manner to a Subcontractor or supplier the right to prosecute or maintain an action against the District.

1.5 Notice and Service Thereof

1.5.1 Any notice from one party to the other or otherwise under Contract shall be in writing and shall be dated and signed by the party giving notice or by a duly authorized representative of that party. Any notice shall not be effective for any purpose whatsoever unless served in one of the following manners:

1.5.1.1 If notice is given by personal delivery thereof, it shall be considered delivered on the day of delivery.

1.5.1.2 If notice is given by overnight delivery service, it shall be considered delivered one (1) day after date deposited, as indicated by the delivery service.

1.5.1.3 If notice is given by depositing same in United States mail, enclosed in a sealed envelope, it shall be considered delivered three (3) days after date deposited, as indicated by the postmarked date.

1.5.1.4 If notice is given by registered or certified mail with postage prepaid, return receipt requested, it shall be considered delivered on the day the notice is signed for.

1.5.1.5 Electronic mail may be used for convenience but is not a substitute for the notice and service requirements herein.

1.6 No Waiver

The failure of District in any one or more instances to insist upon strict performance of any of the terms of this Contract or to exercise any option herein conferred shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon any such terms or option on any future occasion. No action or failure to act by the District, Architect, or Construction Manager shall constitute a waiver of any right or duty

afforded the District under the Contract, nor shall any action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

1.7 Substitutions for Specified Items

Unless the Special Conditions contain different provisions, Contractor shall not substitute different items for any items identified in the Contract Documents without prior written approval of the District.

1.8 Materials and Work

1.8.1 Except as otherwise specifically stated in this Contract, Contractor shall provide and pay for all materials, labor, tools, equipment, transportation, supervision, temporary constructions of every nature, and all other services, management, and facilities of every nature whatsoever necessary to execute and complete this Contract, in a good and workmanlike manner, within the Contract Time.

1.8.2 Unless otherwise specified, all materials shall be new and of the best quality of their respective kinds and grades as noted or specified, workmanship shall be of good quality, and Contractor shall use all diligence to inform itself fully as to the required manufacturer's instructions and to comply therewith.

1.8.3 Materials shall be furnished in ample quantities and at such times as to ensure uninterrupted progress of Work and shall be stored properly and protected from the elements, theft, vandalism, or other loss or damage as required.

1.8.4 For all materials and equipment specified or indicated in the Drawings, the Contractor shall provide all labor, materials, equipment, and services necessary for complete assemblies and complete working systems, functioning as intended. Incidental items not indicated on Drawings, nor mentioned in the Specifications, that can legitimately and reasonably be inferred to belong to the Work described, or be necessary in good practice to provide a complete assembly or system, shall be furnished as though itemized here in every detail. In all instances, material and equipment shall be installed in strict accordance with each manufacturer's most recent published recommendations and specifications.

1.8.5 Contractor shall, after award of Contract by District and after relevant submittals have been reviewed, place orders for materials and/or equipment as specified so that delivery of same may be made without delays to the Work. Contractor shall, upon five (5) days' demand from District, present documentary evidence showing that orders have been placed.

1.8.6 District reserves the right but has no obligation, in response to Contractor's neglect or failure in complying with the above instructions, to place orders for such materials and/or equipment as the District may deem advisable in order that the Work may be completed at the date specified in the Contract, and all expenses incidental to the procuring of said materials and/or equipment shall be paid for by Contractor or deducted from payment(s) to Contractor.

1.8.7 Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all Work to deliver the Site to District, together with all improvements and appurtenances constructed or placed thereon by it, and free from any claims, liens, or charges. Contractor further agrees that neither it nor any person, firm, or corporation furnishing any materials or labor for any work covered by the Contract shall have any right to lien any portion of the Premises or any improvement or appurtenance thereon, except that Contractor may install metering devices or other equipment of utility companies or of political subdivision, title to which is commonly retained by utility company or political subdivision. In the event of installation of any such metering device or equipment, Contractor shall advise District as to owner thereof.

1.8.7.1 If a lien or a claim based on a stop payment notice of any nature should at any time be filed against the Work or any District property, by any entity that has supplied material or services at the request of the Contractor, Contractor and Contractor's Surety shall promptly, on demand by District and at Contractor's and Surety's own expense, take any and all action necessary to cause any such lien or a claim based on a stop payment notice to be released or discharged immediately therefrom.

1.8.7.2 If the Contractor fails to furnish to the District within ten (10) calendar days after demand by the District, satisfactory evidence that a lien or a claim based on a stop payment notice has been so released, discharged, or secured, the District may discharge such indebtedness and deduct the amount required therefor, together with any and all losses, costs, damages, and attorney's fees and expense incurred or suffered by District from any sum payable to Contractor under the Contract.

1.8.8 Nothing contained in this Article, however, shall defeat or impair the rights of persons furnishing materials or labor under any bond given by Contractor for their protection or any rights under any law permitting such protection or any rights under any law permitting such persons to look to funds due Contractor in hands of District (e.g., stop payment notices), and this provision shall be inserted in all subcontracts and material contracts and notice of its provisions shall be given to all persons furnishing material for work when no formal contract is entered into for such material.

1.8.9 Title to new materials and/or equipment for the Work of this Contract and attendant liability for its protection and safety shall remain with Contractor until incorporated in the Work of this Contract and accepted by District. No part of any materials and/or equipment shall be removed from its place of storage except for immediate installation in the Work of this Contract. Should the District, in its discretion, allow the Contractor to store materials and/or equipment for the Work off-site, Contractor will store said materials and/or equipment at a bonded warehouse and with appropriate insurance coverage at no cost to District. Contractor shall keep an accurate inventory of all materials and/or equipment in a manner satisfactory to District or its authorized representative and shall, at the District's request, forward it to the District.

1.8.10 [RESERVED]

2. [RESERVED]

3. ARCHITECT

3.1 The Architect shall represent the District during the Project and will observe the progress and quality of the Work on behalf of the District. Architect shall have the authority to act on behalf of District to the extent expressly provided in the Contract Documents and to the extent determined by District. Architect shall have authority to reject materials, workmanship, and/or the Work whenever rejection may be necessary, in Architect's reasonable opinion, to ensure the proper execution of the Contract.

3.2 Architect shall, with the District and on behalf of the District, determine the amount, quality, acceptability, and fitness of all parts of the Work, and interpret the Specifications, Drawings, and shall, with the District, interpret all other Contract Documents.

3.3 Architect shall have all authority and responsibility established by law, including title 24 of the California Code of Regulations.

3.4 Contractor shall provide District and the Construction Manager with a copy of all written communication between Contractor and Architect at the same time as that communication is made to Architect, including, without limitation, all RFIs, correspondence, submittals, claims, and proposed change orders.

4. CONSTRUCTION MANAGER

4.1 If a Construction Manager is used on this Project ("Construction Manager" or "CM"), the Construction Manager will provide administration of the Contract on the District's behalf. After execution of the Contract and Notice to Proceed, all correspondence and/or instructions from Contractor and/or District shall be forwarded through the Construction Manager. The Construction Manager will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences, or procedures or for safety precautions in connection with the Work, which shall all remain the Contractor's responsibility.

4.2 The Construction Manager, however, will have authority to reject materials and/or workmanship not conforming to the Contract Documents, as determined by the District, the Architect, and/or the Project Inspector. The Construction Manager shall also have the authority to require special inspection or testing of any portion of the Work, whether it has been fabricated, installed, or fully completed. Any decision made by the Construction Manager, in good faith, shall not give rise to any duty or responsibility of the Construction Manager to: the Contractor; any Subcontractor; the Contractor or Subcontractor's respective agents, employees; or other persons performing any of the Work. The Construction Manager shall have free access to any or all parts of Work at any time.

4.3 If the District does not use a Construction Manager on this Project, all references within the Contract Documents to Construction Manager or CM shall be read as District.

5. INSPECTOR, INSPECTIONS, AND TESTS

5.1 Project Inspector

5.1.1 One or more Project Inspector(s), including special Project Inspector(s), as required, will be assigned to the Work by District, in accordance with requirements of title 24, part 1, of the California Code of Regulations, to enforce the building code and monitor compliance with Plans and Specifications for the Project previously approved by the DSA. Duties of Project Inspector(s) are specifically defined in section 4-342 of said part 1 of title 24.

5.1.2 No Work shall be carried on except with the knowledge and under the inspection of the Project Inspector(s). The Project Inspector(s) shall have free access to any or all parts of Work at any time. Contractor shall furnish Project Inspector(s) reasonable opportunities for obtaining such information as may be necessary to keep Project Inspector(s) fully informed respecting progress and manner of work and character of materials, including, but not limited to, submission of form DSA 156 (or the most current version applicable at the time the Work is performed) to the Project Inspector at least 48 hours in advance of the commencement and completion of construction of each and every aspect of the Work. Forms are available on the DSA's website at: <http://www.dgs.ca.gov/dsa/Forms.aspx>. Inspection of Work shall not relieve Contractor from an obligation to fulfill this Contract. Project Inspector(s) and the DSA are authorized to suspend work whenever the Contractor and/or its Subcontractor(s) are not complying with the Contract Documents. Any work

stoppage by the Project Inspector(s) and/or DSA shall be without liability to the District. Contractor shall instruct its Subcontractors and employees accordingly.

5.1.3 If Contractor and/or any Subcontractor requests that the Project Inspector(s) perform any inspection off-site, this shall only be done if it is allowable pursuant to applicable regulations and DSA approval, if the Project Inspector(s) agree to do so, and at the expense of the Contractor.

5.2 Tests and Inspections

5.2.1 Tests and Inspections shall comply with title 24, part 1, California Code of Regulations, group 1, article 5, section 4-335, and with the provisions of the Specifications.

5.2.2 The District will select an independent testing laboratory to conduct the tests. Selection of the materials required to be tested shall be by the laboratory or the District's representative and not by the Contractor. The Contractor shall notify the District's representative a sufficient time in advance of its readiness for required observation or inspection.

5.2.3 The Contractor shall notify the District's representative a sufficient time in advance of the manufacture of material to be supplied under the Contract Documents, which must by terms of the Contract Documents be tested, in order that the District may arrange for the testing of same at the source of supply. This notice shall be provided, at a minimum, seventy-two (72) hours prior to the manufacture of the material that needs to be tested.

5.2.4 Any material shipped by the Contractor from the source of supply prior to having satisfactorily passed such testing and inspection or prior to the receipt of notice from said representative that such testing and inspection will not be required, shall not be incorporated into and/or onto the Project.

5.2.5 The District will select the testing laboratory and pay for the costs of all tests and inspections, excepting those inspections performed at Contractor's request and expense. Contractor shall reimburse the District for any and all laboratory costs or other testing costs for any materials found to be not in compliance with the Contract Documents. At the District's discretion, District may elect to deduct laboratory or other testing costs for noncompliant materials from the Contract Price, and such deduction shall not constitute a withholding.

5.3 Costs for After Hours and/or Off Site Inspections

If the Contractor performs Work outside the Inspector's regular working hours or requests the Inspector to perform inspections off Site, costs of any inspections required outside regular working hours or off Site shall be borne by the Contractor and may be invoiced to the Contractor by the District or the District may deduct those expenses from the next Progress Payment.

6. CONTRACTOR

Contractor shall construct and complete, in a good and workmanlike manner, the Work for the Contract Price including any adjustment(s) to the Contract Price pursuant to provisions

herein regarding changes to the Contract Price. Except as otherwise noted, Contractor shall provide and pay for all labor, materials, equipment, permits (excluding DSA), fees, licenses, facilities, transportation, taxes, bonds and insurance, and services necessary for the proper execution and completion of the Work, except as indicated herein.

6.1 Status of Contractor

6.1.1 Contractor is and shall at all times be deemed to be an independent contractor and shall be wholly responsible for the manner in which it and its Subcontractors perform the services required of it by the Contract Documents. Nothing herein contained shall be construed as creating the relationship of employer and employee, or principal and agent, between the District, or any of the District's employees or agents, and Contractor or any of Contractor's Subcontractors, agents or employees. Contractor assumes exclusively the responsibility for the acts of its agents, and employees as they relate to the services to be provided during the course and scope of their employment. Contractor, its Subcontractors, agents, and its employees shall not be entitled to any rights or privileges of District employees. District shall be permitted to monitor the Contractor's activities to determine compliance with the terms of this Contract.

6.1.2 As required by law, Contractor and all Subcontractors shall be properly licensed and regulated by the Contractors State License Board, 9821 Business Park Drive, Sacramento, California 95827, <http://www.cslb.ca.gov>.

6.1.3 As required by law, Contractor and all Subcontractors shall be properly registered as public works contractors by the Department of Industrial Relations at: <https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRRegistrationForm> or current URL.

6.1.4 Contractor represents that Contractor and all Subcontractors shall not be presently debarred, suspended, proposed for disbarment, declared ineligible or excluded pursuant to either Labor Code section 1777.1 or Labor Code section 1777.7.

6.1.5 [RESERVED]

6.1.6 Contractor represents that it has no existing interest and will not acquire any interest, direct or indirect, which could conflict in any manner or degree with the performance of the Work required under this Contract and that no person having any such interest shall be employed by Contractor.

6.1.7 If Contractor intends to make any change in the name or legal nature of the Contractor's entity, Contractor must first notify the District in writing prior to making any contemplated change. The District shall determine in writing if Contractor's intended change is permissible while performing this Contract.

6.2 Project Inspection Card(s)

Contractor shall verify that forms DSA 152 (or the current version applicable at the time the Work is performed) are issued for the Project prior to the commencement of construction.

6.3 Contractor's Supervision

6.3.1 During progress of the Work, Contractor shall keep on the Premises, and at all other locations where any Work related to the Contract is being performed, an experienced and competent project manager and construction superintendent who are employees of the Contractor, to whom the District does not object and at least one of whom shall be fluent in English, written and verbal.

6.3.2 The project manager and construction superintendent shall both speak fluently the predominant language of the Contractor's employees.

6.3.3 Before commencing the Work herein, Contractor shall give written notice to District of the name of its project manager and construction superintendent. Neither the Contractor's project manager nor construction superintendent shall be changed except with prior written notice to District. If the Contractor's project manager and/or construction superintendent proves to be unsatisfactory to Contractor, or to District, any of the District's employees, agents, the Construction Manager, or the Architect, the unsatisfactory project manager and/or construction superintendent shall be replaced. However, Contractor shall notify District in writing before any change occurs, but no less than two (2) business days prior. Any replacement of the project manager and/or construction superintendent shall be made promptly and must be satisfactory to the District. The Contractor's project manager and construction superintendent shall each represent Contractor, and all directions given to Contractor's project manager and/or construction superintendent shall be as binding as if given to Contractor.

6.3.4 Contractor shall give efficient supervision to Work, using its best skill and attention. Contractor shall carefully study and compare all Contract Documents, Drawings, Specifications, and other instructions and shall at once report to District, Construction Manager, and Architect any error, inconsistency, or omission that Contractor or its employees and Subcontractors may discover, in writing, with a copy to District's Project Inspector(s). The Contractor shall have responsibility for discovery of errors, inconsistencies, or omissions.

6.4 Duty to Provide Fit Workers

6.4.1 Contractor and Subcontractor(s) shall at all times enforce strict discipline and good order among their employees and shall not employ or work any unfit person or anyone not skilled in work assigned to that person. It shall be the responsibility of Contractor to ensure compliance with this requirement. District may require Contractor to permanently remove unfit persons from Project Site.

6.4.2 Any person in the employ of Contractor or Subcontractor(s) whom District may deem incompetent or unfit shall be excluded from working on the Project and shall not again be employed on the Project except with the prior written consent of District.

6.4.3 The Contractor shall furnish labor that can work in harmony with all other elements of labor employed or to be employed in the Work.

6.5 Field Office

6.5.1 Contractor shall provide a temporary office on the Site for the District's use exclusively, during the term of the Contract. – NOT APPLICABLE

6.6 Purchase of Materials and Equipment

The Contractor is required to order, obtain, and store materials and equipment sufficiently in advance of its Work at no additional cost or advance payment from District to assure that there will be no delays.

6.7 Documents on Work

6.7.1 Contractor shall at all times keep on the Site, or at another location as the District may authorize in writing, one (1) legible copy of all Contract Documents, including Addenda and Change Orders, and Titles 19 and 24 of the California Code of Regulations, the specified edition(s) of the Uniform Building Code, all approved Drawings, Plans, Schedules, and Specifications, and all codes and documents referred to in the Specifications, and made part thereof. These documents shall be kept in good order and available to District, Construction Manager, Architect, Architect's representatives, the Project Inspector(s), and all authorities having jurisdiction. Contractor shall be acquainted with and comply with the provisions of these titles as they relate to this Project. (See particularly the duties of Contractor, Title 24, Part 1, California Code of Regulations, section 4-343.) Contractor shall also be acquainted with and comply with all California Code of Regulations provisions relating to conditions on this Project, particularly Titles 8 and 17. Contractor shall coordinate with Architect and Construction Manager and shall submit its verified report(s) according to the requirements of Title 24.

6.7.2 Daily Job Reports.

6.7.2.1 Contractor shall maintain, at a minimum, at least one (1) set of Daily Job Reports on the Project. These must be prepared by the Contractor's employee(s) who are present on Site, and must include, at a minimum, the following information:

- 6.7.2.1.1** A brief description of all Work performed on that day.
- 6.7.2.1.2** A summary of all other pertinent events and/or occurrences on that day.
- 6.7.2.1.3** The weather conditions on that day.
- 6.7.2.1.4** A list of all Subcontractor(s) working on that day, including DIR registration numbers.
- 6.7.2.1.5** A list of each Contractor employee working on that day and the total hours worked for each employee.
- 6.7.2.1.6** A complete list of all equipment on Site that day, whether in use or not.
- 6.7.2.1.7** A complete list of all materials, supplies, and equipment delivered on that day.
- 6.7.2.1.8** A complete list of all inspections and tests performed on that day.

6.7.2.2 Each day Contractor shall provide a copy of the previous day's Daily Job Report to the District or the Construction Manager.

6.8 Preservation of Records

Contractor shall maintain, and District shall have the right to inspect, Contractor's financial records for the Project, including, without limitation, Job Cost Reports for the Project in compliance with the criteria set forth herein. The District shall have the right to examine and audit all Daily Job Reports or other Project records of Contractor's project manager(s), project superintendent(s), and/or project foreperson(s), all certified payroll records and/or related documents including, without limitation, Job Cost Reports, payroll, payment, timekeeping and tracking documents; all books, estimates, records, contracts, documents, bid documents, bid cost data, subcontract job cost reports, and other data of the Contractor, any Subcontractor, and/or supplier, including computations and projections related to bidding, negotiating, pricing, or performing the Work or Contract modification, in order to evaluate the accuracy, completeness, and currency of the cost, manpower, coordination, supervision, or pricing data at no additional cost to the District. These documents may be duplicative and/or be in addition to any Bid Documents held in escrow by the District. The Contractor shall make available at its office at all reasonable times the materials described in this paragraph for the examination, audit, or reproduction until three (3) years after final payment under this Contract. Notwithstanding the provisions above, Contractor shall provide any records requested by any governmental agency, if available, after the time set forth above.

6.9 Integration of Work

6.9.1 Contractor shall do all cutting, fitting, patching, and preparation of Work as required to make its several parts come together properly, to fit it to receive or be received by work of other contractors, and to coordinate tolerances to various pieces of work, showing upon, or reasonably implied by, the Drawings and Specifications for the completed structure, and shall conform them as District and/or Architect may direct.

6.9.2 Contractor shall make its own layout of lines and elevations and shall be responsible for the accuracy of both Contractor's and Subcontractors' work resulting therefrom.

6.9.3 Contractor and all Subcontractors shall take all field dimensions required in performance of the Work, and shall verify all dimensions and conditions on the Site. All dimensions affecting proper fabrication and installation of all Work must be verified prior to fabrication by taking field measurements of the true conditions. If there are any discrepancies between dimensions in drawings and existing conditions which will affect the Work, Contractor shall bring such discrepancies to the attention of the District and Architect for adjustment before proceeding with the Work. In doing so, it is recognized that Contractor is not acting in the capacity of a licensed design professional, and that Contractor's examination is made in good faith to facilitate construction and does not create an affirmative responsibility of a design professional to detect errors, omissions or inconsistencies in the Contract Documents or to ascertain compliance with applicable laws, building codes or regulations. However, nothing in this provision shall abrogate Contractor's responsibilities for discovering and reporting any error, inconsistency, or omission pursuant to the Contract within the Contractor's standard of care including, without limitation, any

applicable laws, ordinance, rules, or regulations. Following receipt of written notice from Contractor, the District and/or Architect shall inform Contractor what action, if any, Contractor shall take with regard to such discrepancies.

6.9.4 All costs caused by noncompliant, defective, or delayed Work shall be borne by Contractor, inclusive of repair work. Schedule delays resulting from unauthorized work shall be Contractor's responsibility.

6.9.5 Contractor shall not endanger any work performed by it or anyone else by cutting, excavating, or otherwise altering work and shall not cut or alter work of any other contractor except with consent of District.

6.10 Notifications

6.10.1 Contractor shall notify the Architect and Project Inspector, in writing, of the commencement of construction of each and every aspect of the Work at least 48 hours in advance by submitting form DSA 156 (or the most current version applicable at the time the Work is performed) to the Project Inspector. Forms are available on the DSA's website at: <http://www.dgs.ca.gov/dsa/Forms.aspx>.

6.10.2 Contractor shall notify the Architect and Project Inspector, in writing, of the completion of construction of each and every aspect of the Work at least 48 hours in advance by submitting form DSA 156 (or current version) to the Project Inspector.

6.11 Obtaining of Permits, Licenses and Registrations

6.11.1 Contractor shall secure and pay for all permits (except DSA), licenses, registrations, approvals and certificates necessary for prosecution of Work, including but not limited to those listed in the Special Conditions, if any, before the date of the commencement of the Work or before the permits, licenses, registrations, approvals and certificates are legally required to continue the Work without interruption. The Contractor shall obtain and pay, only when legally required, for all licenses, registrations, approvals, permits, inspections, and inspection certificates required to be obtained from or issued by any authority having jurisdiction over any part of the Work included in the Contract. All final permits, licenses, registrations, approvals and certificates shall be delivered to District before demand is made for final payment.

6.11.2 General Permit For Storm Water Discharges Associated With Construction and Land Disturbance Activities.

6.11.2.1 Contractor acknowledges that all California community college districts are obligated to develop and implement the following requirements for the discharge of storm water to surface waters from its construction and land disturbance activities pursuant to the Clean Water Act and Porter Cologne Water Quality Act. District has determined that the construction of this Project requires enrollment in the Construction Storm Water Permit. District has filed certain submittals referred to as Permit Registration Documents ("PRDS") with the Regional Water Control Board ("Storm Water Pollution Prevention Plan" or "SWPPP").

6.11.2.2 Contractor shall comply with any District SWPPP that is approved by the District and applicable to the Project, at no additional cost to the District. Contractor shall pay any fees and any penalties that may imposed by a regulatory agency for its non-compliance with the SWPPP during the course of Work.

6.11.2.3 Contractor shall provide a Qualified Storm Water Practitioner ("QSP") at no additional cost to the District, who shall be onsite and implement and monitor any and all SWPPP requirements applicable to the Project, including but not limited to:

6.11.2.3.1 All required visual observations, sampling, analysis, reporting and record keeping, including any Numeric Action Levels ("NALs"), if applicable;

6.11.2.3.2 Rain Event Action Plan ("REAP") at least forty eight (48) hours prior to any forecasted rain event requiring implementation of the REAP, including any erosion and sediment control measures needed to protect all exposed portions of the site, if applicable;

6.11.2.3.3 Active Treatment System ("ATS"), if applicable; and

6.11.2.3.4 Best management practices ("BMPs").

6.12 Royalties and Patents

6.12.1 Contractor shall obtain and pay, only when legally required, all royalties and license fees necessary for prosecution of Work before the earlier of the date of the commencement of the Work or the date that the license is legally required to continue the Work without interruption. Contractor shall defend suits or claims of infringement of patent, copyright, or other rights and shall hold the District, the Architect, and the Construction Manager harmless and indemnify them from loss on account thereof except when a particular design, process, or make or model of product is required by the Contract Documents. However, if the Contractor has reason to believe that the required design, process, or product is an infringement of a patent or copyright, the Contractor shall indemnify and defend the District, Architect and Construction Manager against any loss or damage unless the Contractor promptly informs the District of its information.

6.12.2 The review by the District or Architect of any method of construction, invention, appliance, process, article, device, or material of any kind shall be only its adequacy for the Work and shall not approve use by the Contractor in violation of any patent or other rights of any person or entity.

6.13 Work to Comply With Applicable Laws and Regulations

6.13.1 Contractor shall give all notices and comply with the following specific laws, ordinances, rules, and regulations and all other applicable laws, ordinances, rules, and regulations bearing on conduct of Work as indicated and specified, including but not limited to the appropriate statutes and administrative code sections. If Contractor observes that Drawings and Specifications are at variance therewith, or should Contractor become aware of the development of conditions not

covered by Contract Documents that may result in finished Work being at variance therewith, Contractor shall promptly notify District in writing and any changes deemed necessary by District shall be made as provided in Contract for changes in Work.

6.13.1.1 National Electrical Safety Code, U. S. Department of Commerce

6.13.1.2 National Board of Fire Underwriters' Regulations

6.13.1.3 International Building Code, latest addition, and the California Code of Regulations, title 24, and other amendments

6.13.1.4 Manual of Accident Prevention in Construction, latest edition, published by A.G.C. of America

6.13.1.5 Industrial Accident Commission's Safety Orders, State of California

6.13.1.6 Regulations of the State Fire Marshall (title 19, California Code of Regulations) and Pertinent Local Fire Safety Codes

6.13.1.7 Americans with Disabilities Act

6.13.1.8 Education Code of the State of California

6.13.1.9 Government Code of the State of California

6.13.1.10 Labor Code of the State of California, division 2, part 7, Public Works and Public Agencies

6.13.1.11 Public Contract Code of the State of California

6.13.1.12 California Art Preservation Act

6.13.1.13 U. S. Copyright Act

6.13.1.14 U. S. Visual Artists Rights Act

6.13.2 Contractor shall comply with all applicable mitigation measures, if any, adopted by any public agency with respect to this Project pursuant to the California Environmental Quality Act (Public Resources Code section 21000 et seq.).

6.13.3 If Contractor performs any Work that it knew, or through exercise of reasonable care should have known, to be contrary to any applicable laws, ordinance, rules, or regulations, Contractor shall bear all costs arising therefrom and arising from the correction of said Work.

6.13.4 Where Specifications or Drawings state that materials, processes, or procedures must be approved by the DSA, State Fire Marshall, or other body or agency, Contractor shall be responsible for satisfying requirements of such bodies or agencies applicable at the time the Work is performed, and as determined by those bodies or agencies.

6.14 Safety/Protection of Persons and Property

6.14.1 The Contractor will be solely and completely responsible for conditions of the Site, including safety of all persons and property during performance of the Work. This requirement will apply continuously and not be limited to normal working hours.

6.14.2 The wearing of hard hats will be mandatory at all times for all personnel on Site. Contractor shall supply sufficient hard hats to properly equip all employees and visitors.

6.14.3 Any construction review of the Contractor's performance is not intended to include review of the adequacy of the Contractor's safety measures in, on, or near the Site.

6.14.4 Implementation and maintenance of safety programs shall be the sole responsibility of the Contractor.

6.14.5 The Contractor shall furnish to the District a copy of the Contractor's safety plan within the time frame indicated in the Contract Documents and specifically adapted for the Project.

6.14.6 Contractor shall be responsible for all damages to persons or property that occur as a result of its fault or negligence in connection with the prosecution of this Contract and shall take all necessary measures and be responsible for the proper care and completion and final acceptance by District. All Work shall be solely at Contractor's risk with the exception of damage to the Work caused by "acts of God" as defined in Public Contract Code section 7105.

6.14.7 Contractor shall take, and require Subcontractors to take, all necessary precautions for safety of workers on the Project and shall comply with all applicable federal, state, local, and other safety laws, standards, orders, rules, regulations, and building codes to prevent accidents or injury to persons on, about, or adjacent to premises where Work is being performed and to provide a safe and healthful place of employment. Contractor shall furnish, erect, and properly maintain at all times, all necessary safety devices, safeguards, construction canopies, signs, nets, barriers, lights, and watchmen for protection of workers and the public and shall post danger signs warning against hazards created by such features in the course of construction.

6.14.8 Hazards Control – Contractor shall store volatile wastes in covered metal containers and remove them from the Site daily. Contractor shall prevent accumulation of wastes that create hazardous conditions. Contractor shall provide adequate ventilation during use of volatile or noxious substances.

6.14.9 Contractor shall designate a responsible member of its organization on the Project, whose duty shall be to post information regarding protection and obligations of workers and other notices required under occupational safety and health laws, to comply with reporting and other occupational safety requirements, and to protect the life, safety, and health of workers. Name and position of person so designated shall be reported to District by Contractor.

6.14.10 Contractor shall correct any violations of safety laws, rules, orders, standards, or regulations. Upon the issuance of a citation or notice of violation by the Division of Occupational Safety and Health, Contractor shall correct such violation promptly.

6.14.11 Contractor shall comply with any District storm water requirements that are approved by the District and applicable to the Project, at no additional cost to the District.

6.14.12 In an emergency affecting safety of life or of work or of adjoining property, Contractor, without special instruction or authorization, shall act, at its discretion, to prevent such threatened loss or injury. Any compensation claimed by Contractor on account of emergency work shall be determined by agreement.

6.14.13 All salvage materials will become the property of the Contractor and shall be removed from the Site unless otherwise called for in the Contract Documents. However, the District reserves the right to designate certain items of value that shall be turned over to the District unless otherwise directed by District.

6.14.14 All connections to public utilities and/or existing on-site services, including, without limitation, internet, phone and data connections, shall be made and maintained in such a manner as to not interfere with the continuing use of same by the District during the entire progress of the Work.

6.14.15 Contractor shall provide such heat, covering, and enclosures as are necessary to protect all Work, materials, equipment, appliances, and tools against damage by weather conditions, such as extreme heat, cold, rain, snow, dry winds, flooding, or dampness.

6.14.16 The Contractor shall protect and preserve the Work from all damage or accident, providing any temporary roofs, window and door coverings, boxings, or other construction as required by the Architect. The Contractor shall be responsible for existing structures, walks, roads, trees, landscaping, and/or improvements in working areas; and shall provide adequate protection therefore. If temporary removal is necessary of any of the above items, or damage occurs due to the Work, the Contractor shall replace same at its expense with same kind, quality, and size of Work or item damaged. This shall include any adjoining property of the District and others.

6.14.17 Contractor shall take adequate precautions to protect existing roads, sidewalks, curbs, pavements, utilities, adjoining property, and structures (including, without limitation, protection from settlement or loss of lateral support), and to avoid damage thereto, and repair any damage thereto caused by construction operations.

6.14.18 Contractor shall confine apparatus, the storage of materials, and the operations of workers to limits indicated by law, ordinances, permits, or directions of Architect, and shall not interfere with the Work or unreasonably encumber Premises or overload any structure with materials. Contractor shall enforce all instructions of District and Architect regarding signs, advertising, fires, and smoking, and require that all workers comply with all regulations while on Project Site.

6.14.19 Contractor, Contractor's employees, Subcontractors, Subcontractors' employees, or any person associated with the Work shall conduct themselves in a manner appropriate for a school site. No verbal or physical contact with neighbors, students, and faculty, profanity, or inappropriate attire and/or logos, or behavior will be permitted. District may require Contractor to temporarily or permanently remove non-complying persons from Project Site.

6.14.20 Contractor shall take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed, Contractor shall have a civil engineer, registered as a professional engineer in California, replace them at no cost to District.

6.14.21 In the event that the Contractor enters into any agreement with owners of any adjacent property to enter upon the adjacent property for the purpose of performing the Work, Contractor shall fully indemnify, defend, and hold harmless each person, entity, firm, or agency that owns or has any interest in adjacent property. The form and content of the agreement of indemnification shall be approved by the District prior to the commencement of any Work on or about the adjacent property. The Contractor shall also indemnify the District as provided in the indemnification provision herein. These provisions shall be in addition to any other requirements of the owners of the adjacent property.

6.15 Working Evenings and Weekends

Contractor may be required to work increased hours, evenings, and/or weekends at no additional cost to the District. Contractor shall give the District seventy-two (72) hours' notice prior to performing any evening and/or weekend work. Contractor shall perform all evening and/or weekend work only upon District's approval and in compliance with all applicable rules, regulations, laws, and local ordinances including, without limitation, all noise and light limitations. Contractor shall reimburse the District for any increased or additional Inspector charges as a result of Contractor's increased hours, or evening and/or weekend work.

6.16 Cleaning Up

6.16.1 The Contractor shall provide all services, labor, materials, and equipment necessary for protecting and securing the Work, all school occupants, furnishings, equipment, and building structure from damage until its completion and final acceptance by District. Dust barriers shall be provided to isolate dust and dirt from construction operations. At completion of the Work and portions thereof, Contractor shall clean to the original state any areas beyond the Work area that become dust laden as a result of the Work. The Contractor must erect the necessary warning signs and barricades to ensure the safety of all school occupants. The Contractor at all times must maintain good housekeeping practices to reduce the risk of fire damage and must make a fire extinguisher, fire blanket, and/or fire watch, as applicable, available at each location where cutting, braising, soldering, and/or welding is being performed or where there is an increased risk of fire.

6.16.2 Contractor at all times shall keep Premises, including property immediately adjacent thereto, free from debris such as waste, rubbish (including personal rubbish of workers, e.g., food wrappers, etc.), and excess materials and equipment caused by the Work. Contractor shall not leave debris under, in, or about

the Premises (or surrounding property or neighborhood), but shall promptly remove same from the Premises on a daily basis. If Contractor fails to clean up, District may do so and the cost thereof shall be charged to Contractor. If Contract is for work on an existing facility, Contractor shall also perform specific clean-up on or about the Premises upon request by the District as it deems necessary for continued operations. Contractor shall comply with all related provisions of the Specifications.

6.16.3 If the Construction Manager, Architect, or District observes the accumulation of trash and debris, the District will give the Contractor a 24-hour written notice to mitigate the condition.

6.16.4 Should the Contractor fail to perform the required clean-up, or should the clean-up be deemed unsatisfactory by the District, the District may, at its sole discretion, then perform the clean-up. All cost associated with the clean-up work (including all travel, payroll burden, and costs for supervision) will be deducted from the Contract Price.

6.17 No Relief from Obligations Based on Review by Other Persons

6.17.1 Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents by act or omission of the District, Architect, Construction Manager, Project Inspector, or DSA or other entities having jurisdiction including, but not limited to, administration of the Contract, review of submittals, or by tests, observation, inspection, or permit/interconnection approvals.

7. SUBCONTRACTORS

7.1 Contractor shall provide the District with information for all Subcontracts as indicated in the Contractor's Submittals and Schedules Section herein.

7.2 No contractual relationship exists between the District and any Subcontractor, supplier, or sub-subcontractor by reason of this Contract.

7.3 Contractor agrees to bind every Subcontractor by terms of this Contract as far as those terms that are applicable to Subcontractor's work including, without limitation, all labor, wage & hour, apprentice and related provisions and requirements. If Contractor shall subcontract any part of this Contract, Contractor shall be as fully responsible to District for acts and omissions of any Subcontractor and of persons either directly or indirectly employed by any Subcontractor, including Subcontractor caused Project delays, as it is for acts and omissions of persons directly employed by Contractor. The divisions or sections of the Specifications and/or the arrangement of the drawings are not intended to control the Contractor in dividing the Work among Subcontractors or limit the work performed by any trade.

7.4 District's consent to, or approval of, or failure to object to, any Subcontractor under this Contract shall not in any way relieve Contractor of any obligations under this Contract and no such consent shall be deemed to waive any provisions of this Contract.

7.5 Contractor is directed to familiarize itself with sections 4100 through 4114 of the Public Contract Code of the State of California, as regards subletting and subcontracting, and to comply with all applicable requirements therein. In addition, Contractor is directed to familiarize itself with sections 1720 through 1861 of the Labor

Code of the State of California, as regards the payment of prevailing wages and related issues, and to comply with all applicable requirements therein including, without limitation, section 1775 and the Contractor's and Subcontractors' obligations and liability for violations of prevailing wage law and other applicable laws.

7.6 No Contractor whose Bid is accepted shall, without consent of the awarding authority and in full compliance with section 4100 et seq. of the Public Contract Code, including, without limitation, sections 4107, 4107.5, and 4109 of the Public Contract Code, and section 1771.1 of the Labor Code, either:

7.6.1 Substitute any person as a Subcontractor in place of the Subcontractor designated in the original Bid; or

7.6.2 Permit any Subcontract to be assigned or transferred, or allow any portion of the Work to be performed by anyone other than the original Subcontractor listed in the Bid; or

7.6.3 Sublet or subcontract any portion of the Work in excess of one-half of one percent (0.5%) of the Contractor's total bid as to which its original bid did not designate a Subcontractor.

7.7 The Contractor shall be responsible for the coordination of the trades, Subcontractors, sub-subcontractors, and material or equipment suppliers working on the Project.

7.7.1 Contractor is responsible for ensuring that all Subcontractors are properly registered as public works contractors by the Department of Industrial Relations.

7.8 Contractor is solely responsible for settling any differences between the Contractor and its Subcontractor(s) or between Subcontractors.

7.9 Contractor must include in all of its subcontracts the assignment provisions as indicated in the Termination section of these General Conditions.

8. OTHER CONTRACTS/CONTRACTORS

8.1 District reserves the right to let other contracts, and/or to perform work with its own forces, in connection with the Project. Contractor shall afford other contractors reasonable opportunity for introduction and storage of their materials and execution of their work and shall properly coordinate and connect Contractor's Work with the work of other contractors.

8.2 In addition to Contractor's obligation to protect its own Work, Contractor shall protect the work of any other contractor that Contractor encounters while working on the Project.

8.3 If any part of Contractor's Work depends for proper execution or results upon work of District or any other contractor, the Contractor shall inspect and, before proceeding with its Work, promptly report to the District in writing any defects in District's or any other contractor's work that render Contractor's Work unsuitable for proper execution and results. Contractor shall be held accountable for damages to District for District's or any other contractor's work that Contractor failed to inspect or

should have inspected. Contractor's failure to inspect and report shall constitute Contractor's acceptance of all District's or any other contractor's work as fit and proper for reception of Contractor's Work, except as to defects that may develop in District's or any other contractor's work after execution of Contractor's Work and not caused by execution of Contractor's Work.

8.4 To ensure proper execution of its subsequent work, Contractor shall measure and inspect work already in place and shall at once report to the District in writing any discrepancy between that executed work and the Contract Documents.

8.5 Contractor shall ascertain to its own satisfaction the scope of the Project and nature of District's or any other contracts that have been or may be awarded by District in prosecution of the Project to the end that Contractor may perform this Contract in light of the other contracts, if any.

8.6 Nothing herein contained shall be interpreted as granting to Contractor exclusive occupancy of the Site, the Premises, or of the Project. Contractor shall not cause any unnecessary hindrance or delay to the use and/or operation(s) of the Premises and/or to District or any other contractor working on the Project. If simultaneous execution of any contract or Premises operation is likely to cause interference with performance of Contractor's Contract, Contractor shall coordinate with those contractor(s), person(s), and/or entity(s) and shall notify the District of the resolution.

9. DRAWINGS AND SPECIFICATIONS

9.1 A complete list of all Drawings that form a part of the Contract is to be found as an index on the Drawings themselves, and/or may be provided to the Contractor and/or in the Table of Contents.

9.2 Materials or Work described in words that so applied have a well-known technical or trade meaning shall be deemed to refer to recognized standards, unless noted otherwise.

9.3 Trade Name or Trade Term. It is not the intention of this Contract to go into detailed descriptions of any materials and/or methods commonly known to the trade under "trade name" or "trade term." The mere mention or notation of "trade name" or "trade term" shall be considered a sufficient notice to Contractor that it will be required to complete the work so named, complete, finished, and operable, with all its appurtenances, according to the best practices of the trade.

9.4 The naming of any material and/or equipment shall mean furnishing and installing of same, including all incidental and accessory items thereto and/or labor therefor, as per best practices of the trade(s) involved, unless specifically noted otherwise.

9.5 Contract Documents are complementary, and what is called for by one shall be binding as if called for by all. As such, Drawings and Specifications are intended to be fully cooperative and to agree. However, if Contractor observes that Drawings and Specifications are in conflict with the Contract Documents, Contractor shall promptly notify District and Architect in writing, and any necessary changes shall be made as provided in the Contract Documents.

9.6 In the case of discrepancy or ambiguity in the Contract Documents, the order of precedence in the Agreement shall prevail. However, in the case of discrepancy or ambiguity solely between and among the Drawings and Specifications, the discrepancy or ambiguity shall be resolved in favor of the interpretation that will provide District with the functionally complete and operable Project described in the Drawings and Specifications. In case of ambiguity, conflict, or lack of information, District will furnish clarifications with reasonable promptness.

9.7 Drawings and Specifications are intended to comply with all laws, ordinances, rules, and regulations of constituted authorities having jurisdiction, and where referred to in the Contract Documents, the laws, ordinances, rules, and regulations shall be considered as a part of the Contract within the limits specified. Contractor shall bear all expense of correcting work done contrary to said laws, ordinances, rules, and regulations.

9.9 As required by Section 4-317(c), Part 1, Title 24, CCR: "Should any existing conditions such as deterioration or non-complying construction be discovered which is not covered by the DSA-approved documents wherein the finished work will not comply with Title 24, California Code of Regulations, a construction change document, or a separate set of plans and specifications, detailing and specifying the required repair work shall be submitted to and approved by DSA before proceeding with the repair work."

9.9 Ownership of Drawings

All copies of Plans, Drawings, Designs, Specifications, and copies of other incidental architectural and engineering work, or copies of other Contract Documents furnished by District, are the property of District. They are not to be used by Contractor in other work and, with the exception of signed sets of Contract Documents, are to be returned to District on request at completion of Work, or may be used by District as it may require without any additional costs to District. Neither the Contractor nor any Subcontractor, or material or equipment supplier shall own or claim a copyright in the Drawings, Specifications, and other documents prepared by the Architect. District hereby grants the Contractor, Subcontractors, sub-subcontractors, and material or equipment suppliers a limited license to use applicable portions of the Drawings prepared for the Project in the execution of their Work under the Contract Documents.

10. CONTRACTOR'S SUBMITTALS AND SCHEDULES

Contractor's submittals shall comply with the provisions and requirements of the Specifications including, without limitation Submittals.

10.1 Schedule of Work, Schedule of Submittals, and Schedule of Values

10.1.1 Within **TEN (10)** calendar days after the date of the Notice to Proceed (unless otherwise specified in the Specifications), the Contractor shall prepare and

submit to the District for review, in a form supported by sufficient data to substantiate its accuracy as the District may require:

10.1.1.1 Preliminary Schedule. A preliminary schedule of construction indicating the starting and completion dates of the various stages of the Work, including any information and following any form as may be specified in the Specifications. Once approved by District, this shall become the Construction Schedule. This schedule shall include and identify all tasks that are on the Project's critical path with a specific determination of the start and completion of each critical path task as well as all Contract milestones and each milestone's completion date(s) as may be required by the District.

10.1.1.1.1 The District is not required to approve a preliminary schedule of construction with early completion, i.e., one that shows early completion dates for the Work and/or milestones. Contractor shall not be entitled to extra compensation if the District approves a Construction Schedule with an early completion date and Contractor completes the Project beyond the date shown in the schedule but within the Contract Time. A Construction Schedule showing the Work completed in less than the Contract Time, the time between the early completion date and the end of the Contract Time shall be Float

10.1.1.2 Preliminary Schedule of Values. A preliminary schedule of values for all of the Work, which must include quantities and prices of items aggregating the Contract Price and must subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Unless the Special Conditions contain different limits, this preliminary schedule of values shall include, at a minimum, the following information and the following structure:

10.1.1.2.1 Divided into at least the following categories:

- 10.1.1.2.1.1** Overhead and profit;
- 10.1.1.2.1.2** Supervision;
- 10.1.1.2.1.3** General conditions;
- 10.1.1.2.1.4** Layout;
- 10.1.1.2.1.5** Mobilization;
- 10.1.1.2.1.6** Submittals;
- 10.1.1.2.1.7** Bonds and insurance;
- 10.1.1.2.1.8** Close-out/Certification documentation;
- 10.1.1.2.1.9** Demolition;
- 10.1.1.2.1.10** Installation;
- 10.1.1.2.1.11** Rough-in;
- 10.1.1.2.1.12** Finishes;
- 10.1.1.2.1.13** Testing;
- 10.1.1.2.1.14** Punchlist and District acceptance.

10.1.1.2.2 And also divided by each of the following areas:

- 10.1.1.2.2.1** Site work;
- 10.1.1.2.2.2** By each building;
- 10.1.1.2.2.3** By each floor.

10.1.1.2.3 The preliminary schedule of values shall not provide for values any greater than the following percentages of the Contract value:

- 10.1.1.2.3.1** Mobilization and layout combined to equal not more than 1%;
- 10.1.1.2.3.2** Submittals, samples and shop drawings combined to equal not more than 3%;
- 10.1.1.2.3.3** Bonds and insurance combined to equal not more than 2%.
- 10.1.1.2.3.4** Closeout documentation shall have a value in the preliminary schedule of not less than 5%.

10.1.1.2.4 Notwithstanding any provision of the Contract Documents to the contrary, payment of the Contractor's overhead, supervision, general conditions costs, and profit, as reflected in the Cost Breakdown, shall be paid based on percentage complete, with the disbursement of Progress Payments and the Final Payment.

10.1.1.2.5 Contractor shall certify that the preliminary schedule of values as submitted to the District is accurate and reflects the costs as developed in preparing Contractor's bid. For example, without limiting the foregoing, Contractor shall not "front-load" the preliminary schedule of values with dollar amounts greater than the value of activities performed early in the Project.

10.1.1.2.6 The preliminary schedule of values shall be subject to the District's review and approval of the form and content thereof. In the event that the District objects to any portion of the preliminary schedule of values, the District shall notify the Contractor, in writing, of the District's objection(s) to the preliminary schedule of values. Within five (5) calendar days of the date of the District's written objection(s), Contractor shall submit a revised preliminary schedule of values to the District for review and approval. The foregoing procedure for the preparation, review and approval of the preliminary schedule of values shall continue until the District has approved the entirety of the preliminary schedule of values.

10.1.1.2.7 Once the preliminary schedule of values is approved by the District, this shall become the Schedule of Values. The Schedule of Values shall not be thereafter modified or amended by the Contractor without the prior consent and approval of the District, which may be granted or withheld in the sole discretion of the District.

10.1.1.3 Preliminary Schedule of Submittals. A preliminary schedule of submittals, including Shop Drawings, Product Data, and Samples submittals. Once approved by District, this shall become the Submittal Schedule. All submittals shall be forwarded to the District by the date indicated on the approved Submittal Schedule, unless an earlier date is necessary to maintain the Construction Schedule, in which case those submittals shall be forwarded to the District so as not to delay the Construction Schedule. Upon request by the District, Contractor shall provide an electronic copy of all submittals to the District. All submittals shall be submitted no later than 90 days after the Notice to Proceed.

10.1.1.4 Safety Plan. Contractor's Safety Plan specifically adapted for the Project. Contractor's Safety Plan shall comply with the following requirements:

10.1.1.4.1 All applicable requirements of California Division of Occupational Safety and Health ("CalOSHA") and/or of the United States Occupational Safety and Health Administration ("OSHA").

10.1.1.4.2 All provisions regarding Project safety, including all applicable provisions in these General Conditions.

10.1.1.4.3 Contractor's Safety Plan shall be in English and in the language(s) of the Contractor's and its Subcontractors' employees.

10.1.1.5 Complete Registered Subcontractors List. The name, address, telephone number, facsimile number, California State Contractors License number, classification, DIR registration number and monetary value of all Subcontracts of any tier for parties furnishing labor, material, or equipment for completion of the Project.

10.1.2 Contractor must provide all schedules both in hard copy and electronically, in a format (e.g., Microsoft Project or Primavera) approved in advance by the District.

10.1.3 The District will review the schedules submitted and the Contractor shall make changes and corrections in the schedules as requested by the District and resubmit the schedules until approved by the District.

10.1.4 The District shall have the right at any time to revise the schedule of values if, in the District's sole opinion, the schedule of values does not accurately reflect the value of the Work performed.

10.1.5 All schedules must be approved by the District before Contractor can rely on them as a basis for payment.

10.2 Monthly Progress Schedule(s)

10.2.1 Contractor shall provide Monthly Progress Schedule(s) to the District. A Monthly Progress Schedule shall update the approved Construction Schedule or the last Monthly Progress Schedule, showing all work completed and to be completed as well as updating the Registered Subcontractors List. The monthly Progress Schedule shall be sent within the timeframe requested by the District and shall be in a format acceptable to the District and contain a written narrative of the progress of work that month and any changes, delays, or events that may affect the work. The process for District approval of the Monthly Progress Schedule shall be the same as the process for approval of the Construction Schedule.

10.2.2 Contractor shall submit Monthly Progress Schedule(s) with all payment applications.

10.2.3 Contractor must provide all schedules both in hard copy and electronically, in a format (e.g., Microsoft Project or Primavera) approved in advance by the District.

10.2.4 The District will review the schedules submitted and the Contractor shall make changes and corrections in the schedules as requested by the District and resubmit the schedules until approved by the District.

10.2.5 The District shall have the right at any time to revise the schedule of values if, in the District's sole opinion, the schedule of values does not accurately reflect the value of the Work performed.

10.2.6 All schedules must be approved by the District before Contractor can rely on them as a basis for payment.

10.3 Material Safety Data Sheets (MSDS)

Contractor is required to ensure Material Safety Data Sheets are available in a readily accessible place at the Site for any material requiring a Material Safety Data Sheet per the federal "Hazard Communication" standard, or employees' "right to know" law. The Contractor is also required to ensure proper labeling on substances brought onto the job site and that any person working with the material or within the general area of the material is informed of the hazards of the substance and follows proper handling and protection procedures. Two additional copies of the Material Safety Data Sheets shall also be submitted directly to the District.

10.4 Submittals

Architect's favorable review shall neither be construed as a complete check nor relieve the Contractor, Subcontractor, manufacturer, fabricator, or supplier from responsibility for any deficiency that may exist or from any departures or deviations from the requirements of the Contract Documents unless the Contractor has, in writing, called Architect's attention to the deviations at the time of submission and the Architect has given specific written response. "Favorable review" shall mean merely that Architect has no objection to Contractor using, upon Contractor's own full responsibility, plan or method of Work proposed, or furnishing materials or equipment proposed.

11. SITE ACCESS, CONDITIONS, AND REQUIREMENTS

11.1 Site Investigation

Before bidding on this Work, Contractor shall make a careful investigation of the Site and thoroughly familiarize itself with the requirements of the Contract. By the act of submitting a bid for the Work included in this Contract, Contractor shall be deemed to have made a complete study and investigation, and to be familiar with and accepted the existing conditions of the Site.

Prior to commencing the Work, Contractor and the District's representative shall survey the Site to document the condition of the Site. Contractor will record the survey in digital videotape format and provide an electronic copy to the District within fourteen (14) days of the survey. This electronic record shall serve as a basis for determining any damages caused by the Contractor during the Project. The Contractor may also document any pre-existing conditions in writing, provided that both the Contractor and the District's representative agree on said conditions and sign a memorandum documenting the same.

11.2 Soils Investigation Report

11.2.1 When a soils investigation report obtained from test holes at Site or for the Project is available, that report may be available to the Contractor but shall not be a part of this Contract and shall not alleviate or excuse the Contractor's obligation to perform its own investigation. Any information obtained from that report or any information given on Drawings as to subsurface soil condition or to elevations of existing grades or elevations of underlying rock is approximate only, is not guaranteed, does not form a part of this Contract, and Contractor may not rely thereon. By submitting its bid, Contractor acknowledges that it has made visual examination of Site and has made whatever tests Contractor deems appropriate to determine underground condition of soil. Although any such report is not a part of this Contract, recommendations from the report may be included in the Drawings, Specifications, or other Contract Documents. It is Contractor's sole responsibility to thoroughly review all Contract Documents, Drawings, and Specifications.

11.2.2 Contractor agrees that no claim against District will be made by Contractor for damages and hereby waives any rights to damages if, during progress of Work, Contractor encounters subsurface or latent conditions at Site materially differing from those shown on Drawings or indicated in Specifications, or for unknown conditions of an unusual nature that differ materially from those ordinarily encountered in the work of the character provided for in Plans and Specifications, except as indicated in the provisions of these General Conditions regarding trenches, trenching, and/or existing utility lines.

11.3 Access to Work

District and its representatives shall at all times have access to Work wherever it is in preparation or progress, including storage and fabrication. Contractor shall provide safe and proper facilities for such access so that District's representatives may perform their functions.

11.4 Layout and Field Engineering

11.4.1 All field engineering required for layout of this Work and establishing grades for earthwork operations shall be furnished by Contractor at its expense. This Work shall be done by a qualified, California-registered civil engineer approved in writing by District and Architect. Any required Record and/or As-Builts of Site development shall be prepared by the approved civil engineer.

11.4.2 The Contractor shall be responsible for having ascertained pertinent local conditions such as location, accessibility, and general character of the Site and for having satisfied itself as to the conditions under which the Work is to be performed. Contractor shall follow best practices, including but not limited to potholing to avoid utilities. District shall not be liable for any claim for allowances because of Contractor's error, failure to follow best practices, or negligence in acquainting itself with the conditions at the Site.

11.4.3 Contractor shall protect and preserve established benchmarks and monuments and shall make no changes in locations without the prior written approval of District. Contractor shall replace any benchmarks or monuments that

are lost or destroyed subsequent to proper notification of District and with District's approval.

11.5 Utilities

Utilities shall be provided as indicated in the Specifications.

11.6 Sanitary Facilities

Sanitary facilities shall be provided as indicated in the Specifications.

11.7 Surveys

Contractor shall provide surveys done by a California-licensed civil engineer surveyor to determine locations of construction, grading, and site work as required to perform the Work.

11.8 Regional Notification Center

The Contractor, except in an emergency, shall contact the appropriate regional notification center at least two (2) days prior to commencing any excavation if the excavation will be conducted in an area or in a private easement that is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the District, and obtain an inquiry identification number from that notification center. No excavation shall be commenced and/or carried out by the Contractor unless an inquiry identification number has been assigned to the Contractor or any Subcontractor and the Contractor has given the District the identification number. Any damages arising from Contractor's failure to make appropriate notification shall be at the sole risk and expense of the Contractor. Any delays caused by failure to make appropriate notification shall be at the sole risk of the Contractor and shall not be considered for an extension of the Contract Time.

11.9 Existing Utility Lines

11.9.1 Pursuant to Government Code section 4215, District assumes the responsibility for removal, relocation, and protection of main or trunk utility lines and facilities located on the construction Site at the time of commencement of construction under this Contract with respect to any such utility facilities that are not identified in the Plans and Specifications. Contractor shall not be assessed for liquidated damages for delay in completion of the Project caused by failure of District or the owner of a utility to provide for removal or relocation of such utility facilities.

11.9.2 Locations of existing utilities provided by District shall not be considered exact, but approximate within a reasonable margin and shall not relieve Contractor of responsibilities to exercise reasonable care or costs of repair due to Contractor's failure to do so. District shall compensate Contractor for the costs of locating and repairing damage not due to the failure of Contractor to exercise reasonable care, and removing or relocating such utility facilities not indicated in the Plans and Specifications with reasonable accuracy, and for equipment necessarily idle during such work.

11.9.3 No provision herein shall be construed to preclude assessment against Contractor for any other delays in completion of the Work. Nothing in this Article shall be deemed to require District to indicate the presence of existing service laterals, appurtenances, or other utility lines, within the exception of main or trunk utility lines or whenever the presence of these utilities on the Site of the construction Project can be inferred from the presence of other visible facilities, such as buildings, meter junction boxes, on or adjacent to the Site of the construction.

11.9.4 If Contractor, while performing Work under this Contract, discovers utility facilities not identified by District in Contract Plans and Specifications, Contractor shall immediately notify the District and the utility in writing. The cost of repair for damage to above-mentioned visible facilities without prior written notification to the District shall be borne by the Contractor.

11.10 Notification

Contractor understands, acknowledges and agrees that the purpose of prompt notification to the District pursuant to these provisions is to allow the District to investigate the condition(s) so that the District shall have the opportunity to decide how the District desires to proceed as a result of the condition(s). Accordingly, failure of Contractor to promptly notify the District in writing, pursuant to these provisions, shall constitute Contractor's waiver of any claim for damages or delay incurred as a result of the condition(s).

11.11 Hazardous Materials

Contractor shall comply with all provisions and requirements of the Contract Documents related to hazardous materials including, without limitation, Hazardous Materials Procedures and Requirements.

11.12 No Signs

Neither the Contractor nor any other person or entity shall display any signs not required by law or the Contract Documents at the Site, fences trailers, offices, or elsewhere on the Site without specific prior written approval of the District.

12. TRENCHES

12.1 Trenches Greater Than Five Feet

Pursuant to Labor Code section 6705, if the Contract Price exceeds \$25,000 and involves the excavation of any trench or trenches five (5) feet or more in depth, the Contractor shall, in advance of excavation, promptly submit to the District and/or a registered civil or structural engineer employed by the District or Architect, a detailed plan, stamped by a licensed engineer retained by the Contractor, showing the design of shoring for protection from the hazard of caving ground during the excavation of such trench or trenches.

12.2 Excavation Safety

If such plan varies from the Shoring System Standards established by the Construction Safety Orders, the plan shall be prepared by a registered civil or structural engineer, but

in no case shall such plan be less effective than that required by the Construction Safety Orders. No excavation of such trench or trenches shall be commenced until said plan has been accepted by the District or by the person to whom authority to accept has been delegated by the District.

12.3 No Tort Liability of District

Pursuant to Labor Code section 6705, nothing in this Article shall impose tort liability upon the District or any of its employees.

12.4 No Excavation without Permits

The Contractor shall not commence any excavation Work until it has secured all necessary permits including the required CalOSHA excavation/shoring permit. Any permits shall be prominently displayed on the Site prior to the commencement of any excavation.

12.5 Discovery of Hazardous Waste and/or Unusual Conditions

12.5.1 Pursuant to Public Contract Code section 7104, if the Work involves digging trenches or other excavations that extend deeper than four feet below the Surface, the Contractor shall promptly, and before the following conditions are disturbed, notify the District, in writing, of any:

12.5.1.1 Material that the Contractor believes may be material that is hazardous waste, as defined in section 25117 of the Health and Safety Code, is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

12.5.1.2 Subsurface or latent physical conditions at the Site differing from those indicated.

12.5.1.3 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 in the Contract.

12.5.2 The District shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work, shall issue a Change Order under the procedures described herein.

12.5.3 In the event that a dispute arises between District and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. The Contractor shall retain any and all rights provided either by Contract or by law that pertain to the resolution of disputes and protests.

13. INSURANCE AND BONDS

13.1 Insurance

Unless different provisions and/or limits are indicated in the Special Conditions, all insurance required of Contractor and/or its Subcontractor(s) shall be at least as broad as the amounts and include the provisions set forth herein.

13.1.1 Commercial General Liability and Automobile Liability Insurance

13.1.1.1 Contractor shall procure and maintain, during the life of this Contract, Commercial General Liability Insurance and Automobile Liability Insurance that shall protect Contractor, District, State, Construction Manager(s), Project Inspector(s), and Architect(s) from all claims for bodily injury, property damage, personal injury, death, advertising injury, and medical payments arising from, or in connection with, operations under this Contract. This coverage shall be provided in a form at least as broad as Insurance Services (ISO) Form CG 0001 11188. Contractor shall ensure that Products Liability and Completed Operations coverage, Fire Damage Liability coverage, and Automobile Liability Insurance coverage including owned, non-owned, and hired automobiles, are included within the above policies and at the required limits, or Contractor shall procure and maintain these coverages separately.

13.1.1.2 Contractor's deductible or self-insured retention for its Commercial General Liability Insurance policy shall not exceed \$25,000 unless approved in writing by District.

13.1.1.3 All such policies shall be written on an occurrence form.

13.1.2 Excess Liability Insurance

13.1.2.1 If Contractor's underlying policy limits are less than required, subject to the District's sole discretion, Contractor may procure and maintain, during the life of this Contract, an Excess Liability Insurance Policy to meet the policy limit requirements of the required policies in order to satisfy, in the aggregate with its underlying policy, the insurance requirements herein.

13.1.2.2 There shall be no gap between the per occurrence amount of any underlying policy and the start of the coverage under the Excess Liability Insurance Policy. Any Excess Liability Insurance Policy shall be written on a following form and shall protect Contractor, District, State, Construction Manager(s), Project Manager(s), and Architect(s) in amounts and including the provisions as set forth in the Supplementary Conditions (if any) and/or Special Conditions, and that complies with all requirements for Commercial General Liability and Automobile Liability and Employers' Liability Insurance.

13.1.2.3 The District, in its sole discretion, may accept an Excess Liability Insurance Policy that brings Contractor's primary limits to the minimum requirements herein.

13.1.3 Subcontractor(s): Contractor shall require its Subcontractor(s), if any, to procure and maintain Commercial General Liability Insurance, Automobile Liability

Insurance, and Excess Liability Insurance (if Subcontractor elects to satisfy, in part the insurance required herein by procuring and maintaining an Excess Liability Insurance Policy) with forms of coverage and limits equal to the amounts required of the Contractor.

13.1.4 Workers' Compensation and Employers' Liability Insurance

13.1.4.1 In accordance with provisions of section 3700 of the California Labor Code, the Contractor and every Subcontractor shall be required to secure the payment of compensation to its employees.

13.1.4.2 Contractor shall procure and maintain, during the life of this Contract, Workers' Compensation Insurance and Employers' Liability Insurance for all of its employees engaged in work under this Contract, on/or at the Site of the Project. This coverage shall cover, at a minimum, medical and surgical treatment, disability benefits, rehabilitation therapy, and survivors' death benefits. Contractor shall require its Subcontractor(s), if any, to procure and maintain Workers' Compensation Insurance and Employers' Liability Insurance for all employees of Subcontractor(s). Any class of employee or employees not covered by a Subcontractor's insurance shall be covered by Contractor's insurance. If any class of employee or employee engaged in Work under this Contract, on or at the Site of the Project, is not protected under the Workers' Compensation Insurance, Contractor shall provide, or shall cause a Subcontractor to provide, adequate insurance coverage for the protection of any employee(s) not otherwise protected before any of those employee(s) commence work.

13.1.5 Builder's Risk Insurance: Builder's Risk "All Risk" Insurance

Contractor shall procure and maintain, during the life of this Contract, Builder's Risk (Course of Construction), or similar first party property coverage acceptable to the District, issued on a replacement cost value basis. The cost shall be consistent with the total replacement cost of all insurable Work of the Project included within the Contract Documents. Coverage is to insure against all risks of accidental physical loss and shall include without limitation the perils of vandalism and/or malicious mischief (both without any limitation regarding vacancy or occupancy), sprinkler leakage, civil authority, theft, sonic disturbance, earthquake, flood, collapse, wind, rain, dust, fire, war, terrorism, lightning, smoke, and rioting. Coverage shall include debris removal, demolition, increased costs due to enforcement of all applicable ordinances and/or laws in the repair and replacement of damaged and undamaged portions of the property, and reasonable costs for the Architect's and engineering services and expenses required as a result of any insured loss upon the Work and Project, including completed Work and Work in progress, to the full insurable value thereof.

13.1.6 Pollution Liability Insurance

13.1.6.1 Contractor shall procure and maintain Pollution Liability Insurance that shall protect Contractor, District, State, Construction Manager(s), Project Inspector(s), and Architect(s) from all claims for bodily injury, property damage, including natural resource damage, cleanup costs, removal, storage, disposal, and/or use of the pollutant arising from operations under this Contract, and defense, including costs and expenses incurred in the investigation, defense, or

settlement of claims. Coverage shall apply to sudden and/or gradual pollution conditions resulting from the escape or release of smoke, vapors, fumes, acids, alkalis, toxic chemicals, liquids, or gases, natural gas, waste materials, or other irritants, contaminants, or pollutants, including asbestos. This coverage shall be provided in a form at least as broad as Insurance Services Offices, Inc. (ISO) Form CG 2415, or Contractor shall procure and maintain these coverages separately.

13.1.6.2 Contractor warrants that any retroactive date applicable to coverage under the policy shall predate the effective date of the Contract and that continuous coverage will be maintained or an extended reporting or discovery period will be exercised for a period of three (3) years, beginning from the time that the Work under the Contract is completed.

13.1.6.3 If Contractor is responsible for removing any pollutants from a site, then Contractor shall ensure that Any Auto, including owned, non-owned, and hired, is included within the above policies and at the required limits, to cover its automobile exposure from transporting the pollutants from the site to an approved disposal site. This coverage shall include the Motor Carrier Act Endorsement, MCS 90.

13.1.7 Proof of Insurance and Other Requirements: Endorsements and Certificates

13.1.7.1 Contractor shall not commence Work nor shall it allow any Subcontractor to commence Work under this Contract, until Contractor and its Subcontractor(s) have procured all required insurance and Contractor has delivered in duplicate to the District complete endorsements (or entire insurance policies) and certificates indicating the required coverages have been obtained, and the District has approved these documents.

13.1.7.2 Endorsements, certificates, and insurance policies shall include the following:

13.1.7.2.1 A clause stating the following, or other language acceptable to the District:

"This policy shall not be canceled until written notice to District, Architect, and Construction Manager stating date of the cancellation by the insurance carrier. Date of cancellation may not be less than thirty (30) days after date of mailing notice."

13.1.7.2.2 Language stating in particular those insured, extent of insurance, location and operation to which insurance applies, expiration date, to whom cancellation and reduction notice will be sent, and length of notice period.

13.1.7.2.3 All endorsements, certificates and insurance policies shall state that District, its trustees, employees and agents, the State of California, Construction Manager(s), Project Manager(s), Inspector(s) and Architect(s) are named additional insureds under all policies except Workers' Compensation Insurance and Employers' Liability Insurance.

13.1.7.2.4 All endorsements shall waive any right to subrogation against any of the named additional insureds.

13.1.7.2.5 Contractor's and Subcontractors' insurance policy(s) shall be primary and non-contributory to any insurance or self-insurance maintained by District, its trustees, employees and/or agents, the State of California, Construction Manager(s), Project Manager(s), Inspector(s), and/or Architect(s).

13.1.7.2.6 Contractor's insurance limit shall apply separately to each insured against whom a claim is made or suit is brought.

13.1.7.3 No policy shall be amended, canceled or modified, and the coverage amounts shall not be reduced, until Contractor or Contractor's broker has provided written notice to District, Architect(s), and Construction Manager(s) stating date of the amendment, modification, cancellation or reduction, and a description of the change. Date of amendment, modification, cancellation or reduction may not be less than thirty (30) days after date of mailing notice.

13.1.7.4 Insurance written on a "claims made" basis shall be retroactive to a date that coincides with or precedes Contractor's commencement of Work, including subsequent policies purchased as renewals or replacements. Said policy is to be renewed by the Contractor and all Subcontractors for a period of five (5) years following completion of the Work or termination of this Agreement. Such insurance must have the same coverage and limits as the policy that was in effect during the term of this Agreement, and will cover the Contractor and all Subcontractors for all claims made.

13.1.7.5 Unless otherwise stated in the Special Conditions, all of Contractor's insurance shall be with insurance companies with an A.M. Best rating of no less than **A: VII**.

13.1.7.6 The insurance requirements set forth herein shall in no way limit the Contractor's liability arising out of or relating to the performance of the Work or related activities.

13.1.7.7 Failure of Contractor and/or its Subcontractor(s) to comply with the insurance requirements herein shall be deemed a material breach of the Contract.

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13.1.8 Insurance Policy Limits

13.1.8.1 Unless different limits are indicated in the Special Conditions, the limits of insurance shall not be less than the following amounts:

Commercial General Liability	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	\$2,000,000 per occurrence; \$4,000,000 aggregate
Automobile Liability – Any Auto	Combined Single Limit	\$1,000,000
Workers’ Compensation		Statutory limits pursuant to State law
Employers’ Liability		\$1,000,000
Builder’s Risk (Course of Construction)		Issued for the value and scope of Work indicated herein.
Pollution Liability		\$1,000,000 per claim; \$2,000,000 aggregate

13.1.8.2 If Contractor normally carries insurance in an amount greater than the minimum amounts required by District, that greater amount shall become the minimum required amount of insurance for purposes of the Contract. Therefore, Contractor hereby acknowledges and agrees that all insurance carried by it shall be deemed liability coverage for all actions it performs in connection with the Contract.

13.2 Contract Security - Bonds

13.2.1 Contractor shall furnish two surety bonds issued by a California admitted surety insurer as follows:

13.2.1.1 Performance Bond: A bond in an amount at least equal to one hundred percent (100%) of Contract Price as security for faithful performance of this Contract.

13.2.1.2 Payment Bond: A bond in an amount at least equal to one hundred percent (100%) of the Contract Price as security for payment of persons performing labor and/or furnishing materials in connection with this Contract.

13.2.2 Cost of bonds shall be included in the Bid and Contract Price.

13.2.3 All bonds related to this Project shall be in the forms set forth in these Contract Documents and shall comply with all requirements of the Contract Documents, including, without limitation, the bond forms.

14. WARRANTY/GUARANTEE/INDEMNITY

14.1 Warranty/Guarantee

14.1.1 The Contractor shall obtain and preserve for the benefit of the District, manufacturer's warranties on materials, fixtures, and equipment incorporated into the Work.

14.1.2 In addition to guarantees required elsewhere, Contractor shall, and hereby does guarantee and warrant all Work furnished on the job against all defects for a period of **ONE (1)** year after the later of the following dates, unless a longer period is provided for in the Contract Documents:

14.1.2.1 The acceptance by the District's governing board of the Work, subject to these General Conditions, or

14.1.2.2 The date that commissioning for the Project, if any, was completed.

At the District's sole option, Contractor shall repair or replace any and all of that Work, together with any other Work that may be displaced in so doing, that may prove defective in workmanship and/or materials within a **ONE (1)** year period from date of completion as defined above, unless a longer period is provided for in the Contract Documents, without expense whatsoever to District. In the event of failure of Contractor and/or Surety to commence and pursue with diligence said replacements or repairs within ten (10) days after being notified in writing, Contractor and Surety hereby acknowledge and agree that District is authorized to proceed to have defects repaired and made good at expense of Contractor and/or Surety who hereby agree to pay costs and charges therefore immediately on demand.

14.1.3 If, in the opinion of District, defective work creates a dangerous condition or requires immediate correction or attention to prevent further loss to District or to prevent interruption of District operations, District will attempt to give the notice required above. If Contractor or Surety cannot be contacted or neither complies with District's request for correction within a reasonable time as determined by District, District may, notwithstanding the above provision, proceed to make any and all corrections and/or provide attentions the District believes are necessary. The costs of correction or attention shall be charged against Contractor and Surety of the guarantees provided in this Article or elsewhere in this Contract.

14.1.4 The above provisions do not in any way limit the guarantees on any items for which a longer guarantee is specified or on any items for which a manufacturer gives a guarantee for a longer period. Contractor shall furnish to District all appropriate guarantee or warranty certificates as indicated in the Specifications or upon request by District.

14.1.5 Nothing herein shall limit any other rights or remedies available to District.

14.2 Indemnity and Defense

14.2.1 To the furthest extent permitted by California law, the Contractor shall indemnify, keep and hold harmless the District, the Architect(s), and the Construction Manager(s), their respective consultants, separate contractors, board members, officers, representatives, agents, and employees, in both individual and official capacities ("Indemnitees"), against all suits, claims, injury, damages, losses, and expenses ("Claims"), including but not limited to attorney's fees, caused by, arising out of, resulting from, or incidental to, in whole or in part, the performance of the Work under this Contract by the Contractor, its Subcontractors, vendors, or suppliers. However, the Contractor's indemnification and hold harmless obligation shall be reduced by the proportion of the Indemnitees' and/or Architect's liability to the extent the Claim(s) is/are caused by the sole negligence, active negligence, or willful misconduct of the Indemnitees, and/or defects in design furnished by the Architect, as found by a court or arbitrator of competent jurisdiction. This indemnification and hold harmless obligation of the Contractor shall not be construed to negate, abridge, or otherwise reduce any right or obligation of indemnity that would otherwise exist or arise as to Indemnitee or other person described herein. This indemnification and hold harmless obligation includes, but is not limited to, any failure or alleged failure by Contractor to comply with any provision of law, any failure or alleged failure to timely and properly fulfill all of its obligations under the Contract Documents in strict accordance with their terms, and without limitation, any failure or alleged failure of Contractor's obligations regarding any stop payment notice actions or liens, including Civil Wage and Penalty Assessments and/or Orders by the DIR.

14.2.2 To the furthest extent permitted by California law, Contractor shall also defend Indemnitees, at its own expense, including but not limited to attorneys' fees and costs, against all Claims caused by, arising out of, resulting from, or incidental to, in whole or in part, the performance of the Work under this Contract by the Contractor, its Subcontractors, vendors, or suppliers. However, without impacting Contractor's obligation to provide an immediate and ongoing defense of Indemnitees, the Contractor's defense obligation shall be retroactively reduced by the proportion of the Indemnitees' and/or Architect's liability to the extent caused by the sole negligence, active negligence, or willful misconduct of the Indemnitees, and/or defects in design furnished by the Architect, as found by a court or arbitrator of competent jurisdiction. The District shall have the right to accept or reject any legal representation that Contractor proposes to defend the Indemnitees. If any Indemnitee provides its own defense due to failure to timely respond to tender of defense, rejection of tender of defense, or conflict of interest of proposed counsel, Contractor shall reimburse such Indemnitee for any expenditures. Contractor's defense obligation shall not be construed to negate, abridge, or otherwise reduce any right or obligation of defense that would otherwise exist as to any Indemnitee or other person described herein. Contractor's defense obligation includes, but is not limited to, any failure or alleged failure by Contractor to comply with any provision of law, any failure or alleged failure to timely and properly fulfill all of its obligations under the Contract Documents in strict accordance with their terms, and without limitation, any failure or alleged failure of Contractor's obligations regarding any stop payment notice actions or liens, including Civil Wage and Penalty Assessments and/or Orders by the DIR. The Contractor shall give prompt notice to the District in the event of any Claim(s).

14.2.3 Without limitation of the provisions herein, if the Contractor's obligation to indemnify and hold harmless the Indemnitees or its obligation to defend Indemnitees as provided herein shall be determined to be void or unenforceable, in whole or in part, it is the intention of the parties that these circumstances shall not otherwise affect the validity or enforceability of the Contractor's agreement to indemnify, defend, and hold harmless the rest of the Indemnitees, as provided herein. Further, the Contractor shall be and remain fully liable on its agreements and obligations herein to the fullest extent permitted by law.

14.2.4 Pursuant to Public Contract Code section 9201, the District shall provide timely notification to Contractor of the receipt of any third-party claim relating to this Contract. The District shall be entitled to recover its reasonable costs incurred in providing said notification.

14.2.5 In any and all claims against any of the Indemnitees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the Contractor's indemnification obligation herein shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

14.2.6 The District may retain so much of the moneys due the Contractor as shall be considered necessary, until disposition of any such Claims or until the District, Architect(s) and Construction Manager(s) have received written agreement from the Contractor that they will unconditionally defend the District, Architect(s) and Construction Manager(s), their respective officers, agents and employees, and pay any damages due by reason of settlement or judgment.

14.2.7 The Contractor's defense and indemnification obligations hereunder shall survive the completion of Work, the warranty/guarantee period, and the termination of the Contract.

15. TIME

15.1 Notice to Proceed

15.1.1 District may issue a Notice to Proceed within ninety (90) days from the date of the Notice of Award. Once Contractor has received the Notice to Proceed, Contractor shall complete the Work within the period of time indicated in the Contract Documents.

15.1.2 In the event that the District desires to postpone issuing the Notice to Proceed beyond ninety (90) days from the date of the Notice of Award, it is expressly understood that with reasonable notice to the Contractor, the District may postpone issuing the Notice to Proceed. It is further expressly understood by Contractor that Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of the issuance of the Notice to Proceed.

15.1.3 If the Contractor believes that a postponement of issuance of the Notice to Proceed will cause a hardship to Contractor, Contractor may terminate the Contract. Contractor's termination due to a postponement shall be by written notice to District

within ten (10) days after receipt by Contractor of District's notice of postponement. It is further understood by Contractor that in the event that Contractor terminates the Contract as a result of postponement by the District, the District shall only be obligated to pay Contractor for the Work that Contractor had performed at the time of notification of postponement. Should Contractor terminate the Contract as a result of a notice of postponement, District shall have the authority to award the Contract to the next lowest responsive responsible bidder.

15.2 Computation of Time / Adverse Weather

15.2.1 The Contractor will only be allowed a time extension for Adverse Weather conditions if requested by Contractor in compliance with the time extension request procedures and only if all of the following conditions are met:

15.2.1.1 The weather conditions constitute Adverse Weather, as defined herein;

15.2.1.2 Contractor can verify that the Adverse Weather caused delays in excess of five (5) hours of the indicated labor required to complete the scheduled tasks of Work on the day affected by the Adverse Weather;

15.2.1.3 The Contractor's crew is dismissed as a result of the Adverse Weather;

15.2.1.4 Said delay adversely affects the critical path in the Construction Schedule; and

15.2.1.5 Exceeds twelve (12) days of delay per year.

15.2.2 If the aforementioned conditions are met, a non-compensable day-for-day extension will only be allowed for those days in excess of those indicated herein.

15.2.3 The Contractor shall work seven (7) days per week, if necessary, irrespective of inclement weather, to maintain access and the Construction Schedule, and to protect the Work under construction from the effects of Adverse Weather, all at no further cost to the District.

15.2.4 The Contract Time has been determined with consideration given to the average climate weather conditions prevailing in the County in which the Project is located.

15.3 Hours of Work

15.3.1 Sufficient Forces

Contractor and Subcontractors shall continuously furnish sufficient and competent work forces with the required levels of familiarity with the Project and skill, training and experience to ensure the prosecution of the Work in accordance with the Construction Schedule.

15.3.2 Performance During Working Hours

Work shall be performed during regular working hours as permitted by the appropriate governmental agency except that in the event of an emergency, or when

required to complete the Work in accordance with job progress, Work may be performed outside of regular working hours with the advance written consent of the District and approval of any required governmental agencies.

15.3.3 No Work during Testing

Contractor shall, at no additional cost to the District and at the District's request, coordinate its Work to not disturb District students including, without limitation, not performing any Work when students at the Site are taking tests. The District or District's Representative will provide Contractor with a schedule of test dates concurrent with the District's issuance of the Notice to Proceed, or as soon as test dates are made available to the District.

15.4 Progress and Completion

15.4.1 Time of the Essence

Time limits stated in the Contract Documents are of the essence to the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

15.4.2 No Commencement Without Insurance or Bonds

The Contractor shall not commence operations on the Project or elsewhere prior to the effective date of insurance and bonds. The date of commencement of the Work shall not be changed by the effective date of such insurance or bonds. If Contractor commences Work without insurance and bonds, all Work is performed at Contractor's peril and shall not be compensable until and unless Contractor secures bonds and insurance pursuant to the terms of the Contract Documents and subject to District claim for damages.

15.5 Schedule

Contractor shall provide to District, Construction Manager, and Architect a schedule in conformance with the Contract Documents and as required in the Notice to Proceed and the Contractor's Submittals and Schedules section of these General Conditions.

15.6 Expeditious Completion

The Contractor shall proceed expeditiously with adequate forces and shall achieve Completion within the Contract Time.

16. EXTENSIONS OF TIME – LIQUIDATED DAMAGES

16.1 Liquidated Damages

Contractor and District hereby agree that the exact amount of damages for failure to complete the Work within the time specified is extremely difficult or impossible to determine. If the Work is not completed within the time specified in the Contract Documents, it is understood that the District will suffer damage. It being impractical and unfeasible to determine the amount of actual damage, it is agreed the Contractor shall pay to District as fixed and liquidated damages, and not as a penalty, the amount

set forth in the Agreement for each calendar day of delay in completion. Contractor and its Surety shall be liable for the amount thereof pursuant to Government Code section 53069.85.

16.2 Excusable Delay

16.2.1 Contractor shall not be charged for liquidated damages because of any delays in completion of the Work which are not the fault of Contractor or its Subcontractors, including acts of God as defined in Public Contract Code section 7105, acts of enemy, epidemics, and quarantine restrictions. Contractor shall, within five (5) calendar days of beginning of any delay, notify District in writing of causes of delay including documentation and facts explaining the delay and the direct correlation between the cause and effect. District shall review the facts and extent of any delay and shall grant extension(s) of time for completing Work when, in its judgment, the findings of fact justify an extension. Extension(s) of time shall apply only to that portion of Work affected by delay, and shall not apply to other portions of Work not so affected. An extension of time may only be granted if Contractor has timely submitted the Construction Schedule as required herein.

16.2.2 Contractor shall notify the District pursuant to the claims provisions in these General Conditions of any anticipated delay and its cause. Following submission of a claim, the District may determine whether the delay is to be considered avoidable or unavoidable, how long it continues, and to what extent the prosecution and completion of the Work might be delayed thereby.

16.2.3 In the event the Contractor requests an extension of Contract Time for unavoidable delay, such request shall be submitted in accordance with the provisions in the Contract Documents governing changes in Work. When requesting time, requests must be submitted with full justification and documentation. If the Contractor fails to submit justification, it waives its right to a time extension at a later date. Such justification must be based on the official Construction Schedule as updated at the time of occurrence of the delay or execution of Work related to any changes to the Scope of Work. Any claim for delay must include the following information as support, without limitation:

16.2.3.1 The duration of the activity relating to the changes in the Work and the resources (manpower, equipment, material, etc.) required to perform the activities within the stated duration.

16.2.3.1 Specific logical ties to the Contract Schedule for the proposed changes and/or delay showing the activity/activities in the Construction Schedule that are affected by the change and/or delay. In particular, Contractor must show an actual impact to the schedule, after making a good faith effort to mitigate the delay by rescheduling the work, by providing an analysis of the schedule ("Time Impact Analysis"). Such Time Impact Analysis shall describe in detail the cause and effect of the delay and the impact on the critical dates in the Project schedule. (A portion of any delay of seven (7) days or more must be provided.)

16.2.3.2 A recovery schedule must be submitted within twenty (20) calendar days of written notification to the District of causes of delay.

16.3 No Additional Compensation for Delays Within Contractor's Control

16.3.1 Contractor is aware that governmental agencies, including, without limitation, the Division of the State Architect, the Department of General Services, gas companies, electrical utility companies, water districts, and other agencies may have to approve Contractor-prepared drawings or approve a proposed installation. Accordingly, Contractor shall include in its bid, time for possible review of its drawings and for reasonable delays and damages that may be caused by such agencies. Thus, Contractor is not entitled to make a claim for damages or delays arising from the review of Contractor's drawings.

16.3.2 Contractor shall only be entitled to compensation for delay when all of the following conditions are met:

16.3.2.1 The District is responsible for the delay;

16.3.2.2 The delay is unreasonable under the circumstances involved;

16.3.2.3 The delay was not within the contemplation of the District and Contractor;

16.3.2.4 The delay could not have been avoided or mitigated by Contractor's reasonable diligence; and

16.3.2.5 Contractor timely complies with the claims procedure of the Contract Documents.

16.3.3 Where a change in the Work extends the Contract Time, Contractor may request and recover additional, actual direct costs, provided that Contractor can demonstrate such additional costs are:

16.3.3.1 Actually incurred performing the Work;

16.3.3.2 Not compensated by the Markup allowed; and

16.3.3.3 Directly result from the extended Contract Time.

Contractor shall comply with all required procedures, documentation and time requirements in the Contract Documents. Contractor may not seek or recover such costs using formulas (e.g. Eichleay, labor factors).

16.4 Float or Slack in the Schedule

Float or slack is the amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any of the activities in the schedule. Float or slack is not for the exclusive use of or benefit of either the District or the Contractor, but its use shall be determined solely by the District.

17. CHANGES IN THE WORK

17.1 No Changes Without Authorization

17.1.1 There shall be no change whatsoever in the Drawings, Specifications, or in the Work without an executed Change Order or a written Construction Change Directive authorized by the District as herein provided. District shall not be liable for the cost of any extra work or any substitutions, changes, additions, omissions, or deviations from the Drawings and Specifications unless the District's governing board has authorized the same and the cost thereof has been approved in writing by Change Order or Construction Change Directive in advance of the changed Work being performed. No extension of time for performance of the Work shall be allowed hereunder unless claim for such extension is made at the time changes in the Work are ordered, and such time duly adjusted and approved in writing in the Change Order or Construction Change Directive. Contractor shall be responsible for any costs incurred by the District for professional services and DSA fees and/or delay to the Project Schedule, if any, for DSA to review any request for changes to the DSA approved plans and specifications for the convenience of the Contractor and/or to accommodate the Contractor's means and methods. The provisions of the Contract Documents shall apply to all such changes, additions, and omissions with the same effect as if originally embodied in the Drawings and Specifications.

17.1.2 Contractor shall perform immediately all work that has been authorized by a fully executed Change Order or Construction Change Directive. Contractor shall be fully responsible for any and all delays and/or expenses caused by Contractor's failure to expeditiously perform this Work.

17.1.3 Should any Change Order result in an increase in the Contract Price or extend the Contract Time, the cost of or length of extension in that Change Order shall be agreed to, in writing, by the District in advance of the Work by Contractor, and shall be subject to the monetary limitations set forth in Public Contract Code section 20118.4. In the event that Contractor proceeds with any change in Work without a Change Order executed by the District or Construction Change Directive, Contractor waives any claim of additional compensation or time for that additional work. Under no circumstances shall Contractor be entitled to any claim of additional compensation or time not expressly requested by Contractor in a Proposed Change Order or approved by District in an executed Change Order.

17.1.4 A Change Order or Construction Change Directive will become effective when approved by the Board, notwithstanding that Contractor has not signed it. A Change Order or Construction Change Directive will become effective without Contractor's signature provided District indicates it as a "Unilateral Change Order". Any dispute as to the adjustment in the Contract Price or Contract Time, if any, of the Unilateral Change Order shall be resolved pursuant to the Payment and Claims and Disputes provisions herein.

17.1.5 Contractor understands, acknowledges, and agrees that the reason for District authorization is so that District may have an opportunity to analyze the Work and decide whether the District shall proceed with the Change Order or alter the Project so that a change in Work becomes unnecessary.

17.2 Architect Authority

The Architect will have authority to order minor changes in the Work not involving any adjustment in the Contract Price, or an extension of the Contract Time, or a change that is inconsistent with the intent of the Contract Documents. These changes shall be effected by written Change Order, Construction Change Directive, by Architect's response(s) to RFI(s), or by Architect's Supplemental Instructions ("ASI").

17.3 Change Orders

17.3.1 A Change Order is a written instrument prepared and issued by the District and/or the Architect and signed by the District (as authorized by the District's Governing Board), the Contractor, the Architect, and approved by the Project Inspector (if necessary) and DSA (if necessary), stating their agreement regarding all of the following:

17.3.1.1 A description of a change in the Work;

17.3.1.2 The amount of the adjustment in the Contract Price, if any; and

17.3.1.3 The extent of the adjustment in the Contract Time, if any.

17.4 Construction Change Directives

17.4.1 A Construction Change Directive is a written order prepared and issued by the District, the Construction Manager, and/or the Architect and signed by the District and the Architect, directing a change in the Work. The District may, as provided by law, by Construction Change Directive and without invalidating the Contract, order changes in the Work consisting of additions, deletions, or other revisions. The adjustment to the Contract Price or Time, if any, is subject to the provisions of this section regarding Changes in the Work. If all or a portion of the Project is being funded by funds requiring approval by the State Allocation Board ("SAB"), these revisions may be subject to compensation once approval of same is received and funded by the SAB, and funds are released by the Office of Public School Construction ("OPSC"). Any dispute as to the adjustment in the Contract Price, if any, of the Construction Change Directive or timing of payment shall be resolved pursuant to the Payment and Claims and Disputes provisions herein.

17.4.2 The District may issue a Construction Change Directive in the absence of agreement on the terms of a Change Order.

17.5 Force Account Directives

17.5.1 When work, for which a definite price has not been agreed upon in advance, is to be paid for on a force account basis, all direct costs necessarily incurred and paid by the Contractor for labor, material, and equipment used in the performance of that Work, shall be subject to the approval of the District and compensation will be determined as set forth herein.

17.5.2 The District will issue a Force Account Directive to proceed with the Work on a force account basis, and a not-to-exceed budget will be established by the District.

17.5.3 All requirements regarding direct cost for labor, labor burden, material, equipment, and markups on direct costs for overhead and profit described in this section shall apply to Force Account Directives. However, the District will only pay for actual costs verified in the field by the District or its authorized representative(s) on a daily basis.

17.5.4 The Contractor shall be responsible for all cost related to the administration of Force Account Directive. The markup for overhead and profit for Contractor modifications shall be full compensation to the Contractor to administer Force Account Directive, and Contractor shall not be entitled to separately recover additional amounts for overhead and/or profit.

17.5.5 The Contractor shall notify the District or its authorized representative(s) at least twenty-four (24) hours prior to proceeding with any of the force account work. Furthermore, the Contractor shall notify the District when it has consumed eighty percent (80%) of the budget, and shall not exceed the budget unless specifically authorized in writing by the District. The Contractor will not be compensated for force account work in the event that the Contractor fails to timely notify the District regarding the commencement of force account work, or exceeding the force account budget.

17.5.6 The Contractor shall diligently proceed with the work, and on a daily basis, submit a daily force account report using Document 00 63 47, "Daily Force Account Report," no later than 5:00 p.m. each day. The report shall contain a detailed itemization of the daily labor, material, and equipment used on the force account work only. The names of the individuals performing the force account work shall be included on the daily force account reports. The type and model of equipment shall be identified and listed. The District will review the information contained in the reports, and sign the reports no later than the next work day, and return a copy of the report to the Contractor for their records. The District will not sign, nor will the Contractor receive compensation for work the District cannot verify. The Contractor will provide a weekly force account summary indicating the status of each Force Account Directive in terms of percent complete of the not-to-exceed budget and the estimated percent complete of the work.

17.5.7 In the event the Contractor and the District reach a written agreement on a set cost for the work while the work is proceeding based on a Force Account Directive, the Contractor's signed daily force account reports shall be discontinued and all previously signed reports shall be invalid.

17.6 Price Request

17.6.1 Definition of Price Request

A Price Request ("PR") is a written request prepared by the Architect requesting the Contractor to submit to the District and the Architect an estimate of the effect of a proposed change in the Work on the Contract Price and the Contract Time.

17.6.2 Scope of Price Request

A Price Request shall contain adequate information, including any necessary Drawings and Specifications, to enable Contractor to provide the cost breakdowns

required herein. The Contractor shall not be entitled to any additional compensation for preparing a response to a Price Request, whether ultimately accepted or not.

17.7 Proposed Change Order

17.7.1 Definition of Proposed Change Order

A Proposed Change Order ("PCO") is a written request prepared by the Contractor requesting that the District and the Architect issue a Change Order based upon a proposed change to the Work.

17.7.2 Changes in Contract Price

A PCO shall include breakdowns and backup documentation pursuant to the revisions herein and sufficient, in the District's judgment, to validate any change in Contract Price. In no case shall Contractor or any of its Subcontractors be permitted to reserve rights for additional compensation for Change Order Work.

17.7.3 Changes in Time

A PCO shall also include any changes in time required to complete the Project. Any additional time requested shall not be the number of days to make the proposed change, but must be based upon the impact to the Construction Schedule as defined in the Contract Documents. The Contractor shall justify the proposed change in time by submittal of a schedule analysis that accurately shows the impact of the change on the critical path of the Construction Schedule ("Time Impact Analysis"). If Contractor fails to request a time extension in a PCO, including the Time Impact Analysis then the Contractor is thereafter precluded from requesting, and waives any right to request, additional time and/or claim a delay. In no case shall Contractor or any of its Subcontractors be permitted to reserve rights for additional time for Change Order Work. A PCO that leaves the amount of time requested blank, or states that such time requested is "to be determined", is not permitted and shall also constitute a waiver of any right to request additional time and/or claim a delay.

17.7.4 Unknown and/or Unforeseen Conditions

If there is an Allowance, then Contractor must submit a Request for Allowance Expenditure Directive, including supporting documentation as described below, to receive authorization for the release of funds from the Allowance. Allowance Expenditure Directives shall be based on Contractor's costs, without overhead and profit, for products, delivery, installation, labor, insurance, payroll, taxes, bonding and equipment rental will be included in Allowance Expenditure Directive authorizing expenditure of funds from this Allowance. No overhead and profit shall be added to the Allowance Expenditure Directive. If cost of the unforeseen condition(s) exceed the Allowance, Contractor must submit a PCO for amounts in excess of the Allowance requesting an increase in Contract Price and/or Contract Time that is based at least partially on Contractor's assertion that Contractor has encountered unknown and/or unforeseen condition(s) on the Project, then Contractor shall base the PCO on provable information that, beyond a reasonable doubt and to the District's satisfaction, demonstrates that the unknown and/or unforeseen condition(s) were actually unknown and/or unforeseen and that the condition(s) were reasonably unknown and/or unforeseen. If not, the District shall deny the PCO as unsubstantiated, and the Contractor shall complete the Project without any increase in Contract Price and/or Contract Time based on that PCO.

17.7.5 Time to Submit Proposed Change Order

Contractor shall submit its PCO within five (5) working days of the date Contractor discovers, or reasonably should have discovered, the circumstances giving rise to the PCO, unless additional time to submit a PCO is granted in writing by the District. Time is of the essence in Contractor's submission of PCOs so that the District can promptly investigate the basis for the PCO. Accordingly, if Contractor fails to submit its PCO within this timeframe, Contractor waives, releases, and discharges any right to assert or claim any entitlement to an adjustment of the Contract Price and/or Time based on circumstances giving rise to the PCO

17.7.6 Proposed Change Order Certification

In submitting a PCO, Contractor certifies and affirms that the cost and/or time request is submitted in good faith, that the cost and/or time request is accurate and in accordance with the provisions of the Contract Documents, and the Contractor submits the cost and/or request for extension of time recognizing the significant civil penalties and treble damages which follow from making a false claim or presenting a false claim under Government Code section 12650 et seq.

It is expressly understood that the value of the extra Work or changes expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project including, without limitation, cumulative impacts. Contractor is not entitled to separately recover amounts for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

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17.8 Format for Proposed Change Order

17.8.1 The following format shall be used as applicable by the District and the Contractor (e.g. Change Orders, PCO’s) to communicate proposed additions and deductions to the Contract, supported by attached documentation. Any spaces left blank will be deemed no change to cost or time.

	<u>WORK PERFORMED OTHER THAN BY CONTRACTOR</u>	<u>ADD</u>	<u>DEDUCT</u>
(a)	<u>Material</u> (attach suppliers’ invoice or itemized quantity and unit cost plus sales tax)		
(b)	<u>Add Labor</u> (attach itemized hours and rates, fully Burdened, and specify the hourly rate for each additional labor burden, for example, payroll taxes, fringe benefits, etc.)		
(c)	<u>Add Equipment</u> (attach suppliers’ invoice)		
(d)	<u>Subtotal</u>		
(e)	<u>Add overhead and profit for any and all tiers of Subcontractor</u> , the total not to exceed ten percent (10%) of Item (d)		
(f)	<u>Subtotal</u>		
(g)	<u>Add General Conditions Cost</u> (if Time is Compensable) (attach supporting documentation)		
(h)	<u>Subtotal</u>		
(i)	<u>Add Overhead and Profit for Contractor</u> , not to exceed five percent (5%) of Item (h)		
(j)	<u>Subtotal</u>		
(k)	<u>Add Bond and Insurance</u> , not to exceed two percent (2%) of Item (j)		
(l)	<u>TOTAL</u>		
(m)	<u>Time</u> (zero unless indicated; “TBD” not permitted)		<u>Calendar Days</u>

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	WORK PERFORMED BY CONTRACTOR	ADD	DEDUCT
(a)	Material (attach itemized quantity and unit cost plus sales tax)		
(b)	Add Labor (attach itemized hours and rates, fully Burdened, and specify the hourly rate for each additional labor burden, for example, payroll taxes, fringe benefits, etc.)		
(c)	Add Equipment (attach suppliers' invoice)		
(d)	Add General Conditions Cost (if Time is Compensable) (attach supporting documentation)		
(e)	Subtotal		
(f)	Add Overhead and Profit for Contractor , not to exceed fifteen percent (15%) of Item (e)		
(g)	Subtotal		
(h)	Add Bond and Insurance , not to exceed two percent (2%) of Item (g)		
(i)	TOTAL		
(j)	Time (zero unless indicated; "TBD" not permitted)		Calendar Days

17.8.2 Labor. Contractor shall be compensated for the costs of labor actually and directly utilized in the performance of the Work. Such labor costs shall be the actual cost, use of any formulas (e.g., labor factors) is not allowed, not to exceed prevailing wage rates in the locality of the Site and shall be in the labor classification(s) necessary for the performance of the Work, fully Burdened. Labor costs shall exclude costs incurred by the Contractor in preparing estimate(s) of the costs of the change in the Work, in the maintenance of records relating to the costs of the change in the Work, coordination and assembly of materials and information relating to the change in the Work or performance thereof, or the supervision and other overhead and general conditions costs associated with the change in the Work or performance thereof, including but not limited to the cost for the job superintendent. If applicable, District will pay Contractor the reasonable costs for room and board, supported with appropriate backup documentation, without markup for profit or overhead as provided by U.S. General Services Administration per diem rates for California lodging, meals and incidentals, <https://www.gsa.gov/travel/plan-book/per-diem-rates/per-diem-rates-lookup>.

17.8.3 Materials. Contractor shall be compensated for the costs of materials necessarily and actually used or consumed in connection with the performance of the change in the Work. Costs of materials may include reasonable costs of transportation from a source closest to the Site of the Work and delivery to the Site. If discounts by material suppliers are available for materials necessarily used in the performance of the change in the Work, they shall be credited to the District. If materials necessarily used in the performance of the change in the Work are obtained from a supplier or source owned in whole or in part by the Contractor, compensation therefor shall not exceed the current wholesale price for such materials. If, in the reasonable opinion of the District, the costs asserted by the Contractor for materials in connection with any change in the Work are excessive, or if the Contractor fails to provide satisfactory evidence of the actual costs of such materials from its supplier or vendor of the same, the costs of such materials and the District's obligation to pay for the same shall be limited to the then lowest wholesale

price at which similar materials are available in the quantities required to perform the change in the Work. The District may elect to furnish materials for the change in the Work, in which event the Contractor shall not be compensated for the costs of furnishing such materials or any mark-up thereon.

17.8.4 Equipment. As a precondition for the District's duty to pay for Equipment rental or loading and transportation, Contractor shall provide satisfactory evidence of the actual costs of Equipment from the supplier, vendor or rental agency of same. Contractor shall be compensated for the actual cost of the necessary and direct use of Equipment in the performance of the change in the Work. Use of such Equipment in the performance of the change in the Work shall be compensated in increments of fifteen (15) minutes. Rental time for Equipment moved by its own power shall include time required to move such Equipment to the site of the Work from the nearest available rental source of the same. If Equipment is not moved to the Site by its own power, Contractor will be compensated for the loading and transportation costs in lieu of rental time. The foregoing notwithstanding, neither moving time or loading and transportation time shall be allowed if the Equipment is used for performance of any portion of the Work other than the change in the Work. Unless prior approval in writing is obtained by the Contractor from the Architect, the Project Inspector and the District, no costs or compensation shall be allowed for time while Construction Equipment is inoperative, idle or on standby, for any reason. Contractor shall not be entitled to an allowance or any other compensation for Equipment or tools used in the performance of change in the Work where such Equipment or tools have a replacement value of \$500.00 or less. Equipment costs claimed by the Contractor in connection with the performance of any Work shall not exceed rental rates established by distributors or construction equipment rental agencies in the locality of the Site; any costs asserted which exceed such rental rates shall not be allowed or paid. Unless otherwise specifically approved in writing by the Architect, the Project Inspector and the District, the allowable rate for the use of Equipment in connection with the Work shall constitute full compensation to the Contractor for the cost of rental, fuel, power, oil, lubrication, supplies, necessary attachments, repairs or maintenance of any kind, depreciation, storage, insurance, labor (exclusive of labor costs of the Equipment operator), and any and all other costs incurred by the Contractor incidental to the use of such Equipment.

17.8.5 General Conditions Cost. The phrase "General Conditions Cost" shall mean, other than expressly limited or excluded herein, the costs of Contractor during the construction phase, including but not limited to: payroll costs for project manager for Work conducted at the Site, payroll costs for the superintendent and full-time general foremen, workers not included as direct labor costs engaged in support functions (e.g., loading/unloading, clean-up), costs of offices and temporary facilities including office materials, office supplies, office equipment, minor expenses, utilities, fuel, sanitary facilities and telephone services at the Site, costs of consultants not in the direct employ of Contractor or Subcontractors, and fees for permits and licenses.

17.8.6 Overhead and Profit. The phrase "Overhead and Profit" shall include field and office supervisors and assistants, watchperson, use of small tools, consumable, insurance other than construction bonds and insurance required herein, general conditions costs and home office expenses.

17.9 Change Order Certification

17.9.1 All Change Orders and PCOs include the following certification by the Contractor, either in the form specifically or incorporated by this reference:

17.9.1.1 The undersigned Contractor approves the foregoing as to the changes, if any, to the Contract Price specified for each item, and as to the extension of time allowed, if any, for completion of the entire Work as stated herein, and agrees to furnish all labor, materials, and service, and perform all work necessary to complete any additional work specified for the consideration stated herein. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq. It is understood that the changes herein to the Contract shall only be effective when approved by the governing board of the District.

17.9.1.2 It is expressly understood that the value of the extra Work or changes expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from additional time required on the Project or resulting from delay to the Project including, without limitation, cumulative impacts. Contractor is not entitled to separately recover amounts for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

17.9.2 Accord and Satisfaction: Contractor's execution of any Change Order 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.

17.10 Determination of Change Order Cost

17.10.1 The amount of the increase or decrease in the Contract Price from a Change Order, if any, shall be determined in one or more of the following ways as applicable to a specific situation and at the District's discretion:

17.10.1.1 District acceptance of a PCO;

17.10.1.2 By unit prices contained in Contractor's original bid;

17.10.1.3 By agreement between District and Contractor.

17.11 Deductive Change Orders

All deductive Change Order(s) must be prepared pursuant to the provisions herein. Where a portion of the Work is deleted from the Contract, the reasonable value of the deducted work less the value of work performed shall be considered the appropriate deduction. The value submitted on the Schedule of Values shall be used to calculate the credit amount unless the bid documentation is being held in escrow as part of the Contract Documents. Unit Prices, if any, may be used in District's discretion in calculating reasonable value. If Contractor offers a proposed amount for a deductive

Change Order(s), Contractor shall include a minimum of five percent (5%) total profit and overhead to be deducted with the amount of the work of the Change Order(s). If Subcontractor work is involved, Subcontractors shall also include a minimum of five percent (5%) profit and overhead to be deducted with the amount of its deducted work. Any deviation from this provision shall not be allowed.

17.12 Addition or Deletion of Alternate Bid Item(s)

If the Bid Form and Proposal includes proposal(s) for Alternate Bid Item(s), during Contractor's performance of the Work, the District may elect to add or delete any such Alternate Bid Item(s) if not included in the Contract at the time of award. If the District elects to add or delete Alternate Bid Item(s) after Contract award, the cost or credit for such Alternate Bid Item(s) shall be as set forth in the Bid Form and Proposal unless the parties agree to a different price and the Contract Time shall be adjusted by the number of days allocated in the Contract Documents. If days are not allocated in the Contract Documents, the Contract Time shall be equitably adjusted.

17.13 Discounts, Rebates, and Refunds

For purposes of determining the cost, if any, of any change, addition, or omission to the Work hereunder, all trade discounts, rebates, refunds, and all returns from the sale of surplus materials and equipment shall accrue and be credited to the Contractor, and the Contractor shall make provisions so that such discounts, rebates, refunds, and returns may be secured, and the amount thereof shall be allowed as a reduction of the Contractor's cost in determining the actual cost of construction for purposes of any change, addition, or omission in the Work as provided herein.

17.14 Accounting Records

With respect to portions of the Work performed by Change Orders and Construction Change Directives, the Contractor shall keep and maintain cost-accounting records satisfactory to the District, including, without limitation, Job Cost Reports as provided in these General Conditions, which shall be available to the District on the same terms as any other books and records the Contractor is required to maintain under the Contract Documents. Such records shall include without limitation hourly records for Labor and Equipment and itemized records of materials and Equipment used that day in connection with the performance of any Work. All records maintained hereunder shall be subject to inspection, review and/or reproduction by the District, the Architect or the Project Inspector upon request. In the event that the Contractor fails or refuses, for any reason, to maintain or make available for inspection, review and/or reproduction such records, the District's reasonable good faith determination of the extent of adjustment to the Contract Price shall be final, conclusive, dispositive and binding upon Contractor.

17.15 Notice Required

If the Contractor desires to make a claim for an increase in the Contract Price, or any extension in the Contract Time for completion, it shall notify the District pursuant to the provisions herein, including the Article on Claims and Disputes. No claim shall be considered unless made in accordance with this subparagraph. Contractor shall proceed to execute the Work even though the adjustment may not have been agreed upon. Any change in the Contract Price or extension of the Contract Time resulting from such claim shall be authorized by a Change Order.

17.16 Applicability to Subcontractors

Any requirements under this Article shall be equally applicable to Change Orders or Construction Change Directives issued to Subcontractors by the Contractor to the extent as required by the Contract Documents.

17.17 Alteration to Change Order Language

Contractor shall not alter Change Orders or reserve time in Change Orders. Change Orders altered in violation of this provision, if in conflict with the terms set forth herein, shall be construed in accordance with the terms set forth herein. Contractor shall execute finalized Change Orders and proceed under the provisions herein with proper notice.

17.18 Failure of Contractor to Execute Change Order

Contractor shall be in default of the Contract if Contractor fails to execute a Change Order when the Contractor agrees with the addition and/or deletion of the Work in that Change Order.

18. REQUEST FOR INFORMATION

18.1 Any Request for Information shall reference all applicable Contract Document(s), including Specification section(s), detail(s), page number(s), drawing number(s), and sheet number(s), etc. The Contractor shall make suggestions and interpretations of the issue raised by each Request for Information. A Request for Information cannot modify the Contract Price, Contract Time, or the Contract Documents. Upon request by the District, Contractor shall provide an electronic copy of the Request for Information in addition to the hard copy.

18.2 The Contractor shall be responsible for any costs incurred for professional services that District may deduct from any amounts owing to the Contractor, if a Request for Information requests an interpretation or decision of a matter where the information sought is equally available to the party making the request. District, at its sole discretion, shall deduct from and/or invoice Contractor for all the professional services arising herein.

19. PAYMENTS

19.1 Contract Price

The Contract Price is stated in the Agreement and, including authorized adjustments, is the total amount payable by the District to the Contractor for performance of the Work under the Contract Documents.

19.2 Applications for Progress Payments

19.2.1 Procedure for Applications for Progress Payments

19.2.1.1 Application for Progress Payment

19.2.1.1.1 Not before the fifth (5th) day of each calendar month during the progress of the Work, Contractor shall submit to the District and the Architect an itemized Application for Payment for operations completed in accordance with the Schedule of Values. Such application shall be notarized, if required, and supported by the following or each portion thereof unless waived by the District in writing:

19.2.1.1.1.1 The amount paid to the date of the Application to the Contractor, to all its Subcontractors, and all others furnishing labor, material, or equipment for its Contract;

19.2.1.1.1.2 The amount being requested under the Application for Payment by the Contractor on its own behalf and separately stating the amount requested on behalf of each of the Subcontractors and all others furnishing labor, material, and equipment under the Contract;

19.2.1.1.1.3 The balance that will be due to each of such entities after said payment is made;

19.2.1.1.1.4 A certification that the As-Builts and annotated Specifications are current;

19.2.1.1.1.5 Itemized breakdown of work done for the purpose of requesting partial payment;

19.2.1.1.1.6 An updated and acceptable construction schedule in conformance with the provisions herein;

19.2.1.1.1.7 The additions to and subtractions from the Contract Price and Contract Time;

19.2.1.1.1.8 A total of the retentions held;

19.2.1.1.1.9 Material invoices, evidence of equipment purchases, rentals, and other support and details of cost as the District may require from time to time;

19.2.1.1.1.10 The percentage of completion of the Contractor's Work by line item;

19.2.1.1.1.11 Schedule of Values updated from the preceding Application for Payment;

19.2.1.1.1.12 A duly completed and executed conditional waiver and release upon progress payment compliant with Civil Code section 8132

from the Contractor and each subcontractor of any tier and supplier to be paid from the current progress payment;

19.2.1.1.1.13 A duly completed and executed unconditional waiver and release upon progress payment compliant with Civil Code section 8134 from the Contractor and each subcontractor of any tier and supplier that was paid from the previous progress payment(s); and

19.2.1.1.1.14 A certification by the Contractor of the following:

The Contractor warrants title to all Work performed as of the date of this payment application has been completed in accordance with the Contract Documents for the Project. The Contractor further warrants that all amounts have been paid for work which previous Certificates for Payment were issued and payments received and all Work performed as of the date of this payment application is free and clear of liens, claims, security interests, or encumbrances in favor of the Contractor, Subcontractors, material and equipment suppliers, workers, or other persons or entities making a claim by reason of having provided labor, materials, and equipment relating to the Work, except those of which the District has been informed. Submission of sums which have no basis in fact or which Contractor knows are false are at the sole risk of Contractor and may be a violation of the False Claims Act set forth under Government Code section 12650 et seq.

19.2.1.1.1.15 The Contractor shall be subject to the False Claims Act set forth in Government Code section 12650 et seq. for information provided with any Application for Progress Payment.

19.2.1.1.1.16 All remaining certified payroll records ("CPR(s)") for each journeyman, apprentice, worker, or other employee employed by the Contractor and/or each Subcontractor in connection with the Work for the period of the Application for Payment. As indicated herein, the District shall not make any payment to Contractor until:

19.2.1.1.1.16.1 Contractor and/or its Subcontractor(s) provide electronic CPRs directly to the DIR on no less than every 30 days while Work is being performed and within 30 days after the final day of Work performed on the Project for any journeyman, apprentice, worker or other employee was employed in connection with the Work, or within ten (10) days of any request by the District or the DIR to the requesting entity, and

19.2.1.1.1.16.2 Any delay in Contractor and/or its Subcontractor(s) providing CPRs in a timely manner may directly delay the Contractor's payment.

19.2.1.1.2 Applications received after June 20th will not be paid until the second week of July and applications received after December 12th will not be paid until the first week of January.

19.2.2 Prerequisites for Progress Payments

19.2.2.1 First Payment Request: The following items, if applicable, must be completed before the District will accept and/or process the Contractor's first payment request:

19.2.2.1.1 Installation of the Project sign;

19.2.2.1.2 Installation of field office; - *(Not Applicable)*

19.2.2.1.3 Installation of temporary facilities and fencing;

19.2.2.1.4 Schedule of Values;

19.2.2.1.5 Contractor's Construction Schedule;

19.2.2.1.6 Schedule of unit prices, if applicable;

19.2.2.1.7 Submittal Schedule;

19.2.2.1.8 Receipt by Architect of all submittals due as of the date of the payment application;

19.2.2.1.9 Copies of necessary permits;

19.2.2.1.10 Copies of authorizations and licenses from governing authorities;

19.2.2.1.11 Initial progress report;

19.2.2.1.12 Surveyor qualifications;

19.2.2.1.13 Written acceptance of District's survey of rough grading, if applicable;

19.2.2.1.14 List of all Subcontractors, with names, license numbers, telephone numbers, and Scope of Work;

19.2.2.1.15 All bonds and insurance endorsements; and

19.2.2.1.16 Resumes of Contractor's project manager, and if applicable, job site secretary, record documents recorder, and job site superintendent.

19.2.2.2 Second Payment Request: The District will not process the second payment request until and unless all submittals and Shop Drawings have been accepted for review by the Architect.

19.2.2.3 No Waiver of Criteria: Any payments made to Contractor where criteria set forth herein have not been met shall not constitute a waiver of said criteria by District. Instead, such payment shall be construed as a good faith effort by District to resolve differences so Contractor may pay its Subcontractors

and suppliers. Contractor agrees that failure to submit such items may constitute a breach of contract by Contractor and may subject Contractor to termination.

19.3 Progress Payments

19.3.1 District's Approval of Application for Payment

19.3.1.1 Upon receipt of an Application for Payment, The District shall act in accordance with both of the following:

19.3.1.1.1 Each Application for Payment shall be reviewed by the District as soon as practicable after receipt for the purpose of determining that the Application for Payment is a proper Application for Payment.

19.3.1.1.2 Any Application for Payment determined not to be a proper Application for Payment suitable for payment shall be returned to the Contractor as soon as practicable, but not later than seven (7) days, after receipt. An Application for Payment returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the Application for Payment is not proper. The number of days available to the District to make a payment without incurring interest pursuant to this section shall be reduced by the number of days by which the District exceeds this seven-day return requirement.

19.3.1.1.3 An Application for Payment shall be considered properly executed if funds are available for payment of the Application for Payment, and payment is not delayed due to an audit inquiry by the financial officer of the District.

19.3.1.2 The District's review of the Contractor's Application for Payment will be based on the District's and the Architect's observations at the Site and the data comprising the Application for Payment that the Work has progressed to the point indicated and that, to the best of the District's and the Architect's knowledge, information, and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to:

19.3.1.2.1 Observation of the Work for general conformance with the Contract Documents,

19.3.1.2.2 Results of subsequent tests and inspections,

19.3.1.2.3 Minor deviations from the Contract Documents correctable prior to completion, and

19.3.1.2.4 Specific qualifications expressed by the Architect.

19.3.1.3 District's approval of the certified Application for Payment shall be based on Contractor complying with all requirements for a fully complete and valid certified Application for Payment.

19.3.2 Payments to Contractor

19.3.2.1 Within thirty (30) days after approval of the Application for Payment, Contractor shall be paid a sum equal to ninety-five percent (95%) of the value of the Work performed (as verified by Architect and Inspector and certified by Contractor) up to the last day of the previous month, less the aggregate of previous payments and amount to be withheld. The value of the Work completed shall be Contractor's best estimate. No inaccuracy or error in said estimate shall operate to release the Contractor, or any Surety upon any bond, from damages arising from such Work, or from the District's right to enforce each and every provision of this Contract, and the District shall have the right subsequently to correct any error made in any estimate for payment.

19.3.2.2 The Contractor shall not be entitled to have any payment requests processed, or be entitled to have any payment made for Work performed, so long as any lawful or proper direction given by the District concerning the Work, or any portion thereof, remains incomplete.

19.3.2.3 If the District fails to make any progress payment within thirty (30) days after receipt of an undisputed and properly submitted Application for Payment from the Contractor, the District shall pay interest to the Contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.

19.3.3 No Waiver

No payment by District hereunder shall be interpreted so as to imply that District has inspected, approved, or accepted any part of the Work. Notwithstanding any payment, the District may enforce each and every provision of this Contract. The District may correct or require correction of any error subsequent to any payment.

19.4 Decisions to Withhold Payment

19.4.1 Reasons to Withhold Payment

The District may withhold payment in whole, or in part, to the extent reasonably necessary to protect the District if, in the District's opinion, the representations to the District required herein cannot be made. The District may withhold payment, in whole, or in part, to such extent as may be necessary to protect the District from loss because of, but not limited to any of the following:

19.4.1.1 Defective Work not remedied within **FORTY-EIGHT (48)** hours of written notice to Contractor.

19.4.1.2 Stop Payment Notices or other liens served upon the District as a result of the Contract. Contractor agrees that the District may withhold up to 125% of the amount claimed in the Stop Payment Notice to answer the claim and to provide for the District's reasonable cost of any litigation pursuant to the stop payment notice.

19.4.1.3 Written notice from payment and/or performance bond surety(ies) to withhold payment from Contractor.

- 19.4.1.4** Liquidated damages assessed against the Contractor.
- 19.4.1.5** The cost of completion of the Contract if there exists a reasonable doubt that the Work can be completed for the unpaid balance of the Contract Price or by the completion date.
- 19.4.1.6** Damage to the District or other contractor(s).
- 19.4.1.7** Unsatisfactory prosecution of the Work by the Contractor.
- 19.4.1.8** Failure to store and properly secure materials.
- 19.4.1.9** Failure of the Contractor to submit, on a timely basis, proper, sufficient, and acceptable documentation required by the Contract Documents, including, without limitation, a Construction Schedule, Schedule of Submittals, Schedule of Values, Monthly Progress Schedules, Shop Drawings, Product Data and samples, Proposed product lists, executed Change Orders, and/or verified reports.
- 19.4.1.10** Failure of the Contractor to maintain As-Builts.
- 19.4.1.11** Erroneous estimates by the Contractor of the value of the Work performed, or other false statements in an Application for Payment.
- 19.4.1.12** Unauthorized deviations from the Contract Documents.
- 19.4.1.13** Failure of the Contractor to prosecute the Work in a timely manner in compliance with the Construction Schedule, established progress schedules, and/or completion dates.
- 19.4.1.14** Failure to provide acceptable electronic certified payroll records, as required by the Labor Code, by these Contract Documents, or by written request; for each journeyman, apprentice, worker, or other employee employed by the Contractor and/or by each Subcontractor in connection with the Work for the period of the Application for Payment or if payroll records are delinquent or inadequate.
- 19.4.1.15** Failure to properly pay prevailing wages as required in Labor Code section 1720 et seq., failure to comply with any other Labor Code requirements, and/or failure to comply with labor compliance monitoring and enforcement by the DIR.
- 19.4.1.16** Allowing an unregistered subcontractor, as described in Labor Code section 1725.5, to engage in the performance of any work under this Contract.
- 19.4.1.17** Failure to comply with any applicable federal statutes and regulations regarding minimum wages, withholding, payrolls and basic records, apprentice and trainee employment requirements, equal employment opportunity requirements, Copeland Act requirements, Davis-Bacon Act and related requirements, Contract Work Hours and Safety Standards Act requirements, if applicable.

19.4.1.18 Failure to properly maintain or clean up the Site.

19.4.1.19 Failure to timely indemnify, defend, or hold harmless the District.

19.4.1.20 Any payments due to the District, including but not limited to payments for failed tests, utilities changes, or permits.

19.4.1.21 Failure to pay Subcontractor(s) or supplier(s) as required by law and by the Contract Documents.

19.4.1.22 Failure to pay any royalty, license or similar fees.

19.4.1.23 Contractor is otherwise in breach, default, or in substantial violation of any provision of this Contract.

19.4.1.24 Failure to perform any implementation and/or monitoring required by any SWPPP for the Project and/or the imposition of any penalties or fines therefore whether imposed on the District or Contractor.

19.4.2 Reallocation of Withheld Amounts

19.4.2.1 District may, in its discretion, apply any withheld amount to pay outstanding claims or obligations as defined herein. In so doing, District shall make such payments on behalf of Contractor. If any payment is so made by District, then that amount shall be considered a payment made under Contract by District to Contractor and District shall not be liable to Contractor for any payment made in good faith. These payments may be made without prior judicial determination of claim or obligation. District will render Contractor an accounting of funds disbursed on behalf of Contractor.

19.4.2.2 If Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents or fails to perform any provision thereof, District may, after **FORTY-EIGHT (48)** hours' written notice to the Contractor and, without prejudice to any other remedy, make good such deficiencies. The District shall adjust the total Contract Price by reducing the amount thereof by the cost of making good such deficiencies. If District deems it inexpedient to correct Work that is damaged, defective, or not done in accordance with Contract provisions, an equitable reduction in the Contract Price (of at least one hundred fifty percent (150%) of the estimated reasonable value of the nonconforming Work) shall be made therefor.

19.4.3 Payment After Cure

When Contractor removes the grounds for declining approval, payment shall be made for amounts withheld because of them. No interest shall be paid on any retainage or amounts withheld due to the failure of the Contractor to perform in accordance with the terms and conditions of the Contract Documents.

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19.5 Subcontractor Payments

19.5.1 Payments to Subcontractors

No later than seven (7) days after receipt, or pursuant to Business and Professions Code section 7108.5 and Public Contract Code section 7107, the Contractor shall pay to each Subcontractor, out of the amount paid to the Contractor on account of such Subcontractor's portion of the Work, the amount to which said Subcontractor is entitled. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to its Sub-subcontractors in a similar manner.

19.5.2 No Obligation of District for Subcontractor Payment

The District shall have no obligation to pay, or to see to the payment of, money to a Subcontractor except as may otherwise be required by law.

19.5.3 Joint Checks

District shall have the right in its sole discretion, if necessary for the protection of the District, to issue joint checks made payable to the Contractor and Subcontractors and/or material or equipment suppliers. The joint check payees shall be responsible for the allocation and disbursement of funds included as part of any such joint payment. In no event shall any joint check payment be construed to create any contract between the District and a Subcontractor of any tier, or a material or equipment supplier, any obligation from the District to such Subcontractor or a material or equipment supplier, or rights in such Subcontractor or a material or equipment supplier against the District.

20. COMPLETION OF THE WORK

20.1 Completion

20.1.1 District will accept completion of Contract and have the Notice of Completion recorded when the entire Work shall have been completed to the satisfaction of District.

20.1.2 The Work may only be accepted as complete by action of the governing board of the District.

20.1.3 District, at its sole option, may accept completion of Contract and have the Notice of Completion recorded when the entire Work shall have been completed to the satisfaction of District, except for minor corrective items, as distinguished from incomplete items. If Contractor fails to complete all minor corrective items within fifteen (15) days after the date of the District's acceptance of completion, District shall withhold from the final payment one hundred fifty percent (150%) of an estimate of the amount sufficient to complete the corrective items, as determined by District, until the item(s) are completed.

20.1.4 At the end of the 15-day period, if there are any items remaining to be corrected, District may elect to proceed as provided herein related to adjustments to Contract Price, and/or District's right to perform the Work of the Contractor.

20.2 Close-Out/Certification Procedures

20.2.1 Punch List

The Contractor shall notify the Architect when Contractor considers the Work complete. Upon notification, Architect will prepare a list of minor items to be completed or corrected ("Punch List"). The Contractor and/or its Subcontractors shall proceed promptly to complete and correct items on the Punch List. Failure to include an item on Punch List does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

20.2.2 Close-Out/Certification Requirements

20.2.2.1 Utility Connections

Buildings shall be connected to water, gas, sewer, and electric services, complete and ready for use. Service connections shall be made and existing services reconnected.

20.2.2.2 Record Drawings and Record Specifications

20.2.2.2.1 Contractor shall provide exact Record Drawings of the Work ("As-Builts") and Record Specifications upon completion of the Project and as a condition precedent to approval of final payment.

20.2.2.2.2 Contractor shall obtain the Inspector's approval of the corrected prints and employ a competent draftsman to transfer the Record Drawings information to the most current version of AutoCAD that is, at that time, currently utilized for plan check submission by either the District, the Architect, OPSC, and/or DSA, and print a complete set of transparent sepias. When completed, Contractor shall deliver corrected sepias and diskette/CD/other

20.2.2.2.3 Contractor is liable and responsible for any and all inaccuracies in the Record Drawings and Record Specifications, even if inaccuracies become evident at a future date.

20.2.2.3 Construction Storm Water Permit, if applicable

Contractor shall submit to District all electronic or hard copy records required by the Construction Storm Water Permit, if applicable, within seven (7) days of Completion of the Project.

20.2.2.4 Maintenance Manuals: Contractor shall prepare all operation and maintenance manuals and date as indicated in the Specifications.

20.2.2.5 Source Programming: Contractor shall provide all source programming for all items in the Project.

20.2.2.6 Verified Reports: Contractor shall completely and accurately fill out and file forms DSA 6-C or DSA 152 (or current form), as appropriate. Refer to

section 4-336 and section 4-343 of Part 1, Title 24 of the California Code of Regulations.

20.3 Final Inspection

20.3.1 Contractor shall comply with Punch List procedures as provided herein, and maintain the presence of a Project Superintendent and Project Manager until the Punch List is complete to ensure proper and timely completion of the Punch List. Under no circumstances shall Contractor demobilize its forces prior to completion of the Punch List without District's prior written approval. Upon receipt of Contractor's written notice that all of the Punch List items have been fully completed and the Work is ready for final inspection and District acceptance, Architect and Project Inspector will inspect the Work and shall submit to Contractor and District a final inspection report noting the Work, if any, required in order to complete in accordance with the Contract Documents. Absent unusual circumstances, this report shall consist of the Punch List items not yet satisfactorily completed.

20.3.2 Upon Contractor's completion of all items on the Punch List and any other uncompleted portions of the Work, the Contractor shall notify the District and Architect, who shall again inspect such Work. If the Architect finds the Work complete and acceptable under the Contract Documents, the Architect will notify Contractor, who shall then jointly submit to the Architect and the District its final Application for Payment.

20.3.3 Final Inspection Requirements

20.3.3.1 Before calling for final inspection, Contractor shall determine that the following have been performed:

20.3.3.1.1 The Work has been completed.

20.3.3.1.2 All life safety items are completed and in working order.

20.3.3.1.3 Mechanical and electrical Work including, without limitation, security system, data, and fire alarm, are complete and tested, fixtures are in place, connected, and ready for tryout.

20.3.3.1.4 Electrical circuits scheduled in panels and disconnect switches labeled.

20.3.3.1.5 Painting and special finishes complete.

20.3.3.1.6 Doors complete with hardware, cleaned of protective film, relieved of sticking or binding, and in working order.

20.3.3.1.7 Tops and bottoms of doors sealed.

20.3.3.1.8 Floors waxed and polished as specified.

20.3.3.1.9 Broken glass replaced and glass cleaned.

20.3.3.1.10 Grounds cleared of Contractor's equipment, raked clean of debris, and trash removed from Site.

20.3.3.1.11 Work cleaned, free of stains, scratches, and other foreign matter, and damaged and broken material replaced.

20.3.3.1.12 Finished and decorative work shall have marks, dirt, and superfluous labels removed.

20.3.3.1.13 Final cleanup, as provided herein.

20.4 Costs of Multiple Inspections

More than two (2) requests of the District to make a final inspection shall be considered an additional service of District, Architect, Construction Manager, and/or Project Inspector, and all subsequent costs will be invoiced to Contractor and if funds are available, withheld from remaining payments.

20.5 Partial Occupancy or Use Prior to Completion

20.5.1 District's Rights to Occupancy

The District may occupy or use any completed or partially completed portion of the Work at any stage, and such occupancy shall not constitute the District's Final Acceptance of any part of the Work. Neither the District's Final Acceptance, the making of Final Payment, any provision in Contract Documents, nor the use or occupancy of the Work, in whole or in part, by District shall constitute acceptance of Work not in accordance with the Contract Documents nor relieve the Contractor or the Contractor's Performance Bond Surety from liability with respect to any warranties or responsibility for faulty or defective Work or materials, equipment and workmanship incorporated therein. In the event that the District occupies or uses any completed or partially completed portion of the Work, the Contractor shall remain responsible for payments, security, maintenance, heat, utilities, damage to the Work, insurance, the period for correction of the Work, and the commencement of warranties required by the Contract Documents unless the Contractor requests in writing, and the District agrees, to otherwise divide those responsibilities. Any dispute as to responsibilities shall be resolved pursuant to the Claims and Disputes provisions herein, with the added provision that during the dispute process, the District shall have the right to occupy or use any portion of the Work that it needs or desires to use.

20.5.2 Inspection Prior to Occupancy or Use

Immediately prior to partial occupancy or use, the District, the Contractor, and the Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

20.5.3 No Waiver

Unless otherwise agreed upon, partial or entire occupancy or use of a portion or portions of the Work shall not constitute beneficial occupancy or District's acceptance of the Work not complying with the requirements of the Contract Documents.

21. FINAL PAYMENT AND RETENTION

21.1 Final Payment

Upon receipt and approval of a valid and final Application for Payment, the Architect will issue a final Certificate of Payment. The District shall thereupon jointly inspect the Work and either accept the Work as complete or notify the Architect and the Contractor in writing of reasons why the Work is not complete. Upon District's acceptance of the Work of the Contractor as fully complete by the Governing Board of the District (that, absent unusual circumstances, will occur when the Punch List items have been satisfactorily completed), the District shall record a Notice of Completion with the County Recorder, and the Contractor shall, upon receipt of final payment from the District, pay the amount due Subcontractors.

21.2 Prerequisites for Final Payment

The following conditions must be fulfilled prior to Final Payment:

21.2.1 A full release of all Stop Payment Notices served in connection with the Work shall be submitted by Contractor.

21.2.2 A duly completed and executed conditional waiver and release upon final payment compliant with Civil Code section 8136, from the Contractor and each subcontractor of any tier and supplier to be paid from the final payment.

21.2.3 A duly completed and executed unconditional waiver and release upon progress payment compliant with Civil Code section 8134, from the Contractor and each subcontractor of any tier and supplier that was paid from the previous progress payments.

21.2.4 A duly completed and executed Document 00 65 19.26, "AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS" from the Contractor.

21.2.5 The Contractor shall have made all corrections to the Work that are required to remedy any defects therein, to obtain compliance with the Contract Documents or any requirements of applicable codes and ordinances, or to fulfill any of the orders or directions of District required under the Contract Documents.

21.2.6 Each Subcontractor shall have delivered to the Contractor all written guarantees, warranties, applications, and bonds required by the Contract Documents for its portion of the Work.

21.2.7 Contractor must have completed all requirements set forth under "Close-Out/Certification Procedures," including, without limitation, submission of an approved set of complete Record Drawings.

21.2.8 Architect shall have issued its written approval that final payment can be made.

21.2.9 The Contractor shall have delivered to the District all manuals and materials required by the Contract Documents, which must be approved by the District.

21.2.10 The Contractor shall have completed final clean-up as provided herein.

21.3 Retention

21.3.1 The retention, less any amounts disputed by the District or that the District has the right to withhold pursuant to provisions herein, shall be paid:

21.3.1.1 After approval by the Architect of the Application and Certificate of Payment,

21.3.1.2 After the satisfaction of the conditions set forth herein, and

21.3.1.3 After forty-five (45) days after the recording of the Notice of Completion by District.

21.3.2 No interest shall be paid on any retention, or on any amounts withheld due to a failure of the Contractor to perform, in accordance with the terms and conditions of the Contract Documents, except as provided to the contrary in any Escrow Agreement between the District and the Contractor pursuant to Public Contract Code section 22300.

21.4 Substitution of Securities

The District will permit the substitution of securities in accordance with the provisions of Public Contract Code section 22300.

22. UNCOVERING OF WORK

If a portion of the Work is covered without Inspector or Architect approval or not in compliance with the Contract Documents, it must, if required in writing by the District, the Project Inspector, or the Architect, be uncovered for the Project Inspector's or the Architect's observation and be corrected, replaced, and/or recovered at the Contractor's expense without change in the Contract Price or Contract Time.

23. NONCONFORMING WORK AND CORRECTION OF WORK

23.1 Nonconforming Work

23.1.1 Contractor shall promptly remove from Premises all Work identified by District as failing to conform to the Contract Documents whether incorporated or not. Contractor shall promptly replace and re-execute its own Work to comply with the Contract Documents without additional expense to the District and shall bear the expense of making good all work of other contractors destroyed or damaged by any removal or replacement pursuant hereto and/or any delays to the District or other Contractors caused thereby.

23.1.2 If Contractor does not remove Work that District has identified as failing to conform to the Contract Documents within a reasonable time, not to exceed **FORTY-EIGHT (48)** hours, District may remove it and may store any material at Contractor's expense. If Contractor does not pay expense(s) of that removal within ten (10) days' time thereafter, District may, upon ten (10) days' written notice, sell any material at auction or at private sale and shall deduct all costs and expenses

incurred by the District and/or District may withhold those amounts from payment(s) to Contractor.

23.2 Correction of Work

23.2.1 Correction of Rejected Work

Pursuant to the notice provisions herein, the Contractor shall immediately correct the Work rejected by the District, the Architect, or the Project Inspector as failing to conform to the requirements of the Contract Documents, whether observed before or after Completion and whether or not fabricated, installed, or completed. The Contractor shall bear costs of correcting the rejected Work, including additional testing, inspections, and compensation for the Inspector's or the Architect's services and expenses made necessary thereby.

23.2.2 One-Year Warranty Corrections

If, within one (1) year after the date of Completion of the Work or a designated portion thereof, or after the date for commencement of warranties established hereunder, or by the terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the District to do so. This period of one (1) year shall be extended with respect to portions of the Work first performed after Completion by the period of time between Completion and the actual performance of the Work. This obligation hereunder shall survive District's acceptance of the Work under the Contract and termination of the Contract. The District shall give such notice promptly after discovery of the condition.

23.3 District's Right to Perform Work

23.3.1 If the Contractor should neglect to prosecute the Work properly or fail to perform any provisions of this contract, the District, after **FORTY-EIGHT (48)** hours written notice to the Contractor, may, without prejudice to any other remedy it may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor.

23.3.2 If it is found at any time, before or after completion of the Work, that Contractor has varied from the Drawings and/or Specifications, including, but not limited to, variation in material, quality, form, or finish, or in the amount or value of the materials and labor used, District may require at its option:

23.3.2.1 That all such improper Work be removed, remade or replaced, and all work disturbed by these changes be made good by Contractor at no additional cost to the District;

23.3.2.2 That the District deduct from any amount due Contractor the sum of money equivalent to the difference in value between the work performed and that called for by the Drawings and Specifications; or

23.3.2.3 That the District exercise any other remedy it may have at law or under the Contract Documents, including but not limited to the District hiring its

own forces or another contractor to replace the Contractor's nonconforming Work, in which case the District shall either issue a deductive Change Order, a Construction Change Directive, or invoice the Contractor for the cost of that work. Contractor shall pay any invoices within thirty (30) days of receipt of same or District may withhold those amounts from payment(s) to Contractor.

24. TERMINATION AND SUSPENSION

24.1 District's Request for Assurances

If District at any time reasonably believes Contractor is or may be in default under this Contract, District may in its sole discretion notify Contractor of this fact and request written assurances from Contractor of performance of Work and a written plan from Contractor to remedy any potential default under the terms this Contract that the District may advise Contractor of in writing. Contractor shall, within ten (10) calendar days of District's request, deliver a written cure plan that meets the District's requirements in its request for assurances. Contractor's failure to provide such written assurances of performance and the required written plan, within ten (10) calendar days of request, will constitute a material breach of this Contract sufficient to justify termination for cause.

24.2 District's Right to Terminate Contractor for Cause

24.2.1 Grounds for Termination: The District, in its sole discretion, may terminate the Contract and/or terminate the Contractor's right to perform the work of the Contract based upon any of the following:

24.2.1.1 Contractor refuses or fails to execute the Work or any separable part thereof with sufficient diligence as will ensure its completion within the time specified or any extension thereof, or

24.2.1.2 Contractor fails to complete said Work within the time specified or any extension thereof, or

24.2.1.3 Contractor persistently fails or refuses to perform Work or provide material of sufficient quality as to be in compliance with Contract Documents; or

24.2.1.4 Contractor persistently refuses, or repeatedly fails, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials to complete the Work in the time specified; or

24.2.1.5 Contractor fails to make prompt payment to Subcontractors, or for material, or for labor; or

24.2.1.6 Contractor persistently disregards laws, or ordinances, or instructions of District; or

24.2.1.7 Contractor fails to supply labor, including that of Subcontractors, that is sufficient to prosecute the Work or that can work in harmony with all other elements of labor employed or to be employed on the Work; or

24.2.1.8 Contractor or its Subcontractor(s) is/are otherwise in breach, default, or in substantial violation of any provision of this Contract, including but not limited to a lapse in licensing or registration.

24.2.2 Notification of Termination

24.2.2.1 Upon the occurrence at District's sole determination of any of the above conditions, District may, without prejudice to any other right or remedy, serve written notice upon Contractor and its Surety of District's termination of this Contract and/or the Contractor's right to perform the work of the Contract. This notice will contain the reasons for termination. Unless, within three (3) days after the service of the notice, any and all condition(s) shall cease, and any and all violation(s) shall cease, or arrangement satisfactory to District for the correction of the condition(s) and/or violation(s) be made, this Contract and/or the Contractor's right to perform the Work of the Contract shall cease and terminate. Upon termination, Contractor shall not be entitled to receive any further payment until the entire Work is finished.

24.2.2.2 Upon Termination, District may immediately serve written notice of tender upon Surety whereby Surety shall have the right to take over and perform this Contract only if Surety:

24.2.2.2.1 Within three (3) days after service upon it of the notice of tender, gives District written notice of Surety's intention to take over and perform this Contract; and

24.2.2.2.2 Commences performance of this Contract within three (3) days from date of serving of its notice to District.

24.2.2.3 Surety shall not utilize Contractor in completing the Project if the District notifies Surety of the District's objection to Contractor's further participation in the completion of the Project. Surety expressly agrees that any contractor which Surety proposes to fulfill Surety's obligations is subject to District's approval. District's approval shall not be unreasonably withheld, conditioned or delayed.

24.2.2.4 If Surety fails to notify District or begin performance as indicated herein, District may take over the Work and execute the Work to completion by any method it may deem advisable at the expense of Contractor and/or its Surety. Contractor and/or its Surety shall be liable to District for any excess cost or other damages the District incurs thereby. Time is of the essence in this Contract. If the District takes over the Work as herein provided, District may, without liability for so doing, take possession of and utilize in completing the Work such materials, appliances, plan, and other property belonging to Contractor as may be on the Site of the Work, in bonded storage, or previously paid for.

24.3 Termination of Contractor for Convenience

24.3.1 District in its sole discretion may terminate the Contract in whole or in part upon three (3) days' written notice to the Contractor.

24.3.2 Upon notice, Contractor shall:

24.3.2.1 Cease operations as directed by the District in the notice;

24.3.2.2 Take necessary actions for the protection and preservation of the Work as soon as possible; and

24.3.2.3 Terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

24.3.3 Within 30 days of the notice, Contractor submit to the District a payment application for the actual cost for labor, materials, and services performed, including all Contractor's and Subcontractor(s)' mobilization and/or demobilization costs, that is unpaid. Contractor shall have no claims against the District except for the actual cost for labor, materials, and services performed that adequately documented through timesheets, invoices, receipts, or otherwise. District shall pay all undisputed invoice(s) for work performed until the notice of termination.

24.3.4 Under a termination for convenience, the District retains the right to all the options available to the District if there is a termination for cause.

24.4 Effect of Termination

24.4.1 Contractor shall, only if ordered to do so by the District, immediately remove from the Site all or any materials and personal property belonging to Contractor that have not been incorporated in the construction of the Work, or which are not in place in the Work. The District retains the right, but not the obligation, to keep and use any materials and personal property belonging to Contractor that have not been incorporated in the construction of the Work, or which are not in place in the Work. The Contractor and its Surety shall be liable upon the Performance Bond for all damages caused to the District by reason of the Contractor's failure to complete the Contract.

24.4.2 In the event that the District shall perform any portion of, or the whole of the Work, pursuant to the provisions of the General Conditions, the District shall not be liable nor account to the Contractor in any way for the time within which, or the manner in which, the Work is performed by the District or for any changes the District may make in the Work or for the money expended by the District in satisfying claims and/or suits and/or other obligations in connection with the Work.

24.4.3 In the event termination for cause is determined to have not been for cause, the termination shall be deemed to have been a termination for convenience effective as of the same date as the purported termination for cause.

24.4.4 In the event that the Contract is terminated for any reason, no allowances or compensation will be granted for the loss of any anticipated profit by the Contractor or any impact or impairment of Contractor's bonding capacity.

24.4.5 If the expense to the District to finish the Work exceeds the unpaid Contract Price, Contractor and Surety shall pay difference to District within twenty-one (21) days of District's request.

24.4.6 The District shall have the right (but shall have no obligation) to assume and/or assign to a general contractor or construction manager or other third party who is qualified and has sufficient resources to complete the Work, the rights of the Contractor under its subcontracts with any or all Subcontractors. In the event of an assumption or assignment by the District, no Subcontractor shall have any claim against the District or third party for Work performed by Subcontractor or other matters arising prior to termination of the Contract. The District or any third party, as the case may be, shall be liable only for obligations to the Subcontractor arising after assumption or assignment. Should the District so elect, the Contractor shall execute and deliver all documents and take all steps, including the legal assignment of its contractual rights, as the District may require, for the purpose of fully vesting in the District the rights and benefits of its Subcontractor under Subcontracts or other obligations or commitments. All payments due the Contractor hereunder shall be subject to a right of offset by the District for expenses and damages suffered by the District as a result of any default, acts, or omissions of the Contractor. Contractor must include this assignment provision in all of its contracts with its Subcontractors.

24.4.7 The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to District.

24.5 Emergency Termination of Public Contracts Act of 1949

24.5.1 This Contract is subject to termination as provided by sections 4410 and 4411 of the Government Code of the State of California, being a portion of the Emergency Termination of Public Contracts Act of 1949.

24.5.1.1 Section 4410 of the Government Code states:

In the event a national emergency occurs, and public work, being performed by contract, is stopped, directly or indirectly, because of the freezing or diversion of materials, equipment or labor, as the result of an order or a proclamation of the President of the United States, or of an order of any federal authority, and the circumstances or conditions are such that it is impracticable within a reasonable time to proceed with a substantial portion of the work, then the public agency and the contractor may, by written agreement, terminate said contract.

24.5.1.2 Section 4411 of the Government Code states:

Such an agreement shall include the terms and conditions of the termination of the contract and provision for the payment of compensation or money, if any, which either party shall pay to the other or any other person, under the facts and circumstances in the case.

24.5.2 Compensation to the Contractor shall be determined at the sole discretion of District on the basis of the reasonable value of the Work done, including preparatory work. As an exception to the foregoing and at the District's discretion, in the case of any fully completed separate item or portion of the Work for which there is a separate previously submitted unit price or item on the accepted schedule of values, that price shall control. The District, at its sole discretion, may adopt the Contract Price as the reasonable value of the work done or any portion thereof.

24.6 Suspension of Work

24.6.1 District in its sole discretion may suspend, delay or interrupt the Work in whole or in part for such period of time as the District may determine upon three (3) days written notice to the Contractor.

24.6.1.1 An adjustment may be made for changes in the cost of performance of the Work caused by any such suspension, delay or interruption. No adjustment shall be made to the extent:

24.6.1.1.1 That performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible; or

24.6.1.1.2 That an equitable adjustment is made or denied under another provision of the Contract; or

24.6.1.1.3 That the suspension of Work was the direct or indirect result of Contractor's failure to perform any of its obligations hereunder.

24.6.1.2 Any adjustments in cost of performance may have a fixed or percentage fee as provided in the section on Format for Proposed Change Order herein. This amount shall be full compensation for all Contractor's and its Subcontractor(s)' changes in the cost of performance of the Contract caused by any such suspension, delay or interruption.

25. CLAIMS PROCESS

25.1 Obligation to File Claims for Disputed Work

25.1.1 Should Contractor otherwise seek extra time or compensation for any reason whatsoever ("Disputed Work"), then Contractor shall first follow procedures set forth in the Contract Documents including, without limitation, Articles 15, 16 and 17, all of which are conditions precedent to submitting a Claim pursuant to Article 25. A Notice of Delay or Proposed Change Order are less formal procedures that proceed the formal claim and do not constitute a Claim. A Claim also does not include correspondence, RFIs, vouchers, invoices, progress payment applications, or other routine or authorized form of requests for progress payments in compliance with the Contract. If a dispute remains, then Contractor shall give written notice to District that expressly invokes this Article 25 within the time limits set forth herein.

25.1.2 Contractor's sole and exclusive remedy for Disputed Work is to file a written claim setting forth Contractor's position as required herein within the time limits set forth herein.

25.2 Duty to Perform during during Claims Process

Contractor and its subcontractors shall continue to perform its Work under the Contract including the disputed work, and shall not cause a delay of the Work during any dispute, claim, negotiation, mediation, or arbitration proceeding, except by written agreement by the District.

25.3 Definition of a Claim

25.3.1 Pursuant to Public Contract Code section 9204, the term "Claim" means a separate demand by the Contractor, sent by registered mail or certified mail with return receipt requested, for one or more of the following:

25.3.1.1 A time extension, including without limitation, for relief of damages or penalties for delay assessed by the District under the Contract;

25.3.1.2 Payment by the District of money or damages arising from work done by, or on behalf of, the Contractor pursuant to the Contract and payment of which is not otherwise expressly provided for or to which Contractor is not otherwise entitled to; or

25.3.1.3 An amount of payment disputed by the District.

25.4 Claims Presentation

25.4.1 Form and Contents of Claim

25.4.1.1 If Contractor intends to submit a Claim for an increase in the Contract Price and/or Contract Time for any reason including, without limitation, the acts of District or its agents, Contractor shall, within thirty (30) days after the event giving rise to the Claim, give notice of the Claim ("Notice of Potential Claim") in writing specifically identifying Contractor is invoking this Article 25 Claims Presentation. The Notice of Potential Claim shall provide Contractor's preliminary request for an adjustment to the Contract Price and/or Contract Time, with a description of the grounds therefore.

25.4.1.2 Within thirty (30) days after serving the written Notice of Potential Claim, Contractor shall provide a Claim including an itemized statement of the details and amounts of its Claim for any increase in the Contract Price of Contract Time as provided below, including a Time Impact Analysis and any and all other documentation substantiating Contractor's claimed damages:

25.4.1.2.1 The issues, events, conditions, circumstances and/or causes giving rise to the dispute, and shall show, in detail, the cause and effect of same;

25.4.1.2.2 Citation to provisions in the Contract Documents, statute sections, and/or case law entitling Contractor to an increase in the Contract Price or Contract Time;

25.4.1.2.3 The pertinent dates and/or durations and actual and/or anticipated effects on the Contract Price, Contract Schedule milestones and/or Contract Time adjustments;

25.4.1.2.4 The Time Impact Analysis of all time delays that shows actual time impact on the critical path; and

25.4.1.2.5 The line-item costs for labor, material, and/or equipment, if applicable, for all cost impacts priced like a change order according to Article

17 and must be updated monthly as to cost and entitlement if a continuing claim.

25.4.1.3 The Claim shall include the following certification by the Contractor:

25.4.1.3.1 The undersigned Contractor certifies under penalty of perjury that the attached dispute is made in good faith; that the supporting data is accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the adjustment for which Contractor believes the District is liable; and that I am duly authorized to certify the dispute on behalf of the Contractor.

25.4.1.3.2 Furthermore, Contractor understands that the value of the attached dispute expressly includes any and all of the Contractor's costs and expenses, direct and indirect, resulting from the Work performed on the Project, additional time required on the Project and/or resulting from delay to the Project including, without limitation, cumulative impacts. Contractor may not separately recover for overhead or other indirect costs. Any costs, expenses, damages, or time extensions not included are deemed waived.

25.4.2 Contractor shall bear all costs incurred in the preparation and submission of a Claim.

25.4.3 Failure to timely submit a Claim and the requisite supporting documentation shall constitute a waiver of Contractor's claim(s) against the District and Contractor's Claims for compensation or an extension of time shall be deemed waived, released, and discharged as to any entitlement for adjustment to the Contract Price and. or Contract Time.

25.5 Claim Resolution pursuant to Public Contract Code section 9204

Contractor may request to waive the claims procedure under Public Contract Code section 9204 and proceed directly to the commencement of a civil action or binding arbitration. If Contractor chooses to proceed, Contractor shall comply with the following steps.

25.5.1 STEP 1:

25.5.1.1 Upon receipt of a Claim by registered or certified mail, return receipt requested, including the documents necessary to substantiate it, the District shall conduct a reasonable review of the Claim and, within a period not to exceed 45 days, shall provide the Contractor a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Upon receipt of a Claim, the District and Contractor may, by mutual agreement, extend the time period to provide a written statement. If the District needs approval from its governing body to provide the Contractor a written statement identifying the disputed portion and the undisputed portion of the Claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of Claim sent by registered mail or certified mail, return receipt requested, the District shall have up to three (3) days following the next duly publicly noticed meeting of the governing body after the 45-day period, or

extension, expires to provide Contractor a written statement identifying the disputed portion and the undisputed portion.

25.5.1.1.1 Any payment due on an undisputed portion of the Claim shall be processed and made within 60 days after the District issues its written statement. Amounts not paid in a timely manner as required by this section, section 25.4, shall bear interest at seven percent (7%) per annum.

25.5.1.2 Upon receipt of a Claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable. In this instance, District and Contractor must comply with the sections below regarding Public Contract Code section 20104 et seq. and Government Code Claim Act Claims.

25.5.1.3 If the District fails to issue a written statement, or to otherwise meet the time requirements of this section, this shall result in the Claim being deemed rejected in its entirety. A claim that is denied by reason of the District's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of Contractor.

25.5.2 STEP 2:

25.5.2.1 If Contractor disputes the District's written response, or if the District fails to respond to a Claim within the time prescribed, Contractor may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the District shall schedule a meet and confer conference within 30 days for settlement of the dispute. Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the District shall provide the Contractor a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed.

25.5.2.1.1.1 Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the District issues its written statement. Amounts not paid in a timely manner as required by this section, section 25.4, shall bear interest at seven percent (7%) per annum.

25.5.3 STEP 3:

25.5.3.1 Any disputed portion of the claim, as identified by Contractor in writing, shall be submitted to nonbinding mediation, with the District and Contractor sharing the associated costs equally. The District and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is

unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

25.5.3.1.1 For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

25.5.3.2 Unless otherwise agreed to by the District and Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Public Contract Code section 20104.4 to mediate after litigation has been commenced.

25.5.4 STEP 4:

25.5.4.1 If mediation under this section does not resolve the parties' dispute, the District may, but does not require arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program.

25.6 Subcontractor Pass-Through Claims

25.6.1 If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a District because privity of contract does not exist, the contractor may present to the District a Claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that Contractor present a Claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the Claim be presented to the District shall furnish reasonable documentation to support the Claim.

25.6.2 Within 45 days of receipt of this written request from a subcontractor, Contractor shall notify the subcontractor in writing as to whether the Contractor presented the Claim to the District and, if Contractor did not present the Claim, provide the subcontractor with a statement of the reasons for not having done so.

25.6.3 The Contractor shall bind all its Subcontractors to the provisions of this section and will hold the District harmless against Claims by Subcontractors.

25.7 Government Code Claim Act Claim

25.7.1 If a claim, or any portion thereof, remains in dispute upon satisfaction of all applicable Claim Resolution requirements the Contractor shall comply with all claims presentation requirements 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 Government Code as a condition precedent to the Contractor's right to bring a civil action against the District.

25.7.2 Contractor shall bear all costs incurred in the preparation, submission and administration of a Claim. Any claims presented in accordance with the Government

Code must affirmatively indicate Contractor's prior compliance with the claims procedure herein of the claims asserted.

25.7.3 For purposes of those provisions, the running of the time within which a claim pursuant to Public Contract Code section 20104.2 only must be presented to the District shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) 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.

25.8 Claim Resolution pursuant to Public Contract Code section 20104 et seq.

25.8.1 In the event of a disagreement between the parties as to performance of the Work, the interpretation of this Contract, or payment or nonpayment for Work performed or not performed, the parties shall attempt to resolve all Claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between Contractor and District by those procedures set forth in Public Contract Code section 20104, et seq., to the extent applicable.

25.8.1.1 Contractor shall file with the District any written Claim, including the documents necessary to substantiate it, upon the application for final payment.

25.8.1.2 For claims of less than fifty thousand dollars (\$50,000), the District shall respond in writing within forty-five (45) days of receipt of the Claim or may request in writing within thirty (30) days of receipt of the Claim any additional documentation supporting the claim or relating to defenses or claims the District may have against the Contractor.

25.8.1.2.1 If additional information is required, it shall be requested and provided by mutual agreement of the parties.

25.8.1.2.2 District's written response to the documented Claim shall be submitted to the Contractor within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor to produce the additional information, whichever is greater.

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

25.8.1.3.1 If additional information is required, it shall be requested and provided upon mutual agreement of the District and the Contractor.

25.8.1.3.2 The District's written response to the claim, as further documented, shall be submitted to the Contractor within thirty (30) days after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor to produce the additional information or requested documentation, whichever is greater.

25.8.1.4 If Contractor disputes the District's written response, or the District fails to respond within the time prescribed, Contractor may so notify the District, in writing, either within fifteen (15) days of receipt of the District's response or within fifteen (15) days of the District's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the District shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

25.8.1.5 Following the meet and confer conference, if the claim or any portion of it remains in dispute, the Contractor 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 Government Code. For purposes of those provisions the running of the time within which a claim must be filed shall be tolled from the time the Contractor submits its written Claim until the time the Claim is denied, including any period of time utilized by the meet and confer process.

25.8.1.6 For any civil action filed to resolve claims filed pursuant to this section, within sixty (60) days, but no earlier than thirty (30) days, following the filing of responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within fifteen (15) days by both parties of a disinterested third person as mediator, shall be commenced within thirty (30) days of the submittal, and shall be concluded within fifteen (15) days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

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

25.8.1.8 The District shall not fail to pay money as to any portion of a Claim which is undisputed except as otherwise provided in the Contract Documents. In any suit filed pursuant to this section, the District shall pay interest due at the legal rate on any arbitration award or judgment. Interest shall begin to accrue on the date the suit is filed in a court of law.

25.8.2 Contractor shall bind its Subcontractors to the provisions of this Section and will hold the District harmless against disputes by Subcontractors.

25.9 Claim Procedure Compliance

25.9.1 Failure to submit and administer claims as required in Article 25 shall waive Contractor's right to claim on any specific issues not included in a timely submitted claim. Claim(s) not raised in a timely protest and timely claim submitted

under this Article 25 may not be asserted in any subsequent litigation, Government Code Claim, or legal action.

25.9.2 District shall not be deemed to waive any provision under this Article 25, if at District's sole discretion, a claim is administered in a manner not in accord with this Article 25. Waivers or modifications of this Article 25 may only be made by a signed change order approved as to form by legal counsel for both District and Contractor; oral or implied modifications shall be ineffective.

25.10 Claim Resolution Non-Applicability

25.10.1 The procedures for dispute and claim resolutions set forth in this Article shall not apply to the following:

25.10.1.1 Personal injury, wrongful death or property damage claims;

25.10.1.2 Latent defect or breach of warranty or guarantee to repair;

25.10.1.3 Stop payment notices;

25.10.1.4 District's rights set forth in the Article on Suspension and Termination;

25.10.1.5 Disputes arising out of labor compliance enforcement by the Department of Industrial Relations; or

25.10.1.6 District rights and obligations as a public entity set forth in applicable statutes; provided, however, that penalties imposed against a public entity by statutes, including, but not limited to, Public Contract Code sections 20104.50 and 7107, shall be subject to the Claim Resolution requirements provided in this Article.

25.11 Attorney's Fees

Should litigation be necessary to enforce any terms or provisions of this Agreement, then each party shall bear its own litigation and collection expenses, witness fees, court costs, and attorney's fees.

26. STATE LABOR, WAGE & HOUR, APPRENTICE, AND RELATED PROVISIONS

26.1 Labor Compliance and Enforcement

Since this Project is subject to labor compliance and enforcement by the Department of Industrial Relations ("DIR"), Contractor specifically acknowledges and understands that it shall perform the Work of this Agreement while complying with all the applicable provisions of Division 2, Part 7, Chapter 1, of the Labor Code and Title 8 of the California Code of Regulations, including, without limitation, the requirement that the Contractor and all Subcontractors shall timely furnish complete and accurate electronic certified payroll records directly to the DIR. The District may not issue payment if this requirement is not met.

26.2 Wage Rates, Travel, and Subsistence

26.2.1 Pursuant to the provisions of Article 2 (commencing at section 1770), Chapter 1, Part 7, Division 2, of the Labor Code, the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this public work is to be performed for each craft, classification, or type of worker needed to execute this Contract are on file at the District's principal office and copies will be made available to any interested party on request. Contractor shall obtain and post a copy of these wage rates at the job site.

26.2.2 Holiday and overtime work, when permitted by law, shall be paid for at the general prevailing rate of per diem wages for holiday and overtime work on file with the Director of the Department of Industrial Relations, unless otherwise specified. The holidays upon which those rates shall be paid need not be specified by the District, but shall be all holidays recognized in the applicable collective bargaining agreement. If the prevailing rate is not based on a collectively bargained rate, the holidays upon which the prevailing rate shall be paid shall be as provided in Section 6700 of the Government Code.

26.2.3 Contractor shall pay and shall cause to be paid each worker engaged in Work on the Project the general prevailing rate of per diem wages determined by the Director of the Department of Industrial Relations, regardless of any contractual relationship which may be alleged to exist between Contractor or any Subcontractor and such workers.

26.2.4 If during the period this bid is required to remain open, the Director of the Department of Industrial Relations determines that there has been a change in any prevailing rate of per diem wages in the locality in which the Work under the Contract is to be performed, such change shall not alter the wage rates in the Notice to Bidders or the Contract subsequently awarded.

26.2.5 Pursuant to Labor Code section 1775, Contractor shall, as a penalty to District, forfeit the statutory amount (believed by the District to be currently up to two hundred dollars (\$200) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates, determined by the District and/or the Director, for the work or craft in which that worker is employed for any public work done under Contract by Contractor or by any Subcontractor under it. The difference between such prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by Contractor.

26.2.6 Any worker employed to perform Work on the Project, which Work is not covered by any classification listed in the general prevailing wage rate of per diem wages determined by the Director, shall be paid not less than the minimum rate of wages specified therein for the classification which most nearly corresponds to Work to be performed by him, and such minimum wage rate shall be retroactive to time of initial employment of such person in such classification.

26.2.7 Pursuant to Labor Code section 1773.1, per diem wages are deemed to include employer payments for health and welfare, pension, vacation, travel time, subsistence pay, and apprenticeship or other training programs authorized by Labor Code section 3093, and similar purposes.

26.2.8 Contractor shall post at appropriate conspicuous points on the Site of Project, a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned. In addition, Contractor shall post a sign-in log for all workers and visitors to the Site, a list of all subcontractors of any tier on the Site, and the required Equal Employment Opportunity poster(s).

26.3 Hours of Work

26.3.1 As provided in article 3 (commencing at section 1810), chapter 1, part 7, division 2, of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by Contractor or by any Subcontractor on any subcontract under this Contract upon the Work or upon any part of the Work contemplated by this Contract shall be limited and restricted by Contractor to eight (8) hours per day, and forty (40) hours during any one week, except as hereinafter provided. Notwithstanding the provisions hereinabove set forth, Work performed by employees of Contractor in excess of eight (8) hours per day and forty (40) hours during any one week, shall be permitted upon this public work upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay.

26.3.2 Contractor shall keep and shall cause each Subcontractor to keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by Contractor in connection with the Work or any part of the Work contemplated by this Contract. The record shall be kept open at all reasonable hours to the inspection of District and to the Division of Labor Standards Enforcement of the DIR.

26.3.3 Pursuant to Labor Code section 1813, Contractor shall as a penalty to the District forfeit the statutory amount (believed by the District to be currently twenty-five dollars (\$25)) for each worker employed in the execution of this Contract by Contractor or by any Subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of article 3 (commencing at section 1810), chapter 1, part 7, division 2, of the Labor Code.

26.3.4 Any Work necessary to be performed after regular working hours, or on Sundays or other holidays shall be performed without additional expense to the District.

26.4 Payroll Records

26.4.1 Contractor shall upload, and shall cause each Subcontractor performing any portion of the Work under this Contract to upload, an accurate and complete certified payroll record ("CPR") electronically using DIR's eCPR System by uploading the CPRs by electronic XML file or entering each record manually using the DIR's iform (or current form) online on no less than every 30 days while Work is being performed and within 30 days after the final day of Work performed on the Project and within ten (10) days of any request by the District or Labor Commissioner at <http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html> or current application and URL, 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 the Contractor and/or each Subcontractor in connection with the Work.

26.4.1.1 The CPRs enumerated hereunder shall be filed directly with the DIR on a weekly basis or to the requesting party, whether the District or DIR, within ten (10) days after receipt of each written request. The CPRs from the Contractor and each Subcontractor for each week shall be provided on or before Wednesday of the week following the week covered by the CPRs. District may not make any payment to Contractor until:

26.4.1.1.1 Contractor and/or its Subcontractor(s) provide CPRs acceptable to the DIR; and

26.4.1.1.2 Any delay in Contractor and/or its Subcontractor(s) providing CPRs to the DIR in a timely manner may directly delay Contractor's payment.

26.4.2 All CPRs shall be available for inspection at all reasonable hours at the principal office of Contractor on the following basis:

26.4.2.1 A certified copy of an employee's CPR shall be made available for inspection or furnished to the employee or his/her authorized representative on request.

26.4.2.2 CPRs shall be made available for inspection or furnished upon request to a representative of District, Division of Labor Standards Enforcement, Division of Apprenticeship Standards, and/or the DIR.

26.4.2.3 CPRs shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through the District, Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested CPRs have not been provided pursuant to the provisions herein, the requesting party shall, prior to being provided the records, reimburse the costs of preparation by Contractor, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of Contractor.

26.4.3 Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by District, Division of Apprenticeship Standards, or Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of Contractor awarded Contract or performing Contract shall not be marked or obliterated.

26.4.4 Contractor shall inform District of the location of the records enumerated hereunder, including the street address, city, and county, and shall, within five (5) working days, provide a notice of change of location and address.

26.4.5 In the event of noncompliance with the requirements of this section, Contractor shall have ten (10) days in which to comply subsequent to receipt of written notice specifying in what respects Contractor must comply with this section. Should noncompliance still be evident after the ten (10) day period, Contractor shall, as a penalty to District, forfeit up to one hundred dollars (\$100) for each calendar

day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Labor Commissioner, these penalties shall be withheld from progress payments then due.

26.4.6 [RESERVED]

26.5 [RESERVED]

26.6 Apprentices

26.6.1 Contractor acknowledges and agrees that, if this Contract involves a dollar amount greater than or a number of working days greater than that specified in Labor Code section 1777.5, then this Contract is governed by the provisions of Labor Code Section 1777.5. It shall be the responsibility of Contractor to ensure compliance with this Article and with Labor Code section 1777.5 for all apprenticeship occupations.

26.6.2 Apprentices of any crafts or trades may be employed and, when required by Labor Code section 1777.5, shall be employed provided they are properly registered in full compliance with the provisions of the Labor Code.

26.6.3 Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he/she is employed, and shall be employed only at the work of the craft or trade to which she/he is registered.

26.6.4 Only apprentices, as defined in section 3077 of the Labor Code, who are in training under apprenticeship standards and written apprentice agreements under chapter 4 (commencing at section 3070), division 3, of the Labor Code, are eligible to be employed. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which he/she is training.

26.6.5 Pursuant to Labor Code section 1777.5, if that section applies to this Contract as indicated above, Contractor and any Subcontractors employing workers in any apprenticeable craft or trade in performing any Work under this Contract shall apply to the applicable joint apprenticeship committee for a certificate approving the Contractor or Subcontractor under the applicable apprenticeship standards and fixing the ratio of apprentices to journeymen employed in performing the Work.

26.6.6 Pursuant to Labor Code section 1777.5, if that section applies to this Contract as indicated above, Contractor and any Subcontractor may be required to make contributions to the apprenticeship program.

26.6.7 If Contractor or Subcontractor willfully fails to comply with Labor Code section 1777.5, then, upon a determination of noncompliance by the Administrator of Apprenticeship, it shall:

26.6.7.1 Be denied the right to bid on any subsequent project for one (1) year from the date of such determination;

26.6.7.2 Forfeit as a penalty to District the full amount as stated in Labor Code section 1777.7. Interpretation and enforcement of these provisions shall be in

accordance with the rules and procedures of the California Apprenticeship Council and under the authority of the Chief of the Division of Apprenticeship Standards.

26.6.8 Contractor and all Subcontractors shall comply with Labor Code section 1777.6, which section forbids certain discriminatory practices in the employment of apprentices.

26.6.9 Contractor shall become fully acquainted with the law regarding apprentices prior to commencement of the Work. Special attention is directed to sections 1777.5, 1777.6, and 1777.7 of the Labor Code, and title 8, California Code of Regulations, section 200 et seq. Questions may be directed to the State Division of Apprenticeship Standards, 455 Golden Gate Avenue, 9th floor, San Francisco, California 94102.

26.7 Non-Discrimination

26.7.1 Contractor herein agrees to comply with the provisions of the California Fair Employment and Housing Act as set forth in part 2.8 of division 3 of the California Government Code, commencing at section 12900; the Federal Civil Rights Act of 1964, as set forth in Public Law 88-352, and all amendments thereto; Executive Order 11246; and all administrative rules and regulations found to be applicable to Contractor and Subcontractor.

26.7.2 Special requirements for Federally Assisted Construction Contracts: During the performance of this Contract, Contractor agrees to incorporate in all subcontracts the provisions set forth in Chapter 60-1.4(b) of Title 41 published in Volume 33 No. 104 of the Federal Register dated May 28, 1968.

26.8 Labor First Aid

Contractor shall maintain emergency first aid treatment for Contractor's workers on the Project which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 *et seq.*) and the California Occupational Safety and Health Act of 1973 (Lab. Code, § 6300, *et seq.*; 8 Cal. Code of Regs., § 330, *et seq.*).

27. [RESERVED]

28. MISCELLANEOUS

28.1 Assignment of Antitrust Actions

28.1.1 Section 7103.5(b) of the Public Contract Code states:

In entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, the 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. Sec. 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, which assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties.

28.1.2 Section 4552 of the Government Code states:

In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing 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. Sec. 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, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.

28.1.3 Section 4553 of the Government Code states:

If an awarding body or public purchasing body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under this chapter, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.

28.1.4 Section 4554 of the Government Code states:

Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under this part if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action.

28.1.5 Under this Article, "public purchasing body" is District and "bidder" is Contractor.

28.2 **Excise Taxes**

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 Federal Excise Tax because it is a sale to a State or Local Government for its exclusive use, District, upon request, will execute documents necessary to show (1) that District is a political subdivision of the State for the purposes of such exemption, and (2) that the sale is for the exclusive use of District. No Federal Excise Tax for such materials shall be included in any Contract Price.

28.3 **Taxes**

Contract Price is to include any and all applicable sales taxes or other taxes that may be due in accordance with section 7051 et seq. of the Revenue and Taxation Code, Regulation 1521 of the State Board of Equalization or any other tax code that may be applicable.

28.4 Shipments

Contractor is responsible for any or all damage or loss to shipments until delivered and accepted on Site, as indicated in the Contract Documents. There must be no charge for containers, packing, unpacking, drayage, or insurance. The total Contract Price shall be all inclusive (including sales tax) and no additional costs of any type will be considered.

28.5 Compliance with Government Reporting Requirements

If this Contract is subject to federal or other governmental reporting requirements because of federal or other governmental financing in whole or in part for the Project of which it is part, or for any other reason, Contactor shall comply with those reporting requirements at the request of the District at no additional cost.

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SPECIAL CONDITIONS

1. Mitigation Measures

Contractor shall comply with all applicable mitigation measures, if any, adopted by any public agency with respect to this Project pursuant to the California Environmental Quality Act. (Public Resources Code section 21000 *et seq.*)

2. Campus and Adjacent Buildings

2.1 Access. Access to the school buildings and entry to buildings, classrooms, restrooms, mechanical rooms, electrical rooms, or other rooms, for construction purposes, must be coordinated with District and onsite District personnel before Work is to start. Unless agreed to otherwise in writing, only a school custodian will be allowed to unlock and lock doors in existing building(s). The custodian will be available only while school is in session. If a custodian is required to arrive before 7:00 a.m. or leave after 3:30 p.m. to accommodate Contractor's Work, the overtime wages for the custodian will be paid by the Contractor, unless at the discretion of the District, other arrangements are made in advance.

2.2 Keys. Upon request, the District may, at its own discretion, provide keys to the school site for the convenience of the Contractor. The Contractor agrees to pay all expenses to re-key the entire school site and all other affected District buildings if the keys are lost or stolen, or if any unauthorized party obtains a copy of a key or access to the school.

2.3 Maintaining Services. The Contractor is advised that Work is to be performed in spaces regularly scheduled for instruction. Interruption and/or periods of shutdown of public access, electrical service, water service, lighting, or other utilities shall be only as arranged in advance with the District. Contractor shall provide temporary services to all facilities interrupted by Contractor's Work.

2.4 Maintaining Utilities. The Contractor shall maintain in operation during duration of Contract, drainage lines, storm drains, sewers, water, gas, electrical, steam, and other utility service lines within working area.

2.5 Confidentiality. Contractor shall maintain the confidentiality of all information, documents, programs, procedures and all other items that Contractor encounters while performing the Work. This requirement shall be ongoing and shall survive the expiration or termination of this Contract and specifically includes, without limitation, all student, parent, and employee disciplinary information and health information.

2.6 Work during Instructional Time. By submitting its bid, Contractor affirms that Work may be performed during ongoing instruction in existing facilities. If so, Contractor agrees to cooperate to the best of its ability to minimize any disruption to school operations and any use of school facilities by the public up to, and including, rescheduling specific work activities, at no additional cost to District.

2.7 No Work during Student Testing. Contractor shall, at no additional cost to the District and at the District's request, coordinate its Work to not disturb District students including, without limitation, not performing any Work when students at the Site are taking State or Federally-required tests.

3. Badge Policy for Contractors

All Contractors doing work for the District will provide their workers with identification badges. These badges will be worn by all members of the Contractor's staff who are working in a District facility.

3.1 Badges must be filled out in full and contain the following information:

3.1.1 Name of Contractor

3.1.2 Name of Employee

3.1.3 Contractor's address and phone number

3.2 Badges are to be worn when the Contractor or his/her employees are on site and must be visible at all times. Contractors must inform their employees that they are required to allow District employees, the Architect, the Construction Manager, the Program Manager, or the Project Inspector to review the information on the badges upon request.

3.3 Continued failure to display identification badges as required by this policy may result in the individual being removed from the Project or assessment of fines against the Contractor.

4. Substitutions for Specified Items

Replace Section 1.7 in the General Conditions with the following provisions:

1.7.1 Whenever in the Specifications any materials, process, or article is indicated or specified by grade, patent, or proprietary name, or by name of manufacturer, that Specification shall be deemed to be followed by the words "or equal." Contractor may, unless otherwise stated, offer any material, process, or article that shall be substantially equal or better in every respect to that so indicated or specified.

1.7.1.1 If the material, process, or article offered by Contractor is not, in the opinion of the District, substantially equal or better in every respect to that specified, then Contractor shall furnish the material, process, or article specified in the Specifications without any additional compensation or change order.

1.7.1.2 This provision shall not be applicable with respect to any material, product, thing or service for which District made findings and gave notice in accordance with Public Contract Code section 3400(c); therefore, Contractor shall not be entitled to request a substitution with respect to those materials, products or services.

1.7.2 A request for a substitution shall be submitted as follows:

1.7.2.1 Contractor shall notify the District in writing of any request for a substitution at least ten (10) days prior to bid opening as indicated in the Instructions to Bidders.

1.7.3 Within 35 days after the date of the Notice of Award, Contractor shall provide data substantiating a request for substitution of "an equal" item, including but not limited to the following:

1.7.3.1 All variations of the proposed substitute from the material specified including, but not limited to, principles of operation, materials, or construction finish, thickness or gauge of materials, dimensions, weight, and tolerances;

1.7.3.2 Available maintenance, repair or replacement services;

1.7.3.3 Increases or decreases in operating, maintenance, repair, replacement, and spare parts costs;

1.7.3.4 Whether or not acceptance of the substitute will require other changes in the Work (or in work performed by the District or others under Contract with the District); and

1.7.3.5 The time impact on any part of the Work resulting directly or indirectly from acceptance of the proposed substitute.

1.7.4 No substitutions shall be made until approved, in writing, by the District. The burden of proof as to equality of any material, process, or article shall rest with Contractor. The Contractor warrants that if substitutes are approved:

1.7.4.1 The proposed substitute is equal or superior in all respects to that specified, and that such proposed substitute is suitable and fit for the intended purpose and will perform adequately the function and achieve the results called for by the general design and the Contract Documents;

1.7.4.2 The Contractor provides the same warranties and guarantees for the substitute that would be provided for that specified;

1.7.4.3 The Contractor shall be fully responsible for the installation of the substitute and any changes in the Work required, either directly or indirectly, because of the acceptance of such substitute, with no increase in Contract Price or Contract Time. Incidental changes or extra component parts required to accommodate the substitute will be made by the Contractor without a change in the Contract Price or Contract Time;

1.7.4.4 The Contractor shall be responsible for any re-design costs occasioned by District's acceptance and/or approval of any substitute; and

1.7.4.5 The Contractor shall, in the event that a substitute is less costly than that specified, credit the District with one hundred percent (100%) of the net difference between the substitute and the originally specified material. In this event, the Contractor agrees to execute a deductive Change Order to reflect that credit.

1.7.5 In the event Contractor furnishes a material, process, or article more expensive than that specified, the difference in the cost of that material, process, or article so furnished shall be borne by Contractor.

1.7.6 In no event shall the District be liable for any increase in Contract Price or Contract Time due to any claimed delay in the evaluation of any proposed substitute or in the acceptance or rejection of any proposed substitute.

1.7.7 Contractor shall be responsible for any costs the District incurs for professional services, DSA fees, or delay to the Project Schedule, if applicable, while DSA reviews changes for the convenience of Contractor and/or to accommodate Contractor's means and methods. District may deduct those costs from any amounts owing to the Contractor for the review of the request for substitution, even if the request for substitution is not approved. District, at its sole discretion, shall deduct from the payments due to and/or invoice Contractor for all the professional services and/or DSA fees or delay to the Project Schedule, if applicable, while DSA reviews changes for the convenience of Contractor and/or to accommodate Contractor's means and methods arising herein.

5. Weather Days

Replace Section 15.2.1.5 in the General Conditions with the following:

15.2.1.5 The number of days of Adverse Weather exceeds the following parameters:

January	<u>11</u>	July	<u>0</u>
February	<u>10</u>	August	<u>0</u>
March	<u>10</u>	September	<u>3</u>
April	<u>6</u>	October	<u>4</u>
May	<u>3</u>	November	<u>7</u>
June	<u>1</u>	December	<u>10</u>

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6. [RESERVED]

7. Insurance Policy Limits

All of Contractor's insurance shall be with insurance companies with an A.M. Best rating of no less than A:XV. The limits of insurance shall not be less than:

Commercial General Liability	Product Liability and Completed Operations, Fire Damage Liability – Split Limit	\$2,000,000 per occurrence; \$4,000,000 aggregate
Automobile Liability – Any Auto	Combined Single Limit	\$1,000,000 per Occurrence \$2,000,000 Aggregate
Workers' Compensation		Statutory limits pursuant to State law
Employers' Liability		\$1,000,000
Builder's Risk (Course of Construction)		Issued for the value and scope of Work indicated herein.
Pollution Liability		\$1,000,000 per claim \$2,000,000 Aggregate

8. Permits, Certificates, Licenses, Fees, Approvals

8.1 Payment for Permits, Certificates, Licenses, Fees, and Approvals. As required in the General Conditions, the Contractor shall secure and pay for all permits, licenses, approvals, and certificates necessary for the prosecution of the Work with the exception of the following:

- Division of State Architect (DSA)

With respect to the above-listed items, Contractor shall be responsible for securing such items; however, District will be responsible for payment of these charges or fees. Contractor shall notify the District of the amount due with respect to such items and to whom the amount is payable. Contractor shall provide the District with an invoice and receipt with respect to such charges or fees.

9. [RESERVED]

10. As-Builts and Record Drawings

10.1 When called for by Division 1, Contractor shall submit As-Built Drawings pursuant to the Contract Documents consisting of one (1) set of computer-aided design and drafting ("CADD") files, and one (1) set of As-Built Drawings in PDF Format.

10.2 Contractor shall submit Record Drawings pursuant to the Contract Documents consisting of one (1) set of computer-aided design and drafting ("CADD") files, and one set of Record Drawings in PDF Format.

11. Disabled Veteran Business Enterprise

Pursuant to Education Code section 71028 and Public Contract Code section 10115, the District has a participation goal for disabled veteran business enterprises ("DVBE") of at least three percent (3%) per year of the overall dollar amount expended each year on projects that receive state funding. If this Contract uses state funds, and/or as required by the bid documents, the lowest responsive responsible bidder awarded the Contract must submit the Disabled Veteran Business Enterprise Participation Certification to the District with its executed Agreement, identifying the steps contractor took to solicit DVBE participation in conjunction with this Contract.

12. Construction Manager

The District will use a Construction Manager on the Project that is the subject of this Contract. Kitchell CEM is the Construction Manager for this Project.

13. Program Manager

Kitchell CEM is the Program Manager designated for the Project that is the subject of this Contract.

14. [RESERVED]

15. [RESERVED]

16. [RESERVED]

17. Preliminary Schedule of Values

The preliminary schedule of values shall include, at a minimum, the following information and the following structure:

Replace Section 10.1.1.2.3 in the General Conditions with the following provisions:

10.1.1.2.3 The preliminary schedule of values shall not provide for values any greater than the following percentages of the Contract value:

10.1.1.2.3.1 Mobilization and layout combined to equal not more than 2%;

10.1.1.2.3.2 Submittals, samples and shop drawings combined to equal not more than 4%;

10.1.1.2.3.3 Bonds and insurance combined to equal not more than 2.5%.

10.1.1.2.3.4 Closeout documentation shall have a value in the preliminary schedule of not less than 5%.

10.1.1.2.3.1 Demobilization to equal not more than 2%;

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18. Underground Survey of Existing Utilities

The District will do their best ability to identify underground utilities, however prior to performing excavation activities the Contractor shall at their sole expense employ the services of a private locator to survey and ascertain the actual locations of existing underground utilities. Should the Contractor damage existing utilities during the prosecution of the work, they shall immediately notify the Construction Manager in writing and diligently affect repairs to the damaged utility. The Contractor shall be responsible for all repairs and consequential damages resulting from utility outages caused as a result of the performance of work.

19. Schedule of Operation

19.27 Construction shall be performed between the hours of 7:00 am and 5:00 pm, Monday through Friday. No work shall be performed outside the above hours without prior written authorization from the District / Construction Manager.

19.28 Cutting, chipping, and off-haul of all trees must be scheduled and completed during weekends, Holidays, or school breaks. Dates must be approved by the District / Construction Manager.

20. Temporary Facilities

20.27 The Contractor shall submit a project logistics plan to the Construction Manager for approval within fifteen (15) calendar days from the Notice to Proceed date. The logistics plan shall define how the Contractor plans to control site processes including, but not limited to, means and methods to accommodate temporary utilities, temporary facilities, site traffic, off-site parking, materials delivery and material storage, temporary fencing, etc. All subsequent relocation/modifications need to be approved by the District / Construction Manager.

21. Project Management Software

21.27 The District will be utilizing PROCORE to provide web-based project management software to track and manage this project. The contractor is required to use this software. Access to the software will be provided to the contractor at no cost for this project.

21.28 Use of this Project Management Software will not replace or change any contractual responsibilities of the project team members.

21.29 Training on the use of the software is provided at no cost by PROCORE on their website; <https://www.procore.com/certification>

22. COVID-19 Safety Requirements

Contractor shall, at its cost, timely comply with all applicable federal, State, local, and District requirements relating to COVID-19 or other public health emergency/epidemic/pandemic. Further, except to the extent the Order provides otherwise, Contractor and Contractor's personnel, subcontractors and suppliers shall continue to comply with all applicable terms in the California Department of Public Health's State Public Health Officer Orders.

END OF DOCUMENT

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DOCUMENT 00 73 56

HAZARDOUS MATERIALS
PROCEDURES & REQUIREMENTS

1. Summary

This document includes information applicable to hazardous materials and hazardous waste abatement.

2. Notice of Hazardous Waste or Materials

- a. Contractor shall give notice in writing to the District, the Construction Manager, and the Architect promptly, before any of the following materials are disturbed, and in no event later than twenty-four (24) hours after first observance, of any:
 - (1) Material that Contractor believes may be a material that is hazardous waste or hazardous material, 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;
 - (2) Other material that may present a substantial danger to persons or property exposed thereto in connection with Work at the site.
- b. Contractor's written notice shall indicate whether the hazardous waste or material was shown or indicated in the Contract Documents to be within the scope of Work, and whether the materials were brought to the site by Contractor, its Subcontractors, suppliers, or anyone else for whom Contractor is responsible. As used in this section the term "hazardous materials" shall include, without limitation, asbestos, lead, Polychlorinated biphenyl (PCB), petroleum and related hydrocarbons, and radioactive material.
- c. In response to Contractor's written notice, the District shall investigate the identified conditions.
- d. If the District determines that conditions do not involve hazardous materials or that no change in terms of Contract is justified, the District shall so notify Contractor in writing, stating reasons. If the District and Contractor cannot agree on whether conditions justify an adjustment in Contract Price or Contract Time, or on the extent of any adjustment, Contractor shall proceed with the Work as directed by the District.
- e. If after receipt of notice from the District, Contractor does not agree to resume Work based on a reasonable belief it is unsafe, or does not agree to resume Work under special conditions, then District may order such portion of Work that is in connection with such hazardous condition or such affected area to be deleted from the Work, or performed by others, or District may invoke its rights to terminate the Contract in whole or in part. District will determine entitlement to or the amount or extent of an adjustment, if any, in

Contract Price or Contract Time as a result of deleting such portion of Work, or performing the Work by others.

- f. If Contractor stops Work in connection with any hazardous condition and in any area affected thereby, Contractor shall immediately redeploy its workers, equipment, and materials, as necessary, to other portions of the Work to minimize delay and disruption.

3. Additional Warranties and Representations

- a. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have the required levels of familiarity with the Site and the Work, training, and ability to comply fully with all applicable laws and contractual requirements for safe and expeditious performance of the Work, including whatever training is or may be required regarding the activities to be performed (including, but not limited to, all training required to address adequately the actual or potential dangers of Contract performance).
- b. Contractor represents and warrants that it, its employees, and its subcontractors and their employees, shall at all times have and maintain in good standing any and all certifications and licenses required by applicable federal, state, and other governmental and quasi-governmental requirements applicable to the Work.
- c. Contractor represents and warrants that it has studied carefully all requirements of the Specifications regarding procedures for demolition, hazardous waste abatement, or safety practices, specified in the Contract, and prior to submitting its bid, has either (a) verified to its satisfaction that the specified procedures are adequate and sufficient to achieve the results intended by the Contract Documents, or (b) by way of approved "or equal" request or request for clarification and written Addenda, secured changes to the specified procedures sufficient to achieve the results intended by the Contract Documents. Contractor accepts the risk that any specified procedure will result in a completed Project in full compliance with the Contract Documents.

4. Monitoring and Testing

- a. District reserves the right, in its sole discretion, to conduct air monitoring, earth monitoring, Work monitoring, and any other tests (in addition to testing required under the agreement or applicable law), to monitor Contract requirements of safe and statutorily compliant work methods and (where applicable) safe re-entry level air standards under state and federal law upon completion of the job, and compliance of the work with periodic and final inspection by public and quasi-public entities having jurisdiction.
- b. Contractor acknowledges that District has the right to perform, or cause to be performed, various activities and tests including, but not limited to, pre-abatement, during abatement, and post-abatement air monitoring, that District shall have no obligation to perform said activities and tests, and that a portion of said activities and tests may take place prior to the completion of

the Work by Contractor. In the event District elects to perform these activities and tests, Contractor shall afford District ample access to the Site and all areas of the Work as may be necessary for the performance of these activities and tests. Contractor will include the potential impact of these activities or tests by District in the Contract Price and the Scheduled Completion Date.

- c. Notwithstanding District's rights granted by this paragraph, Contractor may retain its own industrial hygiene consultant at Contractor's own expense and may collect samples and may perform tests including, but not limited to, pre-abatement, during abatement, and post-abatement personal air monitoring, and District reserves the right to request documentation of all such activities and tests performed by Contractor relating to the Work and Contractor shall immediately provide that documentation upon request.

5. Compliance with Laws

- a. Contractor shall perform safe, expeditious, and orderly work in accordance with the best practices and the highest standards in the hazardous waste abatement, removal, and disposal industry, the applicable law, and the Contract Documents, including, but not limited to, all responsibilities relating to the preparation and return of waste shipment records, all requirements of the law, delivering of all requisite notices, and obtaining all necessary governmental and quasi-governmental approvals.
- b. Contractor represents that it is familiar with and shall comply with all laws applicable to the Work or completed Work including, but not limited to, all federal, state, and local laws, statutes, standards, rules, regulations, and ordinances applicable to the Work relating to:
 - (1) The protection of the public health, welfare and environment;
 - (2) Storage, handling, or use of asbestos, PCB, lead, petroleum based products, radioactive material, or other hazardous materials;
 - (3) The generation, processing, treatment, storage, transport, disposal, destruction, or other management of asbestos, PCB, lead, petroleum, radioactive material, or hazardous waste materials or other waste materials of any kind; and
 - (4) The protection of environmentally sensitive areas such as wetlands and coastal areas.

6. Disposal

- a. Contractor has the sole responsibility for determining current waste storage, handling, transportation, and disposal regulations for the job Site and for each waste disposal facility. Contractor must comply fully at its sole cost and expense with these regulations and any applicable law. District may, but is not obligated to, require submittals with this information for it to review consistent with the Contract Documents.

- b. Contractor shall develop and implement a system acceptable to District to track hazardous waste from the Site to disposal, including appropriate "Hazardous Waste Manifests" on the EPA form, so that District may track the volume of waste it put in each landfill and receive from each landfill a certificate of receipt.
- c. Contractor shall provide District with the name and address of each waste disposal facility prior to any disposal, and District shall have the express right to reject any proposed disposal facility. Contractor shall not use any disposal facility to which District has objected. Contractor shall document actual disposal or destruction of waste at a designated facility by completing a disposal certificate or certificate of destruction forwarding the original to the District.

7. Permits

- a. Before performing any of the Work, and at such other times as may be required by applicable law, Contractor shall deliver all requisite notices and obtain the approval of all governmental and quasi-governmental authorities having jurisdiction over the Work. Contractor shall submit evidence satisfactory to District that it and any disposal facility:
 - (1) have obtained all required permits, approvals, and the like in a timely manner both prior to commencement of the Work and thereafter as and when required by applicable law; and
 - (2) are in compliance with all such permits, approvals and the regulations.

For example, before commencing any work in connection with the Work involving asbestos-containing materials, or PCBs, or other hazardous materials subject to regulation, Contractor agrees to provide the required notice of intent to renovate or demolish to the appropriate state or federal agency having jurisdiction, by certified mail, return receipt requested, or by some other method of transmittal for which a return receipt is obtained, and to send a copy of that notice to District. Contractor shall not conduct any Work involving asbestos-containing materials or PCBs unless Contractor has first confirmed that the appropriate agency having jurisdiction is in receipt of the required notification. All permits, licenses, and bonds that are required by governmental or quasi-governmental authorities, and all fees, deposits, tap fees, offsite easements, and asbestos and PCB disposal facilities expenses necessary for the prosecution of the Work, shall be procured and paid for by Contractor. Contractor shall give all notices and comply with the all applicable laws bearing on the conduct of the Work as drawn and specified. If Contractor observes or reasonably should have observed that Plans and Specifications and other Contract Documents are at variance therewith, it shall be responsible for promptly notifying District in writing of such fact. If Contractor performs any Work contrary to applicable laws, it shall bear all costs arising therefrom.

- b. In the case of any permits or notices held in District's name or of necessity to be made in District's name, District shall cooperate with Contractor in securing the permit or giving the notice, but the Contractor shall prepare for District review and execution upon approval, all necessary applications, notices, and other materials.

8. Indemnification

To the fullest extent permitted by law, the indemnities and limitations of liability expressed throughout the Contract Documents apply with equal force and effect to any claims or liabilities imposed or existing by virtue of the removal, abatement, and disposal of hazardous waste. This includes, but is not limited to, liabilities connected to the selection and use of a waste disposal facility, a waste transporter, personal injury, property damage, loss of use of property, damage to the environment or natural resources, or "disposal" and "release" of materials associated with the Work (as defined in 42 U.S.C. § 9601 *et seq.*).

9. Termination

District shall have an absolute right to terminate for default immediately without notice and without an opportunity to cure should Contractor knowingly or recklessly commit a material breach of the terms of the Contract Documents, or any applicable law, on any matter involving the exposure of persons or property to hazardous waste. However, if the breach of contract exposing persons or property to hazardous waste is due solely to an ordinary, unintentional, and non-reckless failure to exercise reasonable care, then the procedures for termination for cause shall apply without modification.

END OF DOCUMENT

DOCUMENT 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Access Conditions and Requirements;
- B. Special Conditions.

1.02 SUMMARY OF WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of this Contract consists of the following:
 - (1) All labor, materials, equipment, and supplies necessary for the completion of the entire scope of work as outlined in the contract documents. Includes all associated civil, architectural, structural, plumbing, mechanical and/or electrical work as indicated in the Drawings and Specifications.
 - (2) Modular building will be provided and set under a sperate contract. Contractor is required to coordinate installation of new building with modular company. Contractor is required to coordinate delivery and installation of modular building. Contractor must be present to provide access and assistance to modular company during delivery and installation.
 - (3) General Contractor scope of work includes all work necessary to prepare for the delivery the modular building. This includes relocation of existing underground utilities, installation of new underground utilities, completion of building pad, and backfill after foundations.
 - (4) Scope of work also includes all sitework, including all new hardscaping, landscaping, exterior canopy structure, etc., as indicated in the Drawings and Specifications.
 - (5) Scope of work also includes all work associated with the building as noted in the Drawings and Specifications. This is includes, but is not limited to; fire alarm, low voltage, exterior door hardware, signage, etc.
 - (6) Contractor shall include safe-off of all utilities, including but not limited to all electrical, fire alarm, data, security, and plumbing.

- (7) This project will require "Phasing" and barricading of work areas as indicated in the Contract Documents. The Early Learning Department will have access to the Play Yard during construction as noted in the Drawings.
- (8) The scope of this project is further defined in the Contract Documents. The Contractor will provide all security fencing, safety barriers, portable toilets, and debris bins per the Contract Specifications. Multiple relocations of site fencing/ safety barriers may be required for the completion of this project. All campus pedestrian access shall be maintained, and existing buildings shall remain functional during the duration of the project.

1.03 CONTRACTS

- A. Perform the Work under a single, fixed-price Contract.

1.04 WORK BY OTHERS

- A. Work on the Project that will be performed and completed prior to the start of the Work of this Contract:
 - (1) None identified.
- B. Work on the Project that will be performed by others concurrent with the Work of this Contract:
 - (1) Installation of concrete foundations, and delivery and placement of new modular building by American Modular Systems (AMS).

1.05 CODES, REGULATIONS, AND STANDARDS

- A. The codes, regulations, and standards adopted by the state and federal agencies having jurisdiction shall govern minimum requirements for this Project. Where codes, regulations, and standards conflict with the Contract Documents, these conflicts shall be brought to the immediate attention of the District and the Architect.
- B. Codes, regulations, and standards shall be as published effective as of date of bid opening, unless otherwise specified or indicated.

1.06 PROJECT RECORD DOCUMENTS

- A. Contractor shall maintain on Site one set of the following record documents; Contractor shall record actual revisions to the Work:
 - (1) Contract Drawings.
 - (2) Specifications.
 - (3) Addenda.

- (4) Change Orders and other modifications to the Contract.
 - (5) Reviewed shop drawings, product data, and samples.
 - (6) Field test records.
 - (7) Inspection certificates.
 - (8) Manufacturer's certificates.
- B. Contractor shall store Record Documents separate from documents used for construction. Provide files, racks, and secure storage for Record Documents and samples.
- C. Contractor shall record information concurrent with construction progress.
- D. Specifications: Contractor shall legibly mark and record at each product section of the Specifications the description of the actual product(s) installed, including the following:
- (1) Manufacturer's name and product model and number.
 - (2) Product substitutions or alternates utilized.
 - (3) Changes made by Addenda and Change Orders and written directives.

1.07 EXAMINATION OF EXISTING CONDITIONS

- A. Contractor shall be held to have examined the Project Site and acquainted itself with the conditions of the Site and of the streets or roads approaching the Site.
- B. Prior to commencement of Work, Contractor shall survey the Site and existing buildings and improvements to observe existing damage and defects such as cracks, sags, broken, missing or damaged glazing, other building elements and Site improvements, and other damage.
- C. Should Contractor observe cracks, sags, and other damage to and defects of the Site and adjacent buildings, paving, and other items not indicated in the Contract Documents, Contractor shall immediately report same to the District and the Architect.

1.08 CONTRACTOR'S USE OF PREMISES

- A. If unoccupied and only with District's prior written approval, Contractor may use the building(s) at the Project Site without limitation for its operations, storage, and office facilities for the performance of the Work. If the District chooses to beneficially occupy any building(s), Contractor must obtain the District's written approval for Contractor's use of spaces and types of operations to be performed within the building(s) while so occupied. Contractor's access to the building(s) shall be limited to the areas indicated.

- B. If the space at the Project Site is not sufficient for Contractor's operations, storage, office facilities and/or parking, Contractor shall arrange and pay for any additional facilities needed by Contractor.
- C. Contractor shall not interfere with use of or access to occupied portions of the building(s) or adjacent property.
- D. Contractor shall maintain corridors, stairs, halls, and other exit-ways of building clear and free of debris and obstructions at all times.
- E. No one other than those directly involved in the demolition and construction, or specifically designated by the District or the Architect shall be permitted in the areas of work during demolition and construction activities.
- F. The Contractor shall install the construction fence and maintain that it will be locked when not in use. Keys to this fencing will be provided to the District.

1.09 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. The Drawings show above-grade and below-grade structures, utility lines, and other installations that are known or believed to exist in the area of the Work. Contractor shall locate these existing installations before proceeding with excavation and other operations that could damage same; maintain them in service, where appropriate; and repair damage to them caused by the performance of the Work. Should damage occur to these existing installations, the costs of repair shall be at the Contractor's expense and made to the District's satisfaction.
- B. Contractor shall be alert to the possibility of the existence of additional structures and utilities. If Contractor encounters additional structures and utilities, Contractor will immediately report to the District for disposition of same as indicated in the General Conditions.

1.10 UTILITY SHUTDOWNS AND INTERRUPTIONS

- A. Contractor shall give the District a minimum of fourteen (14) calendar days written notice in advance of any need to shut off existing utility services or to effect equipment interruptions. The District will set exact time and duration for shutdown, and will assist Contractor with shutdown. Work required to re-establish utility services shall be performed by the Contractor.
- B. Contractor shall obtain District's written approval as indicated in the General Conditions in advance of deliveries of material or equipment or other activities that may conflict with District's use of the building(s) or adjacent facilities.

1.11 STRUCTURAL INTEGRITY

- A. Contractor shall be responsible for and supervise each operation and work that could affect structural integrity of various building elements, both permanent and temporary.

- B. Contractor shall include structural connections and fastenings as indicated or required for complete performance of the Work.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

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ALTERNATES AND UNIT PRICING

PART 1 – ALTERNATES

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A.** General Conditions;
- B.** Special Conditions;
- C.** Bid Form and Proposal;
- D.** Instruction to Bidders.

1.02 DESCRIPTION

The items of work indicated below propose modifications to, substitutions for, additions to and/or deletions from the various parts of the Work specified in other Sections of the Specifications. The acceptance or rejection of any of the alternates is strictly at the option of the District subject to District's acceptance of Contractor's stated prices contained in this Proposal.

1.03 GENERAL

Where an item is omitted, or scope of Work is decreased, all Work pertaining to the item whether specifically stated or not, shall be omitted and where an items is added or modified or where scope of Work is increased, all Work pertaining to that required to render same ready for use on the Project in accordance with intention of Drawings and Specifications shall be included in an agreed upon price amount.

1.04 BASE BID

The Base Bid includes all work required to construct the Project completely and in accordance with the Contract Documents.

1.05 ALTERNATES

A. Intrusion Alarm System

The above Alternate descriptions are general in nature and for reference purposes only. The Contract Documents, including, without limitation, the Drawings and Specifications, must be referred to for the complete scope of Work.

PART 2 – [RESERVED]

END OF DOCUMENT

DOCUMENT 01 25 13
PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. Instructions to Bidders;
- B. General Conditions, including, without limitation, Substitutions For Specified Items; and
- C. Special Conditions.

1.02 SUBSTITUTIONS OF MATERIALS AND EQUIPMENT

- A. Catalog numbers and specific brands or trade names followed by the designation "or equal" are used in conjunction with material and equipment required by the Specifications to establish the standards of quality, utility, and appearance required. Substitutions which are equal in quality, utility, and appearance to those specified may be reviewed subject to the provisions of the General Conditions.
- B. Wherever more than one manufacturer's product is specified, the first-named product is the basis for the design used in the work and the use of alternative-named manufacturers' products or substitutes may require modifications in that design. If such alternatives are proposed by Contractor and are approved by the District and/or the Architect, Contractor shall assume all costs required to make necessary revisions and modifications of the design resulting from the substitutions requested by the Contractor.
- C. When materials and equipment are specified by first manufacturer's name and product number, second manufacturer's name and "or approved equal," supporting data for the second product, if proposed by Contractor, shall be submitted in accordance with the requirements for substitutions. The District's Board has found and determined that certain item(s) shall be used on this Project based on the purpose(s) indicated pursuant to Public Contract Code section 3400(c). These findings, as well as the products and brand or trade names, have been identified in the Notice to Bidders.
- D. The Contractor will not be allowed to substitute specified items unless the request for substitution is submitted as follows:
 - (1) District must receive any notice of request for substitution of a specified item a minimum of ten (10) calendar days prior to bid opening.

- (2) Within 35 days after the date of the Notice of Award, the Contractor shall submit data substantiating the request(s) for all substitution(s) containing sufficient information to assess acceptability of product or system and impact on Project, including, without limitation, the requirements specified in the Special Conditions and the technical Specifications. Insufficient information shall be grounds for rejection of substitution.
- E. If the District and/or Architect, in reviewing proposed substitute materials and equipment, require revisions or corrections to be made to previously accepted Shop Drawings and supplemental supporting data to be resubmitted, Contractor shall promptly do so. If any proposed substitution is judged by the District and/or Architect to be unacceptable, the specified material or equipment shall be provided.
- F. Samples may be required. Tests required by the District and/or Architect for the determination of quality and utility shall be made at the expense of Contractor, with acceptance of the test procedure first given by the District.
- G. In reviewing the supporting data submitted for substitutions, the District and/or Architect will use for purposes of comparison all the characteristics of the specified material or equipment as they appear in the manufacturer's published data even though all the characteristics may not have been particularly mentioned in the Contract Documents. If more than two (2) submissions of supporting data are required, the cost of reviewing the additional supporting data shall be borne by Contractor, and the District will deduct the costs from the Contract Price. The Contractor shall be responsible for any re-design costs occasioned by District's acceptance and/or approval of any substitute.
- H. The Contractor shall, in the event that a substitute is less costly than that specified, credit the District with one hundred percent (100%) of the net difference between the substitute and the originally specified material. In this event, the Contractor agrees to execute a deductive Change Order to reflect that credit. In the event Contractor furnishes a material, process, or article more expensive than that specified, the difference in the cost of that material, process, or article so furnished shall be borne by Contractor.
- I. In no event shall the District be liable for any increase in Contract Price or Contract Time due to any claimed delay in the evaluation of any proposed substitute or in the acceptance or rejection of any proposed substitute.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 26 00

CHANGES IN THE WORK

CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS IN THE AGREEMENT, GENERAL CONDITIONS, AND SPECIAL CONDITIONS, IF USED, RELATED TO CHANGES AND/OR REQUESTS FOR CHANGES.

END OF DOCUMENT

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DOCUMENT 01 29 00

**APPLICATION FOR PAYMENT AND
CONDITIONAL AND UNCONDITIONAL WAIVER AND RELEASE FORMS**

**CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS IN THE GENERAL
CONDITIONS RELATED TO APPLICATIONS FOR PAYMENT AND/OR PAYMENTS.**

**CONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT
(CIVIL CODE SECTION 8132)**

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

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Through Date: _____

Conditional Waiver and Release

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

Maker of Check: _____

Amount of Check: \$ _____

Check Payable to: _____

Exceptions

This document does not affect any of the following:

- (1) Retentions.
- (2) Extras for which the claimant has not received payment.
- (3) The following progress payments for which the claimant has previously given a conditional waiver and release but has not received payment:

Date(s) of waiver and release: _____

Amount(s) of unpaid progress payment(s): \$ _____

SOLANO COMMUNITY COLLEGE DISTRICT

**APPLICATION FOR PAYMENT AND
CONDITIONAL AND UNCONDITIONAL
WAIVER AND RELEASE FORMS
DOCUMENT 01 29 00-2**

- (4) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

**UNCONDITIONAL WAIVER AND RELEASE
ON PROGRESS PAYMENT
(CIVIL CODE SECTION 8134)**

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

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Through Date: _____

Unconditional Waiver and Release

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

Exceptions

This document does not affect any of the following:

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

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

**CONDITIONAL WAIVER AND RELEASE
ON FINAL PAYMENT**

(CIVIL CODE SECTION 8136)

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

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Conditional Waiver and Release

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

Maker of Check: _____

Amount of Check: \$ _____

Check Payable to: _____

Exceptions

This document does not affect any of the following: _____

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

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

**UNCONDITIONAL WAIVER AND RELEASE
ON FINAL PAYMENT
(CIVIL CODE SECTION 8138)**

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

Name of Claimant: _____

Name of Customer: _____

Job Location: _____

Owner: _____

Unconditional Waiver and Release

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

Exceptions

This document does not affect any of the following: _____

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

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

DOCUMENT 01 31 19

PROJECT MEETINGS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions; and
- B. Special Conditions.

1.02 PROGRESS MEETINGS:

- A. Contractor shall schedule and hold regular weekly progress meetings after a minimum of one week's prior written notice of the meeting date and time to all Invitees as indicated below.
- B. Location: Contractor's field office.
- C. The Contractor shall notify and invite the following entities ("Invitees"):
 - (1) District Representative.
 - (2) Contractor.
 - (3) Contractor's Project Manager.
 - (4) Contractor's Superintendent.
 - (5) Subcontractors, as appropriate to the agenda of the meeting.
 - (6) Suppliers, as appropriate to the agenda of the meeting.
 - (7) Construction Manager, if any.
 - (8) Architect
 - (9) Engineer(s), if any and as appropriate to the agenda of the meeting.
 - (10) Others, as appropriate to the agenda of the meeting.
- D. The District's, the Architect's, and/or an engineer's Consultants will attend at their discretion, in response to the agenda.
- E. The District representative, the Construction Manager, and/or another District Agent shall take and distribute meeting notes to attendees and other concerned parties. If exceptions are taken to anything in the meeting notes,

those exceptions shall be stated in writing to the District within five (5) working days following District's distribution of the meeting notes.

1.03 PRE-INSTALLATION/PERFORMANCE MEETING:

- A. Contractor shall schedule a meeting prior to the start of each of the following portions of the Work: cutting and patching of plaster and roofing, and other weather-exposed and moisture-resistant products. Contractor shall invite all Invitees to this meeting, and others whose work may affect or be affected by the quality of the cutting and patching work.
- B. Contractor shall review in detail prior to this meeting, the manufacturer's requirements and specifications, applicable portions of the Contract Documents, Shop Drawings, and other submittals, and other related work. At this meeting, invitees shall review and resolve conflicts, incompatibilities, or inadequacies discovered or anticipated.
- C. Contractor shall review in detail Project conditions, schedule, requirements for performance, application, installation, and quality of completed Work, and protection of adjacent Work and property.
- D. Contractor shall review in detail means of protecting the completed Work during the remainder of the construction period.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 32 13

SCHEDULING OF WORK

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions;
- C. Summary of Work; and
- D. Submittals.

1.02 SECTION INCLUDES

- A. Scheduling of Work under this Contract shall be performed by Contractor in accordance with requirements of this Section.
 - (1) Development of schedule, cost and resource loading of the schedule, monthly payment requests, and project status reporting requirements of the Contract shall employ computerized Critical Path Method ("CPM") scheduling ("CPM Schedule").
 - (2) CPM Schedule shall be cost loaded based on Schedule of Values as approved by District.
 - (3) Submit schedules and reports as specified in the General Conditions.
- B. Upon Award of Contract, Contractor shall immediately commence development of Initial and Original CPM Schedules to ensure compliance with CPM Schedule submittal requirements.

1.03 CONSTRUCTION SCHEDULE

- A. Within ten (10) days of issuance of the Notice to Proceed, and before request for first progress payment, the Contractor shall prepare and submit to the Project Manager a construction progress schedule conforming to the Milestone Schedule below.
- B. The Construction Schedule shall be continuously updated, and an updated schedule shall be submitted with each application for progress payment. Each revised schedule shall indicate the work actually accomplished during the previous period and the schedule for completion of the remaining work.

C. Milestone Schedule:

ACTIVITY DESCRIPTION	REQUIRED COMPLETION
• CONSTRUCTION STARTS	NOVEMBER 7th, 2022
• PHASE 1 COMPLETE	JUNE 9th, 2023
• OWNER MOVE-IN	JUNE 19th, 2023 – JUNE 23rd, 2023
• PHASE 2 COMPLETE	JUNE 28th, 2023
• FINAL PROJECT COMPLETION	JULY 28th, 2023

1.04 QUALIFICATIONS

- A. Contractor shall employ experienced scheduling personnel qualified to use the latest version of [i.e., Primavera Project Planner]. Experience level required is set forth below. Contractor may employ such personnel directly or may employ a consultant for this purpose.
- (1) The written statement shall identify the individual who will perform CPM scheduling.
 - (2) Capability and experience shall be verified by description of construction projects on which individual has successfully applied computerized CPM.
 - (3) Required level of experience shall include at least two (2) projects of similar nature and scope with value not less than three fourths ($\frac{3}{4}$) of the Total Bid Price of this Project. The written statement shall provide contact persons for referenced projects with current telephone and address information.
- B. District reserves the right to approve or reject Contractor's scheduler or consultant at any time. District reserves the right to refuse replacing of Contractor's scheduler or consultant, if District believes replacement will negatively affect the scheduling of Work under this Contract.

1.05 GENERAL

- A. Progress Schedule shall be based on and incorporate milestone and completion dates specified in Contract Documents.
- B. Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times in the Contract, unless an earlier (advanced) time of completion is requested by Contractor and agreed to by District. Any such agreement shall be formalized by a Change Order.
- (1) District is not required to accept an early completion schedule, i.e., one that shows an earlier completion date than the Contract Time.

- (2) Contractor shall not be entitled to extra compensation in event agreement is reached on an earlier completion schedule and Contractor completes its Work, for whatever reason, beyond completion date shown in its early completion schedule but within the Contract Time.
 - (3) A schedule showing the work completed in less than the Contract Time, and that has been accepted by District, shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the work and the Completion Date. Project Float is a resource available to both District and the Contractor.
- C. Ownership Project Float: Neither the District nor Contractor owns Project Float. The Project owns the Project Float. As such, liability for delay of the Completion Date rests with the party whose actions, last in time, actually cause delay to the Completion Date.
- (1) For example, if Party A uses some, but not all of the Project Float and Party B later uses remainder of the Project Float as well as additional time beyond the Project Float, Party B shall be liable for the time that represents a delay to the Completion Date.
 - (2) Party A would not be responsible for the time since it did not consume the entire Project Float and additional Project Float remained; therefore, the Completion Date was unaffected by Party A.
- D. Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. Responsibility for developing Contract CPM Schedule and monitoring actual progress as compared to Progress Schedule rests with Contractor.
- E. Failure of Progress Schedule to include any element of the Work, or any inaccuracy in Progress Schedule, will not relieve Contractor from responsibility for accomplishing the Work in accordance with the Contract. District's acceptance of schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests and shall not, in any manner, impose a duty of care upon District, or act to relieve Contractor of its responsibility for means and methods of construction.
- F. Software: Contractor to use a scheduling software approved by the District / Construction Manager. Such software shall be compatible with Windows operating system. Contractor shall transmit contract file to District on compact disk at times requested by District.
- G. Transmit each item under the form approved by District.
- (1) Identify Project with District Contract number and name of Contractor.
 - (2) Provide space for Contractor's approval stamp and District's review stamps.

- (3) Submittals received from sources other than Contractor will be returned to the Contractor without District's review.

1.06 INITIAL CPM SCHEDULE

- A. Initial CPM Schedule submitted for review at the pre-construction conference shall serve as Contractor's schedule for up to ninety (90) calendar days after the Notice to Proceed.
- B. Indicate detailed plan for the Work to be completed in first ninety (90) days of the Contract; details of planned mobilization of plant and equipment; sequence of early operations; procurement of materials and equipment. Show Work beyond ninety (90) calendar days in summary form.
- C. Initial CPM Schedule shall be time scaled.
- D. Initial CPM Schedule shall be cost and resource loaded. Accepted cost and resource loaded schedule will be used as basis for monthly progress payments until acceptance of the Original CPM Schedule. Use of Initial CPM Schedule for progress payments shall not exceed ninety (90) calendar days.
- E. District and Contractor shall meet to review and discuss the Initial CPM Schedule within seven (7) calendar days after it has been submitted to District.
 - (1) District's review and comment on the schedule shall be limited to Contract conformance (with sequencing, coordination, and milestone requirements).
 - (2) Contractor shall make corrections to schedule necessary to comply with Contract requirements and shall adjust schedule to incorporate any missing information requested by District. Contractor shall resubmit Initial CPM Schedule if requested by District.
- F. If, during the first ninety (90) days after Notice to Proceed, the Contractor is of the opinion that any of the Work included on its Initial CPM Schedule has been impacted, the Contractor shall submit to District a written Time Impact Evaluation ("TIE") in accordance with Article 1.12 of this Section. The TIE shall be based on the most current update of the Initial CPM Schedule.

1.07 ORIGINAL CPM SCHEDULE

- A. Submit a detailed proposed Original CPM Schedule presenting an orderly and realistic plan for completion of the Work in conformance with requirements as specified herein.
- B. Progress Schedule shall include or comply with following requirements:
 - (1) Time scaled, cost and resource (labor and major equipment) loaded CPM schedule.

- (2) No activity on schedule shall have duration longer than fifteen (15) work days, with exception of submittal, approval, fabrication and procurement activities, unless otherwise approved by District.
 - (a) Activity durations shall be total number of actual work days required to perform that activity.
- (3) The start and completion dates of all items of Work, their major components, and milestone completion dates, if any.
- (4) District furnished materials and equipment, if any, identified as separate activities.
- (5) Activities for maintaining Project Record Documents.
- (6) Dependencies (or relationships) between activities.
- (7) Processing/approval of submittals and shop drawings for all material and equipment required per the Contract. Activities that are dependent on submittal acceptance or material delivery shall not be scheduled to start earlier than expected acceptance or delivery dates.
 - (a) Include time for submittals, re-submittals and reviews by District. Coordinate with accepted schedule for submission of Shop Drawings, samples, and other submittals.
 - (b) Contractor shall be responsible for all impacts resulting from re-submittal of Shop Drawings and submittals.
- (8) Procurement of major equipment, through receipt and inspection at jobsite, identified as separate activity.
 - (a) Include time for fabrication and delivery of manufactured products for the Work.
 - (b) Show dependencies between procurement and construction.
- (9) Activity description; what Work is to be accomplished and where.
- (10) The total cost of performing each activity shall be total of labor, material, and equipment, excluding overhead and profit of Contractor. Overhead and profit of the General Contractor shall be shown as a separate activity in the schedule. Sum of cost for all activities shall equal total Contract value.
- (11) Resources required (labor and major equipment) to perform each activity.
- (12) Responsibility code for each activity corresponding to Contractor or Subcontractor responsible for performing the Work.

- (13) Identify the activities which constitute the controlling operations or critical path. No more than twenty-five (25%) of the activities shall be critical or near critical. Near critical is defined as float in the range of one (1) to (10) days.
 - (14) Twenty (20) workdays for developing punch list(s), completion of punch-list items, and final clean-up for the Work or any designated portion thereof. No other activities shall be scheduled during this period.
 - (15) Interface with the work of other contractors, District, and agencies such as, but not limited to, utility companies.
 - (16) Show detailed Subcontractor Work activities. In addition, furnish copies of Subcontractor schedules upon which CPM was built.
 - (a) Also furnish for each Subcontractor, as determined by District, submitted on Subcontractor letterhead, a statement certifying that Subcontractor concurs with Contractor's Original CPM Schedule and that Subcontractor's related schedules have been incorporated, including activity duration, cost and resource loading.
 - (b) Subcontractor schedules shall be independently derived and not a copy of Contractor's schedule.
 - (c) In addition to Contractor's schedule and resource loading, obtain from electrical, mechanical, and plumbing Subcontractors, and other Subcontractors as required by District, productivity calculations common to their trades, such as units per person day, feet of pipe per day per person, feet of wiring per day per person, and similar information.
 - (d) Furnish schedule for Contractor/Subcontractor CPM schedule meetings which shall be held prior to submission of Original CPM schedule to District. District shall be permitted to attend scheduled meetings as an observer.
 - (17) Activity durations shall be in Work days.
 - (18) Submit with the schedule a list of anticipated non-Work days, such as weekends and holidays. The Progress Schedule shall exclude in its Work day calendar all non-Work days on which Contractor anticipates critical Work will not be performed.
- C. Original CPM Schedule Review Meeting: Contractor shall, within sixty (60) days from the Notice to Proceed date, meet with District to review the Original CPM Schedule submittal.
- (1) Contractor shall have its Project Manager, Project Superintendent, Project Scheduler, and key Subcontractor representatives, as required

by District, in attendance. The meeting will take place over a continuous one (1) day period.

- (2) District's review will be limited to submittal's conformance to Contract requirements including, but not limited to, coordination requirements. However, 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 five (5) days of the Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by District at the Meeting.

1.08 ADJUSTMENTS TO CPM SCHEDULE

- A. Adjustments to Original CPM Schedule: Contractor shall have adjusted the Original CPM Schedule submittal to address all review comments from original CPM Schedule review meeting and resubmit network diagrams and reports for District's review.
 - (1) District, within ten (10) days from date that Contractor submitted the revised schedule, will either:
 - (a) Accept schedule and cost and resource loaded activities as submitted, or
 - (b) Advise Contractor in writing to review any part or parts of schedule which either do not meet Contract requirements or are unsatisfactory for District to monitor Project's progress, resources, and status or evaluate monthly payment request by Contractor.
 - (2) District may accept schedule with conditions that the first monthly CPM Schedule update be revised to correct deficiencies identified.
 - (3) When schedule is accepted, it shall be considered the "Original CPM Schedule" which will then be immediately updated to reflect the current status of the work.
 - (4) District reserves right to require Contractor to adjust, add to, or clarify any portion of schedule which may later be discovered to be insufficient for monitoring of Work or approval of partial payment requests. No additional compensation will be provided for such adjustments, additions, or clarifications.
- B. Acceptance of Contractor's schedule by District will be based solely upon schedule's compliance with Contract requirements.

- (1) By way of Contractor assigning activity durations and proposing sequence of Work, Contractor agrees to utilize sufficient and necessary management and other resources to perform work in accordance with the schedule.
 - (2) Upon submittal of schedule update, updated schedule shall be considered "current" CPM Schedule.
 - (3) Submission of Contractor's schedule to District shall not relieve Contractor of total responsibility for scheduling, sequencing, and pursuing Work to comply with requirements of Contract Documents, including adverse effects such as delays resulting from ill-timed Work.
- C. Submittal of Original CPM Schedule, and subsequent schedule updates, shall be understood to be Contractor's representation that the Schedule meets requirements of Contract Documents and that Work shall be executed in sequence indicated on the schedule.
- D. Contractor shall distribute Original CPM Schedule to Subcontractors for review and written acceptance, which shall be noted on Subcontractors' letterheads to Contractor and transmitted to District for the record.

1.09 MONTHLY CPM SCHEDULE UPDATE SUBMITTALS

- A. Following acceptance of Contractor's Original CPM Schedule, Contractor shall monitor progress of Work and adjust schedule each month to reflect actual progress and any anticipated changes to planned activities.
- (1) Each schedule update submitted shall be complete, including all information requested for the Original CPM Schedule submittal.
 - (2) Each update shall continue to show all Work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed.
- B. A meeting will be held on approximately the twenty-fifth (25th) of each month to review the schedule update submittal and progress payment application.
- (1) At this meeting, at a minimum, the following items will be reviewed: Percent (%) complete of each activity; Time Impact Evaluations for Change Orders and Time Extension Request; actual and anticipated activity sequence changes; actual and anticipated duration changes; and actual and anticipated Contractor delays.
 - (2) These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, these meetings shall be attended by Contractor's General Superintendent and Scheduler.

- (3) Contractor shall plan on the meeting taking no less than four (4) hours.
- C. Within five (5) working days after monthly schedule update meeting, Contractor shall submit the updated CPM Schedule update.
- D. Within five (5) work days of receipt of above noted revised submittals, District will either accept or reject monthly schedule update submittal.
 - (1) If accepted, percent (%) complete shown in monthly update will be basis for Application for Payment by the Contractor. The schedule update shall be submitted as part of the Contractor's Application for Payment.
 - (2) If rejected, update shall be corrected and resubmitted by Contractor before the Application for Payment is submitted.
- E. Neither updating, changing or revising of any report, curve, schedule, or narrative submitted to District by Contractor under this Contract, nor District's review or acceptance of any such report, curve, schedule or narrative shall have the effect of amending or modifying in any way the Completion Date or milestone dates or of modifying or limiting in any way Contractor's obligations under this Contract.

1.10 SCHEDULE REVISIONS

- A. Updating the Schedule to reflect actual progress shall not be considered revisions to the Schedule. Since scheduling is a dynamic process, revisions to activity durations and sequences are expected on a monthly basis.
- B. To reflect revisions to the Schedule, the Contractor shall provide District with a written narrative with a full description and reasons for each Work activity revised. For revisions affecting the sequence of work, the Contractor shall provide a schedule diagram which compares the original sequence to the revised sequence of work. The Contractor shall provide the written narrative and schedule diagram for revisions two (2) working days in advance of the monthly schedule update meeting.
- C. Schedule revisions shall not be incorporated into any schedule update until the revisions have been reviewed by District. District may request further information and justification for schedule revisions and Contractor shall, within three (3) days, provide District with a complete written narrative response to District's request.
- D. If the Contractor's revision is still not accepted by District, and the Contractor disagrees with District's position, the Contractor has seven (7) calendar days from receipt of District's letter rejecting the revision to provide a written narrative providing full justification and explanation for the revision. The Contractor's failure to respond in writing within seven (7) calendar days of District's written rejection of a schedule revision shall be contractually interpreted as acceptance of District's position, and the Contractor waives its rights to subsequently dispute or file a claim regarding District's position.

- E. At District's discretion, the Contractor can be required to provide Subcontractor certifications of performance regarding proposed schedule revisions affecting said Subcontractors.

1.11 RECOVERY SCHEDULE

- A. If the Schedule Update shows a completion date twenty-one (21) calendar days beyond the Contract Completion Date, or individual milestone completion dates, the Contractor shall submit to District the proposed revisions to recover the lost time within seven (7) calendar days. As part of this submittal, the Contractor shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, the Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of work.
- B. The revisions shall not be incorporated into any schedule update until the revisions have been reviewed by District.
- C. If the Contractor's revisions are not accepted by District, District and the Contractor shall follow the procedures in paragraph 1.09.C, 1.09.D and 1.09.E above.
- D. At District's discretion, the Contractor can be required to provide Subcontractor certifications for revisions affecting said Subcontractors.

1.12 TIME IMPACT EVALUATION ("TIE") FOR CHANGE ORDERS, AND OTHER DELAYS

- A. When Contractor is directed to proceed with changed Work, the Contractor shall prepare and submit within fourteen (14) calendar days from the Notice to Proceed a TIE which includes both a written narrative and a schedule diagram depicting how the changed Work affects other schedule activities. The schedule diagram shall show how the Contractor proposes to incorporate the changed Work in the schedule and how it impacts the current schedule-update critical path. The Contractor is also responsible for requesting time extensions based on the TIE's impact on the critical path. The diagram must be tied to the main sequence of schedule activities to enable District to evaluate the impact of changed Work to the scheduled critical path.
- B. Contractor shall be required to comply with the requirements of Paragraph 1.09.A for all types of delays such as, but not limited to, Contractor/Subcontractor delays, adverse weather delays, strikes, procurement delays, fabrication delays, etc.
- C. Contractor shall be responsible for all costs associated with the preparation of TIEs, and the process of incorporating them into the current schedule update. The Contractor shall provide District with four (4) copies of each TIE.
- D. Once agreement has been reached on a TIE, the Contract Time will be adjusted accordingly. If agreement is not reached on a TIE, the Contract Time may be extended in an amount District allows, and the Contractor may submit a claim for additional time claimed by contractor.

1.13 TIME EXTENSIONS

- A. The Contractor is responsible for requesting time extensions for time impacts that, in the opinion of the Contractor, impact the critical path of the current schedule update. Notice of time impacts shall be given in accord with the General Conditions.
- B. Where an event for which District is responsible impacts the projected Completion Date, the Contractor shall provide a written mitigation plan, including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. The Contractor shall also include a detailed cost breakdown of the labor, equipment, and material the Contractor would expend to mitigate District-caused time impact. The Contractor shall submit its mitigation plan to District within fourteen (14) calendar days from the date of discovery of the impact. The Contractor is responsible for the cost to prepare the mitigation plan.
- C. Failure to request time, provide TIE, or provide the required mitigation plan will result in Contractor waiving its right to a time extension and cost to mitigate the delay.
- D. No time will be granted under this Contract for cumulative effect of changes.
- E. District will not be obligated to consider any time extension request unless the Contractor complies with the requirements of Contract Documents.
- F. Failure of the Contractor to perform in accordance with the current schedule update shall not be excused by submittal of time extension requests.
- G. If the Contractor does not submit a TIE within the required fourteen (14) calendar days for any issue, it is mutually agreed that the Contractor does not require a time extension for said issue.

1.14 SCHEDULE REPORTS

- A. Submit four (4) copies of the following reports with the Initial CPM Schedule, the Original CPM Schedule, and each monthly update.
- B. Required Reports:
 - (1) Two activity listing reports: one sorted by activity number and one by total Project Float. These reports shall also include each activity's early/late and actual start and finish dates, original and remaining duration, Project Float, responsibility code, and the logic relationship of activities.
 - (2) Cost report sorted by activity number including each activity's associated cost, percentage of Work accomplished, earned value- to date, previous payments, and amount earned for current update period.

- (3) Schedule plots presenting time-scaled network diagram showing activities and their relationships with the controlling operations or critical path clearly highlighted.
- (4) Cash flow report calculated by early start, late start, and indicating actual progress. Provide an exhibit depicting this information in graphic form.
- (5) Planned versus actual resource (i.e., labor) histogram calculated by early start and late start.

C. Other Reports:

In addition to above reports, District may request, from month to month, any two of the following reports. Submit four (4) copies of all reports.

- (1) Activities by early start.
- (2) Activities by late start.
- (3) Activities grouped by Subcontractors or selected trades.
- (4) Activities with scheduled early start dates in a given time frame, such as fifteen (15) or thirty (30) day outlook.

D. Furnish District with report files on compact disks containing all schedule files for each report generated.

1.15 PROJECT STATUS REPORTING

- A. In addition to submittal requirements for CPM scheduling identified in this Section, Contractor shall provide a monthly project status report (i.e., written narrative report) to be submitted in conjunction with each CPM Schedule as specified herein. Status reporting shall be in form specified below.
- B. Contractor shall prepare monthly written narrative reports of status of Project for submission to District. Written status reports shall include:
 - (1) Status of major Project components (percent (%) complete, amount of time ahead or behind schedule) and an explanation of how Project will be brought back on schedule if delays have occurred.
 - (2) Progress made on critical activities indicated on CPM Schedule.
 - (3) Explanations for any lack of work on critical path activities planned to be performed during last month.
 - (4) Explanations for any schedule changes, including changes to logic or to activity durations.
 - (5) List of critical activities scheduled to be performed next month.

- (6) Status of major material and equipment procurement.
- (7) Any delays encountered during reporting period.
- (8) Contractor shall provide printed report indicating actual versus planned resource loading for each trade and each activity. This report shall be provided on weekly and monthly basis.
 - (a) Actual resource shall be accumulated in field by Contractor, and shall be as noted on Contractor's daily reports. These reports will be basis for information provided in computer-generated monthly and weekly printed reports.
 - (b) Contractor shall explain all variances and mitigation measures.
- (9) Contractor may include any other information pertinent to status of Project. Contractor shall include additional status information requested by District at no additional cost.
- (10) Status reports, and the information contained therein, shall not be construed as claims, notice of claims, notice of delay, or requests for changes or compensation.

1.16 WEEKLY SCHEDULE REPORT

At the Weekly Progress Meeting, the Contractor shall provide and present a time-scaled three (3) week look-ahead schedule that is based and correlated by activity number to the current schedule (i.e., Initial, Original CPM, or Schedule Update).

1.17 DAILY CONSTRUCTION REPORTS

On a daily basis, Contractor shall submit a daily activity report to District for each workday, including weekends and holidays when worked. Contractor shall develop the daily construction reports on a computer-generated database capable of sorting daily Work, manpower, and man-hours by Contractor, Subcontractor, area, sub-area, and Change Order Work. Upon request of District, furnish computer disk of this data base. Obtain District's written approval of daily construction report data base format prior to implementation. Include in report:

- A. Project name and Project number.
- B. Contractor's name and address.
- C. Weather, temperature, and any unusual site conditions.
- D. Brief description and location of the day's scheduled activities and any special problems and accidents, including Work of Subcontractors. Descriptions shall be referenced to CPM scheduled activities.
- E. Worker quantities for its own Work force and for Subcontractors of any tier.
- F. Equipment, other than hand tools, utilized by Contractor and Subcontractors.

1.18 PERIODIC VERIFIED REPORTS

Contractor shall complete and verify construction reports on a form prescribed by the Division of the State Architect and file reports on the first day of February, May, August, and November during the preceding quarter year; at the completion of the Contract; at the completion of the Work; at the suspension of Work for a period of more than one (1) 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. Refer to section 4-336 and section 4-343 of Part 1, Title 24 of the California Code of Regulations.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 33 00

SUBMITTALS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Contractor's Submittals and Schedules, Drawings and Specifications;
- B. Special Conditions.

1.02 SECTION INCLUDES:

- A. Definitions:
 - (1) Shop Drawings and Product Data are as indicated in the General Conditions and include, but are not limited to, fabrication, erection, layout and setting drawings, formwork and falsework drawings, manufacturers' standard drawings, descriptive literature, catalogues, brochures, performance and test data, wiring and control diagrams. In addition, there are other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment or systems and all positions conform to the requirement of the Contract Documents, including, without limitation, the Drawings.
 - (2) "Manufactured" applies to standard units usually mass-produced; "fabricated" means specifically assembled or made out of selected materials to meet design requirements. Shop Drawings shall establish the actual detail of manufactured or fabricated items, indicated proper relation to adjoining work and amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure.
 - (3) Manufacturer's Instructions: Where any item of Work is required by the Contract Documents to be furnished, installed, or performed, at a minimum, in accordance with a specified product manufacturer's instructions, the Contractor shall procure and distribute copies of these to the District, the Architect, and all other concerned parties and shall furnish, install, or perform the work, at a minimum, in accordance with those instructions.
- B. Samples, Shop Drawings, Product Data, and other items as specified, in accordance with the following requirements:

- (1) Contractor shall submit all Shop Drawings, Product Data, and Samples to the District, the Architect, the Project Inspector, and the Construction Manager.
- (2) Contractor shall comply with all time frames herein and in the General Conditions and, in any case, shall submit required information in sufficient time to permit proper consideration and action before ordering any materials or items represented by such Shop Drawings, Product Data, and/or Samples.
- (3) Contractor shall allow sufficient time so that no delay occurs due to required lead time in ordering or delivery of any item to the Site. Contractor shall be responsible for any delay in progress of Work due to its failure to observe these requirements.
- (4) Time for completion of Work shall not be extended on account of Contractor's failure to promptly submit Shop Drawings, Product Data, and/or Samples.
- (5) Reference numbers on Shop Drawings shall have Architectural and/or Engineering Contract Drawings reference numbers for details, sections, and "cuts" shown on Shop Drawings. These reference numbers shall be in addition to any numbering system that Contractor chooses to use or has adopted as standard.
- (6) When the magnitude or complexity of submittal material prevents a complete review within the stated time frame, Contractor shall make this submittal in increments to avoid extended delays.
- (7) Contractor shall certify on submittals for review that submittals conform to Contract requirements. Also certify that Contractor-furnished equipment can be installed in allocated space. In event of any variance, Contractor shall specifically state in transmittal and on Shop Drawings, portions vary and require approval of a substitute. Submittals shall not be used as a means of requesting a substitution.
- (8) Unless specified otherwise, sampling, preparation of samples, and tests shall be in accordance with the latest standard of the American Society for Testing and Materials.
- (9) Upon demand by Architect or District, Contractor shall submit samples of materials and/or articles for tests or examinations and consideration before Contractor incorporates same in Work. Contractor shall be solely responsible for delays due to sample(s) not being submitted in time to allow for tests. Acceptance or rejection will be expressed in writing. Work shall be equal to approved samples in every respect. Samples that are of value after testing will remain the property of Contractor.

C. Submittal Schedule:

- (1) Contractor shall prepare its proposed submittal schedule that is coordinated with the its proposed construction schedule and submit both to the District within ten (10) days after the date of the Notice to Proceed. Contractor's proposed schedules shall become the Project Construction Schedule and the Project Submittal Schedule after each is approved by the District.
- (2) Contractor is responsible for all lost time should the initial submittal be rejected, marked "revise and resubmit", etc.
- (3) All Submittals shall be forwarded to the District by the date indicated on the approved Submittal Schedule, unless an earlier date is necessary to maintain the Construction Schedule, in which case those Submittals shall be forwarded to the District so as not to delay the Construction Schedule.
- (4) Contractor may be assessed \$100 a day for each day it is late in submitting a shop drawing or sample. No extensions of time will be granted to Trade Contractor or any Subcontractor because of its failure to have shop drawings and samples submitted in accordance with the Schedule.

1.03 SHOP DRAWINGS:

- A. Contractor shall submit one reproducible transparency and six (6) opaque reproductions. The District will review and return the reproducible copy and one (1) opaque reproduction to Contractor.
- B. Before commencing installation of any Work, the Contractor shall submit and receive approval of all drawings, descriptive data, and material list(s) as required to accomplish Work.
- C. Review of Shop Drawings is regarded as a service to assist Contractor and in all cases original Contract Documents shall take precedence as outlined under General Conditions.
- D. No claim for extra time or payment shall be based on work shown on Shop Drawings unless the claim is (1) noted on Contractor's transmittal letter accompanying Shop Drawings and (2) Contractor has complied with all applicable provisions of the General Conditions, including, without limitation, provisions regarding changes and payment, and all required written approvals.
- E. District shall not review Shop Drawings for quantities of materials or number of items supplied.
- F. District's and/or Architect's review of Shop Drawing will be general. District and/or Architect review does not relieve Contractor of responsibility for dimensions, accuracy, proper fitting, construction of Work, furnishing of materials, or Work required by Contract Documents and not indicated on Shop Drawings. The District's and/or Architect's review of Shop Drawings is not to be construed as approving departures from Contract Documents.

- G. Review of Shop Drawings and Schedules does not relieve Contractor from responsibility for any aspect of those Drawings or Schedules that is a violation of local, County, State, or Federal laws, rules, ordinances, or rules and regulations of commissions, boards, or other authorities or utilities having jurisdiction.
- H. Before submitting Shop Drawings for review, Contractor shall check Shop Drawings of its subcontractors for accuracy, and confirm that all Work contiguous with and having bearing on other work shown on Shop Drawings is accurately drawn and in conformance with Contract Documents.
- I. Submitted drawings and details must bear stamp of approval of Contractor:
 - (1) Stamp and signature shall clearly certify that Contractor has checked Shop Drawings for compliance with Drawings.
 - (2) If Contractor submits a Shop Drawing without an executed stamp of approval, or whenever it is evident (despite stamp) that Drawings have not been checked, the District and/or Architect will not consider them and will return them to the Contractor for revision and resubmission. In that event, it will be deemed that Contractor has not complied with this provision and Contractor shall bear risk of all delays to same extent as if it had not submitted any Shop Drawings or details.
- J. Submission of Shop Drawings (in either original submission or when resubmitted with correction) constitutes evidence that Contractor has checked all information thereon and that it accepts and is willing to perform Work as shown.
- K. Contractor shall pay for cost of any changes in construction due to improper checking and coordination. Contractor shall be responsible for all additional costs, including coordination. Contractor shall be responsible for costs incurred by itself, the District, the Architect, the Project Inspector, the Construction Manager, any other Subcontractor or contractor, etc., due to improperly checked and/or coordination of submittals.
- L. Shop Drawings must clearly delineate the following information:
 - (1) Project name and address.
 - (2) Specification number and description.
 - (3) Architect's name and project number.
 - (4) Shop Drawing title, number, date, and scale.
 - (5) Names of Contractor, Subcontractor(s) and fabricator.
 - (6) Working and erection dimensions.
 - (7) Arrangements and sectional views.

- (8) Necessary details, including complete information for making connections with other Work.
 - (9) Kinds of materials and finishes.
 - (10) Descriptive names of materials and equipment, classified item numbers, and locations at which materials or equipment are to be installed in the Work. Contractor shall use same reference identification(s) as shown on Contract Drawings.
- M. Contractor shall prepare composite drawings and installation layouts when required to solve tight field conditions.
- (1) Shop Drawings shall consist of dimensioned plans and elevations and must give complete information, particularly as to size and location of sleeves, inserts, attachments, openings, conduits, ducts, boxes, structural interferences, etc.
 - (2) Contractor shall coordinate these composite Shop Drawings and installation layouts in the field between itself and its Subcontractor(s) for proper relationship to the Work, the work of other trades, and the field conditions. The Contractor shall check and approve all submittal(s) before submitting them for final review.

1.04 PRODUCT DATA OR NON REPRODUCIBLE SUBMITTALS:

- A. Contractor shall submit manufacturer's printed literature in original form. Any fading type of reproduction will not be accepted. Contractor must submit a minimum of six (6) each, to the District. District shall return one (1) to the Contractor, who shall reproduce whatever additional copies it requires for distribution.
- B. Contractor shall submit six (6) copies of a complete list of all major items of mechanical, plumbing, and electrical equipment and materials in accordance with the approved Submittal Schedule, except as required earlier to comply with the approved Construction Schedule. Other items specified are to be submitted prior to commencing Work. Contractor shall submit items of like kind at one time in a neat and orderly manner. Partial lists will not be acceptable.
- C. Submittals shall include manufacturer's specifications, physical dimensions, and ratings of all equipment. Contractor shall furnish performance curves for all pumps and fans. Where printed literature describes items in addition to that item being submitted, submitted item shall be clearly marked on sheet and superfluous information shall be crossed out. If highlighting is used, Contractor shall mark all copies.
- D. Equipment submittals shall be complete and include space requirements, weight, electrical and mechanical requirements, performance data, and supplemental information that may be requested.

- E. Imported Materials Certification must be submitted at least ten (10) days before material is delivered.

1.05 SAMPLES:

- A. Contractor shall submit for approval Samples as required and within the time frame in the Contract Documents. Materials such as concrete, mortar, etc., which require on-site testing will be obtained from Project Site.
- B. Contractor shall submit four (4) samples except where greater or lesser number is specifically required by Contract Documents including, without limitation, the Specifications.
 - (1) Samples must be of sufficient size and quality to clearly illustrate functional characteristics, with integrally related parts and attachment devices.
 - (2) Samples must show full range of texture, color, and pattern.
- C. Contractor shall make all Submittals, unless it has authorized Subcontractor(s) to submit and Contractor has notified the District in writing to this effect.
- D. Samples to be shipped prepaid or hand-delivered to the District.
- E. Contractor shall mark samples to show name of Project, name of Contractor submitting, Contract number and segment of Work where representative Sample will be used, all applicable Specifications Sections and documents, Contract Drawing Number and detail, and ASTM or FS reference, if applicable.
- F. Contractor shall not deliver any material to Site prior to receipt of District's and/or Architect's completed written review and approval. Contractor shall furnish materials equal in every respect to approved Samples and execute Work in conformance therewith.
- G. District's and/or Architect's review, acceptance, and/or approval of Sample(s) will not preclude rejections of any material upon discovery of defects in same prior to final acceptance of completed Work.
- H. After a material has been approved, no change in brand or make will be permitted.
- I. Contractor shall prepare its Submittal Schedule and submit Samples of materials requiring laboratory tests to specified laboratory for testing not less than ninety (90) days before such materials are required to be used in Work.
- J. Samples which are rejected must be resubmitted promptly after notification of rejection and be marked "Resubmitted Sample" in addition to other information required.
- K. Field Samples and Mock-Ups are to be removed by Contractor at District's direction:

- (1) Size: As Specified.
- (2) Furnish catalog numbers and similar data, as requested.

1.06 REVIEW AND RESUBMISSION REQUIREMENTS:

- A. The District will arrange for review of Sample(s), Shop Drawing(s), Product Data, and other submittal(s) by appropriate reviewer and return to Contractor as provided below within twenty-one (21) days after receipt or within twenty-one (21) days after receipt of all related information necessary for such review, whichever is later.
- B. One (1) copy of product or materials data will be returned to Contractor with the review status.
- C. Samples to be incorporated into the Work will be returned to Contractor, together with a written notice designating the Sample with the appropriate review status and indicating errors discovered on review, if any. Other Samples will not be returned, but the same notice will be given with respect thereto, and that notice shall be considered a return of the Sample.
- D. Contractor shall revise and resubmit any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) as required by the reviewer. Such resubmittals will be reviewed and returned in the same manner as original Sample(s), Shop Drawing(s), Product Data, and other submittal(s), within fourteen (14) days after receipt thereof or within fourteen (14) days after receipt of all related information necessary for such review. Such resubmittal shall not delay the Work.
- E. Contractor may proceed with any of the Work covered by Sample(s), Shop Drawing(s), Product Data, and other submittal(s) upon its return if designated as no exception taken, or revise as noted, provided the Contractor proceeds in accordance with the District and/or the Architect's notes and comments.
- F. Contractor shall not begin any of the work covered by a Sample(s), Shop Drawing(s), Product Data, and other submittal(s), designated as revise and resubmit or rejected, until a revision or correction thereof has been reviewed and returned to Contractor.
- G. Sample(s), Shop Drawing(s), Product Data, and other submittal(s) designated as revise and resubmit or rejected and requiring resubmittal, shall be revised or corrected and resubmitted to the District no later than fourteen (14) days or a shorter period as required to comply with the approved Construction Schedule, after its return to Contractor.
- H. Neither the review nor the lack of review of any Sample(s), Shop Drawing(s), Product Data, and other submittal(s) shall waive any of the requirements of the Contract Documents, or relieve Contractor of any obligation thereunder.
- I. District's and/or Architect's review of Shop Drawings does not relieve the Contractor of responsibility for any errors that may exist. Contractor is

responsible for the dimensions and design of adequate connections and details and for satisfactory construction of all the Work.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 35 13.23

SITE STANDARDS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including without limitation, Site Access, Conditions, and Regulations;
- B. Special Conditions;
- C. Drug-Free Workplace Certification;
- D. Tobacco-Free Environment Certification;
- E. Criminal Background Investigation/Fingerprinting Certification;
- F. Temporary Facilities and Controls.

1.02 REQUIREMENTS OF THE DISTRICT:

- A. Drug-Free Schools and Safety Requirements:
 - (1) All school sites and other District Facilities have been declared "Drug-Free Zones." No drugs, alcohol and/or smoking are allowed at any time in any buildings and/or grounds on District property. No students, staff, visitors, or contractors are to use drugs on these sites.
 - (2) Smoking and the use of tobacco products by all persons is prohibited on or in District property. District property includes school buildings, school grounds, school-owned vehicles and vehicles owned by others while on District property. Contractor shall post: "Non-Smoking Area" in a highly visible location in each work area, staging area, and parking area. Contractor may designate a smoking area outside of District property within the public right-of-way, provided that this area remains quiet and unobtrusive to adjacent neighbors. This smoking area is to be kept clean at all times.
 - (3) Contractor shall ensure that no alcohol, firearms, weapons, or controlled substances enter or are used at the Site. Contractor shall immediately remove from the Site and terminate the employment of any employee(s) found in violation of this provision.
- B. Language: Profanity or other unacceptable and/or loud language will not be tolerated, "Cat calls" or other derogatory language toward students, staff, volunteers, parents or public will not be allowed.

- C. Disturbing the Peace (Noise and Lighting):
- (1) Contractor shall observe the noise ordinance of the Site at all times including, without limitation, all applicable local, city, and/or state laws, ordinances, and/or regulations regarding noise and allowable noise levels.
 - (2) The use of radios, etc., shall be controlled to keep all sound at a level that cannot be heard beyond the immediate area of use. District reserves the right to prohibit the use of radios at the Site, except for mobile phones or other handheld communication radios.
 - (3) If portable lights are used after dark, all light must be located so as not to direct light into neighboring property.
- D. Traffic:
- (1) Driving on the Premises shall be limited to periods when students and public are not present. If driving or deliveries must be made during the school hours, two (2) or more ground guides shall lead the vehicle across the area of travel. In no case shall driving take place across playgrounds or other pedestrian paths during recess, lunch, and/or class period changes. The speed limit on-the Premises shall be five (5) miles per hour (maximum) or less if conditions require.
 - (2) All paths of travel for deliveries, including without limitation, material, equipment, and supply deliveries, shall be reviewed and approved by District in advance. Any damage will be repaired to the pre-damaged condition by the Contractor.
 - (3) District shall designate a construction entry to the Site. If Contractor requests, District determines it is required, and to the extent possible, District shall designate a staging area so as not to interfere with the normal functioning of school facilities. Location of gates and fencing shall be approved in advance with District and at Contractor's expense.
 - (4) Parking areas shall be reviewed and approved by District in advance. No parking is to occur under the drip line of trees or in softscape areas that could otherwise be damaged.
- E. All of the above shall be observed and complied with by the Contractor and all workers on the Site. Failure to follow these directives could result in individual(s) being suspended or removed from the work force at the discretion of the District. The same rules and regulations shall apply equally to delivery personnel, inspectors, consultants, and other visitors to the Site.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 41 00

REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Obtaining of Permits, Licenses and Registrations and Work to Comply with All Applicable Laws and Regulations;
- B. Special Conditions; and
- C. Quality Control.

1.02 DESCRIPTION:

This section covers the general requirements for regulatory requirements pertaining to the Work and is supplementary to all other regulatory requirements mentioned or referenced elsewhere in the Contract Documents.

1.03 REQUIREMENTS OF REGULATORY AGENCIES:

- A. All statutes, ordinances, laws, rules, codes, regulations, standards, and the lawful orders of all public authorities having jurisdiction over the Work, are hereby incorporated into these Contract Documents as if repeated in full herein and are intended to be included in any reference to Code or Building Code, unless otherwise specified, including, without limitation, the references in the list below. Contractor shall make available at the Site copies of all the listed documents applicable to the Work as the District and/or Architect may request, including, without limitation, applicable portions of the California Code of Regulations ("CCR").
 - (1) California Building Standards Administrative Code, Part 1, Title 24, CCR.
 - (2) California Building Code (CBC), Part 2, Title 24, CCR; (International Building Code volumes 1-2 and California Amendments).
 - (3) California Electrical Code (CEC), Part 3, Title 24, CCR; (National Electrical Code and California Amendments).
 - (4) California Mechanical Code (CMC), Part 4, Title 24, CCR; (Uniform Mechanical Code and California Amendments).
 - (5) California Plumbing Code (CPC), Part 5, Title 24, CCR; (Uniform Plumbing Code and California Amendments).

- (6) California Fire Code (CFC), Part 9, Title 24, CCR; (International Fire Code and California Amendments).
 - (7) California Green Building Standards Code (CALGreen), Part 11, Title 24, CCR.
 - (8) California Referenced Standards Code, Part 12, Title 24, CCR.
 - (9) State Fire Marshal Regulations, Public Safety, Title 19, CCR.
 - (10) Partial List of Applicable National Fire Protection Association (NFPA) Standards:
 - (a) NFPA 13 - Automatic Sprinkler System.
 - (b) NFPA 14 - Standpipes Systems.
 - (c) NFPA 17A - Wet Chemical System
 - (d) NFPA 24 - Private Fire Mains.
 - (e) (California Amended) NFPA 72 - National Fire Alarm Codes.
 - (f) NFPA 253 - Critical Radiant Flux of Floor Covering System.
 - (g) NFPA 2001 - Clean Agent Fire Extinguishing Systems.
 - (11) California Division of the State Architect interpretation of Regulations ("DSA IR"), including, without limitation:
 - (a) DSA IR A-6 — Construction Change Document Submittal and Approval Processes.
 - (b) DSA IR A-7 — Project Inspector Certification and Approval.
 - (c) DSA IR A-8 — Project Inspector and Assistant Inspector Duties and Performance.
 - (d) DSA IR A-12 — Assistant Inspector Approval.
 - (12) DSA Procedures ("DSA PR")
 - (a) DSA PR 13-01 – Construction Oversight Process
 - (13) DSA PR 13-02 – Project Certification Process
- B. This Project shall be governed by applicable regulations, including, without limitation, the State of California's Administrative Regulations for the Division of the State Architect-Structural Safety (DSA/SS), Chapter 4, Part 1, Title 24, CCR, and the most current version on the date the bids are opened and as it pertains to school construction including, without limitation:

- (1) Test and testing laboratory per Section 4-335. District shall pay for the testing laboratory.
- (2) Special inspections per Section 4-333(c).
- (3) Deferred Approvals per section 4-317(g).
- (4) Verified reports per Sections 4-336 & 4-343(c).
- (5) Duties of the Architect & Engineers shall be per Section 4-333(a) and 4-341.
- (6) Duties of the Contractor shall be per Section 4-343.
- (7) Duties of Project Inspector shall be per Section 4-334.
- (8) Addenda and Construction Change Documents per Section 4-338.

Contractor shall keep and make available all applicable parts of the most current version of Title 24 referred to in the plans and specifications at the Site during construction.

- C. Items of deferred approval shall be clearly marked on the first sheet of the Architect's and/or Engineer's approved Drawings. All items later submitted for approval shall be per Title 24 requirements to the DSA.
- (1) Contractor shall submit the following to Architect for review and endorsement:
 - (a) Product information on proposed material/system supplier.
 - (b) Drawings, specifications, and calculations prepared, signed, and stamped by an architect or engineer licensed in the State of California for that portion of the Work.
 - (c) All other requirements as may be required by DSA.
 - (2) Cost of preparing and submitting documentation per DSA Deferred Approval requirements including required modifications to Drawings and Specifications, whether or not indicated in the Contract Documents, shall be borne by Contractor.
 - (3) Contractor shall not begin fabrication and installation of deferred approval items without first obtaining DSA approval of Drawings and Specifications.
 - (4) Schedule of Work Subject to DSA Deferred Approval: Window wall systems exceeding 10 feet in span.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 42 13

ABBREVIATIONS AND ACRONYMS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions including without limitation, Definitions;
- B. Special Conditions.

1.02 DOCUMENT INCLUDES:

- A. Abbreviations used throughout the Contract Documents.
- B. Reference to a technical society, organization, or body is by abbreviation, as follows:

1.	AA	Aluminum Association
2.	AASHTO	American Association of State Highway and Transportation Officials
3.	ABPA	Acoustical and Board Products Association
4.	ACI	American Concrete Institute
5.	AGA	American Gas Association
6.	AGC	Associated General Contractors
7.	AHC	Architectural Hardware Consultant
8.	AHRI	Air Conditioning, Heating, Refrigeration Institute
9.	AI	Asphalt Institute
10.	AIA	American Institute of Architects
11.	AISC	American Institute of Steel Construction
12.	AISI	American Iron and Steel Institute
13.	AMCA	Air Movement and Control Association
14.	ANSI	American National Standards Institute
15.	APA	APA – The Engineered Wood Association
16.	ASCE	American Society of Civil Engineers
17.	ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
18.	ASSE	American Society of Civil Engineers
19.	ASME	American Society of Mechanical Engineers
20.	ASTM	American Society of Testing and Materials International
21.	AWPA	American Wood Protection Association
22.	AWPI	American Wood Preservers Institute
23.	AWS	American Welding Society
24.	AWSC	American Welding Society Code
25.	AWI	Architectural Woodwork Institute
26.	AWWA	American Water Works Association

27.	BIA	The Brick Industry Association
28.	CCR	California Code of Regulations
29.	CLFMI	Chain Link Fence Manufacturers Institute
30.	CRA	California Redwood Association
31.	CRSI	Concrete Reinforcing Steel Institute
32.	CS	Commercial Standards
33.	CSI	Construction Specifications Institute
34.	CTI	Cooling Technology Institute
35.	FGIA	Fenestration and Glazing Industry Alliance
36.	FGMA	Flat Glass Manufacturers' Association
37.	FIA	Factory Insurance Association
38.	FM	Factory Mutual Global
39.	FS/FED SPEC	Federal Specification
40.	FTI	Facing Title Institute
41.	GA	Gypsum Association
42.	IAPMO	International Association of Plumbing and Mechanical Officials
43.	ICC	International Code Council
44.	IEEE	Institute of Electrical and Electronics Engineers
45.	IES	Illuminating Engineering Society
46.	MCAC	Mason Contractors Association of California
47.	MIMA	Mineral Wool Insulation Manufacturers Association
48.	MLMA	Metal Lath Manufacturers Association
49.	MS/MIL SPEC	Military Specifications
50.	NAAMM	National Association of Architectural Metal Manufacturers
51.	NBHA	National Builders Hardware Association
52.	NCMA	National Concrete Masonry Association
53.	NCSEA	National Council of Structural Engineers Associations
54.	NEC	National Electrical Code
55.	NEMA	National Electrical Manufacturers Association
56.	NIST	National Institute of Standards and Technology
57.	NSI	Natural Stone Institute
58.	NTMA	National Terrazzo and Mosaic Association, Inc.
59.	ORS	Office of Regulatory Services (California)
60.	OSHA	Occupational Safety and Health Act
61.	PCI	Precast/Prestressed Concrete Institute
62.	PCA	Portland Cement Association
63.	PCA	Painting Contractors Association
64.	PDI	Plumbing Drainage Institute
65.	PEI	Porcelain Enamel Institute, Inc.
66.	PG&E	Pacific Gas & Electric Company
67.	PS	Product Standards
68.	SDI	Steel Door Institute; Steel Deck Institute
69.	SJI	Steel Joist Institute
70.	SPC	Society for Protective Coatings
71.	TCNA	Tile Council of North America, Inc.
72.	TPI	Truss Plate Institute

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73.	UBC	Uniform Building Code
74.	UL	Underwriters Laboratories Code
75.	UMC	Uniform Mechanical Code
76.	USDA	United States Department of Agriculture
77.	VI	Vermiculite Institute
78.	WCLIB	West Coast Lumber Inspection Bureau
79.	WDMA	Window and Door Manufacturers Association
80.	WEUSER	Western Electric Utilities Service Engineering Requirements
81.	WIC	Woodwork Institute of California

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

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DOCUMENT 01 42 16

DEFINITIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions including without limitation, Definitions;
- B. Special Conditions.

1.02 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, Contractor shall comply with requirements of the standard, except when more rigid requirements are specified in the Contract Documents, or are required by applicable codes.
- B. Contractor shall conform to current reference standard publication date in effect on the date of bid opening.
- C. Contractor shall obtain copies of standards unless specifically required not to by the Contract Documents.
- D. Contractor shall maintain a copy of all standards at jobsite during submittals, planning, and progress of the specific Work, until final completion, unless specifically required not to by the Contract Documents.
- E. Should specified reference standards conflict with Contract Documents, Contractor shall request clarification from the District and./or the Architect before proceeding.
- F. The contractual relationship of the parties to the Contract shall not be altered from the contractual relationship as indicated in the Contract Documents by mention or inference otherwise in any referenced document.
- G. Governing Codes shall be as shown in the Contract Documents including, without limitation, the Specifications.

END OF DOCUMENT

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DOCUMENT 01 42 19
REFERENCES

PART 1 - GENERAL

1.01 1.01 SCHEDULE OF REFERENCES:

The following information is intended only for the general assistance of the Contractor, and the District does not represent that all of the information is current. It is the Contractor's responsibility to verify the correct information for each of the entities listed.

AA	Aluminum Association 1525 Wilson Blvd., Suite 600 Arlington, VA 22209 www.aluminum.org	703/358-2960
AABC	Associated Air Balance Council 1518 K Street, NW, Suite 503 Washington, DC 20005 www.aabchq.com	202/737-0202
AASHTO	American Association of State Highway and Transportation Officials 555 12th St. NW - Suite 1000 Washington, DC 20004 www.transportation.org	202/624-5800
AATCC	American Association of Textile Chemists and Colorists P.O. Box 12215 One Davis Drive Research Triangle Park, NC 27709 2215 www.aatcc.org	919/549-8141
ACA	American Coatings Association 901 New York Ave., NW, Suite 300 West Washington, DC 20001 www.paint.org	202/462-6272
ACI	American Concrete Institute 38800 Country Club Dr. Farmington Hills, MI 48331-3439 www.aci-int.org	248/848-3700
ACPA	American Concrete Pipe Association 8445 Freeport Parkway, Suite 350 Irving, TX 75063-2595 www.concrete-pipe.org	972/506-7216

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ADC	Air Duct Council 1901 N. Roselle Road, Suite 800 Schaumburg, IL 60195 www.flexibleduct.org	847/706-6750
AF&PA	American Forest and Paper Association 1111 Nineteenth Street, NW, Suite 800 Washington, DC 20036 www.afandpa.org	202/463-2700
AGA	American Gas Association 400 North Capitol Street, NW Washington, DC 20001 www.aga.org	202/824-7000
AGC	Associate General Contractors of America 2300 Wilson Blvd., Suite 400 Arlington, VA 22201 www.agc.org	703/548-3118
AHA	American Hardboard Association 1210 West Northwest Highway Palatine, IL 60067 http://domensino.com/AHA/default.htm	847/934-8800
AI	Asphalt Institute 2696 Research Park Drive Lexington, KY 40511-8480 www.asphaltinstitute.org	859/288-4960
AIA	The American Institute of Architects 1735 New York Ave., NW Washington, DC 20006-5292 www.aia.org	202/626-7300
AISC	American Institute of Steel Construction One East Wacker Drive Suite 700 Chicago, IL 60601-1802 www.aisc.org	312/670-2400
AISI	American Iron and Steel Institute 25 Massachusetts Ave., NW, Suite 800 Washington, DC 20001 www.steel.org	202/452-7100
AITC	American Institute of Timber Construction 7012 S. Revere Parkway Suite 140 Centennial, CO 80112 https://www.plib.org/aitc/	303/792-9559

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ALI	Associated Laboratories, Inc. P.O. Box 152837 Dallas, TX 75315 www.assoc-labs.com	214/565-0593
ALSC	American Lumber Standards Committee, Inc. P.O. Box 210 Germantown, MD 20875 www.alsc.org	301/972-1700
AMCA	Air Movement and Control Association International, Inc. 30 W. University Drive Arlington Heights, IL 60004 www.amca.org	847/394-0150
AMPP (formerly SSPC)	Association for Materials Protection and Performance (merger of Society for Protective Coatings and National Association of Corrosion Engineers International) (formerly Steel Structures Painting Council) 800 Trumbull Drive Pittsburgh, PA 15205 www.sspc.org	412/281-2331 877/281-7772
ANLA	AmericanHort (merger of American Nursery & Landscape Association and OFA – The Association of Horticultural Professionals) 2130 Stella Court Columbus, OH 43215 www.americanhort.org	614/487-1117
ANSI	American National Standards Institute 1899 L Street, NW, 11th Floor Washington, DC 20036 www.ansi.org	202/293-8020
APA	APA-The Engineered Wood Association 7011 S. 19th Street Tacoma, WA 98466-5333 www.apawood.org	253/565-6600

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APA	Architectural Precast Association 325 John Knox Rd, Suite L-103 Tallahassee, FL 32303 www.archprecast.org	850/205-5637
APCIA	American Property Casualty Insurance Association (merger of American Insurance Association (formerly the National Board of Fire Underwriters) with the Property Casualty Insurers Association of America) 555 12th St, NW, Suite 550 Washington DC 20004 www.apci.org	202/828-7100
AHRI	Air Conditioning and Refrigeration Institute 4100 N. Fairfax Drive, Suite 200 Arlington, VA 22203 www.lightindustries.com/ARI	703/524-8800
ARMA	Asphalt Roofing Manufacturers Association 2331 Rock Spring Road Forest Hill, MD 21050 www.asphaltroofing.org	443/640-1075
ASA	The Acoustical Society of America ASA Office Manager Suite 1NO1 2 Huntington Quadrangle Melville, NY 11747-4502 http://asa.aip.org	516/576-2360
ASCE	American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 www.asce.org	800/548-2723 703/295-6300
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329-2305 www.ashrae.org	800/527-4723 404/636-8400
ASLA	American Society of Landscape Architects 636 Eye Street, NW Washington, DC 20001-3736 www.asla.org	202/898-2444
ASME	American Society of Mechanical Engineers Three Park Avenue New York, NY 10016-5990 www.asme.org	800/434-2763

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ASPE	American Society of Plumbing Engineers 2980 S River Rd. Des Plaines, IL 60018 http://aspe.org	847/296-0002
ASQ	American Society for Quality P.O. Box 3005 Milwaukee, WI 53201-3005 or 600 North Plankinton Avenue Milwaukee, WI 53203 http://asq.org	800/248-1946 414/272-8575
ASSE	American Society of Sanitary Engineering 901 Canterbury, Suite A Westlake, Ohio 44145 www.asse-plumbing.org	440/835-3040
ASTM	ASTM International 100 Barr Harbor Drive PO Box C700 West Conshohocken, PA, 19428-2959 www.astm.org	610/832-9500
AWCI	Association of the Wall and Ceiling Industry 513 West Broad Street, Suite 210 Falls Church, VA 22046 www.awci.org	703/538-1600
AWPA	American Wood Protection Association (formerly American Wood Preservers Institute) P.O. Box 361784 Birmingham, AL 35236-1784 www.awpa.com	205/733-4077
AWPI	American Wood Preservers Institute 2750 Prosperity Ave. Suite 550 Fairfax, VA 22031-4312 www.arcat.com	800/356-AWPI 703/204-0500
AWS	American Welding Society 8669 NW 36 Street, Suite 130 Miami, FL 33166 www.aws.org	800/443-9353 305/443-9353
AWI	Architectural Woodwork Institute 46179 Westlake Drive, Suite 120 Potomac Falls, VA 20165-5874 www.awinet.org	571/323-3636

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AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235 www.awwa.org	800/926-7337 303/794-7711
BHMA	Builders Hardware Manufacturers Association 355 Lexington Avenue, 15th Floor New York, NY 10017 www.buildershardware.com	212/297-2122
BIA	The Brick Industry Association 1850 Centennial Park Drive, Suite 301 Reston, VA 20191 www.gobrick.com	703/620-0010
CGA	Compressed Gas Association 14501 George Carter Way, Suite 103 Chantilly VA 20151-2923 www.cganet.com	703/788-2700
CISCA	Ceilings & Interior Systems Construction Association 1010 Jorie Blvd, Suite 30 Oak Brook, IL 60523 www.cisca.org	630/584-1919
CISPI	Cast Iron Soil Pipe Institute 1064 Delaware Avenue SE Atlanta, GA 30316 www.cispi.org	404/622-0073
CLFMI	Chain Link Fence Manufacturers Institute 10015 Old Columbia Road, Suite B-215 Columbia, MD 21046 www.associationsites.com/main-pub.cfm?usr=clfma	410/290-6267
CPA	Composite Panel Association 19465 Deerfield Avenue, Suite 306 Leesburg, VA 20176 www.compositepanel.org	703/724-1128
CPSC	Consumer Product Safety Commission 4330 East-West Highway Bethesda, MD 20814 www.cpsc.gov	301/504-7923 800/638-2772
CRA	California Redwood Association 405 Enfrente Drive, Suite 200 Novato, CA 94949 www.calredwood.org	415/382-0662

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CRI	Carpet and Rug Institute 100 S. Hamilton Street Dalton, GA 30722-2048 www.carpet-rug.org	706/278-3176
CRSI	Concrete Reinforcing Steel Institute 933 N. Plum Grove Road Schaumburg, IL 60173 4758 www.crsi.org	847/517-1200
CSI	The Construction Specifications Institute 123 North Pitt St, Suite 450 Alexandria, VA 22314 www.csinet.org	800/689-2900
CTIOA	Ceramic Tile Institute of America 12061 Jefferson Blvd. Culver City, CA 90230-6219 www.ctioa.org	310/574-7800
DHI	Door and Hardware Institute (formerly National Builders Hardware Association) 14150 Newbrook Dr. Chantilly, VA 20151 www.dhi.org	703/222-2010
DIPRA	Ductile Iron Pipe Research Association 2000 2nd Avenue, South Suite 429 Birmingham, AL 35233 www.dipra.org	205/402-8700
DOC	U.S. Department of Commerce 1401 Constitution Ave., NW Washington, DC 20230 www.commerce.gov	202/482-2000
DOT	U.S. Department of Transportation 1200 New Jersey Avenue, SE Washington, DC 20590 www.dot.gov	855/368-4200
EJMA	Expansion Joint Manufacturers Association, Inc. 25 North Broadway Tarrytown, NY 10591 www.ejma.org	914/332-0040

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EPA	Environmental Protection Agency Ariel Rios Building 1200 Pennsylvania Avenue, N.W. Washington, DC 20460 www.epa.gov	202/272-0167
FCICA	Floor Covering Installation Contractors Association 7439 Millwood Drive West Bloomfield, MI 48322 www.fcica.com	248/661-5015 877/TO-FCICA
FGIA	Fenestration and Glazing Industry Alliance 1900 E Golf Rd, Suite 1250 Schaumburg, IL 60173 https://fgiaonline.org/	847/303-5664
FM Global	Factory Mutual Insurance Company Amy Daley Global Practice Leader – Education, Public Entities, Health Care FM Global 270 Central Avenue Johnston, RI 02919-4949 www.fmglobal.com	401/275-3000 401/275-3029
FS	General Services Administration (GSA) Index of Federal Specifications, Standards and Commercial Item Descriptions 470 East L'Enfant Plaza, SW, Suite 8100 Washington, DC 20407 www.gsa.gov	202/619-8925
GA	The Gypsum Association 6525 Belcrest Road, Suite 480 Hyattsville, MD 20782 www.gypsum.org	301/277-8686
HMA	Hardwood Manufacturers Association One Williamsburg Place, Suite 108 Warrendale, PA 15086 http://hmamembers.org	412/244-0440

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IAPMO	International Association of Plumbing and Mechanical Officials (formerly the Western Plumbing Officials Association) 4755 E. Philadelphia St. Ontario, CA 91761 www.iapmo.org	909/472-4100
ICC	International Code Council 500 New Jersey Avenue, NW, 6th Floor Washington, DC 20001 www.iccsafe.org	888/422-7233
IEEE	Institute of Electrical and Electronics Engineers 3 Park Avenue, 17th Floor New York, NY 10016-5997 www.ieee.org	212/419-7900
IES	Illuminating Engineering Society 120 Wall Street, Floor 17 New York, NY 10005-4001 www.ies.org	212/248-5000
ITRK	Intertek Testing Services 3933 US Route 11 Cortland, NY 13045 www.intertek.com	607/753-6711
MCAA	Mechanical Contractors Association of America 1385 Piccard Drive Rockville, MD 20850 www.mcaa.org	301/869-5800
MIA	Marble Institute of America 28901 Clemens Rd, Ste 100 Cleveland, OH 44145 www.marble-institute.com	440/250-9222
MMPA (formerly WMMPA)	Moulding & Millwork Producers Association (formerly Wood Moulding & Millwork Producers Association) 507 First Street Woodland, CA 95695 www.wmmpa.com	530/661-9591 800/550-7889

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MSS	Manufacturers Standardization Society (MSS) of the Valve and Fittings Industry, Inc. 127 Park Street, NE Vienna, VA 22180-4602 http://mss-hq.org	703/281-6613
NAAMM	National Association of Architectural Metal Manufacturers 800 Roosevelt Rd. Bldg. C, Suite 312 Glen Ellyn, IL 60137 www.naamm.org	630/942-6591
NAIMA	North American Insulation Manufacturers Association P.O. Box 1906 Alexandria, VA 22313 https://insulationinstitute.org/	703/684-0084
NALP	National Association of Landscape Professionals (formerly Professional Landcare Network) 12500 Fair Lakes Circle, Suite 200 Fairfax, VA 22033 https://www.landscapeprofessionals.org/	703/736-9666
NAPA	National Asphalt Pavement Association 6406 Ivy Lane, Suite 350 Greenbelt, MD 20770-1441 www.asphaltpavement.org	888/468-6499 301/731-4748
NCSPA	National Corrugated Steel Pipe Association 14070 Proton Road, Suite 100 Dallas, TX 75244 www.ncspa.org	972/850-1907
NCMA	National Concrete Masonry Association 13750 Sunrise Valley Drive Herndon, VA 20171-4662 www.ncma.org	703/713-1900
NEBB	National Environmental Balancing Bureau 8575 Grovemont Circle Gaithersburg, MD 20877 www.nebb.org	301/977-3698
NECA	National Electrical Contractors Association 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814 www.necanet.org	301/657-3110
NEMA	National Electrical Manufacturers Association 1300 North 17th Street N, Suite 900 Rosslyn, VA 22209 www.nema.org	703/841-3200

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NEII	National Elevator Industry, Inc. 1677 County Route 64 P.O. Box 838 Salem, New York 12865-0838 www.neii.org	518/854-3100
NFPA	National Fire Protection Association 1 Batterymarch Park Quincy, MA USA 02169-7471 www.nfpa.org	800/344-3555 855/274-8525
NGA (formerly GANA)	National Glass Association (merged with Glass Association of North America) 1945 Old Gallows Road Suite 750 Vienna, VA 22182 www.glass.org	866/342-5642 Ext 127
NHLA	National Hardwood Lumber Association PO Box 34518 Memphis, TN 38184 www.nhla.com	901/377-1818
NIA	National Insulation Association 12100 Sunset Hills Road, Suite 330 Reston, VA 20190 www.insulation.org	703/464-6422
NRCA	National Roofing Contractors Association 10255 W. Higgins Road, Suite 600 Rosemont, IL 60018-5607 www.nrca.net	847/299-9070
NSF	NSF International P.O. Box 130140 789 N. Dixboro Road Ann Arbor, MI 48113-0140, USA www.nsf.org	800/673-6275 734/769-8010
NTMA	National Terrazzo and Mosaic Association 209 N. Crockett Street, Suite 2 PO Box 2605 Fredericksburg, TX 78624 www.ntma.com	800/323-9736
OSHA	Occupational Safety and Health Act U.S. Department of Labor Occupational Safety & Health Administration 200 Constitution Ave., NW Washington, DC 20210 www.osha.gov	800/321-OSHA (6742)

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PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077 or 500 New Jersey Ave., N.W. 7 th Floor Washington, D.C. 20001 www.cement.org	847/966-6200 202/408-9494
PCA	Painting Contractors Association (formerly Painting and Decorating Contractors of America) 2316 Millpark Drive Maryland Heights, MO 63043 https://www.pcapainted.org/	800/322-7322
PCI	Precast/Prestressed Concrete Institute 200 W. Adams St. #2100 Chicago, IL 60606 www.pci.org	312/786-0300
PDCA	Painting and Decorating Contractors of America 2316 Millpark Drive, Ste 220 Maryland Heights, MO 63043 www.pdca.com	800/332-PDCA (7322) 314/514-7322
PDI	Plumbing & Drainage Institute 800 Turnpike Street, Suite 300 North Andover, MA 01845 http://pdionline.org	978/557-0720 800/589-8956
PEI	Porcelain Enamel Institute, Inc. P.O. Box 920220 Norcross, GA 30010 www.porcelainenamel.com	770/676-9366
PG&E	Pacific Gas & Electric Company P.O. Box 997300 Sacramento, CA 95899-7300 www.pge.com	800/743-5000
PLIB	Pacific Lumber Inspection Bureau (formerly West Coast Lumber Inspection Bureau) 1010 South 336th Street, Suite 210 Federal Way, WA 98003-7394 https://www.plib.org/	253/835-3344
RFCI	Resilient Floor Covering Institute 115 Broad Street, Suite 201 La Grange GA 30240 www.rfci.com	706/882-3833

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SDI	Steel Deck Institute P.O. Box 25 Fox River Grove, IL 60021 www.sdi.org	847/458-4647
SDI	Steel Door Institute 30200 Detroit Road Westlake, OH 44145 www.steeldoor.org	440/899-0010
SJI	Steel Joist Institute 234 W. Cheves Street Florence, SC 29501 http://steeljoist.org	843/407-4091
SMA	Stucco Manufacturers Association 500 East Yale Loop Irvine, CA 92614 www.stuccomfgassoc.com	949/387-7611
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association 4201 Lafayette Center Drive Chantilly, VA 20151-1219 www.smacna.org	703/803-2980
SPI	SPI: The Plastics Industry Trade Association, Inc. 1425 K St. NW, Suite 500 Washington, DC 20005 www.plasticsindustry.org	202/974-5200
TCA	The Tile Council of North America 100 Clemson Research Blvd. Anderson, SC 29625 www.tcnatile.com	864/646-8453
TPI	Truss Plate Institute 2670 Crain Highway, Suite 203 Waldorf, MD 20601 www.tpinst.org	240/587-5582
TPI	Turfgrass Producers International 444 E. Roosevelt Road #346 Lombard, IL 60148 www.turfgrasssod.org	800/405-8873 847/649-5555
TCIA	Tree Care Industry Association (formerly the National Arborist Association) 136 Harvey Road, Suite 101 Londonderry, NH 03053 www.tcia.org	800/733-2622

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TVI	The Vermiculite Institute c/o The Schundler Company 150 Whitman Avenue Edison, NJ. 08817 www.vermiculiteinstitute.org	732/287-2244
UL	Underwriters Laboratories Inc. 333 Pfingsten Road Northbrook, IL 60062-2096 www.ul.com	847/272-8800 877/854-3577
UNI	Uni-Bell PVC Pipe Association 2711 LBJ Freeway, Suite 1000 Dallas, TX 75234 www.uni-bell.org	972/243-3902
USDA	U.S. Department of Agriculture 1400 Independence Ave., S.W. Washington, DC 20250 www.usda.gov	202/720-2791
WA	Wallcoverings Association 401 North Michigan Avenue Suite 2200 Chicago, IL 60611 www.wallcoverings.org	312/321-5166

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WCLIB	West Coast Lumber Inspection Bureau P.O. Box 23145 Portland, OR 97281 or 6980 S.W. Varns Tigard, OR 97223 www.wclib.org	503/639-0651
WCMA	Window Covering Manufacturers Association 355 Lexington Avenue 15th Floor New York, NY 10017 www.wcmanet.org	212/297-2122
WDMA	Window & Door Manufacturers Association 2001 K Street NW, 3rd Floor North Washington, D.C. 20006 www.wdma.com	202/367-1157
WCMA	Window Covering Manufacturers Association 355 Lexington Avenue 15th Floor New York, New York 10017 www.wcmanet.org	212/297-2122
WDMA	Window & Door Manufacturers Association 401 N. Michigan Avenue, Suite 2200 Chicago, IL 60611 or 2025 M Street, NW, Ste. 800 Washington, D.C. 20036-3309 www.wdma.com	312/321-6802 202/367-1157
WI	Woodwork Institute P.O. Box 980247 West Sacramento, CA 95798 www.wicnet.org	916/372-9943
WRI	Wire Reinforcement Institute 942 Main Street, Suite 300 Hartford, CT 06103 www.wirereinforcementinstitute.org	860/240-9545
WWCA	Western Wall & Ceiling Contractors Association 1910 N. Lime St. Orange, CA 92865 www.wwcca.org	714/221-5520
WWPA	Western Wood Products Association (formerly Redwood Inspection Service) 1500 SW First Ave., Suite 870 Portland, OR 97201 www.wwpa.org	503/224-3930

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 43 00

MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Purchase of Materials and Equipment;
- B. Special Conditions;
- C. Imported Materials Certification.

1.02 MATERIAL AND EQUIPMENT

- A. Only items approved by the District and/or Architect shall be used.
- B. Contractor shall submit lists of products and other product information in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.

1.03 MATERIAL AND EQUIPMENT COLORS

- A. The District and/or Architect will provide a schedule of colors.
- B. No individual color selections will be made until after approval of all pertinent materials and equipment and after receipt of appropriate samples in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.
- C. Contractor shall request priority in writing for any item requiring advance ordering to maintain the approved Construction Schedule.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Contractor shall deliver manufactured materials in original packages, containers, or bundles (with seals unbroken), bearing name or identification mark of manufacturer.
- B. Contractor shall deliver fabrications in as large assemblies as practicable; where specified as shop-primed or shop-finished, package or crate as required to preserve such priming or finish intact and free from abrasion.
- C. Contractor shall store materials in such a manner as necessary to properly protect them from damage. Materials or equipment damaged by handling, weather, dirt, or from any other cause will not be accepted.

- D. Materials are not acceptable that have been warehoused for long periods of time, stored or transported in improper environment, improperly packaged, inadequately labeled, poorly protected, excessively shipped, deviated from normal distribution pattern, or reassembled.
- E. Contractor shall store material so as to cause no obstructions of sidewalks, roadways, access to the Site or buildings, and underground services. Contractor shall protect material and equipment furnished under Contract.
- F. Contractor may store materials on Site with prior written approval by the District, all material shall remain under Contractor's control and Contractor shall remain liable for any damage to the materials. Should the Project Site not have storage area available, the Contractor shall provide for off-site storage at a bonded warehouse and with appropriate insurance coverage at no cost to District.
- G. When any room in Project is used as a shop or storeroom, the Contractor shall be responsible for any repairs, patching, or cleaning necessary due to that use. Location of storage space shall be subject to prior written approval by District.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers listed in various sections of Contract Documents are names of those manufacturers that are believed to be capable of supplying one or more of items specified therein.
- B. The listing of a manufacturer does not imply that every product of that manufacturer is acceptable as meeting the requirements of the Contract Documents.

2.02 FACILITIES AND EQUIPMENT

Contractor shall provide, install, maintain, and operate a complete and adequate facility for handling, the execution, disposal, and distribution of material and equipment as required for proper and timely performance of Work connected with Contract.

2.03 MATERIAL REFERENCE STANDARDS

Where material is specified solely by reference to "standard specifications" and if requested by District, Contractor shall submit for review data on actual material proposed to be incorporated into Work of Contract listing name and address of vendor, manufacturer, or producer, and trade or brand names of those materials, and data substantiating compliance with standard specifications.

PART 3 - EXECUTION

3.01 WORKMANSHIP

- A. Where not more specifically described in any other Contract Documents, workmanship shall conform to methods and operations of best standards and accepted practices of trade or trades involved and shall include items of fabrication, construction, or installation regularly furnished or required for completion (including finish and for successful operation, as intended).
- B. Work shall be executed by tradespersons skilled in their respective lines of Work. When completed, parts shall have been durably and substantially built and present a neat appearance.

3.02 COORDINATION

- A. Contractor shall coordinate installation of Work so as to not interfere with installation of others. Adjustment or rework because of Contractor's failure to coordinate will be at no additional cost to District.
- B. Contractor shall examine in-place work for readiness, completeness, fitness to be concealed or to receive other work, and in compliance with Contract Documents. Concealing or covering Work constitutes acceptance of additional cost which will result should in-place Work be found unsuitable for receiving other Work or otherwise deviating from the requirements of the Contract Documents.

3.03 COMPLETENESS

Contractor shall provide all portions of the Work, unless clearly stated otherwise, installed complete and operational with all elements, accessories, anchorages, utility connections, etc., in manner to assure well-balanced performance, in accordance with manufacturer's recommendations and by Contract Documents. For example, electric water coolers require water, electricity, and drain services; roof drains require drain system; sinks fit within countertop, etc. Terms such as "installed complete," "operable condition," "for use intended," "connected to all utilities," "terminate with proper cap," "adequately anchored," "patch and refinish," "to match similar," should be assumed to apply in all cases, except where completeness of functional or operable condition is specifically stated as not required.

3.04 APPROVED INSTALLER OR APPLICATOR

Installation by a manufacturer's approved installer or applicator is an understood part of Specifications and only approved installer or applicator is to provide on-site Work where specified manufacturer has on-going program of approving (i.e. certifying, bonding, re-warranting) installers or applicators. Newly established relationships between a manufacturer and an installer or applicator who does not have other approved applicator work in progress or completed is not approved for this Project.

3.05 MANUFACTURER'S RECOMMENDATIONS

All installations shall be in accordance with manufacturer's published recommendations and specific written directions of manufacturer's representative. Should Contract Documents differ from recommendations of manufacturer or directions of his representative, Contractor shall analyze differences, make recommendations to the District and the Architect in writing, and shall not proceed until interpretation or clarification has been issued by the District and/or the Architect.

END OF DOCUMENT

DOCUMENT 01 45 00

QUALITY CONTROL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Inspector, Inspections and Tests, Uncovering of Work and Non-conforming of Work and Correction of Work;
- B. Special Conditions.

1.02 RELATED CODES:

- A. The Work is governed by requirements of Title 24, California Code of Regulations ("CCR"), and the Contractor shall keep a copy of these available at the job Site for ready reference during construction.
- B. The Division of the State Architect ("DSA") shall be notified at or before the start of construction.

1.03 OBSERVATION AND SUPERVISION:

- A. The District and Architect or their appointed representatives will review the Work and the Contractor shall provide facilities and access to the Work at all times as required to facilitate this review. Administration by the Architect and any consulting Structural Engineer will be in accordance with applicable regulations, including, without limitation, CCR, Part 1, Title 24, Section 4-341.
- B. One or more Project Inspector(s) approved by DSA and employed by or in contract with the District, referred to hereinafter as the "Project Inspector", will observe the work in accordance with CCR, Part 1, Title 24, Sections 4-333(b) and 4-342:
 - (1) The Project Inspector and Special Inspector(s) shall have access to the Work wherever it is in preparation or progress for ascertaining that the Work is in accordance with the Contract Documents and all applicable code sections. The Contractor shall provide facilities and operation of equipment as needed, and access as required and shall provide assistance for sampling or measuring materials.
 - (2) The Project Inspector will notify the District and Architect and call the attention of the Contractor to any observed failure of Work or material to conform to Contract Documents.

- (3) The Project Inspector shall observe and monitor all testing and inspection activities required.

The Contractor shall conform with all applicable laws as indicated in the Contract Documents, including, without limitation, to CCR, Part 1, Title 24, Section 4-343. The Contractor shall supervise and direct the Work and maintain a competent superintendent on the job who is authorized to act in all matters pertaining to the Work. The Contractor's superintendent shall also inspect all materials, as they arrive, for compliance with the Contract Documents. Contractor shall reject defective Work or materials immediately upon delivery or failure of the Work or material to comply with the Contract Documents. The Contractor shall submit verified reports as indicated in the Contract Documents, including, without limitation, the Specifications and as required by Part 1, Title 24, Section 4-336.

1.04 TESTING AGENCIES:

- A. Testing agencies and tests shall be in conformance with the General Documents and the requirements of Part 1, Title 24, Section 4- 335.
- B. Testing and inspection in connection with earthwork shall be under the direction of the District's consulting soils engineer, if any, referred to hereinafter as the "Soils Engineer."
- C. Testing and inspection of construction materials and workmanship shall be performed by a qualified laboratory, referred to hereinafter as the "Testing Laboratory." The Testing Laboratory shall be under direction of an engineer registered in the State of California, shall conform to requirements of ASTM E329, and shall be employed by or in contract with the District.

1.05 TESTS AND INSPECTIONS:

- A. The Contractor shall be responsible for notifying the District and Project Inspector of all required tests and inspections. Contractor shall notify the District and Project Inspector at least seventy-two hours (72) hours in advance of performing any Work requiring testing or inspection.
- B. The Contractor shall provide access to Work to be tested and furnish incidental labor, equipment, and facilities to facilitate all inspections and tests.
- C. The District will pay for first inspections and tests required by the "CCR", and other inspections or tests that the District and/or the Architect may direct to have made, including the following principal items:
 - (1) Tests and observations for earthwork and paving.
 - (2) Tests for concrete mix designs, including tests of trial batches.
 - (3) Tests and inspections for structural steel work.
 - (4) Field tests for framing lumber moisture content.

- (5) Additional tests directed by the District that establish that materials and installation comply with the Contract Documents.
- (6) Tests and observations of welding and expansion anchors.
- D. The District may at its discretion, pay and then back charge the Contractor for:
 - (1) Retests or reinspections, if required, and tests or inspections required due to Contractor error or lack of required identifications of material.
 - (2) Uncovering of work in accordance with Contract Documents.
 - (3) Testing done on weekends, holidays, and overtime will be chargeable to the Contractor for the overtime portion.
 - (4) Testing done off Site.
- E. Testing and inspection reports and certifications:
 - (1) If initially received by Contractor, Contractor shall provide to each of the following a copy of the agency or laboratory report of each test or inspection or certification.
 - (a) The District;
 - (b) The Construction Manager, if any;
 - (c) The Architect;
 - (d) The Consulting Engineer, if any;
 - (e) Other engineers on the Project, as appropriate;
 - (f) The Project Inspector; and
 - (g) The Contractor.
 - (2) When the test or inspection is one required by the CCR, a copy of the report shall also be provided to the DSA.

PART 2 - PRODUCTS

2.01 TYPE OF TESTS AND INSPECTIONS:

- A. Testing and inspection shall be in accordance with DSA Form 103 (or current version)

PART 3 - EXECUTION Not Used.

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DOCUMENT 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions;
- C. Site Standards; and
- D. Construction Waste Management and Disposal.

1.02 TEMPORARY UTILITIES:

- A. Electric Power and Lighting:
 - (1) Contractor will pay for power during the course of the Work. To the extent power is available in the building(s) or on the Site, Contractor may use the District's existing utilities by making prearranged payments to the District for the utilities used by Contractor and all Subcontractors. Contractor shall be responsible for providing temporary facilities required to deliver that power service from its existing location in the building(s) or on the Site to point of intended use.
 - (2) Contractor shall verify characteristics of power available in building(s) or on the Site. Contractor shall take all actions required to make modifications where power of higher voltage or different phases of current are required. Contractor shall be fully responsible for providing that service and shall pay all costs required therefor.
 - (3) Contractor shall furnish, wire for, install, and maintain temporary electrical lights wherever it is necessary to provide illumination for the proper performance and/or observation of the Work: a minimum of 20 foot-candles for rough work and 50 foot-candles for finish work.
 - (4) Contractor shall be responsible for maintaining existing lighting levels in the project vicinity should temporary outages or service interruptions occur.
- B. Heat and Ventilation:
 - (1) Contractor shall provide temporary heat to maintain environmental conditions to facilitate progress of the Work, to meet specified

minimum conditions for the installation and curing of materials, and to protect materials and finishes from damage due to improper temperature and humidity conditions. Portable heaters shall be standard units complete with controls.

- (2) Contractor shall provide forced ventilation and dehumidification, as required, of enclosed areas for proper installation and curing of materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors, and gases.
- (3) Contractor shall pay the costs of installation, maintenance, operation, and removal of temporary heat and ventilation, including costs for fuel consumed, required for the performance of the Work.

C. Water:

- (1) Contractor shall pay for water used during the course of the Work. Contractor shall coordinate and pay for installation or use of water meter in compliance with local water agency requirements. To the extent water is then available in the building(s) or on the Site, Contractor may use the District's existing utilities by making prearranged payments to the District for the utilities used by Contractor and all Subcontractors. Contractor shall be responsible for providing temporary facilities required to deliver such utility service from its existing location in the building(s) on the Site, or other location approved by the local water agency, to point of intended use.
- (2) Contractor shall use backflow preventers on water lines at point of connection to District's water supply. Backflow preventers shall comply with requirements of Uniform Plumbing Code.
- (3) Contractor shall make potable water available for human consumption.

D. Sanitary Facilities:

- (1) Contractor shall provide sanitary temporary facilities in no fewer numbers than required by law and such additional facilities as may be directed by the Inspector for the use of all workers. The facilities shall be maintained in a sanitary condition at all times and shall be left at the Site until removal is directed by the Inspector or Contractor completes all other work at the Site.
- (2) Use of toilet facilities in the Work under construction shall not be permitted except by consent of the Inspector and the District.

E. Telephone Service:

- (1) Contractor shall arrange with local telephone service company for telephone service as required for the performance of the Work. Contractor shall, at a minimum, provide in its field office one line for telephone and one line for fax machine.

- (2) Contractor shall pay the costs for telephone and fax lines installation, maintenance, service, and removal.

F. Fire Protection:

- (1) Contractor shall provide and maintain fire extinguishers and other equipment for fire protection. Such equipment shall be designated for use for fire protection only and shall comply with all requirements of the California Fire, State Fire Marshall and/or its designee.
- (2) Where on-site welding and burning of steel is unavoidable, Contractor shall provide protection for adjacent surfaces.

G. Trash Removal:

- (1) Contractor shall provide trash removal on a timely basis, no less than weekly. Under no circumstance shall Contractor use District trash service.

H. Field Office:

- (1) Not Applicable.

1.03 CONSTRUCTION AIDS:

A. Plant and Equipment:

- (1) Contractor shall furnish, operate, and maintain a complete plant for fabricating, handling, conveying, installing, and erecting materials and equipment; and for conveyances for transporting workers. Include elevators, hoists, debris chutes, and other equipment, tools, and appliances necessary for performance of the Work.
- (2) Contractor shall maintain plant and equipment in safe and efficient operating condition. Damages due to defective plant and equipment, and uses made thereof, shall be repaired by Contractor at no expense to the District.

- B. None of the District's tools and equipment shall be used by Contractor for the performance of the Work.

1.04 BARRIERS AND ENCLOSURES:

- A. Contractor shall obtain the District's written permission for locations and types of temporary barriers and enclosures, including fire-rated materials proposed for use, prior to their installation.
- B. Contractor shall provide and maintain temporary enclosures to prevent public entry and to protect persons using other buildings and portions of the Site and/or Premises, the public, and workers. Contractor shall also protect the Work and existing facilities from the elements, and adjacent construction and

improvements, persons, and trees and plants from damage and injury from demolition and construction operations.

- C. Contractor shall provide site access to existing facilities for persons using other buildings and portions of the Site, the public, and for deliveries and other services and activities.
- D. Tree and Plant Protection:
 - (1) Contractor shall preserve and protect existing trees and plants on the Premises that are not designated or required to be removed, and those adjacent to the Premises.
 - (2) Contractor shall provide barriers to a minimum height of 4'-0" around drip line of each tree and plant, around each group of trees and plants, as applicable, in the proximity of demolition and construction operations, or as denoted on the Plans.
 - (3) Contractor shall not park trucks, store materials, perform Work or cross over landscaped areas. Contractor shall not dispose of paint thinners, water from cleaning, plastering or concrete operations, or other deleterious materials in landscaped areas, storm drain systems, or sewers. Plant materials damaged as a result of the performance of the Work shall, at the option of the District and at Contractor's expense, either be replaced with new plant materials equal in size to those damaged or by payment of an amount representing the value of the damaged materials as determined by the District.
 - (4) Contractor shall remove soil that has been contaminated during the performance of the Work by oil, solvents, and other materials which could be harmful to trees and plants, and replace with good soil, at Contractor's expense.
 - (5) Excavation around Trees:
 - (a) Excavation within drip lines of trees shall be done only where absolutely necessary and with written permission from the District.
 - (b) Where trenching for utilities is required within drip lines, tunneling under and around roots shall be by hand digging and shall be approved by the District. Main lateral roots and taproots shall not be cut. All roots 2 inches in diameter and larger shall be tunneled under and heavily wrapped with wet burlap so as to prevent scarring or excessive drying. Smaller roots that interfere with installation of new work may be cut with prior approval by the District. Roots must first be cut with a Vermeer, or equivalent, root cutter prior to any trenching.
 - (c) Where excavation for new construction is required within drip line of trees, hand excavation shall be employed to minimize damage to root system. Roots shall be relocated in backfill

areas wherever possible. If encountered immediately adjacent to location of new construction, roots shall be cut approximately 6 inches back from new construction.

- (d) Approved excavations shall be carefully backfilled with the excavated materials approved for backfilling. Backfill shall conform to adjacent grades without dips, sunken areas, humps, or other surface irregularities. Do not use mechanical equipment to compact backfill. Tamp carefully using hand tools, refilling and tamping until Final Acceptance as necessary to offset settlement.
- (e) Exposed roots shall not be allowed to dry out before permanent backfill is placed. Temporary earth cover shall be provided, or roots shall be wrapped with four layers of wet, untreated burlap and temporarily supported and protected from damage until permanently relocated and covered with backfill.
- (f) Accidentally broken roots should be sawed cleanly 3 inches behind ragged end.

1.05 SECURITY:

The Contractor shall be responsible for project security for materials, tools, equipment, supplies, and completed and partially completed Work.

1.06 TEMPORARY CONTROLS:

A. Noise Control:

- (1) Contractor acknowledges that adjacent facilities may remain in operation during all or a portion of the Work period, and it shall take all reasonable precautions to minimize noise as required by applicable laws and the Contract Documents.
- (2) Notice of proposed noisy operations, including without limitation, operation of pneumatic demolition tools, concrete saws, and other equipment, shall be submitted to the District a minimum of forty-eight (48) hours in advance of their performance.

B. Noise and Vibration:

- (1) Equipment and impact tools shall have intake and exhaust mufflers.
- (2) Contractor shall cooperate with District to minimize and/or cease the use of noisy and vibratory equipment if that equipment becomes objectionable by its longevity.

C. Dust and Dirt:

- (1) Contractor shall conduct demolition and construction operations to minimize the generation of dust and dirt, and prevent dust and dirt

from interfering with the progress of the Work and from accumulating in the Work and adjacent areas including, without limitation, occupied facilities.

- (2) Contractor shall periodically water exterior demolition and construction areas to minimize the generation of dust and dirt.
- (3) Contractor shall ensure that all hauling equipment and trucks carrying loads of soil and debris shall have their loads sprayed with water or covered with tarpaulins, and as otherwise required by local and state ordinance.
- (4) Contractor shall prevent dust and dirt from accumulating on walks, roadways, parking areas, and planting, and from washing into sewer and storm drain lines.

D. Water:

Contractor shall not permit surface and subsurface water, and other liquids, to accumulate in or about the vicinity of the Premises. Should accumulation develop, Contractor shall control the water or other liquid, and suitably dispose of it by means of temporary pumps, piping, drainage lines, troughs, ditches, dams, or other methods.

E. Pollution:

- (1) No burning of refuse, debris, or other materials shall be permitted on or in the vicinity of the Premises.
- (2) Contractor shall comply with applicable regulatory requirements and anti-pollution ordinances during the conduct of the Work including, without limitation, demolition, construction, and disposal operations.

F. Lighting:

- (1) If portable lights are used after dark, all light must be located so as not to direct light into neighboring property.

1.07 JOB SIGN(S):

- A. Not Applicable.

1.08 PUBLICITY RELEASES:

- A. Contractor shall not release any information, story, photograph, plan, or drawing relating information about the Project to anyone, including press and other public communications medium, including, without limitation, on website(s) without the written permission of the District.

PART 2 – PRODUCTS Not used.

PART 3 – EXECUTION Not used.

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DOCUMENT 01 50 13

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions; and
- C. Temporary Facilities and Controls.

1.02 SECTION INCLUDES:

- A. Administrative and procedural requirements for the following:
 - (1) Salvaging non-hazardous construction waste.
 - (2) Recycling non-hazardous construction waste.
 - (3) Disposing of non-hazardous construction waste.

1.03 DEFINITIONS:

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

1.04 PERFORMANCE REQUIREMENTS:

- A. General: Develop waste management plan that results in end-of Project rates for salvage/recycling of sixty-five percent (65%) by weight (or by volume, but not a combination) of total waste generated by the Work.

1.05 SUBMITTALS:

- A. Waste Management Plan: Submit waste management plan within 30 days of date established for commencement of the Work.
- B. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit copies of report. Include the following information:
 - (1) Material category.
 - (2) Generation point of waste.
 - (3) Total quantity of waste in tons or cubic yards.
 - (4) Quantity of waste salvaged, both estimated and actual in tons or cubic yards.
 - (5) Quantity of waste recycled, both estimated and actual in tons or cubic yards.
 - (6) Total quantity of waste recovered (salvaged plus recycled) in tons or cubic yards.
 - (7) Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- C. Waste Reduction Calculations: Before request for final payment, submit copies of calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- D. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- E. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- F. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- G. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

- H. Qualification Data: For Waste Management Coordinator.
- I. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- J. Submittal procedures and quantities are specified in Document 01 33 00.

1.06 QUALITY ASSURANCE:

- A. Waste Management Coordinator Qualifications: LEED Accredited Professional by U.S. Green Building Council.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site to comply with requirements. Review methods and procedures related to waste management including, but not limited to, the following:
 - (1) Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
 - (2) Review requirements for documenting quantities of each type of waste and its disposition.
 - (3) Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
 - (4) Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 - (5) Review waste management requirements for each trade.

1.07 WASTE MANAGEMENT PLAN:

- A. General: Develop plan consisting of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measurement throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

- (1) Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
- (2) Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
- (3) Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
- (4) Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
- (5) Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
- (6) Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location on Project site where materials separation will be located.

PART 2 - PRODUCTS Not Used.

PART 3 - EXECUTION

3.01 PLAN IMPLEMENTATION:

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 - (1) Comply with Document 01 50 00 for operation, termination, and removal requirements.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
 - (1) Distribute waste management plan to everyone concerned within 3 days of submittal return.

- (2) Distribute waste management plan to entities when they first begin work on site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - (1) Designate and label specific areas of Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
 - (2) Comply with Document 01 50 00 for controlling dust and dirt, environmental protection, and noise control.

3.02 RECYCLING CONSTRUCTION WASTE:

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to the Contractor.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical.
 - (1) Provide appropriately marked containers or bins for controlling recyclable waste until they are removed from Project Site. Include list of acceptable and unacceptable materials at each container and bin.
 - (a) Inspect containers and bins for contamination and remove contaminated materials if found.
 - (2) Stockpile processed materials on site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - (3) Stockpile materials away from construction area. Do not store within drip line of remaining trees.
 - (4) Store components off the ground and protect from the weather.
 - (5) Remove recyclable waste off District property and transport to recycling receiver or processor.
- D. Packaging:
 - (1) Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 - (2) Polystyrene Packaging: Separate and bag material.

- (3) Pallets: As much as possible, require deliveries using pallets to remove pallets from Project Site. For pallets that remain on Site, break down pallets into component wood pieces and comply with requirements for recycling wood.
- (4) Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- E. Site-Clearing Wastes: Chip brush, branches, and trees on site.
- F. Wood Materials:
 - (1) Clean Cut-Offs of Lumber: Grind or chip into small pieces.
 - (2) Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
- G. Gypsum Board: Stack large clean pieces on wood pallets and store in a dry location.
 - (1) Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

3.03 DISPOSAL OF WASTE:

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project Site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - (1) Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on site.
 - (2) Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Transport waste materials off District property and legally dispose of them.

END OF DOCUMENT

DOCUMENT 01 57 13

EROSION CONTROL

PART 1 – GENERAL

1.01 SCOPE OF WORK

- A. General: Provide all materials, equipment, and labor necessary to furnish and install BMPs and require maintenance as shown on the drawings.
- B. Storm Water Pollution Prevention Plan: A Storm Water Pollution Prevention Plan (SWPPP) is not required on this project. The Contractor shall provide the following, but not limited to:
 - (1) Cut and fill operations.
 - (2) Temporary stockpiles.
 - (3) Vehicle and equipment storage, maintenance and fueling operations.
 - (4) Concrete, plaster, mortar and paint disposal.
 - (5) Dust control.
 - (6) Tracking of dirt, mud on off-site streets.
 - (7) Pipe flushing.
 - (8) Appropriate Erosion Controls.

1.02 QUALITY ASSURANCE

- A. General: Comply with governing codes and regulations.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Straw Wattles: Shall be new manufactured straw roles in compliance with state requirements for sediment control.
- B. Filter Bag: Shall be as required by local jurisdiction.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Straw Wattles: shall be installed per the drawings and/or as required by the SWPP.

- B. Filter Bags: Shall be installed as required by manufacturer's requirements.

3.02 MAINTENANCE AND REMOVAL

- A. General: Maintain and repair existing and new erosion control facilities throughout the construction period. Remove silt build up at straw wattles and/or silt fences as needed. Repair damage to earth slopes and banks. Erosion control measures shall be left in place until final paving and landscaping are complete.
- B. Monitoring: Contractor shall provide all site monitoring and recommendations to meet current NPDES requirements during construction.
- C. Cleaning: Keep area clean of debris.
- D. Remove erosion control measures prior to placing finish landscaping.

END OF DOCUMENT

DOCUMENT 01 64 00

OWNER-FURNISHED PRODUCTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions;
- B. Special Conditions; and
- C. Materials and Equipment.

1.02 SECTION INCLUDES

- A. Requirements for the following:
 - (1) Installing Owner-furnished materials and equipment.
 - (2) Providing necessary utilities, connections and rough-ins.

1.03 DEFINITIONS

- A. Owner: District, who is providing/furnishing materials and equipment.
- B. Installing Contactor: Contractor, who is installing the materials and equipment furnished by the Owner.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Receive, store and handle products in accordance with the manufacturer's instructions.
- B. Protect equipment items as required to prevent damage during storage and construction.

PART 2 – PRODUCTS

2.01 GENERAL PRODUCT REQUIREMENTS

- A. Installing Contractor's Responsibilities:
 - (1) Verify mounting and utility requirements for Owner-furnished materials and equipment items.

Provide mounting and utility rough in for all items where required.

- (a) Rough in locations, sizes, capacities, and similar type items shall be as indicated and required by product manufacturer.

B. Owner and Installing Contractor(s) Responsibilities:

- (1) Owner-Furnished/Contractor Installed ("OFICI"): Furnished by the Owner; installed by the Installing Contractor.
 - (a) General: Owner and Installing Contractor(s) will coordinate deliveries of materials and equipment to coincide with the construction schedule.
 - (b) Owner will furnish specified materials and equipment delivered to the site. Owner/vendor's representative shall be present on Site at the time of delivery to comply with the contract requirements and Specifications Section 01 43 00, Materials and Equipment, Article 1.04.
 - (c) The Owner furnishing specified materials and equipment is responsible to provide manufacturer guarantees as required by the Contract to the Installing Contractor.
 - (d) The Installing Contractor shall:
 - 1) Review, verify and accept the approved manufacturer's submittal/Shop Drawings for all materials and equipment required to be installed by the Installing Contractor and furnished by the Owner. Any discrepancies, including but not limited to possible space conflicts, should be brought to the attention of the Project Manager and/or Program Manager, if applicable.
 - 2) Coordinate timely delivery. Installing Contractor shall receive materials and equipment at Site when delivered and give written receipt at time of delivery, noting visible defects or omissions; if such declaration is not given, the Installing Contractor shall assume responsibility for such defects and omissions.
 - 3) Store materials and equipment until ready for installation and protect from loss and damage. Installing Contractor is responsible for providing adequate storage space.
 - 4) Coordinate with other bid package contractors and field measurement to ensure complete installation.
 - 5) Uncrate, assemble, and set in place.
 - 6) Provide adequate supports.

- 7) Install materials and equipment in accordance with manufacturer's recommendations, instructions, and Shop Drawings, supply labor and material required, and make mechanical, plumbing, and electrical connections required to operate equipment.
 - 8) Be certified by equipment manufacturer for installation of the specific equipment supplied by the Owner.
 - 9) Provide anchorage and/or bracing as required for seismic restraint per Title 24, UBC Standard 27-11 and all other applicable codes.
 - 10) Provide the contract-required warranty and guarantee for all work, materials and equipment, and installation upon its completion and acceptance by the District. Guarantee includes all costs associated with the removal, shipping to and from the Site, and re-installation of any equipment found to be defective.
- C. Compatibility with Space and Service Requirements:
- (1) Equipment items shall be compatible with space limitations indicated and as shown on the Contract Documents and specified in other sections of the Specifications.
 - (2) Modifications to equipment items required to conform to space limitations specified for rough in shall not cause additional cost to the District.
- D. Manufacturer's printed descriptions, specifications, and instructions shall govern the Work unless specifically indicated or specified otherwise.

2.02 FURNISHED MATERIALS AND EQUIPMENT

- A. All furnished materials and equipment are indicated or scheduled on the Contract Documents.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Install equipment items in accordance with the manufacturer's instructions.
- B. Set equipment items securely in place, rigidly or flexibly mounted in accordance with manufacturers' directions.
- C. Make electrical and mechanical connections as indicated and required.
- D. Touch-up and restore damaged or defaced finishes to the Owner's satisfaction.

3.02 CLEANING AND PROTECTION

- A. Repair or replace items not acceptable to the Architect or Owner.
- B. Upon completion of installation, clean equipment items in accordance with manufacturer's recommendations, and protect from damage until final acceptance of the Work by the Owner.

END OF DOCUMENT

SECTION 01 66 00

PRODUCT DELIVERY, STORAGE AND HANDLING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Access, Conditions and Requirements;
- B. Special Conditions.

1.02 PRODUCTS

- A. Products are as defined in the General Conditions.
- B. Contractor shall not use and/or reuse materials and/or equipment removed from existing Premises, except as specifically permitted by the Contract Documents.
- C. Contractor shall provide interchangeable components of the same manufacturer, for similar components.

1.03 TRANSPORTATION AND HANDLING

- A. Contractor shall transport and handle Products in accordance with manufacturer's instructions.
- B. Contractor shall promptly inspect shipments to confirm that Products comply with requirements, quantities are correct, and products are undamaged.
- C. Contractor shall provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.04 STORAGE AND PROTECTION

- A. Contractor shall store and protect Products in accordance with manufacturer's instructions, with seals and labels intact and legible. Contractor shall store sensitive products in weather-tight, climate controlled enclosures.
- B. For exterior storage of fabricated Products, Contractor shall place on sloped supports, above ground.
- C. Contractor shall provide off-site storage and protection when Site does not permit on-site storage or protection.

- D. Contractor shall cover products subject to deterioration with impervious sheet covering and provide ventilation to avoid condensation.
- E. Contractor shall store loose granular materials on solid flat surfaces in a well-drained area and prevent mixing with foreign matter.
- F. Contractor shall provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- G. Contractor shall arrange storage of Products to permit access for inspection and periodically inspect to assure Products are undamaged and are maintained under specified conditions.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 71 23

FIELD ENGINEERING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Investigation, and Soils Investigation Report;
- B. Special Conditions;
- C. Site-Visit Certification.

1.02 REQUIREMENTS INCLUDED:

- A. Contractor shall provide and pay for field engineering services by a California-registered engineer, required for the project, including, without limitations:
 - (1) Survey work required in execution of the Project.
 - (2) Civil or other professional engineering services specified, or required to execute Contractor's construction methods.

1.03 QUALIFICATIONS OF SURVEYOR OR ENGINEERS:

Contractor shall only use a qualified licensed engineer or registered land surveyor, to whom District makes no objection.

1.04 SURVEY REFERENCE POINTS:

- A. Existing basic horizontal and vertical control points for the Project are those designated on the Drawings.
- B. Contractor shall locate and protect control points prior to starting Site Work and preserve all permanent reference points during construction. In addition Contractor shall:
 - (1) Make no changes or relocation without prior written notice to District and Architect.
 - (2) Report to District and Architect when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.
 - (3) Require surveyor to replace Project control points based on original survey control that may be lost or destroyed.

1.05 RECORDS:

Contractor shall maintain a complete, accurate log of all control and survey work as it progresses.

1.06 SUBMITTALS:

- A. Contractor shall submit name and address of Surveyor and Professional Engineer to District and Architect prior to its/their work on the Project.
- B. On request of District and Architect, Contractor shall submit documentation to verify accuracy of field engineering work, at no additional cost to the District.
- C. Contractor shall submit a certificate signed by registered engineer or surveyor certifying that elevations and locations of improvements are in conformance or nonconformance with Contract Documents.

PART 2 – PRODUCTS Not Used.

PART 3 - EXECUTION

3.01 COMPLIANCE WITH LAWS:

Contractor is responsible for meeting all applicable codes, OSHA, safety and shoring requirements.

3.02 NONCONFORMING WORK:

Contractor is responsible for any re-surveying required by correction of nonconforming work.

END OF DOCUMENT

DOCUMENT 01 73 29

CUTTING AND PATCHING

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Inspector, Inspections, and Tests, Integration of Work, Nonconforming Work, and Correction of Work, and Uncovering Work;
- B. Special Conditions;
- C. Hazardous Materials Procedures and Requirements;
- D. Hazardous Materials Certification;
- E. Lead-Based Paint Certification;
- F. Imported Materials Certification.

1.02 CUTTING AND PATCHING:

- A. Contractor shall be responsible for all cutting, fitting, and patching, including associated excavation and backfill, required to complete the Work or to:
 - (1) Make several parts fit together properly.
 - (2) Uncover portions of Work to provide for installation of ill-timed Work.
 - (3) Remove and replace defective Work.
 - (4) Remove and replace Work not conforming to requirements of Contract Documents.
 - (5) Remove Samples of installed Work as specified for testing.
 - (6) Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
 - (7) Attaching new materials to existing remodeling areas – including painting (or other finishes) to match existing conditions.
- B. In addition to Contract requirements, upon written instructions from the District, Contractor shall uncover Work to provide for observations of covered Work in accordance with the Contract Documents; remove samples of

installed materials for testing as directed by District; and remove Work to provide for alteration of existing Work.

- C. Contractor shall not cut or alter Work, or any part of it, in such a way that endangers or compromises the integrity of the Work, the Project, or work of others.

1.03 SUBMITTALS:

- A. Prior to any cutting or alterations that may affect the structural safety of Project, or work of others, and well in advance of executing such cutting or alterations, Contractor shall submit written notice to District pursuant to the applicable notice provisions of the Contract Documents, requesting consent to proceed with the cutting or alteration, including the following:
 - (1) The work of the District or other trades.
 - (2) Structural value or integrity of any element of Project.
 - (3) Integrity or effectiveness of weather-exposed or weather-resistant elements or systems.
 - (4) Efficiency, operational life, maintenance or safety of operational elements.
 - (5) Visual qualities of sight-exposed elements.
- B. Contractor's Request shall also include:
 - (1) Identification of Project.
 - (2) Description of affected Work.
 - (3) Necessity for cutting, alteration, or excavations.
 - (4) Affects of Work on District, other trades, or structural or weatherproof integrity of Project.
 - (5) Description of proposed Work:
 - (a) Scope of cutting, patching, alteration, or excavation.
 - (b) Trades that will execute Work.
 - (c) Products proposed to be used.
 - (d) Extent of refinishing to be done.
 - (6) Alternates to cutting and patching.
 - (7) Cost proposal, when applicable.

- (8) The scheduled date the Contractor intends to perform the Work and the duration of time to complete the Work.
- (9) Written permission of District or other District contractor(s) whose work will be affected.

1.04 QUALITY ASSURANCE:

- A. Contractor shall ensure that cutting, fitting, and patching shall achieve security, strength, weather protection, appearance for aesthetic match, efficiency, operational life, maintenance, safety of operational elements, and the continuity of existing fire ratings.
- B. Contractor shall ensure that cutting, fitting, and patching shall successfully duplicate undisturbed adjacent profiles, materials, textures, finishes, colors, and that materials shall match existing construction. Where there is dispute as to whether duplication is successful or has been achieved to a reasonable degree, the District's decision shall be final.

1.05 PAYMENT FOR COSTS:

- A. Cost caused by ill-timed or defective Work or Work not conforming to Contract Documents, including costs for additional services of the District, its consultants, including but not limited to the Construction Manager, the Architect, the Project Inspector(s), Engineers, and Agents, will be paid by Contractor and/or deducted from the Contract by the District.
- B. District shall only pay for cost of Work if it is part of the original Contract Price or if a change has been made to the contract in compliance with the provisions of the General Conditions. Cost of Work performed upon instructions from the District, other than defective or nonconforming Work, will be paid by District on approval of written Change Order. Contractor shall provide written cost proposals prior to proceeding with cutting and patching.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Contractor shall provide for replacement and restoration of Work removed. Contractor shall comply with the Contract Documents and with the Industry Standard(s), for the type of Work, and the Specification requirements for each specific product involved. If not specified, Contractor shall first recommend a product of a manufacturer or appropriate trade association for approval by the District.
- B. Materials to be cut and patched include those damaged by the performance of the Work.

PART 3 – EXECUTION

3.01 INSPECTION:

- A. Contractor shall inspect existing conditions of the Site and the Work, including elements subject to movement or damage during cutting and patching, excavating and backfilling. After uncovering Work, Contractor shall inspect conditions affecting installation of new products.
- B. Contractor shall report unsatisfactory or questionable conditions in writing to District as indicated in the General Conditions and shall proceed with Work as indicated in the General Conditions by District.

3.02 PREPARATION:

- A. Contractor shall provide shoring, bracing and supports as required to maintain structural integrity for all portions of the Project, including all requirements of the Project.
- B. Contractor shall provide devices and methods to protect other portions of Project from damage.
- C. Contractor shall, provide all necessary protection from weather and extremes of temperature and humidity for the Project, including without limitation, any work that may be exposed by cutting and patching Work. Contractor shall keep excavations free from water.

3.03 ERECTION, INSTALLATION AND APPLICATION:

- A. With respect to performance, Contractor shall:
 - (1) Execute fitting and adjustment of products to provide finished installation to comply with and match specified tolerances and finishes.
 - (2) Execute cutting and demolition by methods that will prevent damage to other Work, and provide proper surfaces to receive installation of repairs and new Work.
 - (3) Execute cutting, demolition excavating, and backfilling by methods that will prevent damage to other Work and damage from settlement.
- B. Contractor shall employ original installer or fabricator to perform cutting and patching for:
 - (1) Weather-exposed surfaces and moisture-resistant elements such as roofing, sheet metal, sealants, waterproofing, and other trades.
 - (2) Sight-exposed finished surfaces.
- C. Contractor shall execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances,

and finishes as shown or specified in the Contract Documents including, without limitation, the Drawings and Specifications.

- D. Contractor shall fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Contractor shall conform to all Code requirements for penetrations or the Drawings and Specifications, whichever calls for a higher quality or more thorough requirement. Contractor shall maintain integrity of both rated and non-rated fire walls, ceilings, floors, etc.
- E. Contractor shall restore Work which has been cut or removed. Contractor shall install new products to provide completed Work in accordance with requirements of the Contract Documents and as required to match surrounding areas and surfaces.
- F. Contractor shall refinish all continuous surfaces to nearest intersection as necessary to match the existing finish to any new finish.

END OF DOCUMENT

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DOCUMENT 01 76 00

ALTERATION PROJECT PROCEDURES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Integration of Work, Purchase of Materials and Equipment, Uncovering of Work and Non-conforming Work and Correction of Work and Trenches;
- B. Special Conditions.

PART 2 - PRODUCTS

2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK:

- A. New Materials: As specified in the Contract Documents including, without limitation, in the Specifications, Contractor shall match existing products, conditions, and work for patching and extending work.
- B. Type and Quality of Existing Products: Contractor shall determine by inspection, by testing products where necessary, by referring to existing conditions and to the Work as a standard.

PART 3 - EXECUTION

3.01 EXAMINATION:

- A. Contractor shall verify that demolition is complete and that areas are ready for installation of new Work.
- B. By beginning restoration Work, Contractor acknowledges and accepts the existing conditions.

3.02 PREPARATION:

- A. Contractor shall cut, move, or remove items as necessary for access to alterations and renovation Work. Contractor shall replace and restore these at completion.
- B. Contractor shall remove unsuitable material not as salvage unless otherwise indicated in the Contract Documents. Unsuitable material may include, without limitation, rotted wood, corroded metals, and deteriorated masonry and concrete. Contractor shall replace materials as specified for finished Work.

- C. Contractor shall remove debris and abandoned items from all areas of the Site and from concealed spaces.
- D. Contractor shall prepare surface and remove surface finishes to provide for proper installation of new Work and finishes.
- E. Contractor shall close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity. Contractor shall insulate ductwork and piping to prevent condensation in exposed areas. Contractor shall insulate building cavities for thermal and/or acoustical protection, as detailed.

3.03 INSTALLATION:

- A. Contractor shall coordinate Work of all alternations and renovations to expedite completion and to accommodate District occupancy.
- B. Designated Areas and Finishes: Contractor shall complete all installations in all respects, including operational, mechanical work and electrical work.
- C. Contractor shall remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring Products and finishes to original or specified condition.
- D. Contractor shall refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat and square or straight transition to adjacent finishes.
- E. Contractor shall install products as specified in the Contract Documents, including without limitation, the Specifications.

3.04 TRANSITIONS:

- A. Where new Work abuts or aligns with existing, Contractor shall perform a smooth and even transition. Patched Work must match existing adjacent work in texture and appearance.
- B. When finished surfaces are cut so that a smooth transition with new Work is not possible, Contractor shall terminate existing surface along a straight line at a natural line of division and make a recommendation for resolution to the District and the Architect for review and approval.

3.05 ADJUSTMENTS:

- A. Where removal of partitions or walls results in adjacent spaces becoming one, Contractor shall rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
- B. Where a change of plane of 1/4 inch or more occurs, Contractor shall submit a recommendation for providing a smooth transition to the District and the Architect for review and approval.

- C. Contractor shall trim and seal existing wood doors and shall trim and paint metal doors as necessary to clear new floor finish and refinish trim as required.
- D. Contractor shall fit Work at penetrations of surfaces.

3.06 REPAIR OF DAMAGED SURFACES:

- A. Contractor shall patch or replace portions of existing surfaces, which are damaged, lifted, discolored, or showing other imperfections, in the area where the Work is performed.
- B. Contractor shall repair substrate prior to patching finish.

3.07 CULTIVATED AREAS AND OTHER SURFACE IMPROVEMENTS:

- A. Cultivated or planted areas and other surface improvements which are damaged by actions of the Contractor shall be restored by Contractor to their original condition or better, where indicated.
- B. Contractor shall protect and replace, if damaged, all existing guard posts, barricades, and fences.
- C. Contractor shall give special attention to avoid damaging or killing trees, bushes and/or shrubs on the Premises and/or identified in the Contract Documents, including without limitation, the Drawings.

3.08 FINISHES:

- A. Contractor shall finish surfaces as specified in the Contract Documents, including without limitations, the provisions of all Divisions of the Specifications.
- B. Contractor shall finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, Contractor shall refinish entire surface to nearest intersections.

3.09 CLEANING:

- A. Contractor shall continually clean the Site and the Premises as indicated in the Contract Documents, including without limitation, the provisions in the General Conditions and the Specifications regarding cleaning.

END OF DOCUMENT

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DOCUMENT 01 77 00

CONTRACT CLOSEOUT AND FINAL CLEANING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Completion of Work;
- B. Special Conditions;
- C. Temporary Facilities and Controls.

1.02 CLOSEOUT PROCEDURES

Contractor shall comply with all closeout provisions as indicated in the General Conditions.

1.03 FINAL CLEANING

- A. Contractor shall execute final cleaning prior to final inspection.
- B. Contractor shall clean interior and exterior glass and all surfaces exposed to view; remove temporary labels, tape, stains, and foreign substances, polish transparent and glossy surfaces, wax and polish new vinyl floor surfaces, vacuum carpeted and soft surfaces.
- C. Contractor shall clean equipment and fixtures to a sanitary condition.
- D. Contractor shall replace filters of operating equipment.
- E. Contractor shall clean debris from roofs, gutters, down spouts, and drainage systems.
- F. Contractor shall clean Site, sweep paved areas, and rake clean landscaped surfaces.
- G. Contractor shall remove waste and surplus materials, rubbish, and construction facilities from the Site and surrounding areas.

1.04 ADJUSTING

Contractor shall adjust operating products and equipment to ensure smooth and unhindered operation.

1.05 RECORD DOCUMENTS AND SHOP DRAWINGS

- A. Contractor shall legibly mark each item to record actual construction, including:
 - (1) Measured depths of foundation in relation to finish floor datum.
 - (2) Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permit surface improvements.
 - (3) Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - (4) Field changes of dimension and detail.
 - (5) Details not on original Contract Drawings
 - (6) Changes made by modification(s).
 - (7) References to related Shop Drawings and modifications.
- B. Contractor will provide one set of Record Drawings to District.
- C. Contractor shall submit all required documents to District and/or Architect prior to or with its final Application for Payment.

1.06 INSTRUCTION OF DISTRICT PERSONNEL

- A. Before final inspection, at agreed upon times, Contractor shall instruct District's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. For equipment requiring seasonal operation, Contractor shall perform instructions for other seasons within six months or by the change of season.
- C. Contractor shall use operation and maintenance manuals as basis for instruction. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- D. Contractor shall prepare and insert additional data in Operation and Maintenance Manual when the need for such data becomes apparent during instruction.
- E. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.

1.07 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Contractor shall provide products, spare parts, maintenance, and extra materials in quantities specified in the Specifications and in Manufacturer's recommendations.

- B. Contractor shall provide District with all required Operation and Maintenance Data at one time. Partial or piecemeal submissions of Operation and Maintenance Data will not be accepted.

PART 2 – PRODUCTS Not used.

PART 3 – EXECUTION Not used.

END OF DOCUMENT

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DOCUMENT 01 78 23

OPERATION AND MAINTENANCE DATA

PART 1 – GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Completion of the Work;
- B. Special Conditions.

1.02 QUALITY ASSURANCE:

Contractor shall prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.03 FORMAT:

- A. Contractor shall prepare data in the form of an instructional manual entitled "OPERATIONS AND MAINTENANCE MANUAL & INSTRUCTIONS" ("Manual").
- B. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size. When multiple binders are used, Contractor shall correlate data into related consistent groupings.
- C. Cover: Contractor shall identify each binder with typed or printed title "OPERATION AND MAINTENANCE MANUAL & INSTRUCTIONS"; and shall list title of Project and identify subject matter of contents.
- D. Contractor shall arrange content by systems process flow under section numbers and sequence of Table of Contents of the Contract Documents.
- E. Contractor shall provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: The content shall include Manufacturer's printed data, or typewritten data on 24 pound paper.
- G. Drawings: Contractor shall provide with reinforced punched binder tab and shall bind in with text; folding larger drawings to size of text pages.

1.04 CONTENTS, EACH VOLUME:

- A. Table of Contents: Contractor shall provide title of Project; names, addresses, and telephone numbers of the Architect, any engineers, subconsultants,

Subcontractor(s), and Contractor with name of responsible parties; and schedule of products and systems, indexed to content of the volume.

- B. For Each Product or System: Contractor shall list names, addresses, and telephone numbers of Subcontractor(s) and suppliers, including local source of supplies and replacement parts.
- C. Product Data: Contractor shall mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. Drawings: Contractor shall supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Contractor shall not use Project Record Documents as maintenance drawings.
- E. Text: The Contractor shall include any and all information as required to supplement product data. Contractor shall provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
- F. Warranties and Bonds: Contractor shall bind in one copy of each.

1.05 MANUAL FOR MATERIALS AND FINISHES:

- A. Building Products, Applied Materials, and Finishes: Contractor shall include product data, with catalog number, size, composition, and color and texture designations. Contractor shall provide information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Contractor shall include Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture Protection and Weather Exposed Products: Contractor shall include product data listing applicable reference standards, chemical composition, and details of installation. Contractor shall provide recommendations for inspections, maintenance, and repair.
- D. Additional Requirements: Contractor shall include all additional requirements as specified in the Specifications.
- E. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.06 MANUAL FOR EQUIPMENT AND SYSTEMS:

- A. Each Item of Equipment and Each System: Contractor shall include description of unit or system, and component parts and identify function, normal operating characteristics, and limiting conditions. Contractor shall include performance curves, with engineering data and tests, and complete nomenclature, and commercial number of replaceable parts.

- B. Panelboard Circuit Directories: Contractor shall provide electrical service characteristics, controls, and communications.
- C. Contractor shall include color coded wiring diagrams as installed.
- D. Operating Procedures: Contractor shall include start-up, break-in, and routine normal operating instructions and sequences. Contractor shall include regulation, control, stopping, shut-down, and emergency instructions. Contractor shall include summer, winter, and any special operating instructions.
- E. Maintenance Requirements: Contractor shall include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- F. Contractor shall provide servicing and lubrication schedule, and list of lubricants required.
- G. Contractor shall include manufacturer's printed operation and maintenance instructions.
- H. Contractor shall include sequence of operation by controls manufacturer.
- I. Contractor shall provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- J. Contractor shall provide control diagrams by controls manufacturer as installed.
- K. Contractor shall provide Contractor's coordination drawings, with color coded piping diagrams as installed.
- L. Contractor shall provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Contractor shall provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Additional Requirements: Contractor shall include all additional requirements as specified in Specification(s).
- O. Contractor shall provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.07 SUBMITTAL:

- A. Contractor shall submit to the District for review two (2) copies of preliminary draft or proposed formats and outlines of the contents of the Manual within thirty (30) days of Contractor's start of Work.
- B. For equipment, or component parts of equipment put into service during construction and to be operated by District, Contractor shall submit draft

content for that portion of the Manual within ten (10) days after acceptance of that equipment or component.

- C. Contractor shall submit two (2) copies of a complete Manual in final form prior to final Application for Payment. Copy will be returned with Architect/Engineer comments. Contractor must revise the content of the Manual as required by District prior to District's approval of Contractor's final Application for Payment.
- D. Contractor must submit two (2) copies of revised Manual in final form within ten (10) days after final inspection.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 78 36

WARRANTIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Warranty/Guarantee Information;
- B. Special Conditions.

1.02 FORMAT

- A. Binders: Contractor shall use commercial quality, 8-1/2 by 11 inch, three-side rings, with durable plastic covers; two inch maximum ring size.
- B. Cover: Contractor shall identify each binder with typed or printed title "WARRANTIES" and shall list title of Project.
- C. Table of Contents: Contractor shall provide title of Project; name, address, and telephone number of Contractor and equipment supplier; and name of responsible principal. Contractor shall identify each item with the number and title of the specific Specification, document, provision, or section in which the name of the product or work item is specified.
- D. Contractor shall separate each warranty with index tab sheets keyed to the Table of Contents listing, providing full information and using separate typed sheets as necessary. Contractor shall list each applicable and/or responsible Subcontractor(s), supplier(s), and/or manufacturer(s), with name, address, and telephone number of each responsible principal(s).

1.03 PREPARATION:

- A. Contractor shall obtain warranties, executed in duplicate by each applicable and/or responsible subcontractor(s), supplier(s), and manufacturer(s), within ten (10) days after completion of the applicable item or work. Except for items put into use with District's permission, Contractor shall leave date of beginning of time of warranty blank until the date of completion is determined.
- B. Contractor shall verify that documents are in proper form, contain full information, and are notarized, when required.
- C. Contractor shall co-execute submittals when required.
- D. Contractor shall retain warranties until time specified for submittal.

1.04 TIME OF SUBMITTALS:

- A. For equipment or component parts of equipment put into service during construction with District's permission, Contractor shall submit a draft warranty for that equipment or component within ten (10) days after acceptance of that equipment or component.
- B. Contractor shall submit for District approval all warranties and related documents within ten (10) days after date of completion. Contractor must revise the warranties as required by the District prior to District's approval of Contractor's final Application for Payment.
- C. For items of work delayed beyond date of completion, Contractor shall provide an updated submittal within ten (10) days after acceptance, listing the date of acceptance as start of warranty period.

PART 2 - PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF DOCUMENT

DOCUMENT 01 78 39

RECORD DOCUMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS AND PROVISIONS:

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Documents on Work;
- B. Special Conditions.

PART 2 - RECORD DRAWINGS

2.01 GENERAL:

- A. As indicated in in the Contract Documents, the District will provide the Contractor with one set, in PDF format, of the original contract drawings.
- B. Contractor shall maintain at each Project Site one set of marked-up plans and shall transfer all changes and information to those marked-up plans, as often as required in the Contract Documents, but in no case less than once each month. Contractor shall submit to the Project Inspector one set of Project Record Drawings ("As-Builts") showing all changes incorporated into the Work since the preceding monthly submittal. The As-Builts shall be available at the Project Site. The Contractor shall submit a pdf digital set and CADD files if utilized, of As-Built Record Drawings at the conclusion of the Project following review by the Project Inspector and Architect of Record.
- C. Label and date each Record Drawing "RECORD DOCUMENT" in legibly printed letters.
- D. All deviations in construction, including but not limited to pipe and conduit locations and deviations caused by without limitation Change Orders, Construction Claim Directives, RFI's, and Addenda, shall be accurately and legibly recorded by Contractor.
- E. Locations and changes shall be done by Contractor in a neat and legible manner and, where applicable, indicated by drawing a "cloud" around the changed or additional information.

2.02 RECORD DRAWING INFORMATION:

- A. Contractor shall record the following information:
 - (1) Locations of Work buried under or outside each building, including, without limitation, all utilities, plumbing and electrical lines, and conduits.

- (2) Actual numbering of each electrical circuit to match panel schedule.
- (3) Locations of significant Work concealed inside each building whose general locations are changed from those shown on the Contract Drawings.
- (4) Locations of all items, not necessarily concealed, which vary from the Contract Documents.
- (5) Installed location of all cathodic protection anodes.
- (6) Deviations from the sizes, locations, and other features of installations shown in the Contract Documents.
- (7) Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stubouts, invert elevations, etc.
- (8) Sufficient information to locate Work concealed in each building with reasonable ease and accuracy.

In some instances, this information may be recorded by dimension. In other instances, it may be recorded in relation to the spaces in the building near which it was installed.

- B. Contractor shall provide additional drawings as necessary for clarification.
- C. Contractor shall provide reproducible record drawings, made from final Shop Drawings marked "No Exceptions Taken" or "Approved as Noted."
- D. After review and approval of the marked-up specifications by the Project Inspector, Contractor shall provide electronic copies of the drawings (in PDF format) with one file with all of the sheets and one set of individual sheet files at the conclusion of the Project.

PART 3 - RECORD SPECIFICATIONS

3.01 GENERAL:

- A. Contractor shall mark each section legibly to record manufacturer, trade name, catalog number, and supplier of each Product and item of equipment actually installed.
- B. After review and approval of the marked-up specifications by the Project Inspector, Contractor shall provide one electronic copy of the specifications (in PDF format) at the conclusion of the Project.

PART 4 - MAINTENANCE OF RECORD DOCUMENTS

4.01 GENERAL

- A. Contractor shall store Record Documents apart from documents used for construction as follows:
 - (1) Provide files and racks for storage of Record Documents.
 - (2) Maintain Record Documents in a clean, dry, legible condition and in good order.
- B. Contractor shall not use Record Documents for construction purposes.

PART 5 – PRODUCTS Not Used.

END OF DOCUMENT

DOCUMENT 02 41 00

SITE DEMOLITION

PART 1 – GENERAL

1.01 INCLUSION OF OTHER CONTRACT DOCUMENTS

- A. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01 50 00, Construction Facilities and Temporary Controls.
- B. Section 01 57 13, Erosion Control
- C. Section 31 00 00, Earthwork.

1.03 REGULATORY REQUIREMENTS

- A. Conform to applicable jurisdictional authority regulations and codes for disposal of debris.
- B. Coordinate clearing Work with utility companies.
- C. Maintain emergency access ways at all times.
- D. Contractor shall comply with all applicable laws and ordinances regarding hazardous materials, including contaminated soils, hazardous material transformers, and similar materials or components.

1.04 SUBMITTALS:

- A. Schedule: Submit a detailed sequence of demolition and removal work, including dates for shutoff, capping, and continuance of utility services.
- B. Procedures: Submit written procedures documenting the proposed methods to be used to control dust and noise.

1.05 EXISTING CONDITIONS

- A. Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.
- B. Conduct demolition to minimize interference with adjacent structures or items to remain. Maintain protected egress and access at all times.

1.06 PROTECTION

- A. Adequate protection measures shall be provided to protect workmen and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to

adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.

- B. In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.
- C. Safety Precautions Prevent damage to existing elements identified to remain or to be salvaged, and prevent injury to the public and workmen engaged on site. Demolish roofs, walls and other building elements in such manner that demolished materials fall within foundation lines of building. Do not allow demolition debris to accumulate on site. Pull down hazardous work at end of each day; do not leave standing or hanging overnight, or over weekends.
 - 1. Protect existing items which are not indicated to be altered. Protect utilities designated to remain from damage.
 - 2. Protect trees, plant growth, and features designated to remain as final landscaping as shown on drawings.
 - 3. Protect bench marks from damage or displacement.
- D. Trees: Carefully protect existing trees that are to remain. Provide temporary irrigation as necessary to maintain health of trees.
- E. Fire Safety: The contractor shall conform to chapter 33 of the California Fire Code (CFC), "Fire Safety During Construction and Demolition", at all times during the construction process. A copy of this chapter can be provided.
- F. Any construction review of the Contractor's performance conducted by the Geotechnical Engineer is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.
- G. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to keep all excavations and the site free from water during entire progress of work, regardless of cause, source, or nature of water.
- H. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.
- I. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.

PART 2 - PRODUCTS

Not Used

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine conditions of work in place before beginning work; report defects.
- B. Report existence of hazardous materials or unsafe structural conditions.

3.02 PREPARATION

- A. Scheduling:
 - 1. General: Coordinate and schedule demolition work as required by the Owner and as necessary to facilitate construction progress.
- B. Hazardous Materials:
 - 1. General: Identify chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations, and notify such jurisdictional agencies as may be required. Collect and legally dispose of such materials at official disposal locations away from the site.
 - 2. Asbestos: If asbestos or materials containing asbestos are encountered, stop work immediately and contact the Owner. Do not proceed with demolition until directed by Owner.
- C. Utility and Service Termination
 - 1. Locate and identify existing utility, service and irrigation system components affected by work of this contract. Review existing record drawings, conduct site investigations, contact Underground Service Alert and other qualified cable/pipe/line locator services, and implement all other means necessary to define the location of underground systems.
 - 2. Prior to beginning any demolition, properly disconnect all water, gas and electrical power supply at appropriate disconnect locations. Obtain all necessary releases and approvals from serving utility companies.
 - 3. Prior to demolition or disconnect, obtain Owners approval that such system does not impact facilities or systems beyond the extent of this contract.
 - 4. Mark location of disconnected systems. Identify and indicate stub-out locations on Project Record Documents.
- D. Verify that existing plant life and features designated to remain are tagged or identified.
 - 1. The Architect will mark the features, trees, and shrubs to remain within the construction area. Contractor shall not commence clearing and grubbing operations until authorized by the Owner and all protective measures are in place.
- E. Coordinate the time and duration of all system disconnects with Owner.

3.03 DEMOLITION

- A. General Requirements

1. Clear areas required for access to site and execution of Work, including pavements, structures, foundations, vegetation, trash and debris.
 2. Coordinate with Owner the time of day and route to remove demolished materials from premises.
 3. Remove demolished materials from site as work progresses. Upon completion of work, leave areas of work in clean condition.
 4. Remove all buried debris, rubble, trash, or other material not deemed suitable by the Geotechnical Engineer.
 5. Fill all voids or excavations resulting from clearing, demolition, or removal of vegetation with specified fill material.
- B. Fixture and Equipment Removal:
1. Remove existing fixtures and equipment as identified and shown on drawings and required by Architect.
 2. Verify all service connections to fixtures and equipment designated for removal have been properly disconnected.
 3. Remove all conductors from conduit at all abandoned circuits.

3.04 UTILITY AND BUILDING SERVICES REMOVAL AND RE-INSTALLATION

- A. Where crossing paths and potential points of interference with existing utility services are shown or can be reasonably inferred from surface conditions or evidence of subsurface systems, such as meter boxes, vaults, relief vents, cleanouts and similar components.
1. Review all contract documents showing crossing paths and potential points of interference.
 2. Pot-hole or determine by other means the accurate depth and location of such utilities.
 3. Incorporate all costs required to complete work under this contract, including additional trenching, re-routing of existing and new utilities, and all means necessary to construct work under this contract.
 4. No additional cost to the Owner will be allowed for work necessary to accommodate utility conflicts where such crossing paths are shown on contract drawings or can be reasonably inferred from surface conditions or components.
- B. Remove all conductors from conduit at all abandoned electrical circuits.
- C. Seal off ends of all piping, drains and other components as directed by Architect and serving utility.
- D. Where necessary to maintain service to existing utility and building systems, relocate or redirect all conduit and conductors, piping, drains, and associated system components.
1. Re-circuit all electrical as required.
 2. Re-circuit all landscape irrigation valving and control systems as required.
 3. Temporarily terminate landscape system components in approved boxes or with approved caps, suitable for re-connection or extension.
 4. Extend or otherwise modify all site drainage systems, including catch basins, drain inlets and piping. Fine grade to maintain proper drainage flow pattern to drains.

- E. Demolish structure in an orderly and careful manner.
 - 1. Use of explosives prohibited.

3.05 SITE PAVEMENT REMOVAL

- A. Remove sidewalk and curb where required for new construction as specified and as indicated on the Drawings.
 - 1. Remove all paving by saw-cutting.
 - 2. Remove concrete paving and curbing at locations shown on drawings. Locate closest adjacent expansion or weakened plane joint to define start of removal or saw-cutting.
- B. Remove asphalt concrete paving areas where required for new construction as specified and as indicated on the Drawings.
 - 1. Remove all paving by saw-cutting.
 - 2. Remove paving assembly as required to expose subgrade.

3.06 LANDSCAPE AND IRRIGATION SYSTEMS DEMOLITION AND RENOVATION

- A. Clearing, grubbing, and planting demolition.
 - 1. Remove grass and grass roots to a minimum depth of two inches below existing grade.
 - 2. Remove all shrubs, plants and other vegetation within the area of the work unless designated to remain. Grub and remove all roots of all vegetation to a depth of 24 inches below existing grade.
 - 3. Remove only those trees which are specifically designated for removal, or as shown on the drawings, within the construction area. Remove all stumps. Remove root ball and root systems larger than 1 inch in diameter to a depth of two feet below existing or finished grades, whichever is lower and a minimum of five feet beyond the edge of paving, structure, wall or walkway.
 - 4. Hand cut existing tree roots over 1 inch in diameter as necessary for trenching or other new construction, apply multiple coats of emulsified asphalt sealant especially made for horticultural use on cut or damaged plant tissues to cut faces and adjacent surfaces. Cover exposed roots with wet burlap to prevent roots from dying out until backfilling is complete.
 - 5. Disking and mixing of vegetation, trash, debris, and other deleterious materials with surface soils prior to grading is not permitted.
 - 6. Remove all buried debris, organic material, rubble, trash, or other material not deemed suitable by the Geotechnical Engineer.
 - 7. Fill all voids or excavations resulting from clearing, demolition, or removal of vegetation with fill material in compliance with Section 31 00 00.
 - 8. Selected equipment of such sizes and capacities that the existing environment is disturbed as little as possible, and to afford ease of mobility within limited and relatively confined work areas. Make every effort to preserve the topography in its natural state.
 - 9. Keep drains, catch basins, surface drainage courses and related drainage system components clear of debris and construction materials.

10. Remove irrigation piping and appurtenances as necessary within area of work, unless noted otherwise to remain. Replace irrigation piping and appurtenances to irrigate new and/or existing landscaping. Contractor shall be responsible for temporary landscape irrigation until such time that irrigation system is restored and operational.

3.07 DISPOSAL

Demolished materials become property of the Contractor and shall be removed from premises, except those items specifically listed to be retained by Owner.

- A. Dispose of all demolished material, trash, debris, and other materials not used in the work in accordance with the regulations of jurisdictional authority.
- B. It is recommended that all materials that are of a recyclable nature, be transported to a suitable legal recycling facility instead of a dump or refuse facility (unless they are one-in-the same).
- C. Burning and Burying of Materials: NOT ALLOWED.
- D. Haul Routes:
 1. Obtain permits as required by jurisdictional agencies. Establish haul routes in advance; post flagmen for the safety of the public and workmen.
 2. Keep streets free of mud, rubbish, etc.; assume responsibility for damage resulting from hauling operations; hold Owner free of liability in connection therewith.
- E. Remove demolished materials and debris from site on a daily basis.

3.08 CLEANING

- A. Upon completion of work of this Section promptly remove from the working area all scraps, debris.
- B. Clean excess material from surface of all remaining paved surfaces and utility structures.
- C. Power wash all concrete surfaces to remove stains, dried mud, tire marks, and rust spots.

END OF SECTION

DOCUMENT 07 41 10

PREFORMED (MANUFACTURED) ROOF PANELS

PART 1 – GENERAL

1.01 SECTION INCLUDES

The work includes, but is not necessarily limited to, furnishing and installation of all preformed metal roofing and walls, and accessories as indicated on the drawings and specified herein.

1.02 RELATED SECTIONS

- A. Sheet metal Gutters and Downspouts: Section 07 60 00
- B. Joint Sealants not specified herein: Section 07 92 00
- C. Finish Painting not specified herein: Section 09 90 00
- D. DSA Approved Structural Plans

1.03 SUBMITTALS

A. PRODUCT DATA

- 1. Submit Manufacturer's technical product data, installation instructions and recommendations for each type of roofing and wall panel required. Include data substantiating that materials comply with requirements.

A. SAMPLES

- 1. Prior to ordering products, submit Manufacturer's standard physical color Samples for Architect's selection.
- 2. Prior to starting work, submit (quantity) 12" long Panel Samples showing shape and a representative color chip for Architect's/Engineer's acceptance.

B. SHOP DRAWINGS

- 1. Show panel layout, trim installation, and panel attachment.

C. SITE CONDITIONS

- 1. Provide completed site condition form for the specified finish to suit project condition

1.04 QUALITY ASSURANCE

A. INSTALLER'S QUALIFICATIONS

1. Installation of panels and accessories by installers with a minimum of 5 years experience on panel projects of this nature.

B. MANUFACTURER'S QUALIFICATIONS

1. Manufacturer shall have a minimum of 10 years experience supplying metal roofing/siding to the region where the work is to be done.
2. Manufacturer shall provide proof of \$2,000,000 liability insurance for their metal roof system and comply with current independent testing and certification as specified. See specific product literature for testing information.
3. Panel manufacturers without full supporting literature, Flashings & Details Guides, Guide Specifications and Technical Support shall not be considered equal to the specified product.

C. REGULATORY AGENCY REQUIREMENTS

1. Comply with UBC and local Building Code requirements if more restrictive than those specified herein.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Protect against damage and discoloration
- B. Handle panels with non-marring slings.
- C. Do not bend panels.
- D. Store panels above ground, with one end elevated for drainage.
- E. Protect panels against standing water and condensation between adjacent surfaces.
- F. If panels become wet, immediately separate sheets, wipe dry with clean cloth, and allow to air dry.
- G. Remove any strippable film coating prior to installation and do not allow it to remain on the panels in extreme cold, heat or in direct sunlight.

1.06 WARRANTY

A. MANUFACTURER'S PRODUCT WARRANTY

1. Manufacturer's standard coating performance warranty, as available for specified installation and environmental conditions.

B. CONTRACTOR'S WARRANTY

1. Warrant panels, flashings, sealants, fasteners and accessories against defective materials and/or workmanship, to remain watertight and weatherproof with normal usage for two (2) years following Project Substantial Completion date.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

- A. AEP Span, A Division of ASC Profiles Inc, 2110 Enterprise Boulevard, West Sacramento, Calif 95691 800-733-4955
Fontana: 10905 Beech Avenue, Fontana, California 92337
Tacoma: 2141 Milwaukee Way, Tacoma, Washington 98421
- B. Or equal.

- C. PANEL DESIGNATION:
 - 1. Mini-V-Beam. Net coverage 32", rib depth 1-3/8" @ 4-9/16" o.c.
 - 2. See also Structural Plans.

2.02 MATERIALS

A. PANELS

- 1. Base Metal:
 - a. Material:
Steel conforming to ASTM A792 Zincalume®/Galvalume®, minimum yield 50,000 psi, thickness 20 gauge.
 - b. Protective Coating:
Conform to ASTM A792, AZ50 (Zincalume/Galvalume).
 - c. See also Structural Plans.
- 2. Exterior Finish:
 - a. DuraTech® 5000 (Polyvinylidene Fluoride), full 70% Kynar® 500/Hylar 5000® consisting of a baked-on 0.15-0.20 mil corrosion resistant primer and a baked-on 0.70-0.80 mil finish coat with a specular gloss of 10-30% when tested in accordance with ASTM D-523- 89 at 60°.
 - b. Zincalume® Plus protective coating.
 - c. DuraTech® mx metallic finish, consisting of a baked-on primer (0.15-0.2 mil.) and a baked-on Polyvinylidene Fluoride finish coat (0.7-0.8 mil.) with a specular gloss of 20 35% when tested in accordance with ASTM D-523- 89 at 60°.
- 3. Interior Finish:
 - a. Primer Coat Material: Corrosion-resistant primer; primer coat dry film thickness: 0.15 mils; finish coat material: polyester paint, finish coat dry film thickness: 0.35 mils.
 - b. Color: Off-White to Light Gray
- 4. Color:
 - a. Manufacturer's standard selection of not less than 22 colors.

B. FABRICATION

1. Unless otherwise shown on drawings or specified herein, panels shall be full length. Fabricate flashings and accessories in longest practical lengths.
2. Roofing panels shall be factory formed. Field formed panels are not acceptable.

PART 3 – EXECUTION

3.01 EXAMINATION

A. EXISTING CONDITIONS

1. Inspect installed work of other trades and verify that such work is complete to a point where this work may continue.
2. Verify that installation may be made in accordance with approved shop drawings and manufacturer's instructions.

3.02 PREPARATION

A. FIELD MEASUREMENTS

1. Verify prior to fabrication.
2. If field measurements differ from drawing dimensions, notify Architect/Engineer prior to fabrication.

B. PROTECTION

1. Treat, or isolate with protective material, and contacting surfaces of dissimilar materials to prevent electrolytic corrosion.
2. Require workmen who will be walking on Roofing Panels to wear clean, soft-soled work shoes that will not pick up stones or other abrasive material, which could cause damage or discoloration.
3. Protect work of other trades against damage and discoloration.

C. SURFACE PREPARATION

1. Clean and dry surfaces prior to applying sealant.

3.03 INSTALLATION

A. PANELS

1. Follow roof panel manufacturer's directions.
2. Install panel seams (choose one) vertically or horizontally.
3. Lap panels away from prevailing wind direction.
4. Do not stretch or compress panel side-laps.
5. Secure panels without warp or deflection.

B. ALLOWABLE ERECTION TOLERANCE

1. Maximum Alignment Variation: 1/4 inch in 40 feet.

C. FLASHING

1. Follow manufacturer's directions and architect approved Shop Drawings.
2. Overlap roof panels at least 6 inches.
3. Install flashings to allow for thermal movement.
4. Remove strippable protective film, if used, immediately preceding flashing installation.

D. CUTTING AND FITTING

1. Neat, square and true. Torch cutting is prohibited where cut is exposed to final view.
2. Openings 6 inches and larger in any direction: Shop fabricate and reinforce to maintain original load capacity.
3. Where necessary to saw-cut panels, debur cut edges.

3.04 CLEAN UP AND CLOSE OUT

A. PANEL DAMAGE AND FINISH SCRATCHES

1. Do not apply touch-up paint to damaged paint areas that involve minor scratches.
2. Panels or flashings that have severe paint and/or substrate damage shall be replaced as directed by the Architect's or Owner's representative.

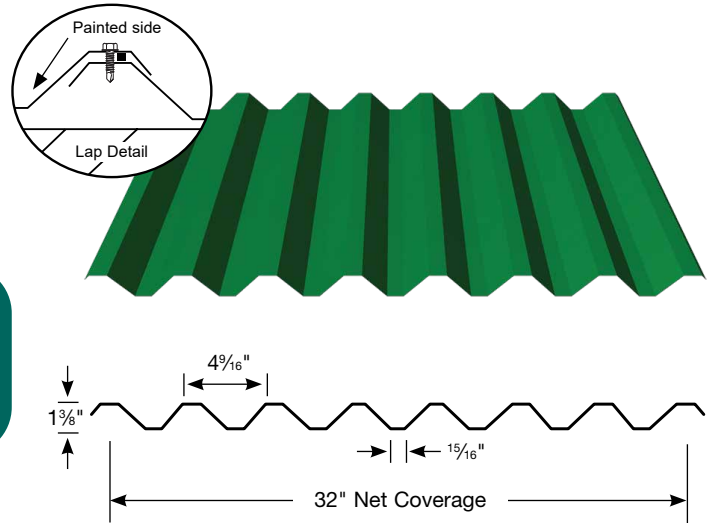
B. CLEANING AND REPAIRING

1. At completion of each day's work and at work completion, sweep panels, flashings and gutters clean. Do not allow fasteners, cuttings, filings or scraps to accumulate.
2. Remove debris from project site upon work completion or sooner, if directed.

END OF SECTION

Mini-V-Beam is an exposed-fastened metal panel with 32" net coverage.


Mini-V-Beam is ideal for roof, vertical or horizontal wall applications, open framed canopy or carport designs.



Properties									Standard Finishes	
Gauge	Base Steel Thickness (in)	Yield (ksi)	Tensile (ksi)	Wt. (lbs/ft ²)	I+ (in ⁴ /ft)	S+ (in ³ /ft)	I- (in ⁴ /ft)	S- (in ³ /ft)	Metallic Coating	Paint System
26	0.0173	80	82	0.92	0.0708	0.0921	0.0705	0.0876	AZ50	Cool Dura Tech™ <i>nt</i>
24	0.0232	50	65	1.23	0.0956	0.1307	0.0956	0.1286	AZ50	Cool Dura Tech™ 5000 (polyvinylidene fluoride) or Dura Tech™ <i>mx</i> (metallic polyvinylidene)
22	0.0294	50	65	1.56	0.1200	0.1665	0.1200	0.1668	AZ50	
20	0.0354	40	55	1.88	0.1463	0.2000	0.1463	0.2000	G90	
18	0.0459	40	55	2.43	0.1913	0.2573	0.1913	0.2573	G90	

NOTES: The moments of inertia, I* and I-, presented for determining deflection are: $(2I_{\text{Effective}} + I_{\text{Cross}})/3$

standard features

- Minimum recommended slope 1:12.
- Gauges: 22ga, 24ga, and 26ga in standard finishes ZINCALUME® Plus.
- Refer to AEP Span Color Charts for full range of color options and paint systems.
- Custom manufactured panel lengths: 5'-0" to 45'-0".
- Matching fiberglass panels available.
- Testing: ASTM E1680 (air infiltration) and ASTM E1646 (water infiltration). All testing performed by accredited third-party.
- Roof assemblies Class A Fire Rated when installed on non-combustible deck or framing per IBC or IRC or when installed in accordance to UL listings (UL790). Wall assemblies rated for fire resistance (UL263) when installed in accordance with UL listings.
- Building Code Approval Report: IAPMO-UES #ER-0550. 
- Manufactured in Sacramento, WA.

optional features

- Short cut sheets from 5'-0" to 1'-0". Additional fees and lead times apply.
- 20ga and 18ga available in galvanized G90 with standard and custom colors subject to a minimum order size of 4,500 square feet and longer lead times.
- 18ga available in bare galvanized G90 subject to a minimum order size of 18,000 square feet and longer lead times.
- Custom colors, thick film primer and/or clear coat paint finishes available. Subject to 4,500 square feet minimum order.
- Perforation options available for an additional charge. Minimum order size 1,335 square feet (Inquire for smaller orders). Select from standard perforation patterns with open areas of 7.8%, 13.8%, 23.4% or 30.6%.
- Stucco embossed available in 26ga, 24ga and 22ga. Subject to minimum order size of 1,335 square feet.



steelscape

METALLIC COATING SUMMARY

Corrosion, also known as oxidization or rust, weakens steel and can contribute to product failure. Metals, including zinc and aluminum can be applied as a coating to provide a protective barrier against corrosion.

Key Differences

The two common types of metallic coating are galvanized (Steelscape's TruZinc®), and ZINCALUME® (also known as Galvalume®). Galvanized coatings consist of zinc, whereas ZINCALUME consists of both aluminum and zinc.

As a protective element, zinc provides a sacrificial barrier for the steel underneath - this ensures the coating will corrode preferentially to the base steel. Aluminum by comparison, provides an inherent protective barrier which prevents the spread of corrosion. As a result, ZINCALUME combines the benefit of preferential corrosion, while slowing its spread. This provides better overall long-term performance and superior cut edge and edge creep corrosion resistance performance. Extensive field testing has proven that ZINCALUME can outlast galvanized material several times, with the latest tests estimating a 60-year service life in unpainted applications*. ZINCALUME and licensed Galvalume products will typically carry a corrosion warranty of 20 to 25 years. This warranty is independent of any additional finish warranty provided by the paint system.

Manufacturing Process

The metallic coating is applied to the bare steel before it is painted. In most instances, the metallic coating is applied by passing the steel through a molten pot of the coating, after which it is cooled and treated to create a tightly bonded, consistent finish. This process is performed in accordance with ASTM standards A924, A653 and A792.

Variants and Specification

Metallic coating specification will vary based on type (galvanized or ZINCALUME), and by thickness, called coating weight. The thickness of the metallic coating will impact the longevity of the corrosion resistance.

For galvanized material, the most common thicknesses are G60 and G90. The number denotes the coating of zinc per square foot. For example G60 reflects 0.60 ounces and G90 reflects 0.90 ounces per square foot. For galvanized material, corrosion resistance is typically directly proportional to the amount of coating, in that a G90 product will be 1.5x more resistant compared to a G60 product.

The most common ZINCALUME coating weight is AZ50 (or in some cases AZ55). AZ50 refers to 0.50 ounces of aluminum-zinc coating per square foot. AZ50 forms the most appropriate coating weight for a diverse range of building applications. Due to the difference in the performance between galvanized and ZINCALUME, the numerical terminology does not represent an equivalency (AZ50 is not the same as G50). Due to the length of the zinc columns in the aluminum-zinc coating, a thinner AZ35 coating can create pathways for corrosion. As a result, AZ35 coatings cannot carry the ZINCALUME trade name and will not carry a corrosion warranty.

Some specialty applications, such as those within proximity of airborne chemicals or salt spray, may require alternative coating thicknesses. Thicker coating weights can impact other factors such as formability (ability to be formed into a panel) and cost. In these situations, specifiers should consult their preferred product manufacturer before selecting a coating.

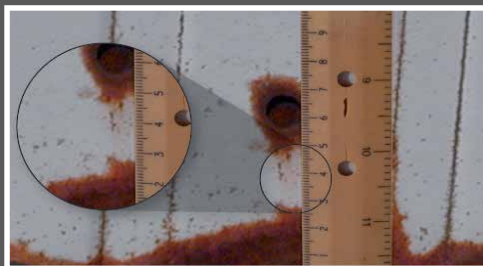


Application of the Metallic Coating at Steelscape Kalama

Case Study 1:

Barrier Protection in Action

Corrosion comparison of a drip edge at 20 years of service life. Both products are painted and located in an acid rain environment in Pennsylvania. Note how the ZINCALUME product has slowed the spread of corrosion.



Galvanized



ZINCALUME

*Reference: ZAC Association, ZINCALUME – Build Once, Roof Once, pg 2

Visit steelscape.com to learn more or call us at (888) 553-5521.

Attribute Summary	Galvanized	ZINCALUME®
Overview	100% Zinc	45% Zinc and 55% Aluminum
In Use	150+ years	Since 1972
Visual Appearance	No to light spangle	Light spangle
Corrosion Protective Properties	Sacrificial - Protects the steel underneath but will be consumed until structural integrity is lost	Sacrificial and barrier - In addition to sacrificial protection, barrier protection will slow the spread
Corrosion Resistance	Good bare, very good when painted with a premium paint system (fluorocarbon or PVDF) Initial observable corrosion is often less (<10 years)	Excellent bare and painted Improved edge creep protection & improved protection at cut edges (i.e exposed edge of panel) providing greater long-term protection
Corrosion Warranty	No warranty	Manufacturer dependent. Typically 20-25 years.
Price	Comparable	
Availability	Can be produced in common gauges for metal roof and wall building applications including 29ga, 26ga, 24ga, and 22ga	
Lifespan	Heavily dependent on installed environment, however:	
	Bare: 25-50 years Painted: Dependent on paint system (25-50+)	Bare: 60+ years Painted: Dependent on paint system (can be 60+)
Recommended Coating	G90	AZ50
Typical Applications	Steel decking, agricultural, metal buildings, residential roofing, commercial roofing and siding	Residential roofing, metal building, commercial roofing and siding
More Info	galvanizeit.org	galvalume.com

Recommendations

ZINCALUME offers superior corrosion resistance in most applications. However, when used in conjunction with a premium paint system (such as a PVDF system), both coatings will provide long-lasting corrosion protection in most environments. There are some environments in which ZINCALUME is not suitable including highly alkaline environments, such as those in direct contact with wet cement or when buried in soil, and animal confinement settings.

To avoid premature corrosion, both coatings are not suitable for roof slopes below ¼ : 12 due to the potential for standing water. Designers should also ensure these products are not in direct contact with dissimilar metals in corrosive environments, for example, direct contact with stainless steel or copper in a coastal setting.

How Can I Learn More?

Steelscape has accredited AIA Continuous Education Courses on pre-painted metal and metallic coatings. These include:

PPM01 – Understanding Pre-painted Metal

PPM02 – Strategies for Success with Al-Zn Coated Metal Roofs.

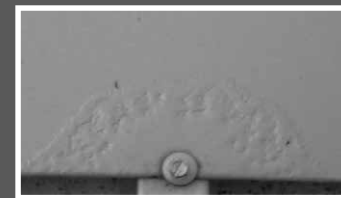
For additional guidance on manufacturing and installing metallic coated products, please see the Steelscape TruZinc and ZINCALUME technical bulletins.



Case Study 2 Service Life

One of the first ZINCALUME applications at 20 & 30 years service life. Application is a low slope, bare, standing seam roof. Corrosion observed is on non-ZINCALUME accessories.

Source: ZAC Association



Case Study 3 Dissimilar Metals

A stainless-steel fastener installed in a ZINCALUME panel in a coastal home, creating rapid galvanic corrosion. Note how it initially appears as a paint failure, but it is from corrosion underneath.

Source: Steelscape Internal



A Zinc/Aluminum coating that doubles the life of steel.

ZINC-A-WHAT?

ZINCALUME is 45% zinc/55% aluminum alloy applied by a continuous hot dip coating process. It combines the strength of steel with the corrosion resistance of aluminum. When applied to steel in appropriate conditions, it exceeds the service life of traditional zinc coatings by two times.

COMPATIBLE

ZINCALUME coated panels are highly compatible with all materials except lead and copper. They can be used in contact with traditional zinc-coated sheet steel with complete safety.

ATTRACTIVE

ZINCALUME has a handsome, silvery matte finish. ZINCALUME does not have the harsh glare of traditional chromated galvanized sheets.

DURABLE

ZINCALUME is a better substrate for the application of finishes than a galvanized finish. The spangles inherent in the galvanizing process make the surface less receptive to the adhesion of paint and other finishes than ZINCALUME. ZINCALUME coated panels have a super-smooth surface that readily accepts almost any finish for a longer, more durable life.

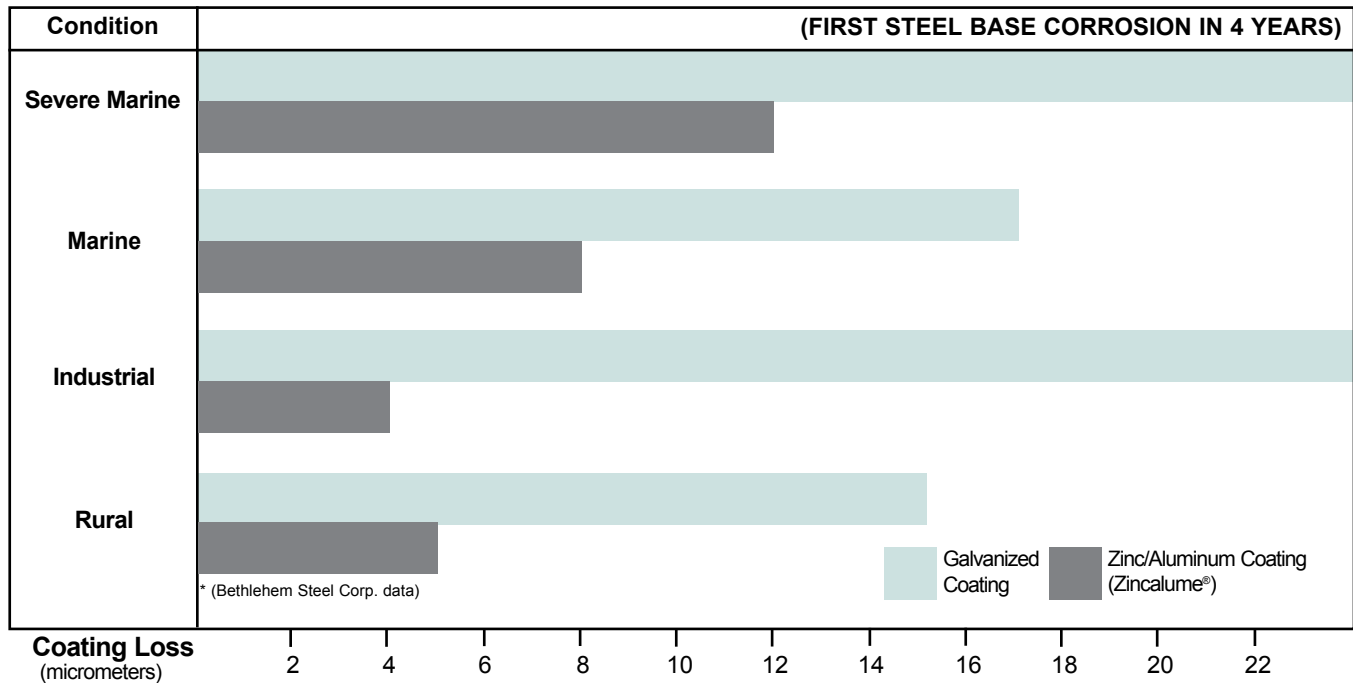
ENERGY-WISE

ZINCALUME coated panels are superior to standard galvanized panels for energy efficiency. They help keep buildings cooler in summer because they effectively reflect the heat of the sun. In winter, they also retain generated heat to maintain warmth.

- Minor differences in both color and appearance are normal and to be expected.
- Inappropriate for intensive animal confinement applications.

A Zinc/Aluminum coating that doubles the life of steel.

COMPARATIVE CORROSION RATES AFTER 14 YEARS*



Tests prove ZINCALUME is twice as tough against corrosion.

TESTED TOUGH

Exposure tests in the U.S. over the past 14 years have proven the superior toughness of ZINCALUME. The conditions and results of these tests are shown above.

Rainwater sample tests in Australia also show zinc-aluminum alloy coatings to be superior. These tests used both distilled water and impure water containing chloride. The distilled water tests show galvanized coatings corroded almost 60 times faster than ZINCALUME coatings. The corrosion rate of galvanized steel in the impure water test was 10 times faster than the ZINCALUME coated steel.

SUPER CORROSION RESISTANCE

The alloy coating of ZINCALUME provides the optimum composition of aluminum and zinc for maximum corrosion resistance and galvanic protection. This super corrosion resistance is illustrated by the exposure tests being held on a continual basis on a variety of tortuous sites.

At each site, samples are placed on racks which face south, and are inclined either 30° or 45° from the horizontal. The corrosion rates are determined by exposing pre-weighed samples of ZINCALUME and zinc-coated steel, removing the corrosion products after various exposure times, and measuring the mass loss. To compare the relative corrosion rates, the mass losses are converted to thickness losses, using the relevant density values. Comparative corrosion rates determined in this way at the various exposure sites after 14 years are shown above.

PERFORMANCE WARRANTY

We believe so strongly in the superior performance of ZINCALUME, we've put our money where our mouth is with a written performance warranty. Just ask your AEP Span representative for details.



January 2021

ASTM 792 Specifications

Steelscape's ZINCALUME® (Galvalume) product meets ASTM 792 specifications.

If you have any questions, please contact your Steelscape sales representative, or Steelscape directly at (888) 553-5521 or at productinfo@steelscape.com.

Thank you,

John Provencal
Marketing Manager

Document 07 60 00

FLASHING AND SHEET METAL

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Related Documents: Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections apply to Work of this Section as if printed herein.
- B. Section Includes: Description of requirements for materials, fabrications and installation of flashing and sheet metal work, except that which is shown or specified to be provided elsewhere. Only major items are shown or noted. Work and/or items include, but are not necessarily limited to, the following:
 - 1. Roof flashings with Kynar finish
 - 2. Counterflashings over Roofing base flashings with Kynar finish
 - 3. Sheet metal pans and pitch pockets
 - 4. Counterflashings for roof mounted mechanical equipment, exhaust fans, vent stacks, etc.
 - 5. Sheet metal for rooftop miscellaneous items, including crickets, etc.
 - 6. Galvanized sheet metal gutters.
- C. Related Sections
 - 1. Section 07 92 00 – Sealants and Caulking
 - 2. Section 09 91 00 – Painting

1.02 REFERENCES

- A. ANSI/ASTM B32 – Solder Metal
- B. ASTM A167 – Stainless and Heat Resisting Chromium Nickel Steel Plate
- C. ASTM A525 – Steel Sheet, Zinc Coated (Galvanized) by the Hot Dip Process
- D. ASTM 832 – Solder Metal
- E. FS 0 F 506 – Flux, Soldering, Paste and Liquid
- F. FS SS C 153 – Cements Bituminous, Plastic
- G. SMACNA – Architectural Sheet Metal Manual of the Sheet Metal and Air conditioning Contractors National Association, Inc., Latest Edition with all Bulletins

1.03 QUALITY CONTROL

- A. References and Standards (Latest Edition unless otherwise noted):
 - 1. American Society for Testing and Materials (ASTM)
 - 2. American Welding Society, "Standard Welding Code (AWS); Sheet Steel D1.3
 - 3. Federal Standards (FS)

4. Sheet Metal and Air Conditioning Contractors National Association Inc. (SMACNA); "Architectural Sheet Metal Standard", Latest Edition

1.04 SUBMITTALS (Submit under the provisions of Section 01 33 00)

- A. Product Data: For manufactured items and proposed substitutions: Only as required by Architect. Submit specific plates from SMACNA manual constitutes and acceptable documentation for installation.
- B. Describe material profile, jointing pattern, jointing details, fastening methods and installation details. All work to meet or exceed SMACNA standards or as detailed whichever is more restrictive.
- C. Shop drawings per Section 01 33 00.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, and handle packaged materials in original containers with seals unbroken and labels intact until time of use.
- B. Discharge materials carefully and store on clean concrete surface or raised platform in safe, dry area. Do not dump onto ground.
- C. Stack preformed materials to prevent twisting, bending and abrasion and to provide ventilation.

1.06 JOB CONDITIONS

- A. Protection:
 1. At all times against damage or contamination during the Work. Do not use damaged or distorted items in the Work.
 2. Exercise care when working on or about roof surfaces to avoid damaging or puncturing roofing membrane.
 3. Protect exposed finishes as required against construction damage; remove prior to final inspection.
- B. Scheduling, Sequencing: Insure timely delivery of items to be embedded in work of other sections and furnish setting instructions for exact installation.
- C. Work under this section is to physically protect roofing and exterior from damage that would allow water leakage into the building interiors.

1.07 QUALITY ASSURANCE

- A. Applicator: Company specializing in sheet metal flashing work with a minimum of 10 years of experience.

1.08 WARRANTY

- A. Warranty period for this Work is extended to two (2) years against all defects in materials, workmanship and leaks. Warranty shall cover damage from

leaks due to defective materials or workmanship. Warranty coverage shall be at 100% of all cost of defects and repairs to be borne by the contractor.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Sheet Metals:
 - 1. Galvanized Sheet Metal: ASTM A653, G 90, commercial quality, heavy duty 20 gauge minimum or thicker as called out in the drawings. Use hot-dip galvanized steel or cadmium plated fasteners.
 - 2. Steel plates and flat bar stock shall have galvanized finish and conform to ASTM A36.
 - 3. Pre-finished sheet metal flashing with Kynar coating.
- B. Solder and Flux: Types as recommended by manufacturer of sheet metal to be soldered. Re-melted or re-worked solder will not be permitted. Solder: ANSI/ ASTM B32, Class AI. Flux: FS-0-F-506.
- C. Asphaltic Primer: ASTM D41.
- D. Plastic Cement: Asphaltic, FS SS-C-153, Type I, asphaltic base cement.
- E. Sealants:
 - 1. Single Component Sealer: Conform to FS TT-S-00230C, Class A, Type II, and/or ASTM C920 Type S, Grade NS, Class 25.
 - 2. One-Part Silicone Sealant that meets FS TT-S-00154A, Class A, and/or ASTM C920, Type S, Grade NS, Class 50.
 - 3. Primer: As recommended by sealant manufacturer. Primer will be required for all surfaces to receive sealant.
 - 4. Solvents, cleaning agents or other accessory materials shall be as recommended by sealant manufacturer.
- F. Packing and Wedges: Lead or other nonferrous alloys as approved by Architect.
- G. Items for Permanent Protection of Dissimilar Metals and Materials:
 - 1. Sheet Membrane Waterproofing
 - 2. Bituminous Paint: FS TT-C-494A
 - 3. Compressible Tape: ASTM C509 – Closed cell black neoprene tape, size as noted, with adhesive system as recommended by manufacturer.
- H. Protective backing paint: FS-TT-C-494A, Bituminous paint

2.02 FABRICATION

- A. General Requirements:
 - 1. Items of standard manufacture may be furnished in lieu of specially fabricated items provided such items meet requirements shown or noted.

2. As far as practicable, form and fabricate sheet metal items true to shape, accurate in size, and square in shop. Where circumstances require on-site fabrication, provide quality equal to shop work.
 3. Reproduce accurately to profiles and bends as shown or noted. Ensure that intersections are sharp, even, and true; that plane surfaces are free from buckles and waves; that seams follow direction of water flow.
 4. Where work is not otherwise shown or noted, design and fabricate in accordance with SMACNA.
 5. Reinforce properly as required for strength and appearance in longest practical lengths.
 6. Cut, fit, and drill sheet metal as required to accommodate accessory items and work adjacent or adjoining.
 7. Exposed Edges of Sheet Metal: Fold, bead, Hem or return; no raw edges will be permitted. Miter and seam all corners and expansion joints.
 8. Fabricate cleats and starter strips of same material as sheet metal gutters and cleats to be interlocking with sheet metal gutter.
 9. Drop outlets shall be 2" x 3" unless specified otherwise on the drawings.
- B. Sheet Metal Joints:
1. In general, provide lock joints; where impractical, lap, rivet and solder.
 2. Turn lock joints on exposed surfaces in direction of flow.
 3. Solder joints and miters.
 4. Where positive joining is required, arc-weld in accordance with AWS D1.1, or braze.
 5. Expansion joints shall provide soldered end cap at each gutter with sheet metal cap over expansion gap.
- C. Soldering:
1. Pre-tin edges 1 1/2 inches both sides prior to soldering.
 2. Use heavy soldering coppers of blunt design (except for zinc alloy sheet metal, use medium irons).
 3. Immediately after applying flux, solder slowly with well-heated coppers, thoroughly heating seams and completely sweating solder through full width with at least one inch width along seams.
 4. After soldering, immediately neutralize any acid flux and flush with clean water.
 5. Do not solder aluminum.
- D. Expansion-Contraction of Sheet Metal Runs: Provide loose locking slip joint at maximum of ten feet, unless manufacturer recommends more frequent intervals. Flood gutter for 24 hours to verify all expansion joints are 100 percent water tight.
- E. Flashing and Counterflashing:
1. Fabricate runs in maximum lengths subject to expansion contraction allowance with minimum number of joints.
 2. Form counterflashings to lock rigidly into reglets where required.
 3. Exposed Edges: Turn back and hem 1/2 inch.

2.03 FINISHES

- A. Sheet Metal: Manufacturer's standard finish unless otherwise noted herein.
 - 1. Galvanized Sheet Metal: After fabrication, touch-up abraded surfaces.
 - a. Touch-up shall be "Galvalloy" or Galvweldalloy".
 - 2. All surfaces of gutters, downspouts, flashings, etc. shall be painted or pre-finished. No exposed "white back" primer or exposed metal will be allowed.
 - 3. Priming: All galvanized sheet metal and steel members in conjunction with sheet metal shall be primed on all surfaces except as herein noted otherwise. Priming shall be done before installation.
 - a. Primer shall be Fullers 320-04 Etch & Primer. Clean galvanized sheet metal with acid wash (Galvaprime, diluted with water according to the manufacturer's recommendations) prior to priming.
 - b. Flanges of sheet metal surfaces embedded within composition roofing shall be cleaned only.

- B. Permanent Protection of Dissimilar Metals and Materials:
 - 1. Items in Contact with Dissimilar Metals: Protect as required to prevent corrosion and discoloration from galvanic action.
 - 2. Items in Contact with Concrete, Masonry Mortar, or No Accessible Alter Installation: Underlay items with asphalt-saturated felt or apply heavy coating of bituminous paint at areas of contact.
 - 3. Items in Contact with Moisture Absorbent Materials or Preservative-Treated Wood: Apply heavy coating or bituminous paint to such items.
 - 4. Fasteners and Anchors of Materials Dissimilar from Item Fastened: Mask as required to prevent corrosion and discoloration from galvanic action.
 - 5. Contractor to verify with painting contractor that the primer is compatible with finish coats of paint at exposed flashings, caps, etc. to be finished painted.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Examine areas to receive items and verify the following:
 - 1. All shapes and dimensions of surface to be covered.
 - 2. That substrates, adjacent or adjoining surfaces are clean, dry and reasonably smooth, and free from defects to extend needed for sheet metal work.
 - 3. That wood surfaces to be in contact with sheet metal are free from projecting nails.
 - 4. Absence of other conditions that will adversely affect installation.

- B. Do not start work until unsatisfactory conditions have been corrected. Beginning of work means acceptance of existing conditions.

3.02 PREPARATION

- A. Coordinate as required with installation of related work.

- B. Field measure site conditions prior to fabricating work.
- C. Install starter edge strips and cleats prior to starting.
- D. Install reglets true to lines and plumb or levels. Seal top of reglets with sealant.
- E. Insert flashing into reglets to form tight fit. Secure in place with plastic wedges at maximum 12 inches on center. Seal flashings into reglets with sealant.
- F. Secure flashings in place using concealed fasteners. Use exposed fasteners only in locations approved by Architect.
- G. Lock and seal all joints.
- H. Apply plastic cement compound between metal flashings and felt flashings.
- I. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- J. Solder metal joints watertight for full metal surface contact. After soldering, wash metal clean with neutralizing solution and rinse with water.

3.03 INSTALLATION

- A. General Requirements:
 - 1. Install items in accordance with SMACNA unless otherwise indicated.
 - 2. Standard Catalog Products: Install in strict accordance with approved manufacturer's instructions unless otherwise indicated.
 - 3. Where installation requires performing work of fabrication, meet requirements of applicable standards of Fabrication Article.
 - 4. Apply flashing compound at slip joints or wherever else metal to metal contact occurs and movement may be anticipated.
 - 5. Sheet metal installed in conjunction with roofing shall be installed in accordance with the roofing manufacturer's recommendation and requirements or specification which ever is more restrictive.
 - 6. Insure that items are installed in true and accurate alignment with other items and related work; that joints are accurately fitted; that exposed surfaces are free from dents; that corners are reinforced; that seams are watertight.
 - 7. All work shall be left free of oil, grease or acid, ready to receive painter's finish.
 - 8. Wherever possible, all fasteners shall be concealed. All exposed fasteners shall have neoprene gaskets and capped with a bead of sealant.
- B. Flashing and Counterflashing:
 - 1. Install in reglets to form tight fit. Secure in place with lead wedges. Seal flashings into reglets with sealant.

2. Apply a continuous bead of sealant (compatible with membrane roofing material) along the bottom edge of flashings (or counterflashings).
- C. Miscellaneous Items: Fabricate and install all other miscellaneous sheet metal, flashings, counterflashings, reglets, etc. as detailed, indicated or required to complete the work. Furnish and install all other miscellaneous ferrous and nonferrous sheet metal items as indicated, except where such items are specified to be included under other Sections of the Specifications. Finish shall match similar items or adjacent surfaces.

3.04 SEALANTS

- A. Surface of joints and spaces to be sealed shall be dry and free from dust, dirt and foreign matter. All oils and films of any nature shall be removed.
1. Prepare surfaces to which the sealants are to bond to priming with primer or surface conditioner manufactured in any joint or on any surface that has not been cleaned and primed or conditioned.
 2. Provide backup or filler material to all joints or spaces having a depth greater than 3/8".
 3. Apply sealants in accordance with the manufacturer's instructions and applicable portions of Section 07920. Sealants shall be applied to both sides of all joints or space unless indicated otherwise. Remove excess sealant and leave surfaces neat and clean and with a uniform smooth finish on the sealant.

3.05 TOUCH-UP

- A. Where finish is damaged by fabrication or installation, repair galvanized, pre-finished and prime painted surfaces with specified touch-up material, applying in accordance with manufacturer's printed directions. Float galvanized material full, grind, and buff smooth.

END OF SECTION

Document 07 92 00

SEALANTS AND CAULKING

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Related Documents: Drawings and General Provisions of Contract, including General Conditions and Division 1 Specification Sections apply to Work of this Section as if printed herein.
- B. Section Includes: Description of requirements for materials, fabrications and installation of sealants, caulking and associated accessories, except for those specified in other Sections, where indicated on Drawings, and where required to provide for a weather and watertight condition shall be furnished and installed under this section of the specifications.
 - 1. Caulking and sealants for exterior glazing of new aluminum storefront systems, doors, thresholds, casings, louver frames, access panels, or as otherwise noted on the drawings.
 - 2. Joints between dissimilar metals
 - 3. Adhesive product behind trims, FRP panels, plywood backboards, plastic laminates, etc.
 - 4. Sealants and caulking around any wall penetrations in restrooms or the exterior walls of the structure.
 - 5. Sealants and caulking around all drinking fountains and restroom fixtures, mirrors, partitions, etc.
 - 6. Fire Caulking at all fire rated wall penetrations.
 - 10. Sealants and caulks at flashings, joints and gaps etc., as required for a completely watertight structure.

1.02 QUALITY ASSURANCE

- A. Referenced and Standards:
 - 1. American Society for Testing and Materials (ASTM).
 - a. ASTM D1056: Flexible Cellular Materials.
 - b. ASTM C804: Use of Solvent Release Type Sealants.
 - c. ASTM C834: Latex Sealant Compounds
 - d. ASTM C920: Elastomeric Joint Sealants.
 - e. ASTM C962: Use of Elastomerics.
 - 2. Federal Specifications.
 - a. FS-TT-S0001657 – Sealant Compound, single component.
 - b. SWRI – Sealant, Waterproof and Restoration Institute guide Specification.
- B. Acceptable Manufacturers: Dow Corning; General Electric; Tremco; Vulkem, 3M.
- C. Applicator's Qualifications: Application of sealants shall be by firm regularly engaged in this type of work and approved by the manufacturer, employing

skilled mechanics with 10 years continuous practice in the application of the above systems herein specified.

- D. Job Mock-up: Prepare sample application in locations directed by Architect. Mock-up to constitute standard of acceptance for work for the project.
- E. Compatibility: Contractor to verify that all sealants and caulking are compatible with adjacent finishes.

1.03 SUBMITTALS: (Submit per section 01 30 00)

- A. Manufacturer's Data: Submit list of materials proposed for use including complete data including color charts and manufacturer's specifications and installation instructions for each type of sealant, caulking compound and associated miscellaneous material required. Include published data, letter of certification, or certified test laboratory report indicating that each material complies with the requirements and is intended generally for the application shown. Include location of each material.
- B. Samples: Submit standard color ranges of exposed materials for Architect's selection. Colors shall match adjacent painted or prefinished surfaces.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Materials shall be delivered to job in sealed containers with manufacturer's name, labels, project identification, and lot numbers where appropriate.
- B. Store material out of weather in original containers or unopened packages as recommended by manufacturer.

1.05 JOB AND ENVIRONMENTAL CONDITIONS

- A. Job Conditions: The Sealant and Caulking Contractor shall acquaint himself with all conditions relating to the work of this Section.
- B. Environmental Conditions: Do not proceed with installation of sealants under adverse weather conditions or when temperatures are below or above manufacturer's recommended limitations for installation. Proceed with the work only when forecasted weather conditions are favorable for proper cure and development of High Early Bond strength.
- C. Scheduling, Sequencing: Schedule application only after concrete has cured and joints are most likely to be normal size.
- D. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.
- E. Do not install solvent curing sealants in enclosed building spaces.
- F. Protection: Use all means necessary to protect caulking materials before, during and after installation to protect the installed work and material of all other trades.

1.06 WARRANTY

- A. Warranty period for this work is extended to ten (10) years for materials; and workmanship against leakage.
- B. Coverage to include failure to adhere, seal, cohesion and cure, leading to water leaks or air infiltration.

1.07 SCHEDULING

- A. Coordinate work of this section with all sections referencing Joint Sealers and Sealants.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Sealants: Sealants shall be polysulfide, polyurethane or silicone elastomeric type sealants all conforming to the following specifications.

Color of sealant shall match adjacent surface to which it is applied or shall be as selected by the Architect. Use non-sag type sealant on vertical surfaces.

1. Urethane Single-component sealants shall conform to FS TT-S-00230C, Class A, Type II, and/or ASTM C920-79, Type S, Grade NS, Class 25. Use at concrete and flatwork.
 2. Polyurethane Multi-component sealants shall conform to FS TT-S-00227E, Class A, Type I (self-leveling) or Type II, and/or ASTM C920-79, Type M, Grade P or NS, Class 25. Use at exterior applications, interior applications, concrete and masonry applications.
 3. One-part silicone sealant that meets FS TT-S-001543, Class A, and/or ASTM C920-75, Type S, Grade NS, Class 50. Use at glazing applications.
 - a. Do not use silicone sealant in seismic joints or horizontal joints in sidewalks, terraces, decks, concrete and tile floors, and driveways.
 4. Latex-Emulsion Sealant: One part, non-sag, mildew resistant, complying with ASTM C834, formulated to be paintable, Percora Corp. "AC-20," Sonneborn "Sonolac," Tremco "Tremco Acrylic Latex 834," for building interiors only.
 5. All exposed sealant material shall be of a color acceptable to Architect or shall be a paintable type where directed.
- B. Primer: As recommended by the sealant manufacturer. Primer will be required for all surfaces to receive sealants. Primer to be non-staining.
 - C. Backup Materials: Non-staining, compatible with sealant and primer, and of a resilient nature such as closed cell resilient foam, sponge rubber, polyvinyl chloride tubing or glass mat. Materials impregnated with oil, bitumen or similar materials shall not be used. Sealants shall be adhere to backup material.
 - D. Bond Breaker: Polyethylene tape or masking tape as recommended by the sealant manufacturer.

- E. Solvents, Cleaning Agents: and other accessory materials shall be as recommended by the sealant manufacturer. They should not be used in enclosed non-ventilated spaces.
- F. Caulking: Where specifically called for on the Drawings, shall be "Plastoid" Type C, Pabco "White Hydroseal", or approved equal conforming to Fed.Spec. TT-C-00598C
- G. Joint Cleaner: Non-corrosive, non-staining type and compatible with joint forming materials.
- H. Caulking Tape: Extruded Butyl Sealing tape, Inco #7516 or pre-approved equal.
- I. Fire Caulking: Fire caulking shall be pre-approved sealant such as "3M Fire Caulking", manufactured by 3M Products.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Surface Acceptance: Examine all surfaces to be sealed or caulked for acceptance.
 - 1. Joint dimensions shall be inspected and reviewed to verify that they are in conformance with specifications and manufacturer's requirements and are acceptable to receive sealant and backup materials.
 - 2. Joints shall be of sufficient width and depth to accommodate specified backup material or preformed joint filler and sealants, but in no case shall sealant application be less than 1/4" wide and 1/4" deep, except as recommended by the manufacturer or otherwise approved by the Architect.
- B. Do Not Seal or Caulk Joints until they are in compliance with requirements of the approved manufacturer of materials, the details as shown on the drawings and the specified requirements of other sections of the specifications.
- C. Inspect all existing window and door frames to be reglazed and recaulked to determine any damage which prevents sealants effectiveness. Clean all existing frames as required prior to caulking installation. Commencement of work means acceptance of the existing conditions.
- D. Use only that caulking material which is best suited to the installation and is so recommended by the caulking material manufacturer for that application.

3.02 PREPARATION

- A. General: Thoroughly clean all joints, removing all foreign matter such as dust, oil, grease, water, old sealants, paint, surface dirt, etc. Sealant must be applied to the base surface.
- B. Porous Material such as concrete or masonry shall be cleaned where necessary by grinding, sand or water blast cleaning, mechanical abrading, acid washing, or

a combination of these methods as required to provide a clean, sound base surface for sealant adhesion.

1. Laitance shall be removed by acid washing, grinding or mechanical abrading.
 2. Form oils, release agents or chemical retardants shall be removed by sand or water blast cleaning.
 3. Loose particle present or resulting from grinding, abrading or blast cleaning shall be removed by blowing out joints with compressed air (oil-free) prior to application of primer or sealant.
 4. Sealants shall not be applied to masonry joints where water repellent or masonry preservative has been applied. Waterproofing treatments shall be applied after sealants and caulking when called for.
- C. Nonporous Surfaces such as metal and glass shall be cleaned either mechanically or chemically. Protective coatings on metallic surfaces shall be removed by a solvent that leaves no residue. Solvent shall be used with clean white cloths or lint free paper towels and wiped dry with clean, dry white cloths or lint free paper towels. Do not allow solvent to air dry without wiping. Joint areas protected with masking tape or strippable films shall be cleaned as above after removal of tape or film.
- D. Sealant Preparation: Do not modify the sealant by addition of liquids, solvents or powders. Mix multi-component elastomeric sealants in accordance with manufacturer's printed instructions.
- E. Perform preparation in accordance with sealant manufacturer's recommendations.
- F. Protect surrounding areas from damage or disfiguration.
- G. Do not caulk under weather conditions or sun conditions potentially harmful to the set and curing of the caulking material.

3.03 APPLICATION:

- A. Back Up: Install backup material or joint filler of type and size specified at proper depth in joint to provide sealant dimensions as detailed or as recommended by the manufacturer. Backup material shall be of suitable size and shape so that when compressed (25 to 50 percent) , it will fit in joints as required. Sealant shall not be applied without backup material and, if necessity, bond breaker strip. When using backup of hose or rod stock, roll the material into the joint to avoid lengthwise stretching. Hose or rod stock shall not be twisted or braided.
- B. Bond Breaker: Use specified bond breaker strip between sealant and supporting type backup material. Bond breaker strip shall be used in all joints where sufficient room for backup does not exist or where required to prevent sealant bonding to undesirable surfaces.
- C. Apply Masking Tape: Where required, in continuous strips in alignment with joint edge. Remove tape immediately after joints have been sealed and tooled as directed.

- D. Prime surfaces to receive joint sealant with primer as recommended by sealant manufacturer. Do not apply primer to exposed finish surfaces.
- E. Sealant: Do not use a sealant compound that has exceeded its shelf life or has become too jelled to be discharged in a continuous flow from the gun.
 - 1. Apply sealant with a caulking gun, using proper nozzles. Use sufficient pressure to properly fill the joints with sealant to the back-up material.
 - 2. After joints have been completely filled, they shall be neatly tooled to eliminate air pockets or voids and to provide a smooth, neat appearing finish in intimate contact with interfaces. After tooling, surface at sealant shall be free of ridges, wrinkles, sags, air pockets and embedded impurities. When tooling white or light colored sealants, use clean water, wet or dry tool or tooling solution recommended by sealant manufacturer.
 - 3. Apply at recommended application temperatures.
 - 4. Install sealant free of air pockets, bubbles, foreign matter, ridges or sags.
 - 5. Tool joints concave.
- F. Caulk all exterior joints and openings in the building envelope that are obscurable sources of air infiltration.
- G. Measure joint dimensions and size materials to achieve required width / depth ratios.

3.04 SEALANT SCHEDULES

- A. Exterior
 - 1. PM frames, metal doors, steel windows, dissimilar materials, sheet metal flashings and constructions, cap flashings, gutters, downspouts, vents, louvers, etc.
 - 2. Thresholds.
 - 3. At all other conditions indicated on the drawings.
- B. Interior
 - 1. Glass Glazing, Steel Frames, PM Frames and Metal Doors.
 - 2. At all restroom wall penetrations such as toilet partitions for moisture protection of structural elements.
 - 4. At all other conditions indicated on the drawings.
 - 5. At all countertops, back -splashes, and work tops against walls.
 - 6. Dissimilar metals.
 - 7. Adhesive on paneling systems, FRP, VTB, plywood backing and TTB locations, acoustical tile, etc.

3.04 CLEAN-UP

- A. Immediately clean adjacent surfaces free of sealant or soiling resulting from this work as work progresses. Use a solvent or cleaning agent as recommended by the sealant manufacturer. All finished work shall be left in a neat, clean condition.
- B. Remove masking tape immediately after tooling joints, leaving finished work in a neat and clean condition.

- C. Upon completion of the work of this section, remove all resulting surplus materials, rubbish and debris from the premises.
- D. Repair or replace defaced or disfigured work caused by this section.

3.05 PROTECTION

- A. Protect all sealants until cured.
- B. Do not paint until cured. Do not paint silicone sealants at any time.

END OF SECTION

Document 09 90 00

PAINTING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- 1.1.1 Surface preparation.
- 1.1.2 Products and application.
- 1.1.3 Surface finish schedule.

1.2 REFERENCES

- 1.2.1 ASTM D16 – Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.
- 1.2.2 ASTM D2016 - Test Method for Moisture Content of Wood.

1.3 SYSTEM DESCRIPTION

- 1.3.1 Preparation of all surfaces to receive final finish.
- 1.3.2 Painting and finishing work of this section using coating systems of materials including primers, sealers, fillers, and other applied materials whether used as prime, intermediate, or finish coats.
- 1.3.3 Surface preparation, priming, and finish coats specified in this Section are in addition to shop-priming and surface treatment specified under other Sections.
- 1.3.4 Painting and finishing all exterior and interior surfaces of materials including structural, mechanical, and electrical work on site, in building spaces, and above or on the roof.
- 1.3.5 Paint exposed surfaces except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces.

1.4 DEFINITIONS

- 1.4.1 Conform to ASTM 016 for interpretation of terms used in this Section.

1.5 QUALITY ASSURANCE

- 1.5.1 Product Manufacturer: Company specializing in manufacturing quality paint and finish products with five (5) years' experience.
- 1.5.2 Applicator: Company specializing in commercial painting and finishing with five (5) years documented experience.

1.6 REGULATORY REQUIREMENTS

- 1.6.1 Comply with applicable codes and regulations of governmental agencies having jurisdiction including those having jurisdiction over airborne emissions and industrial waste disposal. Where those requirements conflict with this specification, comply with the more stringent provisions.
- 1.6.2 Comply with the current applicable regulations of the California Air Resources Board (CARB) and the Environmental Protection Agency (EPA).
- 1.6.3 Coats: The number of coats specified is the minimum number acceptable. If full coverage is not obtained with the specified number of coats, apply such additional coats as are necessary to produce the required finish.
- 1.6.4 Employ coats and undercoats for all types of finishes in strict accordance with the recommendations of the paint manufacturer.
- 1.6.5 Provide primers and undercoat paint produced by the same manufacturer as the finish coat.

1.7 SUBMITTALS

- 1.7.1 Submit product data under provisions of Section 013300.
- 1.7.2 Provide manufacturer's technical information and instructions for application of each material proposed for use by catalog number.
- 1.7.3 List each material by catalog number and cross-reference specific coating with specified finish system.
- 1.7.4 Provide manufacturer's certificate that products proposed meet or exceed specified materials.
- 1.7.5 Submit samples under provisions of Section 013300.
- 1.7.6 Submit two (2) samples 8-1/2 x 11 inch in size of each paint color and texture applied to cardboard. Resubmit samples until acceptable color, sheen and texture is obtained.
- 1.7.7 On same species and quality of wood to be installed, submit two (2) 4 x 8 inch samples showing system to be used.

1.8 FIELD SAMPLES

- 1.8.1 Provide field samples under provisions of Section 013300.
- 1.8.2 On wall surfaces and other exterior and interior components, duplicate specified finishes on at least 100 sq.ft. of surface area.
- 1.8.3 Provide full-coat finishes until required coverage, sheen; color and texture are obtained.
- 1.8.4 Simulate finished lighting conditions for review of field samples.
- 1.8.5 After finishes are accepted, the accepted surface may remain as part of the work and will be used to evaluate subsequent coating systems applications of a similar nature.

1.9 DELIVERY, STORAGE, AND HANDLING

- 1.9.1 Deliver products to site and store and protect under provisions of Section 016500.
- 1.9.2 Deliver products to site in sealed and labelled containers; inspect-to verify acceptance.
- 1.9.3 Full unopened 1 GAL can (new) - Container labelling to include paint Formula, manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing. Paint containers not displaying product identification will not be acceptable.
- 1.9.4 Store paint materials at minimum ambient temperature of 50 degrees F and a maximum of 90 degrees F, in well-ventilated area, unless required otherwise by manufacturer's instructions.
- 1.9.5 Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.10 ENVIRONMENTAL REQUIREMENTS

- 1.10.1 Provide continuous ventilation and heating facilities to maintain interior surface and ambient temperatures above 50 degrees F with a maximum humidity level of 50 percent for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- 1.10.2 Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.
- 1.10.3 Minimum Application Temperatures for Latex Paints: 50 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- 1.10.4 Minimum Application Temperature for Varnish and Urethane Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.
- 1.10.5 Provide lighting level of 80 feet candles measured mid-height at substrate surface.

1.11 EXTRA MATERIAL

- 1.11.1 Provide 1-gallon only unopened container of each color and surface texture to Owner.
- 1.11.2 Label each container with paint mixture formula, color, texture, and room locations in addition to the manufacturer's label.

1.12 WARRANTY

- 1.12.1 All "Deep Tone" colors shall be warranted for 10-year color retention with a delta loss of no more than 75 cie lab units.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS - PAINT

- 2.1.1 Unless specifically identified otherwise, product designations included at end of section are those of the Dunn Edwards, www.dunnedwards.com and shall serve as the standard for kind, quality, and function.
- 2.1.2 Subject to compliance with requirements, other manufacturers offering equivalent products are:
 - 2.1.2.1 Dunn Edwards, www.dunnedwards.com.
- 2.1.3 Substitutions: Under provisions of Section 013300.

2.2 MATERIALS

- 2.2.1 Ready mixed, except field catalyzed coatings. Process pigments to a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating.
- 2.2.2 Good flow and brushing properties; capable of drying or curing free of streaks or sags.
- 2.2.3 "Deep Tone" colors to be composed of 100 percent acrylic pigments, factory ground, with a colored base.
- 2.2.4 Accessory Materials: Linseed oil, shellac, turpentine, paint thinners and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.
- 2.2.5 Chemical Components of Interior Paints and Coatings: Shall not exceed the limitations of Green Seal's Standard GS-11 for VOC content and the following restrictions:
 - 2.2.5.1 Flat Paints and Coatings: VOC content of not more than 50 g/L.
 - 2.2.5.2 Non-Flat Paints and Coatings: VOC content of not more than 150 g/L.
 - 2.2.5.3 Anticorrosive Coatings: VOC content of not more than 250 g/L.
- 2.2.6 Varnishes and Sanding Sealers: VOC content of not more than 350 g/L.
- 2.2.7 Stains: VOC content of not more than 250 g/L.

- 2.2.8 Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
- 2.2.9 Restricted Components: Paints and coatings shall not contain any of the following:
 - 2.2.9.1 Acrolein.
 - 2.2.9.2 Acrylonitrile.
 - 2.2.9.3 Antimony.
 - 2.2.9.4 Benzene.
 - 2.2.9.5 Butyl benzyl phthalate.
 - 2.2.9.6 Cadmium.
 - 2.2.9.7 Di (2-ethylhexyl) phthalate.
 - 2.2.9.8 Di-n-butyl phthalate.
 - 2.2.9.9 Di-n-octyl phthalate.
 - 2.2.9.10 1, 2-dichlorobenzene.
 - 2.2.9.11 Diethyl phthalate.
 - 2.2.9.12 Dimethyl phthalate.
 - 2.2.9.13 Ethylbenzene.
 - 2.2.9.14 Formaldehyde.
 - 2.2.9.15 Hexavalent chromium.
 - 2.2.9.16 Isophorone.
 - 2.2.9.17 Lead.
 - 2.2.9.18 Mercury.
 - 2.2.9.19 Methyl ethyl ketone.
 - 2.2.9.20 Methyl isobutyl ketone.
 - 2.2.9.21 Methylene chloride.
 - 2.2.9.22 Naphthalene.
 - 2.2.9.23 Toluene (methylbenzene).

2.2.9.24 1, 1, 1-trichloroethane.

2.2.9.25 Vinyl chloride.

2.3 WORK NOT TO BE PAINTED

2.3.1 Painting is not required on surfaces in concealed and inaccessible areas such as furred spaces, foundation spaces, utility tunnels, pipe spaces and duct shafts.

2.3.2 Do not paint metal surfaces such as stainless steel, chromium plate, brass, bronze, and similar finished metal surfaces.

2.3.3 Do not paint anodized aluminum or other surfaces which are specified to be factory pre-finished.

2.3.4 Do not paint sandblasted or architecturally finished concrete surfaces.

2.3.5 Do not paint prefinished acoustic materials or acoustic suspension systems.

2.3.6 Do not paint over Underwriters Laboratories, Factory Mutual or other code-required labels or identifications.

2.4 APPLICATION

2.4.1 Apply products in accordance with manufacturer's instructions.

2.4.2 Do not apply finishes to surfaces that are not dry.

2.4.3 Apply prime coat to surfaces which are to be painted or finished.

2.4.4 Apply each coat to uniform finish.

2.4.6 Sand lightly between coats to achieve required finish.

2.4.7 Allow applied coat to dry according to the Manufacturers Specifications before the next coat is applied.

2.4.8 The number of coats specified is the minimum that shall be applied. Apply additional coats when undercoats, stains or other conditions show through final paint coat, until paint film is of uniform finish, color and appearance.

2.4.9 Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

2.4.10 Prime back surfaces of interior and exterior woodwork with primer paint.

2.4.11 Prime back surfaces of interior woodwork scheduled to-receive stain or varnish finish with water-based Urethane varnish.

2.4.12 Paint mill finished door seals to match door or frame.

- 2.4.13 Paint primed steel glazing stops in doors to match door or frame.
- 2.4.14 Cloudiness, spotting, lap marks, brush marks, runs, sags, spikes and other surface imperfections will not be acceptable.
- 2.4.15 Where spray application is used, apply each coat of the required thickness. Do not double back to build up film thickness of two (2) coats in one pass.
- 2.4.16 Where roller application is used, roll and redistribute paint to an even and fine texture. Leave no evidence of roller laps, irregularity of texture, skid marks, or other surface imperfections.

2.5 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- 2.5.1 Refer to Section 233000 and Section 260000 for schedule of color coding and identification banding of equipment, ductwork, piping, and conduit.
- 2.5.2 Paint shop primed equipment. Do not paint shop prefinished items.
- 2.5.3 Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- 2.5.4 Prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, except where items are prefinished.
- 2.5.5 Replace identification markings on mechanical or electrical equipment when painted accidentally.
- 2.5.6 Paint interior surfaces of air ducts, and connector and baseboard heating cabinets that are visible through grilles and louvers with one (1) coat of flat black paint, to limit of sight line. Paint dampers exposed behind louvers, grilles, and connector and baseboard cabinets to match face panels.
- 2.5.7 Paint exposed conduit and electrical equipment occurring in finished areas with existing matching wall color.
- 2.5.8 Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment.
- 2.5.9 Color code equipment, piping, conduit, and exposed ductwork in accordance with requirements indicated. Color band and identify with flow arrows, names, and numbering.
- 2.5.10 Replace electrical plates, hardware, light fixture trim, and fittings removed prior to finishing.

2.5.11 Paint grilles, registers, and diffusers which do not match color of adjacent surface.

2.5.12 Paint all mechanical and electrical equipment, vents, fans, and the like occurring on roof.

2.5.13 Do not paint moving parts of operating units; mechanical or electrical parts such as valve operators; linkages; sensing devices; and motor shafts.

2.5.14 Do not paint over labels or equipment identification markings. .

2.5.15 Do not paint mechanical room specialties such as compressors, boilers, pumps, control panels, etc.

2.5.16 Do not paint switch plates, light fixtures, and fixture lenses.

2.6 CLEANING

2.6.1 As Work proceeds, promptly remove paint where spilled, splashed, or spattered.

2.6.2 During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.

2.6.3 Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

2.7 PROTECTION OF COMPLETED WORK

2.7.1 Protect finished installation under provisions of Section 016000.

2.7.2 Erect barriers and post warning signs. Maintain in place until coatings are fully dry.

2.7.3 Confirm that no dust generating activities will occur following application of coatings.

2.8 PATCHING

2.8.1 After completion of painting in any one room or area, repair surfaces damaged by other trades.

2.8.2 Touch-up or re-finish as required to produce intended appearance.

2.9 FIELD QUALITY CONTROL

- 2.9.1 Field inspection and testing will be performed under provisions of Section 014523.
- 2.9.2 The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary.
- 2.9.3 The Owner will engage the services of an independent testing agency to sample paint material being used.
- 2.9.4 Samples of material delivered to the Project will be taken, identified, sealed, and certified in the presence of the Contractor.
- 2.9.5 The testing agency will perform appropriate quantitative materials analysis and other characteristic testing of materials as required by the Owner.
- 2.9.6 If test results show materials being used and their installation do not comply with specified requirements or manufacturer's recommendations, the Contractor may be directed to stop painting, remove noncomplying paint, pay for testing and repaint surfaces to acceptable condition.

2.10 COLOR SCHEDULE

- 2.10.1 Paint and finish colors shall be selected by the Architect from manufacturer's entire range of standard and custom color selections and special colors selected to match or compliment the colors of other materials, equipment, or components which comprise the work. See also painting schedule.
- 2.10.2 Access doors, registers, exposed piping, electrical conduit and mechanical/electrical panels: Generally the same color as adjacent walls.
- 2.10.3 Exterior and interior steel doors, frames and trim: Generally a contrasting color to adjacent walls.
- 2.10.4 Doors generally are all the same color, but of a contrasting color from frame and trim.
- 2.10.5 Exterior and interior steel fabrications: Generally a contrasting color to adjacent walls.
- 2.10.6 Exposed interior mechanical/ductwork: Generally a contrasting color to adjacent walls or ceiling.
- 2.10.7 Ceilings are generally to be painted a different color than walls.

2.10.8 Five (5) different color schemes for painting of walls.

2.10.9 Approximately 20 percent of overall painting work will be required to be "Deep Tone" colors. This work will require one (1) additional coat of paint beyond that as specified.

PART 3 - EXECUTION

3.1 INSPECTION

3.1.1 Verify that surfaces are ready to receive work as instructed by the product manufacturer.

3.1.2 Examine surfaces to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

3.1.3 Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:

- | | |
|---|--|
| 1. Plaster and Gypsum Wallboard | 12 percent |
| 2. Masonry, Concrete, and Concrete Unit Masonry | 12 percent |
| 3. Interior Located Wood | 15 percent, measured in accordance with ASTM 02016 |
| 4. Exterior Located Wood | 15 percent, measured in accordance with ASTM 02016 |

3.1.3.1 Beginning of installation means acceptance of existing surfaces.

3.2 PREP WORK:

3.2.1 See attached sheet for Lead paint and Asbestos awareness.

3.2.2 Remove all tacks, stickers, staples adhesive glue, picture hangers, protruding nails, tape and adhesive glue, and all other foreign materials from surfaces prior to priming or painting. Mask off and protect existing room identification tags including Asbestos tags on door frames.

3.2.3 All exterior surfaces to be painted will be pressure washed to remove all loose paint, blisters, bridged cracks, surface-chalk and loose debris at no less than 3200-PSI, or sand blasted.

3.2.4 If prior is not possible, washing all surfaces with TSP made by Synco or Jasco, by hand means, scraping and sanding of all surfaces is required prior to prepriming for proper patching and painting of surfaces.

3.2.5 Prior to any painting, any wood or metal deficiencies should be replaced including but not limited to, doors, facial boards, overhang wood, siding, trim etc.

- 3.2.6 All glossy surfaces WILL be sanded prior to any paint application. NO EXCEPTIONS.
 - 3.2.7 Clean all roofing tar from facial boards and metal flashing etc.
 - 3.2.8 All factory primed new material wood, metal etc, will be sanded prior to priming and painting.
 - 3.2.9 All surfaces to be patched will be pre-primed with the proper material as per manufacture specifications for substrate.
 - 3.2.10 Any efflorescence will be primed as per Dunn-Edwards EFF-Stop concrete and masonry filler manufactures specifications.
 - 3.2.11 Wash all doors, casings and other surfaces with TSP made by Synco or Jasco to remove oily dirt, dust, smoke, and other residues that could prevent proper adhesion of any paint products.
 - 3.2.12 For all fillers and patching compounds used, surfaces will be primed before, after application, and before finish paint being applied.
 - 3.2.13 Do not paint over all murals until artist waiver is filled out and provided. Please check with the DISTRICT Paint Shop Supervisor before project starts.
 - 3.2.14 All prep work will be done like the DISTRICT standard NO EXCEPTIONS This includes patching, scraping, sanding, caulking, and removal of all drips, sags, runs and removal of all foreign matter on or in painted surface.
 - 3.2.15 All interior window trim, door trim, cabinets, cubbyholes, pin-board, counter tops in addition, wall panel joints shall be caulked.
- 3.3 PRIMING:
- 3.3.1 All new or bare galvanized metal will first be etched and then primed with appropriate galvanized latex or oil base primer, use cleaner and primer measures as per manufactures specification.
 - 3.3.2 All door and Casings may be sprayed. Doors may also be tight rolled with a 3/8th inch nap roller. All casings to be brushed or laid off with a brush. ABSOLUTELY NO EXCEPTIONS.
 - 3.3.3 All holes and cracks are to be filled with the proper exterior patching compound and latex caulking with silicone.
 - 3.3.4 All rusty ferrous and ferrous metal are to be primed with a rust-inhibitive red, gray or white oxide all galvanized metal will be primed with a galvanized primer.

3.4 PAINTING SCHEDULE

3.4.1 All parking lot and playground stripping. Mil thickness 12-15 mils dry. Apply material as per manufacture specs to achieve thickness. All colors of stripping are to match existing.

3.4.2 S.C.C.D. has standardized on latex (water based) paints for the outdoor environment. Exterior colors shall be per District Standards:

- a. All Campuses Field Colors:
 - 1) Color similar to Kelly Moore Apple White, KM_OW206-1
 - 2) Color similar to Sherwin Williams Eider White, SW 7014
 - 3) Color similar to Trespa Stonebeige, A0511
- b. All Campuses Exterior Columns:
 - 1) Exposed Concrete, Sandblasted, Smooth Finish or
 - 2) Color similar to Sherwin Williams Extra White, SW 7006
- c. Accent colors for Fairfield campus: District Representative shall select one to two accent colors out of these pair of choices:
 - 1) Color similar to Trespa Pacific Board, NW04 or Trespa Sienna Brown, A10.4.5
 - 2) Color similar to the rande provided by Trepasa Dark Mahogany, NW19
 - 3) Color similar to Trespa Ocean Grey, A22.3.1 or Trespa Powder Blue, A22.2.4
 - 4) Color similar to Trespa Sun Yellow, A05.1.4 or Trespa Gold Yellow, A04.1.7
 - 5) Color similar to Trespa Spring Green, A37.2.3 or Trespa Forest Green, A34.8.1
 - 6) Neverfade Solano Blue P - 6726, semi-gloss
- d. Non-Public/Utility Buildings on any campus have the option of being painted to match Trespa Mid Beige A08.2.1

END OF SECTION

Document 10 28 13

TOILET ACCESSORIES

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Related Documents: Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections apply to work of this section as if printed herein.
- B. Section Includes: Description of requirements for materials, fabrications, and installation of all toilet room accessories as specified herein or as indicated on the Contract Drawings. Work also includes all related blocking. Some components are to be provided by the University and installed by the GC.

1.02 RELATED SECTIONS

- A. Section 07 92 00 – Joint Sealants
- B. Section 09 91 00 – Painting

1.03 REFERENCES

- A. ASTM A167 Stainless and Heat Resisting Chromium Nickel Steel Plate, Sheets and Strip
- B. ASTM A269 Seamless and Welded Austenitic Stainless Steel Tubing for General Service
- C. California Building Code Chapter 11B – Accessibility Standards, 2019 Edition
- D. US – ADA Accessibility Guidelines for Buildings and Facilities, Federal Register Volume 56, Number 44, Latest Edition

1.04 SUBMITTALS

- A. Submit manufacturer's Product data and installation instructions for items furnished herein under Provisions of Section 01 33 23.
- B. Product Data sheet shall illustrate each accessory at large scale and show installation method compliant with code requirements. Provide service and parts manual as applicable.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver accessories to site or receive Owner furnished accessories until rooms in which they are to be installed are ready to receive them.
- B. Pack accessories furnished herein individually in manufacturer's original unopened protective packaging.

- C. Store material in original protective packaging to prevent physical damage or wetting of the item or its finish.
- D. Handle so as to prevent damage to accessories.

1.06 PROTECTION

- A. Protect adjacent or adjoining finished surfaces and work from damage during installation of work of this Section.

1.07 WARRANTY

- A. Furnish a one year guarantee against defect in material and workmanship on all accessories. In addition to the above the following shall apply:
 - 1. Welded stainless steel framed mirrors shall have a fifteen year guarantee against silver spoilage.
 - 2. All other equipment to have 5 year warrantee.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Bobrick Washroom Equipment, Inc. Models provided are items provided by Bobrick Washroom Equipment and are listed as the standard of quality for design, function, materials, workmanship and appearance.
- B. All other accessories shall be provided by the manufacturer identified with that item.
- C. Substitutions: Refer to section 01 25 13 – Product Options and Substitutions.
- D. Schedules:
 - 1. Staff Restroom Accessory Schedule:
 - a. Surface Mounted Seat Cover Dispenser B-221
 - b. Stainless Steel Hook Strip B-232x24
 - c. Stainless Steel Shelf B-298
 - 2. Child Restroom Accessory Schedule:
 - a. Surface Mounted Multi Roll Toilet Tissue Dispenser B-3588

2.02 MATERIALS

- A. All cabinets to be Stainless Steel sheet type 304, ASTM A167, commercial grade, 18-8 gauge.
- B. Stainless Steel tubing: ASTM A269, commercial grade, seamless welded.
- C. All tumbler locks to be fastened to accessories with lock nuts. Fastening locks to units with spring clips is not acceptable.
- D. Fasteners, Screws, and Bolts: Stainless Steel only. Expansion Shield: Fiber or lead as recommended by accessory manufacturer for component and

substrate. Blocking or support shall be a minimum of 3/4" 7-ply structural plywood. See drawing details for specifics.

2.03 FINISHES

- A. Stainless Steel: No. 304 Satin Luster finish.

2.04 FABRICATION

- A. Weld and grind smooth joints of fabricated components.
- B. Provide steel anchor plates and anchor components for installation on building finishes.
- C. Maintain flat surfaces without scratches, warps or dents.
- D. Stainless Steel screws and bolts with metal anchors and fastening devices.
- E. Shop assemble components furnished under this Section and package complete with anchors and fittings.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Deliver inserts and rough in frames to job-site at appropriate time for building-in. Provide templates and rough in measurements as required.
- B. Before starting work, notify Architect in writing of any conflicts detrimental to installation or operation of units. Check wall opening for dimensions, plumbness of blocking or frames that would affect installation of recessed accessories. For surface mounted accessories check condition of wall and confirm installation of backing within wall.
- C. Verify with CBC Part 2 Chapter 11B exact location of accessories.
- D. Verify spacing of plumbing fixtures and toilet compartment that affect installation of toilet room accessories.

3.02 INSTALLATION

- A. Install accessories at locations and height indicated, straight, plumb, and level, and in accordance with manufacturer's installation instructions.
- B. Install items with non-corrosive anchoring devices, securely and rigidly anchored to substrate. Fit all flanges of accessories snugly to wall surfaces.
- C. Install all necessary backing, blocking, etc., as required by the manufacturer and current codes.
- D. Install all items per CCR regulations and requirements. Toilet accessories required to be accessible shall be mounted at heights according to CBC Chapter 11B-Division 6. Toilet paper and feminine napkin dispensers located

on the grab bar side of an accessible toilet room or stall shall be installed as to not project more than 3" from the finished wall surface nor be located closer than 1-1/2" clear of the tangent point of the grab bar.

- E. All coat hooks installed on partition doors are to be located horizontally centered on the door. Hooks in the Accessible stall are to be mounted at +40" A.F.F. and hooks installed on all other doors are to be installed at +60" A.F.F.

3.03 ADJUSTMENT AND CLEANING

- A. Upon completion of the work or when directed, remove all traces of protective coatings or paper.
- B. Adjust accessories for proper operation. Test mechanisms, hinges, locks and latches and where necessary adjust and lubricate.
- C. Clean and polish exposed surfaces prior to final installation.
- D. Deliver accessories schedule, keys and parts manual as part of project closeout documents. Provide two sets of following items for Owner's records.
 - 1. Technical data sheet of each item used for the project.
 - 2. Service and parts manuals.
 - 3. Name of local representative to be contracted in the event of need of field service or consultation.

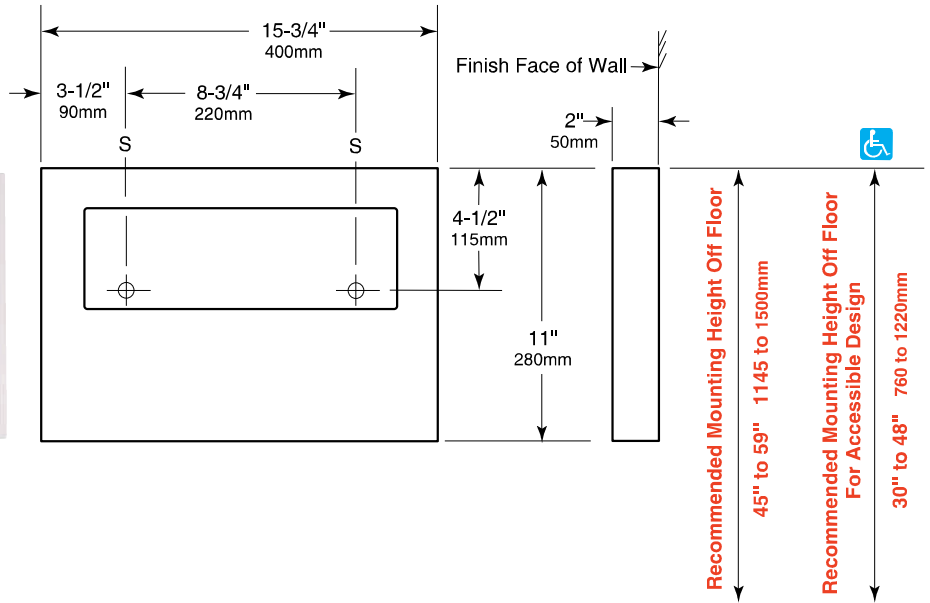
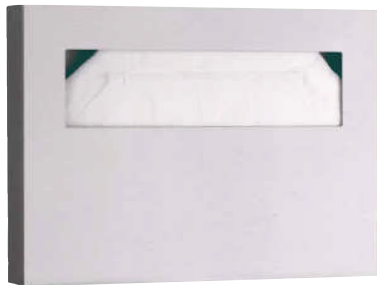
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Technical Data

ClassicSeries® SURFACE-MOUNTED SEAT-COVER DISPENSER

B-221



MATERIALS:

18-8, type-304, 22-gauge (0.8mm) stainless steel with satin finish. All-welded construction with beveled opening.

OPERATION:

Dispenses single- or half-fold paper toilet seat covers from beveled opening. Dispenser fills from bottom through concealed opening. Capacity: 250 toilet seat covers or one box.

INSTALLATION:

Mount unit on wall or toilet partition with two flat-head screws, not furnished by manufacturer, at points indicated by an S. For plaster or dry wall construction, provide concealed backing that complies with local building codes, then secure unit with flat-head screws not furnished. For other wall surfaces, provide fiber plugs or expansion shields for use with screws, not furnished, or provide 1/8" (3mm) toggle bolts or expansion bolts.

Note: Provide a 5" (125mm) minimum clearance from bottom of dispenser to top of any horizontal projection to provide room for filling dispenser from bottom.

SPECIFICATION:

Surface-mounted toilet-seat-cover dispenser shall be type-304, 22-gauge (0.8mm) stainless steel with all-welded construction; exposed surfaces shall have satin finish. Dispenser shall have a concealed opening in bottom for filling. Capacity shall be 250 paper toilet seat covers or one box.

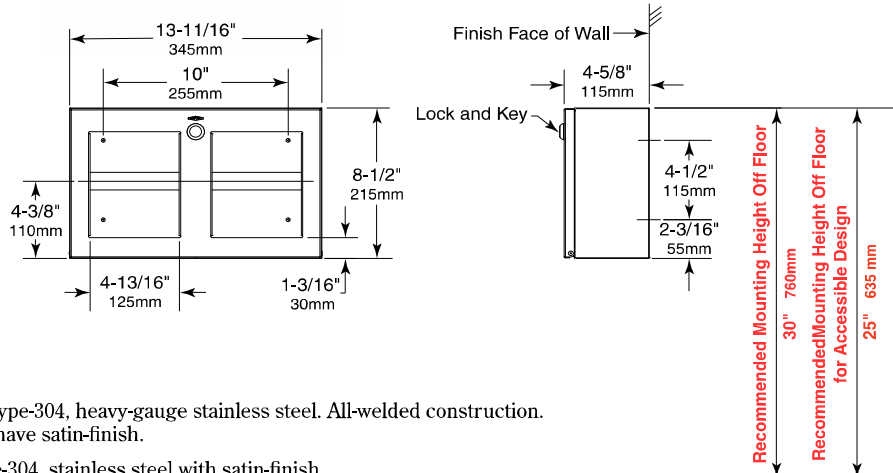
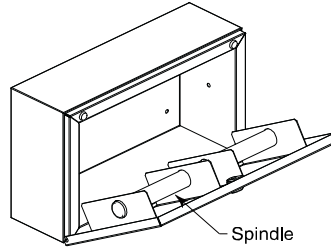
Surface-Mounted Seat-Cover Dispenser shall be Model B-221 of Bobrick Washroom Equipment, Inc., Clifton Park, New York; Jackson, Tennessee; Los Angeles, California; Bobrick Washroom Equipment Company, Scarborough, Ontario; Bobrick Washroom Equipment Pty. Ltd., Australia; and Bobrick Washroom Equipment Limited, United Kingdom.



Technical Data

TrimLineSeries™ SURFACE-MOUNTED MULTI-ROLL TOILET TISSUE DISPENSER

B-3588



MATERIALS:

Cabinet — 18-8, Type-304, heavy-gauge stainless steel. All-welded construction. Exposed surfaces have satin-finish.

Skirt — 18-8, Type-304, stainless steel with satin-finish.

Door — 18-8, Type-304, 20-gauge (0.9mm) stainless steel with satin-finish. Secured to cabinet with two rivets. Equipped with a tumbler lock keyed like other Bobrick washroom accessories.

Spindle — 18-8, Type-304, 18-gauge (1.2mm), 1" diameter (25mm) stainless steel tubing with plastic end caps. Theft resistant. Removable with key provided.

OPERATION:

Unit holds two standard-core toilet tissue rolls up to 5-1/8" (130mm) diameter (1500 sheets). To service toilet tissue dispenser, unlock door with key provided and slide spindle out on any direction.

INSTALLATION:

For partitions with particleboard or other solid core, secure with four #10 x 5/8" (4.8 x 16mm) sheet-metal screws (not furnished) at points indicated by an S, or provide through-bolts, nuts, and washers.

For hollow-core metal partitions, provide solid backing into which sheet-metal screws can be secured. If two units are installed back-to-back, then provide threaded sleeves and machine screws for the full thickness of partition.

For plaster or dry wall construction, provide concealed backing to comply with local building codes, then secure unit with sheet-metal screws.

For other wall surfaces, provide fiber plugs or expansion shields for use with sheet-metal screws, or provide 3/16" (5mm) toggle bolts or expansion bolts.

Replacement Parts:

Knob Latch	2621-8
Spindle	3588-33
Skirt Kit	3588-53
Door Replacement Kit	3588-73
Lock and Key	388-42

SPECIFICATION:

Surface-mounted multi-roll toilet tissue dispenser shall be Type-304 stainless steel with all-welded construction; exposed surfaces shall have satin finish. Door shall be Type-304, 20-gauge (0.9mm) secured to cabinet with two rivets; and equipped with a tumbler lock keyed like other Bobrick washroom accessories. Spindle shall be Type-304, 18-gauge (1.2mm), 1" diameter (25mm) stainless steel. Theft resistant, removable with key provided.

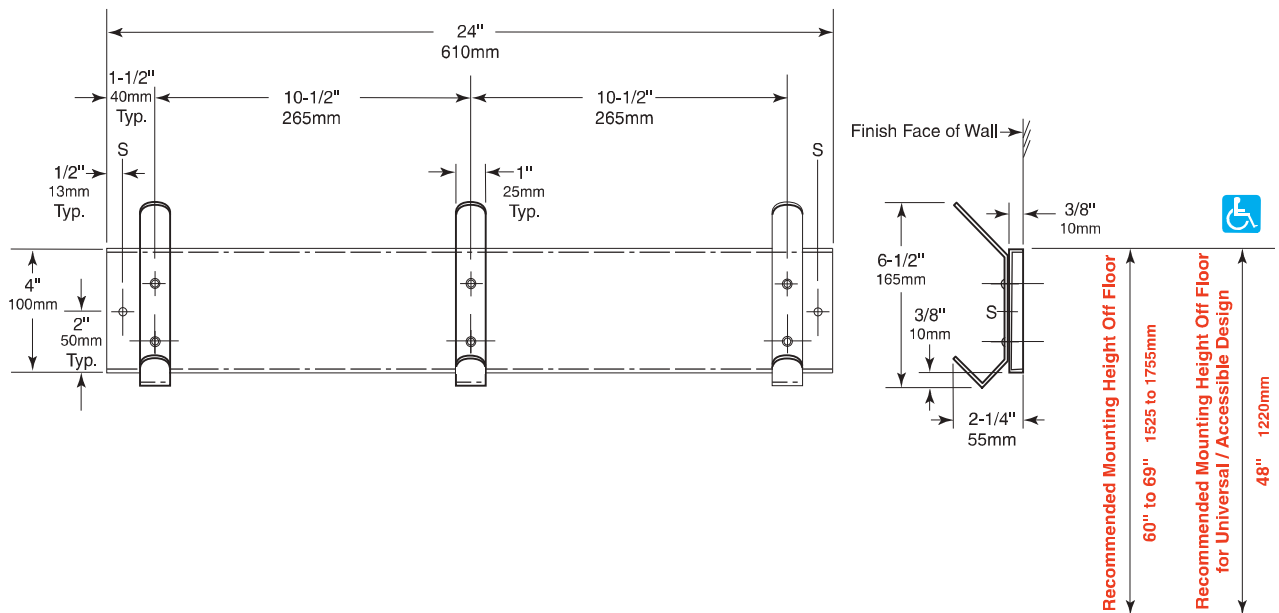
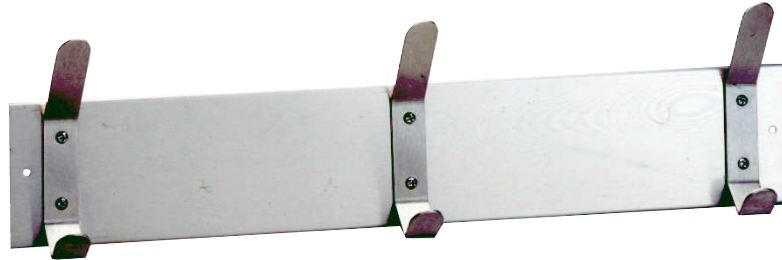
TrimLine Surface-Mounted Multi-Roll Toilet Tissue Dispenser shall be Model B-3588 of Bobrick Washroom Equipment, Inc., Clifton Park, New York; Jackson, Tennessee; Los Angeles, California; Bobrick Washroom Equipment Company, Scarborough, Ontario; Bobrick Washroom Equipment Pty. Ltd., Australia; and Bobrick Washroom Equipment Limited, United Kingdom.



Technical Data

STAINLESS STEEL HOOK STRIP

B-232 x 24



MATERIALS:

Hooks — 18-8, type-304, 12-gauge (2.8mm) stainless steel with satin finish. Each hook attached to mounting strip with two rivets.

Mounting Strip — 18-8, type-304, 18-gauge (1.2mm) stainless steel with satin finish.

INSTALLATION:

Mount unit on wall with screws (not furnished by manufacturer) at points indicated by an S. For plaster or dry wall construction, provide concealed backing to comply with local building codes, then secure unit with screws. For other wall surfaces, provide fiber plugs or expansion shields for use with screws or provide 1/8" (3mm) toggle bolts or expansion bolts.

SPECIFICATION:

Hook strip shall be type-304 stainless steel with satin finish. Hooks shall be 12 gauge (2.8mm) and mounting strip shall be 18 gauge (1.2mm).

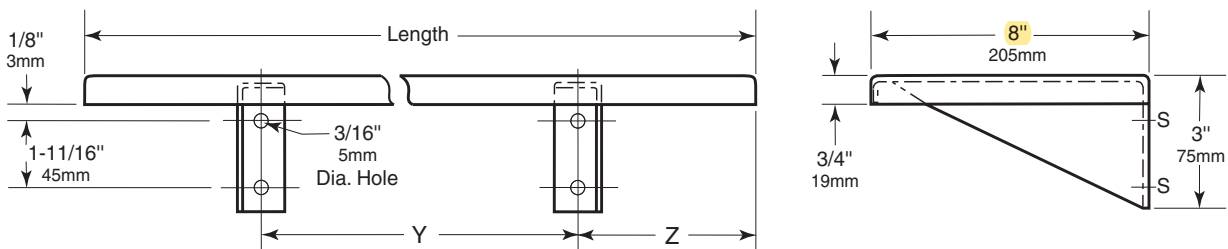
Stainless Steel Hook Strip shall be Model B-232 x 24 of Bobrick Washroom Equipment, Inc., Clifton Park, New York; Jackson, Tennessee; Los Angeles, California; Bobrick Washroom Equipment Company, Scarborough, Ontario; Bobrick Washroom Equipment Pty. Ltd., Australia; and Bobrick Washroom Equipment Limited, United Kingdom.



Technical Data

STAINLESS STEEL SHELF

B-298



STANDARD STOCK SIZES

Model No.	Length	No. Of Brackets	Dimension Y	Dimension Z
B-298x18	18" (455mm)	2	12" (305mm)	3" (75mm)
B-298x24	24" (610mm)	2	18" (455mm)	3" (75mm)

Custom sizes available up to maximum length of 28 feet (853cm). Shelves longer than 8 feet (244cm) are furnished in multiple sections.

MATERIALS:

Shelf — 18-8, type-304, 18-gauge (1.2mm) stainless steel with satin finish. 3/4" (19mm) return edges for maximum rigidity. Front edge is hemmed for safe handling.

Mounting Brackets — 18-8, type-304, 16-gauge (1.6mm) stainless steel with satin finish. Welded to back return of shelf and secured inside front hem of shelf.

INSTALLATION:

Secure shelf to wall with sheet-metal screws (not furnished) at points indicated by an S. For plaster or dry wall construction, provide concealed backing to comply with local building codes, then secure shelf with sheet-metal screws. For other wall surfaces, provide fiber plugs or expansion shields for use with sheet-metal screws, or provide 1/8" (3mm) toggle bolts or expansion bolts.

SPECIFICATION:

Shelf shall be type-304, 18-gauge (1.2mm) stainless steel with satin finish. Mounting brackets, welded to shelf, shall be 16-gauge (1.6mm) stainless steel. Shelf shall be _____ (insert length) long by 8" (205mm) wide with 3/4" (19mm) return edges. Front edge shall be hemmed for safe handling.

Stainless Steel Shelf shall be Model _____ (insert model number) of Bobrick Washroom Equipment, Inc., Clifton Park, New York; Jackson, Tennessee; Los Angeles, California; Bobrick Washroom Equipment Company, Scarborough, Ontario; Bobrick Washroom Equipment Pty. Ltd., Australia; and Bobrick Washroom Equipment Limited, United Kingdom.

Document 10 44 00

SIGNS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Related Documents: Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections apply to Work of this Section as if printed herein.
- B. Section Includes: Description of requirements for materials, fabrications and installation of all signs and plaques and associated accessory items as shown on Drawings and herein specified necessary to complete the Work but not limited to the following:
 - 1. Tactile exit signs.
 - 2. Tactile room signage
- C. Related Section:
 - 1. Section 09 90 00: Painting

1.02 QUALITY ASSURANCE

- A. Disabled Signs and Plaques as specified herein shall conform with the requirements of California Code of Regulations, Title 24, "Disabled Regulations". See existing signs - replace missing or broken with like sign.
- B. Field Inspection: Tactile Signs shall be field inspected after installation for compliance (11B-703.1.1.2).

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver to project site in manufacturer's original, unopened and undamaged packaging. Store in original packaging under protective cover and protect from damage. Handle materials in such a manner as to prevent damage to products or finishes.

PART 2 - PRODUCTS

- A. Colors shall be selected from standard colors. Blue shall be equal to No. 15090 in Federal Standard 595C.
- B. All signs at all locations required by the California Building Code, shall include braille symbols identifying room, building, number, or use, etc. Signage and graphics shall include Contracted Grade 2 Braille, which shall be used wherever Braille symbols are specifically required. Signage and graphics shall comply with all requirements of CBC Section 11B-703.
- C. All signage shall comply and be coordinated with District Interior Standards. Confirm verbiage and sign type with the District.

1. Room identification signs: District Sign Type ID.03
2. Tactile exit signs: District Sign type CD.05a

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General: Install or apply all signs and plaques at all locations either specified or as indicated on Drawings. All materials shall be installed level and plumb and at the heights required by ADA / T-24 requirements.
- B. Sign Posts shall be mounted directly into concrete foundation. Height above grade shall be as indicated (80" min.). Concrete shall be as specified in Section 03300.
- C. Wall mounted signs shall be vandal proof and mounted to exterior wall surfaces by mechanical fasteners as recommended by the manufacturer.

3.02 ADJUST AND CLEAN

- A. Clean and Touch-Up: Remove all packing and protection blemishes and thoroughly clean and polish all finish surfaces. Restore any marred or abraded surfaces to their original condition by touching up in accordance with the manufacturer's recommendations. Touch-up shall not be obvious.
- B. Defective Work: Remove and replace all defective work which cannot be properly repaired, cleaned or touched-up, as directed by the Architect, with no additional cost to the Owner.
- C. Protect installed work during the construction period to prevent abuse and damage.

END OF SECTION

Document 10 51 00

LOCKERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. 12-inch Wide Single-Tier Standard Metal Lockers.

1.2 REFERENCES

- A. ADAAG - Americans with Disabilities Act, Accessibility Guidelines.
- B. CBC - California Building Code.

1.4 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Prepared specifically for this project; show dimensions of lockers and interface with other products.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer shall have a Quality System in place to ensure and be able to substantiate that manufactured units conform to requirements and match the approved design and must be ISO 9001:2015 certified.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Locker components shall be stored flat, if shipped unassembled, until assembly. All finishes shall be protected from soiling and damage during

handling.

- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 WARRANTY

- A. Manufacturer's standard warranty to repair or replace components of locker products that fail in materials or workmanship within 3 years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Salsbury Industries, 18300 Central Avenue, Carson, CA 90746-4008; Toll Free Tel: 1-800-LOCKERS (1-800-562-5377); Fax: 1-800-562-5399; Email: salsbury@lockers.com; Website: www.lockers.com.
- B. Or equal.

2.2 LOCKERS

Single-tier, double-tier and triple-tier 12-inch wide standard metal lockers: Constructed of 16 gauge steel; durable powder coated finish; includes a lift up handle and recessed hasp for added security; can accommodate built-in combination locks, built-in key locks, combination padlocks, key padlocks or factory installed resettable combination locks.

- A. 12-inch Wide Standard Metal Locker Series:
 - 1. 61000 series: Single-tier.
- B. Unit Width: 12 inches (305 mm).
- C. Unit Height:
 - 1. 6 feet Lockers:
 - a. 78 inches (1,981 mm) with legs.
- D. Unit Depth:
 - 1. 12 inches (305 mm).
- E. Unit Assembly:
 - 1. Unassembled units (Knocked-down).
 - 2. Assembled units.

- F. Unit Color: TBD
 - 1. Color: Gray - standard.
 - 2. Color: Tan - standard.
 - 3. Color: Blue - standard.

2.3 INTERIOR EQUIPMENT

- A. A. ADA-Compliant Lockers (Recessed Handles with Multi-Point Latch):
 - 1. Single-tier lockers: Additional shelf at maximum 48 inches (1,219 mm) above the floor for unobstructed forward and side reach.
 - 2. Locker Compartment Bottom: Minimum of 15 inches (381 mm) above the floor or an extra shelf placed 15 inches (381 mm) above the floor for unobstructed forward and side reach.
 - 3. Handicapped symbol attached to door.
 - 4. Hooks and rods as specified.
- B. Standard Hardware Features:
 - 1. Padlock hasp.
 - 2. One top-mounted, two-pronged stainless steel coat hook.
 - 3. Three wall-mounted, single-prong stainless steel coat hooks.
 - 4. Horizontal venting.
 - 5. Five knuckle door hinges.
 - 6. Adjustable hat shelf.
 - 7. Coat rod (models 61158, 61358, 61168 and 61368 only).

2.4 OPTIONAL EQUIPMENT

- A. Sloping hoods: none
- B. Base panels – 6 inches (152 mm) high:
 - 1. Front base.
- C. Fillers:
 - 1. Flat top fillers:
 - a. Flat top in-line top fillers.
 - b. Flat top corner fillers.
 - 2.. Front fillers:
 - a. 9 inches (229 mm) wide filler panels.
 - b. 15 inches (381 mm) wide filler panels.
- E. Built-In Locks: none
- F. Padlocks:
 - 1. Combination padlocks.

- I. Engraved number plates.
- J. Locker unit legs shall be supplied, unless otherwise specified, at 6 inches (152 mm) high in same color as locker unit. Locker bases shall be fabricated from 0.0625 inch (1.59 mm) thick steel sheet.
- K. Locker zee base kit – 4 inches (102 mm) high by 72 inches (1828 mm) in length in same color as locker unit. Locker zee base kits shall be fabricated from 0.0625 inch (1.59 mm) thick steel sheet.
 - 1. 12 inches (305 mm).

2.5 CONSTRUCTION

- A. Locker Doors: Steel specially formed for added strength and rigidity and to ensure tight joints at fastening points.
 - 1. Door:
 - a. 16 gauge - .060 inch (1.52 mm) thick steel.
 - b. Holes provided for attaching number plates.
 - 2. Ventilation: Vents provided in Salsbury Industries' standard louver pattern.
 - a. Single-tier lockers – 5 feet and 6 feet high units:
Four 5-3/4 inch (146 mm) louvers top and bottom.
 - b. Double-tier lockers – 5 feet high units:
Two 5-3/4 inch (146 mm) louvers top and bottom.
 - c. Double-tier lockers – 6 feet high units:
Four 5-3/4 inch (146 mm) louvers top and bottom.
 - d. Triple-tier lockers – 5 feet and 6 feet high units:
Two 5-3/4 inch (146 mm) louvers top and bottom.
 - 3. Multi-Point Latch: Full channel formation of adequate depth to fully conceal lock bar on lock side, channel formation on hinge side, right angle formations across top and bottom.
- B. Locker Body: Solid steel specially formed for added strength and rigidity and to ensure tight joints at fastening points.
- C. Hinges: Hinge: 0.074 inch (1.88 mm) thick sheet steel, double spun, full loop, tight pin, projection welded to door frame and securely fastened to the door.
 - 1. Single-tier lockers: Three 2 inch (51 mm) high five-knuckle hinges.
 - 2. Double-tier & triple-tier lockers: Two 2 inch (51 mm) high five-knuckle hinges.
- D. Optional factory assembly of locker bodies using heavy duty steel rivets.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.

3.3 INSTALLATION

- A. Install in accordance with Salsbury Industries' installation instructions.
- B. Anchor the units to the wall studs through the locker back and to the floor.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

DOCUMENT 26 05 00

ELECTRICAL WORK GENERAL REQUIREMENTS

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 apply to all work of this Section.
- B. Contractor shall provide all materials, labor, and the means and methods to complete the installation defined by the plans and these specifications'

1.2 WORK NOT INCLUDED UNDER THIS SECTION

- A. Furnishing of motors, fans, compressors, heaters, and controls included under Mechanical Section.
- B. Finish painting of exposed metal surfaces included under Painting Section.
- C. Equipment and work indicated "N.I.C." or "By Others".

1.3 REQUIREMENTS

- A. Other Divisions: Requirements of other divisions shall apply to this division as if repeated herein, and should work under this division require any carpentry, backfill, masonry, etc., the appropriate division requirements shall apply. This includes work required for construction of proper stands, bases, and supports for electrical materials and equipment.
- B. Rules and Regulations: All work and materials shall be in full accordance with the latest rules and regulations of the following:
 - 1. California Electrical Code, 2019 edition
 - 2. California Building Code, 2019 edition
 - 3. Applicable regulations of local utility companies
 - 4. California Code of Regulations, Title 8, Electrical Safety Orders
 - 5. Equipment Utility Service Requirements Committee Standards
 - 6. General Order 95 of the Public Utilities Commission

Nothing in these drawings or specifications is to be construed to permit work not conforming to the above codes, rules, and regulations.

Whenever indicated, material, workmanship, arrangement, or construction is of higher quality or capacity than that required by the above rules and regulations, the drawings and/or specifications shall take precedence. Should there be any direct

conflict between the rules and regulations and the drawings and/or specifications, the rules shall govern.

- C. Permits, Fees, and Inspections: Contractor shall obtain all permits and arrange for Owner to pay required fees to any governmental agency or utility company having jurisdiction over the work of this Section. Inspections required by any local ordinances or utility companies during construction shall be arranged by the Contractor. All work and materials covered by these specifications and accompanying drawings shall at all times be subject to inspection by the Architect or his representative. Any material not in accordance with the plans and specifications, or not installed in a neat and workmanlike manner, shall, upon order from the Architect, be removed from the premises or corrective action taken within three days; and if material in question has been installed, the entire expense for removing and reinstalling shall be borne by the Contractor. On completion of the work, satisfactory evidence shall be furnished to the Architect to show that all work has been installed in accordance with the Codes.
- D. Specifications and Contract Drawings: Accuracy of data given herein and on the drawings is as exact as could be secured, but their extreme accuracy is not guaranteed. The drawings and specifications are for the assistance and guidance of the Contractor and exact locations, distances, levels, etc., will be governed by the construction and existing conditions and the Contractor shall accept same with this understanding. Layouts of equipment, accessories and wiring systems are diagrammatic (not pictorial and not exact), but shall be followed as closely as possible. Architectural, structural, mechanical, and other drawings shall be examined noting all conditions that may affect this work. Where connections to equipment provided by other divisions are shown on electrical drawings, refer to drawings of respective division for exact locations and electrical requirements of equipment. Report conflicting conditions to the Architect for adjustment before proceeding with work. Should Contractor proceed with work without reporting conflict(s), he does so on his own responsibility, and shall alter work if directed by the Architect, at his own expense. Right is reserved to make minor changes in locations of equipment and wiring systems shown, providing change is ordered before conduit runs and/or work directly connected to same is installed and no extra materials are required. Drawings and specifications may be superseded by later detail specification and detail drawings prepared by the Architect, and the Contractor shall conform to them and to such reasonable changes in the contract drawings as may be called for by these revised drawings without extra cost to the Owner. Contractor may request additional detail(s) and such shall be conformed to, without additional cost. Contractor may offer alternate detail(s), but such detail(s) shall be approved by Architect and authority having jurisdiction.
- E. Structural Requirements: Installation under this Section shall comply with the California Building Code. Obtain the Architect's approval before performing any cutting or patching of concrete, masonry, or wood structure in the building. Refer to details on structural drawings for penetration requirements through framing top

plates, sill plates, beams, joists, rafters, etc. Provide notching, boring, drilling, anchor bolts, and other work in strictest conformance to structural details.

- F. Examination of Site: The Contractor shall be held to have visited the site prior to bidding and satisfied himself as to the conditions under which the work is to be performed. He shall check existing conditions which may affect his work. Where signal systems exist, and services of other firms are required, Contractor shall instruct those firms to investigate existing systems and determine labor and materials needed to add devices or modify systems. Where new conduits are to be run underground at existing sites, contractor shall visit site prior to bidding and walk routes of new underground conduits, note areas of concrete and asphalt being crossed, and include in bid all costs for cutting and patching. No allowances shall subsequently be made in Contractor's behalf for any extra expense to which he or his "subs" may be put due to failure or neglect to discover conditions affecting the work.
- G. Underground Utilities: Existing underground utilities, services, circuits, piping, irrigation piping, etc., are present, but their exact locations are not known. Contractor shall locate and protect before trenching or excavating in any area. Consult utility companies, "as-built drawings" and Owner's maintenance personnel for location of existing underground work. If existing piping or utilities are damaged during construction, Contractor shall repair immediately at own expense. New underground work shall be modified as necessary to conform to existing conditions.
- H. Shop Drawings, Substitutions, Materials, and Submittals:
1. Shop drawings and all supporting data shall be submitted as instruments of the Contractor who shall certify on his transmittal form that the submittals meet all requirements of the contract documents and conform to structural and space conditions. Contractor shall mark each page of each copy of submittal to clearly identify materials, products, or models being proposed. All extraneous information shall be marked out or page pulled if no item(s) on page are being proposed. Submittals which do not clearly identify items being proposed will be returned without review.
 2. When specific names are used in connection with materials, they are used as standards only, but this implies no right upon the part of the Contractor to use other materials or methods unless approved as equal in quality and utility by the Architect in writing.
 3. Whenever an item of equipment or system is described herein or on the drawings in a descriptive, functional, or operational manner as opposed to catalog number or type, then the Contractor's submittal shall include all such descriptive, functional, or operational features to prove full equality to specified item or system.
 4. Panelboard submittals shall be arranged to show bussing and circuit numbers with respective branch circuit protective device similar to schedules on Drawings.
 5. Within 30 days after award of the contract, submit seven bound copies of complete material list, which includes manufacturer's name and catalog numbers for materials being proposed. All material specified herein and on

- the drawing shall be included in list. Proposed substitutions, and only proposed substitutions, shall be accompanied by catalog cuts, ratings, sizes, performance curves, shop drawings, and other data complete to prove full equality to the specified item. List shall include contractor's confirmation that material is UL labeled or listed. Refer to attached form.
6. Within 10 days after return of material list, submit seven bound copies of brochures containing complete information and catalog cuts on all equipment, including that which is to be furnished as specified. The brochures shall be bound as complete volumes or bound according to classifications of equipment such as power, fixtures, signals, and miscellaneous. Incomplete submittals (such as signal system product data submitted without system shop drawings) will be returned without review.
 7. Approval of a substitution does not authorize any deviation from the utility, size, or function of the specified item unless specifically pointed out and approval requested in the letter of submittal. Responsibility for conflicts due to space limitations is not relieved by approval of a substitution. If revision of wiring, piping, or arrangement of other equipment is required by substitutions, prepare drawings showing such revisions, and after approval, furnish seven copies for file and future reference.
 8. Submittal Review:
 - a. Items marked "No Exceptions Taken" or "Make Corrections Noted" shall not be resubmitted in subsequent submittals unless a complete package submittal is required by a reviewing agency or firm. Resubmittal items which have already been reviewed but no resubmittal was required, will not be reviewed a second time. Pages for such items will be returned unstamped and unmarked.
 - b. When an item is marked "Revise and Resubmit" or "Rejected", the Contractor shall furnish a resubmittal for that item. Pages for resubmitted items shall be new submittal pages. The Contractor shall not resubmit previously stamped and annotated pages or photocopies of such pages. Resubmittals which include pages stamped as part of an earlier review or photocopies of such stamped pages will not be reviewed and will be returned as previously stamped and annotated.
 - c. Refer to I.1 above. Non-compliance with paragraph I.1 requirements will cause submittal to be returned without review.
 9. Should the Contractor's first submittal fail to meet approval, or should the Contractor fail to submit the specified items within the time schedule, then the right is reserved by the Architect to select any or all items in question, which selection shall be final and binding upon the Contractor. The materials selected or approved by the Architect shall be used in the work at no additional cost to the Owner.
 10. Unless otherwise shown or specified, material shall be new, full weight, standard, the best quality of its kind, and satisfactory to the Architect. Unless otherwise shown or specified, major equipment shall be the product of a manufacturer who has, for a period of not less than five years, been in successful manufacture of the equipment, and who has a nationally distributed catalog covering ratings and specifications of said equipment.
 11. Electrical materials shall bear the label of, or be listed by, the Underwriters Laboratories unless of a type for which label or listing service is not provided.

12. Materials and components shall conform to Industry Standard, including:

NEMA	National Electrical Manufacturer's Association
ANSI	American National Standards Institute
ASTM	The American Society for Testing and Materials
ICEA	Insulated Cable Engineer's Association
USA	United States of America Standards

13. Samples of fixtures, materials, and equipment shall be submitted for approval if requested.

I. Expedited Delivery: Where construction schedule does not allow for "normal" delivery of equipment in Division 26, 27 and 28 work, contractor shall purchase equipment for accelerated delivery. All additional costs for expedited delivery shall be included in bid.

J. Identification of Equipment: Nameplates shall be installed on electrical equipment. Nameplates shall adequately describe the item and its function or use of the particular equipment involved. Equipment to be labeled shall include the following:

1. Individual enclosures for equipment such as time switches, push buttons, contactors, relays, etc.
2. Group mounted equipment such as panelboards, terminal and control cabinets, etc.
3. Individual circuit breakers on switchboards. Include breaker trip ampacity on line below use description.
4. Wall switches for lighting or other use where the control function is not self-evident.
5. Disconnect switches mounted remote from equipment and unit served is not self-evident.
6. Terminal backboards (locate centered at top).
7. Terminal strips at terminal backboards and cabinets (located centered above terminal block for each system). At terminal strips, the following abbreviations may be used:

CLK	Clock
DATA	Data Communications
FA	Fire Alarm
IC	Intercom
IA	Intrusion Alarm

Nameplate material shall be laminated phenolic plastic, black front and back with white core. Engraving shall be through the outer layer. Embossed plastic pressure sensitive labels are not acceptable.

In lieu of plastic plates, typed pasteboard inserted behind clear plastic protector in a metal holder inside door may be used to identify circuit breakers in panelboards.

In lieu of plastic plates, device plates shall be engraved directly with lettering filled with black enamel.

Nameplates shall be securely fastened to the equipment with #4 Phillips round head cadmium plated steel self-tapping screws or brass bolts or riveted to equipment.

- K. Cutting of Structural Members: Unless specifically detailed on the structural drawings, cutting of joists and similar structural members is limited to cuts and bored holes located and sized in accordance with the requirements of Title 24. Cutting of structural mullions is prohibited except as specifically shown.
- L. Record Drawings: The Contractor's foreman shall keep in his possession a minimum of two copies of DSA approved plans. One set shall be marked as the work is installed, showing the work that has been installed, with deviations. The other set shall be marked showing deviations for the work shown and the locations of major items of equipment and feeders, dimensioned from curbs, foundations, or other landmarks. Obtain inspector's progressive approval of these marked sheets. Upon completion of the work, all work installed shall be drafted by the Contractor to reproducible drawings, which shall be the as-built drawings. Coordinate with General Contractor on requirements for reproducible record drawings.
- M. Cleaning and Cleanup: After all work has been accomplished such as sanding, painting, etc., lighting fixtures, panelboards, and switchboards shall be cleaned to remove all dust, dirt, grease, paint, or other marks. All electrical equipment shall be left in a clean condition inside and out, satisfactory to the Architect. Keep buildings and premises free from accumulated waste materials, rubbish, and debris resulting from work herein, and, upon completion of said work, remove tools, appliances, surplus materials, waste materials, rubbish, debris, and accessory items used in or resulting from said work and legally dispose of off the site.
- N. Protection: The Contractor shall protect from damage during construction the work and materials of other trades as well as the electrical work and material. Electrical equipment stored and installed on the job site shall be protected from dust, water, or any other damage.
- O. Working Space: Adequate working space shall be provided around electrical equipment in strict compliance with the Codes. In general, provide 6'6" of headroom and 36" minimum clear workspace in front of switchboards, panelboards, transformers, disconnect switches and controls for 120/208V and 42" for 277/480V. Carefully coordinate locations and orientation of electrical equipment with other divisions to ensure that working space will be clear of piping, conduits, and equipment provided by others.
- P. Interruption of Service: Services (power, telephone, fire alarm and other signal services) to existing building(s) and their related circuits which are to remain in operation shall not be interrupted except by specific approval of the Owner. If it is deemed necessary to shut down circuits for the installation of new work, such shut down shall be scheduled with the Owner who may, at his option, have a representative present. Any accidental interruption of service to circuits or

equipment as a result of work performed by the Contractor shall, at the Contractor's expense, be restored in a manner acceptable to the Owner.

- Q. Cooperation and Coordination: Cooperate and coordinate with other crafts in putting the installation in place at a time when the space required by this installation is accessible. Work done without regard to other crafts shall be moved at the Contractor's expense.
- R. Electrical Work for Equipment Furnished by Others: Contractor shall make electrical connections to all equipment furnished and installed by others. Specific requirements shall be obtained from contractor providing the equipment and used to perform electrical work. Contractor's responsibility is limited to having correctly installed and connected electrical work in accordance with diagrams and specifications furnished him by the appropriate equipment contractor.
 - 1. Equipment or Systems Other Than HVAC or Plumbing: This contractor shall provide all conduit, conductors, disconnects, and connections for power and controls for equipment requiring electrical services.
- S. Inspection: The Contractor shall cooperate with the Architect and shall provide assistance at all times for the inspection of the electrical work performed under this contract. He shall remove covers, operate machinery, or perform any reasonable work which, in the opinion of the Engineer, will be necessary to determine the quality and adequacy of the work.
- T. Manufacturer's Directions: Follow manufacturer's directions where these directions cover points not included on the drawings or in the specifications. When equipment is provided by other divisions, obtain directions from respective supplier.
- U. Workmanship: Good workmanship shall be evidenced in the installation of all electrical materials and equipment. Equipment shall be level, plumb and true with the structure and other equipment. All materials shall be firmly secured in place and adequately supported and permanent. The recommendations of the National Electrical Contractors Association Standard of installation shall be followed except where otherwise specifically directed.
- V. Operating Test: After the installation is complete, and at such time as the Engineer and other authorities having jurisdiction may request, the Contractor shall conduct an operating test for approval.
- W. Manuals: In addition to the catalog data and Shop Drawings submitted for approval as required hereinbefore, the Contractor shall furnish to the Architect three final corrected sets of all data applicable to the equipment furnished.
 - 1. All data shall be delivered not less than 30 days before the start of operation by the Owner or any demonstration period hereinafter specified and before finalizing construction work.
 - 2. Each set of data per system shall be bound in one or more volumes. A top quality three-ring binder with vinyl or hard cover will be acceptable in lieu of

- binding; however, all insert data must be properly punched and reinforced. Each volume shall have permanent identification information on the spine.
3. Identification information shall include the building name, address, and location, system or systems included, and titled "Maintenance Manual".
 4. All data shall be assembled in an orderly sequence with tabbed dividers to correspond with the table of contents.
 5. Manufacturer's catalog data, Shop Drawings, etc., shall be marked clearly to identify the items applicable only to this project. Make and model numbers of each item installed shall be marked clearly in catalog data and identified with symbol used on the Drawings.
 6. Each set of data shall contain the following:
 - a. Table of Contents, listing orderly indexed names of items.
 - b. Descriptive literature.
 - c. Rating data, including rating tables, performance curves, etc.
 - d. Dimension data.
 - e. Spare Parts Lists.
 - f. Manufacturer's operation and maintenance instructions and manuals.
 - g. Shop Drawings.
 - h. Copies of posted instructions and diagrams.
 - i. Control diagrams and descriptions of sequence of operation.
 - j. Copies of warranties, guarantees, certificates, etc.
 7. Complete data, including component parts, shall be provided on each item listed below:
 - a. Intrusion Alarm Equipment.
 - b. Clock Equipment.
 - c. Fire Alarm Equipment.
 - d. Lighting Fixtures.
 - e. Lighting Control Equipment.
 - f. Sound and Signal Equipment.
 - g. Emergency Lighting Equipment.
 - h. Panelboards.Submit copy to Architect for approval before delivery to Owner.
 8. In addition to the requirements above, contractor shall provide final programming information to District on disk for all systems requiring programming.
- X. Contractor's Supervision: The Electrical Contractor shall personally, or through an authorized and competent representative, constantly supervise the work from its beginning to its completion and acceptance. He shall, as far as possible, keep the same foreman and workers on the work from its commencement to its completion.
- Y. Temporary Work: All temporary electrical equipment and materials installed for construction and safety operations shall remain the property of the Contractor and shall be removed when permanent connections have been completed. No wire, bus, or electrical equipment which is part of any of the permanent electrical systems may be used for temporary electrical service. Temporary connections shall be safe and in accordance with accepted practices. The Contractor shall be responsible for any damage or injury to equipment, materials, or personnel caused by improperly protected temporary installations. All costs for materials and

installation for temporary electrical facilities and energy for their operation shall be at the expense of the Contractor. The hours of operation, level of illumination, and coverage for safety of personnel shall meet the minimum requirements of the Owner (Division of Industrial Safety).

Z. Scheduling of Work:

1. Due to its nature, this work will have to proceed with a definite sequence of operations to minimize outages and to continue facilities to certain areas. The building(s) will remain in operation during the work and the Contractor shall make every effort to maintain required services (power and signal).
2. Wherever the work makes it necessary to cut off a feeder, branch circuit or signal circuit and it stands to remain out of service for some time, or longer than building operations will permit, the Contractor shall make temporary connections so the required outlets, devices, or loads will continue to be operational. Some outlets, devices and wiring in the area will remain undisturbed. The Contractor shall reconnect these circuits, extending where necessary, so all circuits will operate satisfactorily upon completion of the work.
3. Where power or signal system outages are unavoidable, such outages shall be scheduled with the Owner and shall occur at such times deemed least disruptive by the Owner.
4. Special precautions shall be taken to insure safety of school staff and students during construction. No trenches shall be left open and no equipment left unsupervised.

- AA. Existing Work: Existing conduits in alteration, extension, and remodeling areas which are required to be extended, altered, or reconnected shall be accomplished as shown or as directed. Where existing conduits which are indicated to be revised or which will be essential to the functioning to the particular system are cut or exposed due to construction changes, new connections shall be made in the most expeditious manner as directed or indicated. Where wiring is involved, new wires shall be "pulled-in" between the nearest available, accessible, reused outlets. In all cases where new wires are required, indicated, or specified to be installed in existing conduits, if same cannot be installed, new conduits shall be provided therefore as directed. Attention is called to the fact that all new conduit, wiring, and apparatus shown on drawings or specified shall be connected to the existing systems so as to function as complete units. All conduits and electrical apparatus, etc., in place and not shown or specified to be reused or which will not be essential to the functioning of the various systems when the work is complete, shall be removed and stored where directed. No old material shall be reinstalled or reused unless so indicated on drawings or so specified. Concealed conduits which are not indicated or specified to be reused and become exposed due to construction changes shall be removed to the nearest available, accessible, reused outlets. Where existing panel feeders are required to be extended, altered, or reconnected, megger test existing wiring prior to alteration and after work is complete. Note any defects or deficiencies found and present to Owner in letter form. It will be assumed existing feeders in area of alteration are in good working order unless noted otherwise by Contractor.

- BB. Copies of codes, safety orders, submittals, specifications, drawings, addenda, and as built shall be on the job and in possession of person responsible for electrical work (foreman or general foreman).
- CC. Guarantee: Acceptance of the contract for this work includes this guarantee: The Contractor guarantees that he has performed the work in accordance with the contract documents. Contractor also agrees to replace or repair, as new, any defective work, materials, or part which may appear within two years of final payment if in the opinion of the Architect or the Owner the defect is due to workmanship or material.
- DD. Warranties, guarantees, certificates, etc. that are furnished and are available for equipment and materials furnished and installed under this section shall be properly filled out as of the date of final payment and shall be delivered to the Engineer.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

DOCUMENT 26 05 19

LOW VOLTAGE ELECTRICAL CONDUCTORS AND CABLES

PART 1 - GENERAL

1.2 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 and Section 26 05 00 apply to all work of this Section.

PART 2 - PRODUCTS

2.1 CONDUCTORS

- A. Conductors for power, lighting, control, and signals shall be in raceway and shall be as follows:
1. #10 AWG and smaller shall be solid copper, 98% conductivity except for signal and control cables which may be stranded. (Stranded conductors may be used for #10 and smaller if wiring devices [switches, receptacles, etc.] are equipped with terminals specifically designed to accommodate stranded wire.)
 2. #8 AWG and larger shall be stranded copper, 98% conductivity.
 3. Minimum size branch circuit shall be #12 AWG.
 4. Signal and control circuits shall be as indicated on Drawings or as required by equipment manufacturers. Where specialty cables are required for signal systems (such as for fire alarm, intrusion alarm), Contractor must coordinate cable types with system supplier to insure proper cable type is provided (shielded, non-shielded, etc.).
 5. Branch circuit conductors within fixtures shall be type RHH or THHN except as noted.
 6. Fixture tap conductors shall be #14 AWG minimum type RHH or THHN except as noted.
 7. All insulation shall be 600V THHN/THWN except for low voltage control and signal cable.
 8. Conductors shall be color coded. Refer to Part 3 of this section.
 9. Conductor markers - T&B vinyl, Brady Permashield, or equal.
 10. Control wiring smaller than #12 AWG shall be type TFF or THWN.
- B. Terminators:
1. Use lugs or socket type terminals furnished with equipment.
 2. For #10 and smaller, T&B Sta-Kon, Buchanan "Termend", or equal, self-insulated forked tongue lug.
 3. #8 to #4/0 - Single Hex head screw or bolt clamp type with double hole tongue, T&B locktite, Burndy Qiklug type QA, or equal.

- 4. #250 MCM and larger - Double Hex head screw or bolt clamp type with double hole tongue, T&B locktite tandem, Burndy Qiklug type QQA, or equal.

- C. Splices:
 - 1. #10 and smaller, including fixture taps - pre-insulated coiled-spring type connectors, 3M Scotchloks, T&B Piggys, or equal.
 - 2. #8 to #4, Split bolt service connectors, T&B locktite, Burndy Servit, or equal, insulated with Scotch #88, Okoweld four purpose tape, or equal.
 - 3. #2 and larger, bolted pressure connectors, OZ ST, Burndy OKLIP, or equal, insulated with "Scotchfill" and Scotch #88 or Okoweld four purpose tape.
 - 4. Splice sealing kits - Scotchlock sealing packs for wire size to #10 and Scotchcast kits for larger splices as recommended by 3M Co. Engineer knows of no equal to Scotch kits.

- D. Lubricant for conductor installation shall be powdered soapstone, Y-er EAS, Minerallac "Pull-In" compound, or other U.L. approved lubricant.

- E. Cable Identification: Non-ferrous identifying tags or pressure sensitive labels shall be securely fastened to all cables, feeders, and power circuits in pullboxes and manholes. Tags or labels shall be stamped or printed to correspond with markings on Drawings or marked so that feeder or cable may be readily identified.

PART 3 - EXECUTION

3.1 WIRING SYSTEMS

- A. Tests: Test all wiring and connections for continuity and grounds before any fixtures or equipment are connected, and where such tests indicate faulty insulation or other defects, they shall be located, repaired, and retested at the Contractor's expense. Rotation of all motors shall be checked and corrected, if necessary, after final connections are made. Motor rotation corrections shall be made at the motor or equipment lugs, not in equipment disconnect.

3.2 CONDUCTORS

- A. Phasing: Terminals in panelboards, switchboards, and other equipment shall be phased A, B, C, reading left to right or top to bottom looking into the front of the equipment.

- B. Conductors shall be coded as follows:

<u>Voltage</u>	<u>Phase A</u>	<u>Phase B</u>	<u>Phase C</u>	<u>Neutral</u>	<u>Ground</u>
120/208V	Black	Red	Blue	White	Green
277/480V	Brown	Orange	Yellow	Gray	Green

Color coding shall be permanently posted using nameplates affixed at each panelboard, switchboard, and other equipment. Refer to Section 26 05 00 for nameplate requirements.

Direct current - positive is red, negative is black.

Control conductors, other than branch circuits, shall be black.

Conductors in sizes up through #6 AWG shall have solid color finish as listed above. #4 AWG and larger shall be coded by application of phase tape for minimum of 6" length on conductor. Coding shall occur at all splices, terminations, and pullboxes.

Color coding shall be continuous and consistent throughout the work. Do not use different colors for switch legs, fixture taps, travelers, etc.

- C. Circuit Identification: Each branch circuit, control, and signal conductor shall be labeled with the circuit number or terminal it is connected to. Use T&B vinyl, Brady Permashield mylar markers, or equal. Conductors shall be labeled at each panelboard, switchboard, control center, terminal cabinet, pullbox, and at each point of utilization such as fixtures, motors, speakers, etc. Labeling shall correspond to control diagrams where applicable.
- D. Connections to terminals shall be as follows: Refer to 2.1B. of this Section.
- E. Splices:
 - 1. Refer to 2.1C. of this Section.
 - 2. Splices in underground pullboxes or in other areas subject to moisture shall be provided with cast resin kits. Use Scotchlock sealing packs for wire size to #10 and Scotchcast kits for larger splices as recommended by 3M Co. All splices to be prepared as hereinbefore specified before resin kits are applied. Engineer knows of no equal to Scotch kits. (Note: No signal splices are allowed in underground pullboxes or areas subject to moisture. Refer to respective signal section of Specifications.)
 - 3. Wire splicing devices shall be sized according to manufacturer's recommendation.
- F. Conductors in panels, etc., shall be laced with T&B Ty-raps, Dennison "Bar-loks", or equal.

END OF SECTION

DOCUMENT 26 05 26

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 and Section 26 05 00 apply to all work of this Section.
- B. Contractor shall provide all materials, labor, and the means and methods to complete the installation defined by the plans and these specifications.
- C. Grounding and Bonding: Grounding and bonding shall be installed as required by the applicable codes, rules, and regulations, and as follows:
 - 1. Each building shall have its own grounding electrode. Metal water and gas piping, and building structural steel, shall be bonded to grounding electrode at first panel ground bus unless detailed otherwise on the Drawings.
 - 2. All raceway systems, supports, cabinets, panelboards, control equipment, motor frames, lighting fixtures, and utilization apparatus shall be permanently and effectively grounded.
 - 3. Where the raceway is used as the grounding conductor, good contact shall be made between conduit or tubing and panels, cabinets, outlet boxes and equipment, lighting fixtures, etc., to maintain continuity of ground. Where it is not possible to obtain good contact, additional bonding shall be provided. Supplemental bonding shall be provided between raceway and enclosure and at conduit knockouts and at reducing washers.
 - 4. All non-metallic power, control, signal, and other raceways, exclusive of public telephone and data communications, shall contain a code size copper conductor, green insulated, properly bonded to equipment at each end, and to metallic portions of the same raceway.
 - 5. All grounding type receptacles shall have grounding contact connected to a grounding conductor. Grounding conductor may be code size green insulated copper conductor installed in circuit raceway or may be metallic raceway. If metallic raceway is used as grounding conductor, a green insulated copper conductor must connect receptacle grounding contact to lug or screw terminal in outlet box or to grounding bushing at raceway. Isolated grounding type receptacles shall have code sized green insulated copper conductor installed in circuit raceway.
 - 6. Provide bonding jumper around flexible metallic conduit. Bonding jumper shall be inside flex.
 - 7. Raceway size shall be increased if necessary, to accommodate bonding or grounding conductors and shall be based on raceway fill tables.
 - 8. Where cabinets are furnished with grounding bus, all required bonding conductors shall connect thereto, each with separate lug.

9. Buried ground connections shall be made by the Cadweld process using molds and charges according to manufacturer's recommendations.
10. Unless detailed otherwise on drawings, grounding electrode(s) shall be foundation ground grid(s) consisting of two opposing runs of 25' lengths of #4/0 soft drawn bare copper conductors installed at bottom of foundation with 2" of concrete between conductors and earth, encased in concrete their entire length exclusive of tails for connections to equipment. Keep conductors separated from reinforcing steel by use of insulating tape. Conductors shall be interconnected by the Cadweld process using molds and charges according to manufacturer's recommendations. Tails for connection to equipment where shown or called for on drawings shall provide not less than 24" length above finished floor level. Protect all tails against damage.
11. Provide grounding bar in electrical room, closet, etc. for grounding of low voltage (LV) equipment, racks and the like. Refer to drawings for detail. Locate grounding bar adjacent to data communication rack.
12. Grounding electrodes and connections to building water and gas mains or building structural steel shall have insulated conductors run in conduit directly to service ground bus separate from any other grounding conductor.
13. Each grounding electrode installed shall be tested prior to connection to equipment. Ground resistance tests shall be performed by an independent testing agency using a Megger Earth Tester or equivalent and test results shall be forwarded to the Architect for approval.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. Section includes:
1. Hangers and supports for electrical equipment and systems.
 2. Construction requirements for concrete bases.

1.02 QUALITY ASSURANCE

- A. Comply with NFPA 70.

PART 2 - PRODUCTS

2.01 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.
1. 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:
 - a. Allied Tube & Conduit.
 - b. Cooper B-Line, Inc.; a division of Cooper Industries.
 - c. ERICO International Corporation.
 - d. GS Metals Corp.
 - e. Thomas & Betts Corporation.
 - f. Unistrut; Tyco International, Ltd.
 - g. Wesanco, Inc.
 - h. Approved equal.
 2. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 3. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
 4. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
 5. Channel Dimensions: Selected for applicable load criteria.
- B. Raceway and Cable Supports: As described in NECA 1 and NECA 101.

- C. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- D. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for non-armored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be malleable iron.
- E. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
- F. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
 - 1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - 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:
 - 1) Hilti Inc.
 - 2) ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.
 - 3) MKT Fastening, LLC.
 - 4) Simpson Strong-Tie Co., Inc.; Masterset Fastening Systems Unit.
 - 5) Approved equal.
 - 2. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
 - 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) Cooper B-Line, Inc.; a division of Cooper Industries.
 - 2) Empire Tool and Manufacturing Co., Inc.
 - 3) Hilti Inc.
 - 4) ITW Ramset/Red Head; a division of Illinois Tool Works, Inc.
 - 5) MKT Fastening, LLC.
 - 6) Approved equal.
 - 3. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.

4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
6. Toggle Bolts: All-steel springhead type.
7. Hanger Rods: Threaded steel.

2.02 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.
- B. Materials: Comply with requirements in Division 05 for steel shapes and plates.

PART 3 - EXECUTION

3.01 APPLICATION

- A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.
- B. Minimum rod size shall be 1/4 inch (6 mm) in diameter.
- C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
 1. Secure raceways and cables to these supports with conduit clamps.

3.02 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).
- D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
 1. To Wood: Fasten with lag screws or through bolts.

2. To New Concrete: Bolt to concrete inserts.
3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
4. To Existing Concrete: Expansion anchor fasteners.
5. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.
6. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts, and Beam clamps (MSS Type 19, 21, 23, 25, or 27) complying with MSS SP-69.
7. To Light Steel: Sheet metal screws.
8. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.

- E. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3.03 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Comply with installation requirements in Division 05 for site-fabricated metal supports.
- B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- C. Field Welding: Comply with AWS D1.1/D1.1M.

3.04 CONCRETE BASES

- A. Construct concrete bases of dimensions indicated but not less than 4 inches (100 mm) larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base.
- B. Use 3000-psi (20.7-MPa), 28-day compressive-strength concrete. Concrete materials, reinforcement, and placement requirements are specified in Division 03."
- C. Anchor equipment to concrete base.
 1. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 2. Install anchor bolts to elevations required for proper attachment to supported equipment.
 3. Install anchor bolts according to anchor-bolt manufacturer's written instructions.

3.05 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
 - 1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).
- B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION

RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 and Section 26 05 00 apply to all work of this Section.
- B. Contractor shall provide all materials, labor, and the means and methods to complete the installation defined by the plans and these specifications.

PART 2 - PRODUCTS

2.1 RACEWAY

- A. All wiring shall be run in raceway.
- B. The size of each raceway shall be largest of the following:
 - 1. Minimum size to be 1/2".
 - 2. Underground conduits to be 3/4" minimum.
 - 3. Telephone and data communications conduits to be 2" minimum.
 - 4. The size required by code fill table for THHN/THWN to accommodate the number, size, and type of wires shown or specified or recommended by the manufacturer of the equipment served and also ground conductor.
 - 5. The size noted on the Drawings.
- C. Conduit Fittings: Except where otherwise noted, conduit fittings shall be Appleton, Crouse-Hinds, or equal. Unilets, condulets, etc., shall be malleable iron and fitted with cover and gasket.
- D. Conduit Supports: Kindorf, Unistrut, T&B, or equal. All multiple hanger and support parts shall be zinc coated by hot dipping or electroplating or otherwise protected against corrosion.
- E. Conduit Straps: T&B, Gedney, or equal, one or two-hole malleable iron or snap type steel with ribbed back, galvanized or cadmium plated.
- F. Cable Supports: Cable supports and boxes shall be installed for all vertical feeders in accordance with the schedule in the California Electrical Code. Cable supports shall be of the split wedge type which clamp each individual conductor firmly and tightens due to weight of cable. For cables with a metallic sheath, a basket weave or equal type of support shall be provided.
- G. Acceptable raceway systems and their limitations of use are as follows:

1. Rigid Steel Conduit (RSC):
 - a. Standard weight, zinc coated on outside by hot dipping with either zinc coating or other U.L. approved corrosion-resistant coating on inside.
 - b. Fittings shall be threaded and finished similar to conduit. Threadless fitting shall not be used. All joints shall be coated with conductive antiseize compound, T&B "Kopr-Shield" or approved equal, except where conduit is run in permanently dry locations. Engineer knows of no equal to "Kopr-Shield".
 - c. Where installed in contact with earth or fill material, conduit shall be wrapped with net four layers of Scotchrap #50, Schuller VID-10, or equal, or encased in three inches of concrete. In lieu of hand wrapping, Contractor may provide PVC coated galvanized conduit and fittings. The thickness of the PVC coating shall be a minimum of .040" (40 mil) on all pipe and fittings (except where part shape demands less thickness). PVC coated elbows shall be Ocal, Inc. Engineer knows of no equal.
 - d. Conduits connected to boxes and cabinets shall be fitted with two locknuts and insulated bushings, OZ B Series, Appleton BU Series, or equal, U.L. approved and bonded. Grounding bushings shall be used whenever grounding conductors are installed.
 - e. Conduit stubs shall be capped with coupling, nipple, coupling and plug.
 - f. Conduits connected to top and sides of boxes, cabinets, or any exterior enclosure exposed to weather or in areas subject to excessive moisture shall be fitted with watertight sealing hubs of steel or malleable iron with sealing ring and insulated throat, T&B 370 Series, EFCOR 40-50B Series, or equal.
2. Intermediate Metal Conduit (IMC): Requirements for IMC are same as specified for RSC.
3. Electric Metallic Tubing (EMT):
 - a. Rolled steel, zinc coated outside with either zinc coating or other approved corrosion-resistant coating on the inside.
 - b. Couplings shall be concrete tight steel set screw couplings, Appleton TWC-5 Series, T&B TK-120 Series, or equal. A green insulated bonding conductor shall be provided in raceway when using set screw fittings.
 - c. Connectors shall be concrete tight steel set screw couplings, Appleton TW50-SI Series, T&B TC-720 Series, or equal. A green insulated bonding conductor shall be provided in raceway when using set screw fittings.
 - d. May be used:
 - 1) Concealed in stud partitions.
 - 2) Concealed in non-grouted masonry walls.
 - 3) Concealed above furred ceilings.
 - 4) Exposed above 8' elevations, indoors.
 - 5) Exposed in electrical rooms, telephone rooms, data communication rooms and mechanical rooms.
4. Flexible Metal Conduit:
 - a. Minimum trade size, 1/2", unless specified otherwise in other sections of these specifications. Flexible conduit shall be steel.

- b. Connectors - T&B "Tite Bite" insulated. Engineer knows of no equal. Where used for connection of recessed fixtures, connectors may be of the type that screw into inside of conduit, Efcor 1100 Series, Steel City XC-840 Series, or equal.
 - c. May be used only for crossing of seismic joints, connection of recessed fixtures, controls and mechanical equipment, and devices mounted to T-bar ceilings. Use Liquid Tight Flexible Metal Conduit, as specified hereinafter, where exposed to weather or other wet or corrosive conditions.
 - d. Length shall be a practical minimum but to allow for movement of equipment connected without restricting flexibility of conduit.
5. Liquid Tight Flexible Metal Conduit:
- a. Minimum trade size, 1/2".
 - b. Connectors - Appleton STB Series, insulated. Appleton, Crouse-Hinds, or equal may be used.
 - c. Length shall be a practical minimum but to allow for movement of equipment connected without restricting flexibility of conduit.
6. PVC Conduit, Type EB: U.L. listed and labeled for encased burial.
- a. Minimum trade size, 3/4".
 - b. Use only as underground feeder duct for power and signal with minimum of 3" concrete envelope with #4 rebar in each corner of duct bank. Concrete shall be two sack mix with 3/4" maximum aggregate.
 - c. A copper bonding conductor shall be pulled in each power, control, signal, and other raceway, except public telephone and data communications, and bonded to equipment at each end with approved lugs.
 - d. Continuation of run above grade, slab, or into building interior shall be with RSC, IMC, or EMT as per conduit specification.
 - e. Conduit separation shall be provided using plastic conduit spacers specifically designed for the purpose. Place spacers maximum 4'0" on center.
 - f. "Hot box" or field heated bends or elbows are not acceptable. Bends, elbows, and risers shall be made with rigid steel conduit using threaded adapters. At each end of conduit run, bond metallic portions of raceways to each other and to equipment connected. Protect underground metal portions from corrosion as specified for rigid steel conduit.

In lieu of providing RSC bends in PVC duct banks, contractor may provide long radius PVC elbows with a minimum radius of 24" for 3/4" to 2" conduits and a minimum radius of ten times the conduit trade size for conduits larger than 2". (Note: As an example, a 2-1/2" conduit will require an elbow with a minimum radius of 30".) Pull rope used when PVC elbows are provided must be of a material and diameter that will not cause damage to inside surface of elbow when wire is pulled. Contractor will be required to replace any underground elbow determined to be damaged (grooved, cracked, etc.). Elbows under concrete floor slabs or rising up into footings must be RSC as specified hereinbefore.
 - g. Provide bell ends on all conduits rising into pullboxes, switchgear, lighting poles, rooms and any location where raceway ends.

- h. All joints and fittings shall be glued using appropriate PVC cement.
- 7. PVC Conduit, Schedule 40: U.L. listed and labeled for direct burial.
 - a. Minimum trade size, 3/4".
 - b. Use only underground. All conduit shall be encased with 3" concrete envelope or clean sand. Concrete shall be two sack mix with 3/4" maximum aggregate. Conduit separation for concrete encased conduits shall be provided using plastic conduit spacers specifically designed for the purpose. Place spacers maximum of 4'0" on center. Sand encased conduits shall be installed in layers to maintain vertical separation and horizontal separation shall be maintained using rebar stakes. Drawings indicate depth of burial required for the options.
 - c. A copper bonding conductor shall be pulled in each power, control, signal, and other raceway, except public telephone and data communications, and bonded to equipment at each end with approved lugs.
 - d. Continuation of run above grade, slab, or into building interior shall be with RSC, IMC, or EMT as per conduit specification.
 - e. Power feeder and signal trunk conduit runs beneath building floor slabs shall be placed in trench and encased in sand evenly compacted on all sides, top, and bottom. Conduit shall be kept sufficient depth below slab fill material to provide adequate protection from damage by other trades and to permit use of specified rigid conduit elbows without additional offsets.
 - f. "Hot box" or field heated bends and elbows are not acceptable. Bends, elbows, and risers shall be made with rigid galvanized steel conduit using threaded adapters. At each end of conduit run, bond metallic portions of raceways to each other and to equipment connected at each end of conduit run. Protect metal portions from corrosion as specified for rigid steel conduit.
In lieu of providing RSC bends in PVC duct banks, contractor may provide long radius PVC elbows with a minimum radius of 24" for 3/4" to 2" conduits and a minimum radius of ten times the conduit trade size for conduits larger than 2". (Note: As an example, a 2-1/2" conduit will require an elbow with a minimum radius of 30".) Pull rope used when PVC elbows are provided must be of a material and diameter that will not cause damage to inside surface of elbow when wire is pulled. Contractor will be required to replace any underground elbow determined to be damaged (grooved, cracked, etc.). Elbows under concrete floor slabs or rising up into footings must be RSC as specified hereinbefore.
 - g. Provide bell ends on all conduits rising into pullboxes, switchgear, lighting poles, rooms and any location where raceway ends.
 - h. All joints and fittings shall be glued using appropriate PVC cement.
- 8. Cable Tray:
 - a. Provide cable tray raceways for low voltage signal cables at locations shown on drawings. Cable trays shall be Chatsworth Products, Inc. (CPI) "FastTrac" series with all accessories and hardware for a complete installation. Provide supports, bend radii protection, and earth grounding.

- b. Minimum tray size shall be 2"H x 6"W and in 5' or 10' sections as determined by field conditions. Increase tray dimensions as necessary to conform to cable fill with a 50% margin for future cables.
9. Cable J-Hooks: Low voltage signal cable "J-Hooks" shall be Caddy "CableCat" CAT425 for main runs with capacity for up to 425 4-pair UTP cables. For runs from main runs, provide Caddy "CableCat" CAT21 or CAT32 J-Hooks with capacity for up to 50 or 80 4-pair UTP cables. Provide with support device for construction encountered.

2.2 BOXES AND ENCLOSURES

- A. All boxes and enclosures shall be suitable for the environment in which they are installed. This includes enclosures for switchboards, panels, control cabinets, terminal cabinets, disconnect switches, signal devices, and the like.
- B. Outlet Boxes:
 1. Outlet boxes shall be of welded construction or one piece deep-drawn steel, galvanized gang type. Octagon concrete rings may be folded type. Sectional boxes shall not be used. Boxes installed in any exterior location, where exposed to rain or where exposed to moisture laden atmosphere shall be cast screw hub type with gasketed weatherproof covers. Where installed in finished areas, exposed boxes shall be cast screw joint type or other type that does not have unused knockouts.
 2. Each box shall be large enough to accommodate the required number and sizes of conduits, wires, splices, and devices but not smaller than size shown or specified. Unless otherwise specified or shown on Drawings, boxes shall be flush mounted with front edge of box or ring flush with wall or ceiling finish. Use plaster ring in plastered or gypsum applications. Examine Architectural Drawings for wall construction and finishes, and set box with appropriate plaster ring as required for flush installation.
 3. Switch and receptacle boxes shall be not less than 4" square by 1-1/2" deep for single devices, 4-11/16" by 1-1/2" deep for two devices. Telephone and signal boxes shall be not less than 4-11/16" square x 2-1/8" deep.
 4. Outlet boxes mounted in cabinets, tile, concrete block, brick, stone, wood, or similar material shall be rectangular in shape with square corners and straight sides, and installed without plaster rings. Such boxes shall be 3-11/16" high x 2-1/4" wide x 3-1/2" deep for a single device, or shall have suitable tile or masonry ring for larger box.
 5. Lighting outlets shall be 4" octagon, minimum, fitted with 3/8" malleable iron fixture stud.
 6. Boxes for special devices such as clocks, speakers, fire alarm, television, and the like shall be particularly suited for intended use.
 7. Provide blank cover plates on all outlet boxes which are installed as part of an empty conduit system. Refer to finish material.
- C. Junction Boxes and Pullboxes:

1. Boxes having an internal volume less than 100 cubic inches shall be as specified for outlet boxes. Boxes having internal volume greater than 100 cubic inches shall be of panelboard type construction except that covers shall be secured by screws or bolts.
 2. Boxes exposed to rain or installed in wet locations shall be specifically designed for the purpose.
 3. All boxes shall be installed so that covers are accessible after completion of the installation.
 4. Boxes shall not be installed in finished areas unless specific approval for such installation is granted by Architect.
- D. **Box Mounting:** Boxes shall be independently and securely supported in place by wood blocking spanning stud space or manufactured adjustable channel type hanger, Steel City, Raco, or approved equal. Use wood screws to fasten to wood blocking or sheet metal screws to attach to metal channel. Side strap mounting shall not be used. Attach blocking or channel to studs using wood screws. Sheetrock screws or deck screws shall not be used. Boxes installed in masonry, tile, or concrete block shall be secured with auxiliary plate or bar and be grouted in place. Surface boxes shall be supported with expansion screws, bolts, or anchors. Suspended boxes shall be supported with threaded rods or strut assemblies attached directly to structural members by means of bolts or anchors.
- E. **Precast Concrete Boxes and Vaults:**
1. **Boxes and Vaults:** Precast high-density reinforced concrete, rated for H/20 vehicular traffic loading, unless shown otherwise on Drawings.
 2. **Extensions:** At sectional type boxes, provide a minimum of two precast extensions. Provide additional extensions as required to provide space in box for code required cable bending.
 3. **Covers:** Unless noted otherwise on drawings, covers shall be H/20 vehicular traffic rated, steel checker plate, galvanized, with hold-down bolts. Covers shall be factory marked as follows:

<u>SYSTEM</u>	<u>MARKING</u>
Power 600V or less	Electrical
Telephone	Telephone
Data Communications	Data
Clock, Signal, etc.	Signal
Fire Alarm	Fire Alarm
Lighting	Lighting
Grounding	Ground

- Where two or more low voltage systems (such as clock, fire alarm, telephone, etc.) occupy same box or vault, cover shall be factory marked "Signal".
4. **Size:** Provide size shown on Drawings. If sizes are not shown, provide boxes sized per Codes. (Note: Minimum size may be indicated in Symbol List on Drawings.)

2.3 ELECTRICAL COMPONENTS ACCESS DOORS

- A. KARP, Milcor, Newman, or approved equal, with concealed hinges, prime coated with rust inhibitive paint, screwdriver locks at interior and key operated cylinder locks at exterior locations. Style of door shall suit ceiling or wall construction, including fire rating. Doors shall be 14 gauge C.R. steel minimum.

PART 3 - EXECUTION

3.1 RACEWAY SYSTEMS

- A. Excavating and Trenching: Perform all excavations as required for the installation of the work included under this Section, including shoring of earth banks to prevent cave-ins and to protect workmen and equipment. Restore all surfaces, roadways, walks, curbs, walls, existing underground installation, etc., damaged or cut as a result of the excavations to their original condition in a manner approved by the Architect. Stop machine excavation for trenches, in solid ground, several inches above required grade line, then trim trench bottom by hand to accurate grade so that a firm and uniform bearing throughout entire length of duct is provided. In lieu of above hand excavation in bottom of trench, Contractor may excavate to depth no less than 6" below required grade line and place a bed of sand or granular soil, properly compacted to provide a uniform grade and to provide a firm support for duct throughout its entire length. Minimum conduit depth of pipe crown shall be 2'0" below finished or natural grade, unless detailed otherwise on Drawings. Conduits under parking lots, roadways, driveways, fire truck access routes, and other areas subject to vehicular traffic shall be installed a minimum of 24" below grade.
- B. Backfilling: No backfilling operations shall begin until the required tests and inspection has been made. Should any of the work be enclosed or covered up before it has been approved, Contractor shall, at his expense, uncover the work. After it has been inspected, tested, and approved, he shall make all repairs necessary to restore the work of other contractors to the condition in which it was found at the time of uncovering. Except under existing paved area, walks, roads, or similar surfaces, and in cases where rock is encountered, backfill more than 12" above the top of the pipe shall be made using suitable excavated material placed in 6" layers measured before compaction, and tamped by machine. Surface work shall be replaced to match the existing. Entire backfill for bored excavations under existing pavement, walks, roads, or similar surfaces, shall be made with clean sand compacted by flooding.
The contractor shall install a marking tape 6" below grade and directly above all electrical conduits. The tape shall consist of a 4 mil insert plastic film specifically formulated for prolonged use underground. It shall be highly resistant to alkalis, acids and other destructive agents found in the soil. Tape shall have a minimum tensile strength of 20 lbs. per 3" with strips and a minimum elongation of 500%. Tape shall bear a continuous painted message repeated every 16" to 36" warning of the installation buried below. The message shall read "CAUTION - ELECTRICAL POWER LINE BURIED BELOW" or "CAUTION - ELECTRICAL SIGNAL LINES BURIED BELOW" as applies. Installation instruction for the tape shall be

printed with each message along the entire length. The tape shall be as that manufactured by Reef Industries, Inc., or approved equal. For those installations involving non-metallic pipe, tape shall be aluminum foil encased in two layers of inert plastic film enabling the tape to be inductively located. Terre Tape "D" Warning Tapes are acceptable. When conduit below is plastic, tape shall have metallic content and shall respond to metal detectors. Do not exclude this. It will be required to verify the installation of this tape.

- C. Flashing and Sealing: Flash and counterflash roof and wall penetrations in manner described under other applicable sections of this Specification and as approved by the Architect. Conduits, ducts, etc., passing through finished walls and ceilings shall be fitted with steel escutcheon plates, chrome or paint finish as directed. Conduits which penetrate floor slabs and concrete or masonry walls shall be grouted and sealed watertight at penetration. Conduits penetrating exterior walls other than concrete or masonry shall be sealed watertight with Vulkem 116 polyurethane sealant. Underground conduits stubbing up into a room shall be sealed around cables or pullstring with foam sealant. All flashing and sealing shall be provided by this Contractor.
- D. Unless otherwise specified, all raceway shall be installed concealed. Raceway may be run exposed on unfinished walls, in attics and roof spaces, and in electrical rooms when run to surface cabinets, panels, or gutters. Conduit shall not be installed in concrete slabs.
- E. Individual horizontal raceways not larger than 1-1/2" size shall be supported by means of straps or individual hangers. Individual horizontal raceways larger than 1-1/2" size shall be supported by individual hangers. Above accessible ceilings, spring steel fasteners, clips, or clamps specifically designed for supporting exposed single conduits up to 1" size may be used in lieu of straps or hangers. Hanger rods used in connection with spring steel fasteners, clips, and clamps shall be either 1/4" diameter or larger galvanized steel rods.
- F. Where two or more horizontal raceways run parallel and at the same elevation, they shall be supported on multiple hangers. Each raceway shall be secured to the horizontal hanger member with a U-bolt, strap, or other specially designed and approved bolted fastener. Hanger rods used in conjunction with multiple hangers shall be 3/8" diameter or larger, galvanized steel rods.
- G. Vertical raceways not larger than 1-1/2" shall be supported by riser clamps at each floor or by straps not over 8' apart. Vertical raceways, conduits, and EMT larger than 1-1/2" shall be supported by riser clamps at each floor. Short vertical drops larger than 1-1/2" shall be supported by hangers close to the elbows at the tops and additionally secured to walls, columns, etc. by straps spaced not over 8' apart.
- H. Multiple conduit hangers shall consist of two or more steel hanger rods, a steel horizontal member, and all U-bolts, clamps, and other attachments necessary for securing hanger rods and conduits. Hanger rods shall be threaded either full length or for a sufficient distance at each end to permit at least 1-1/2" of adjustment. Horizontal members shall be standard structural steel shapes such as angles or channels or 1-1/2" x 1-1/2", No. 12 gauge, cold formed, lipped

channels designed to accept special spring-held hardened steel nuts for securing hanger rods and other attachments. Two or more channels may be welded together to form horizontal members of greater strength than single channels.

- I. Straps and hanger rods shall be fastened to concrete by means of inserts or expansion bolts, to brickwork by means of expansion bolts, to hollow masonry by means of toggle bolts, to metal surfaces with machine screws, and to wood construction with wood screws. Expanders and shields shall be steel or malleable iron. Sizes of shields and bolts shall be such that the proof test load will not be less than four times the actual working load. Deck screws or sheetrock screws shall not be used. Wooden plugs and lead shields shall not be used for fastening. Perforated strap iron or nail straps shall not be used. Straps shall be screw fastened.
- J. Raceways above suspended ceilings shall be supported from floor or roof structure above, except that conduits 3/4" and smaller serving equipment installed in the ceiling may be supported from hanger wires (separate from ceiling hanger wires) by use of approved spring steel clips or fasteners. Hanger wires must be attached to roof structure above and clips mounted to T-bar for a positive means of support. Clips shall be Caddy Series 528P or equal. Outlet boxes with devices shall not be supported from hanger wires or from conduit supported from hanger wires. Boxes with devices shall be mounted directly to structure or blocking as described in Part 2.
- K. In any raceway run, the number of 1/4 bends, or the equivalent, between terminations at cabinets, outlet boxes, junction boxes, and pullboxes, shall not exceed the number of 1/4 bends indicated below, and the total length of run shall not exceed 150'. Straight runs of conduit shall not exceed 250' in length between terminations at cabinets, outlet boxes, junction boxes, and pullboxes.

<u>Conduit Size - Inches</u>	<u>Number of 1/4 Bends</u>
1/2 to 1-1/4	4
1-1/2 to 2-1/2	3
3 to 4	2

- L. The size of each run of raceway shall be largest of the following:
 - 1. Minimum size to be 1/2".
 - 2. Underground conduits to be 3/4" minimum.
 - 3. Telephone and data communications conduits to be 2" minimum.
 - 4. The size required by code fill table for THHN/THWN to accommodate the number, size, and type of wires shown or specified or recommended by the manufacturer of the equipment served and also ground conductor.
 - 5. The size noted on the Drawings.
- M. The Contractor's attention is directed to check the size of all raceways to determine that the green equipment ground conductor, specified, shown or required, can be installed in the same raceway with phase and neutral conductors in accordance with the percentage of fill requirements of codes. If necessary, the Contractor shall increase the raceway sizes shown or specified to accommodate all conductors without additional cost to the Owner.

- N. Conduit caps shall be installed during construction.
- O. Pull ropes shall be provided in all empty conduits and shall be 3/16" diameter polypropylene. (Note: This pull rope is not for pulling cable but for pulling in pull rope for cable pulling.)
- P. Data communications conduit bends shall have a minimum radius of 18".
- Q. Interior conduit for data and telephone cables must be run in ceilings and walls unless specifically shown on plans to be run underground. All data and telephone outlets shall be connected with overhead conduits, except when run to outlets in freestanding casework, to floor boxes, etc.
- R. Plates and Grouting: Conduits, ducts, etc., passing through finished walls shall be fitted with steel escutcheon plates, chrome or paint finish as directed. Conduits which penetrate floor slabs and concrete or masonry walls shall be grouted and sealed watertight at penetration.
- S. All joints of RSC and IMC raceways shall be coated with conductive anti-seize compound, as specified hereinbefore, unless conduit is run in permanently dry locations. Remove couplings of factory joined conduit and coupling assemblies and coat joints.
- T. Flexible conduit shall be used to cross seismic joints.
- U. Expansion Joints:
 - 1. Attention is called to the expansion joints which occur at intervals in the construction.
 - 2. Where crossings are unavoidable, conduits shall cross at right angles with an expansion sleeve fitting.
 - 3. The expansion fitting shall be of a type designed to compensate for expansion and contraction in a line of conduit.
 - 4. The expansion end shall be sealed by a high grade packing which will prevent the entrance of water or moisture.
 - 5. End of conduits shall be provided with insulated bushings.
 - 6. Copper grounding rings or an auxiliary flexible bonding jumper, carefully installed to insure proper operations, shall be provided to secure a continuous ground between conduit and fitting.
 - 7. A conduit expansion fitting shall be installed in each conduit run wherever it crosses an expansion joint in the concrete structure. The expansion fitting shall be installed on one side of the joint with its sliding sleeve end flush with the joint and with a length of bonding jumper in the expansion joint equal to at least 3 times the nominal width of the joint.
 - 8. These fittings shall also be provided where expansion and contraction are a consideration in long runs of conduits.
- V. Plastic Conduit Expansion and Contraction: Contractor shall take precautions to allow for expansion and contraction of plastic conduit due to temperature changes. Exercise care in storing materials to avoid warping and deterioration. Protect from direct exposure to sunlight.

- W. Conduit penetrations through fire rated assemblies shall be protected as required by CBC Chapter 7.
- X. Underground Conduits and Duct Banks:
1. Conduit runs shown on site plan are shown for general routing. Conduit installation shall comply with applicable codes, specifications, and details on the drawings. Exact location of runs shall be coordinated to comply with structural details at and near building footings.
 2. Where conduits run under or through building foundations, crossings shall conform to details shown on structural drawings. Where conduits run parallel to foundations, conform to structural requirements.
 3. Prior to any excavation, layout duct routing. Routing shown on drawings is diagrammatic (not pictorial). Coordinate closely with underground work of other trades. Adjust routing and excavation to avoid conflict with other trades and utilities.
 4. At existing sites, underground utilities, services, circuits, piping, irrigation systems, etc. are present, but their exact locations are not known. Contractor shall locate and protect before trenching or excavating in any area. Consult utility companies, "as-built drawings", and Owner's maintenance personnel for location of existing underground work. If existing piping or utilities are damaged during construction, contractor shall repair immediately at own expense. New underground shall be modified as necessary to conform to existing conditions.
- Y. Cable J-Hooks: Provide J-hooks 4'0" O.C. Max. for runs of signal cables. All cable to be run parallel and perpendicular to building lines. Provide mounting hardware as required. Provide Unistrut channels between structural members where necessary. Provide 24" long 2" conduit sleeves through shear walls, draft stops, etc. Provide as many as necessary to accommodate all signal cables in contract plus two extra capped at each end for future. All conduits shall be provided with bushed ends.

3.2 BOXES

- A. Boxes shall be accurately placed as shown on Drawings or as close thereto as possible. Contractor shall refer to Drawings, specifications, and submittals covering work of the other trades to coordinate outlet location. In the event of conflict between planned locations of outlet and other equipment or furnishing, Contractor shall not proceed until direction has been given by Architect.
- B. Unless otherwise specified or shown on Drawings, boxes shall be flush mounted with front edge of box or ring flush with wall or ceiling finish where finish material is combustible. At non-combustible finish materials, front edge of box or plaster ring shall not be set back more than 1/4". Use plaster ring of appropriate depth in plastered or gypboard applications. Contractor shall review architectural drawings and note wall and ceiling construction and finishes for each wall. Boxes/rings set too far back shall be equipped with plastic, non-combustible, non-conductive extenders, Arlington BE Series or equal.

- C. Boxes shall not be installed back-to-back in walls. To prevent sound transfer, outlets, switches, etc. shown on opposing sides of the same wall shall be installed in separate stud spaces, except that outlets installed at different elevations may occupy the same stud space when box separation exceeds 18". Where these requirements cannot be met, Contractor shall provide insulation material between boxes.
1. Outlet Boxes at Fire Rated Walls:
 - a. Outlet boxes on opposite sides of fire rated walls shall be separated by horizontal distance of not less than 24".
 - b. Total area of outlet boxes in fire rated walls shall not exceed 100 square inches for any 100 square feet of wall area.
 - c. If a. and/or b. are not met, penetrations in fire rated walls shall be protected by an approved penetration firestop system per CBC 714.4.1.2, installed and tested in accordance with ASTM E119 or UL 263 and shall have F rating of not less than the required rating of the wall penetrated.
- D. Mounting height of wall mounted outlet means height from finished floor to horizontal centerline of outlet or cover plate or top of box as indicated below. Heights shall be as follows unless specifically noted otherwise on Drawings:
1. Receptacles: +1'6" except as noted. Outlets in wall above counter or backsplash shall be arranged for horizontal device installation. Outlet shall be located such that device plate will be 4" above counter (or backsplash where provided).
 2. Switches: +4'0", to top of box.
 3. Desk Telephone: +1'6", except as noted.
 4. Wall Telephone: +4'0", to top of box.
 5. Fire Alarm Manual Station: +4'0", to top of box.
 6. Wall Mounted Lighting, Clocks, and Speakers: As shown on Architectural elevations. If not shown on elevations, coordinate with Architect prior to rough-in.
- E. Where receptacles or outlets are shown in cabinetry, coordinate location of boxes and routing of raceway with cabinetry contractor. Route raceway concealed (limited use of flex is permissible).
- F. Blank covers of all junction boxes shall be marked to show use, such as Fire Alarm, Telephone, Intrusion Alarm, Signal, etc. Power box covers shall be marked to show circuit numbers contained in box. Use permanent black marker.
- G. Outlet and device boxes mounted in fire rated assemblies shall be protected as required by CBC.
- H. Where floor boxes are shown on drawings, contractor shall review approximate locations with Owner and Project Inspector prior to rough-in and obtain exact locations for proper placement.
- I. Precast Concrete Boxes:

1. Sectional Boxes without Precast Floor: Unless detailed otherwise on drawings, provide poured concrete footing formed inside with 6" gravel in bottom of box to facilitate drainage. Conduits shall rise in bottom of box. Provide box extensions to allow ample clearance in box between conduit and box cover for cable bending radius.
2. Where boxes are installed at concrete or paved areas, box lid shall be flush with finish grade.
3. Size: Provide size shown on Drawings. If sizes are not shown, provide boxes sized per Codes. (Note: Minimum size may be indicated in Symbol List on Drawings.)

3.3 ACCESS DOORS

- A. Furnish and install access doors wherever required whether shown or not for easy maintenance of electrical systems; for example, at fire alarm detectors above ceilings, etc. Access doors shall be sized to allow access to equipment for complete removal and replacement of equipment or device.

END OF SECTION

VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.2 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 and Section 26 05 00 apply to all work of this Section.
- B. Contractor shall provide all materials, labor, and the means and methods to complete the installation defined by the plans and these specifications.

1.3 REQUIREMENTS

- A. Seismic Restraint Requirements: All electrical equipment and materials shall be braced against seismic forces in accordance with California Building Code, Chapter 16A. Provide lateral bracing as required. The field installation shall be subject to the review and approval of the DSA Structural Safety engineer.
- B. Light Fixture Seismic Bracing: All lighting fixtures suspended from ceiling or structure shall be braced to comply with California Building Code Part 2.
 - 1. Suggested bracings and attachments are detailed on drawings. Bracing methods shown are general and may need to be modified to suit a particular location and other differing conditions.
- C. Electrical Distribution System Bracing: Electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-10 Section 13.3, as defined in ASCE 7-10 Section 13.6.4, 13.6.6 and 13.6.5.6, and 2019 CBC Section 1616A.1.23.
 - 1. The bracing and attachments to the structure shall be detailed on the approved drawings or they shall comply with one of the OSHPD pre-approvals (OPA#) as modified to satisfy anchorage requirements of ACI 318, Appendix D.
 - 2. Copies of the manual shall be available on the jobsite prior to the start of hanging and bracing of the electrical distribution system.
 - 3. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.
- D. Equipment Anchorage:
 - 1. All electrical equipment components shall be anchored and installed per the details on the DSA approved construction documents. Where detail is not indicated, the following components shall be anchored or braced to meet the

force and displacement requirements prescribed in the 2019 CBC, Section 1616A.1.23 and ASCE 7-10 Chapters 13, 26 and 29.

- a. All permanent equipment and components.
 - b. All temporary or moveable equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, etc.
 - c. Moveable equipment which is stationed in one place for more than eight hours and heavier than 400 pounds is required to be anchored with temporary attachments.
2. The attachment of the following electrical components shall be positively attached to the structure but will not be detailed on the plans. The components shall have flexible connections provided between the component and associated conduit.
- a. Components weighing less than 400 pounds and having a center of mass located 4 feet or less above the adjacent floor or roof level that directly supports the component.
 - b. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

For those elements that do not require details on the approved drawings, the installation shall be subject to the approval of the Structural Engineer of Record and the DSA District Structural Engineer. The Project Inspector will verify that all components and equipment have been anchored in accordance with the above requirements.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

DOCUMENT 26 24 00

SWITCHBOARDS AND PANELBOARDS

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 and Section 26 05 00 apply to all work of this Section.
- B. Contractor shall provide all materials, labor, and the means and methods to complete the installation defined by the plans and these specifications.

1.2 REQUIREMENTS

- A. Other Divisions: Requirements of other divisions shall apply to this division as if repeated herein, and should work under this division require any carpentry, backfill, masonry, etc., the appropriate division requirements shall apply. This includes work required for construction of proper stands, bases, and supports for electrical materials and equipment.
- B. Rules and Regulations: All work and materials shall be in full accordance with the latest rules and regulations of the following:
 - 1. California Electrical Code, 2019 edition
 - 2. California Building Code, 2019 edition
 - 3. Applicable regulations of local utility companies
 - 4. California Code of Regulations, Title 8, Electrical Safety Orders
 - 5. Equipment Utility Service Requirements Committee Standards
 - 6. General Order 95 of the Public Utilities Commission

Nothing in these drawings or specifications is to be construed to permit work not conforming to the above codes, rules, and regulations.

- C. Refer to Section 26 05 00 for detailed submittal requirements.

PART 2 - PRODUCTS

2.1 PANELBOARDS, SWITCHBOARDS, CONTROL CABINETS, TERMINAL CABINETS, ETC.

- A. All circuit breakers shall be equipped with padlocking devices for locking handle in off position. Devices shall be factory installed or furnished by factory and installed by Contractor.

- B. Multiple pole circuit breakers shall have internal common trip connection. Single pole breakers shall not be tied at handles to form multiple pole breaker.
- C. All circuit breakers shall be bolt-on type.
- D. Handle "Lock On" devices shall be furnished for 10% of circuit breakers provided. Furnish in factory packaging unless noted to be installed on Drawings. (Note: These devices have different function than those specified in paragraph A. above.)
- E. Circuit breaker numbers shall be adhesive backed engraved or embossed micarta or stamped into dead front. Snap-in plastic numbers are not acceptable.
- F. Busses shall be copper with a current density of 1000A per square inch, maximum.
- G. Exterior of surface mounted enclosures shall be factory finished to match fronts.
- H. Where panels or cabinets are indicated to be flush mounted, but wall construction will not allow flush installation, enclosures shall be semi-recessed. Semi-recessed enclosures shall be fitted with a wood or metal escutcheon providing neat return to wall finish, flush with edge of trim. Finish escutcheon to match surrounding wall.
- I. Wall mounted enclosures shall be mounted with top of enclosure 6'6" above finished floor except as otherwise noted.
- J. Enclosures shall be finished in ASA 61 or Standard Factory gray enamel.
- K. Enclosures shall be fitted with copper ground bus, similar to neutral bus, not insulated from enclosure. Bus shall be complete with lugs.
- L. Directory holder shall be metal with clear acetate directory cover. Holder shall be welded to inside of door or epoxied in place by contractor.
- M. Nameplates shall be as hereinbefore specified.
- N. Busses shall extend full length of usable space of distribution sections.
- O. Fronts shall have concealed trim fasteners and a hinged door with concealed hinges and flush locking latch.
- P. All locks on project shall be keyed alike. New equipment, installed as part of addition, shall have locks keyed to match existing.
- Q. Modifications to existing panelboards and switchboards shall be as indicated on the Drawings. New equipment shall match existing where possible and in all cases be compatible with existing. Where new breakers are installed in existing equipment, provide all hardware and trim pieces as required for a complete closed installation. Provide new nameplates at equipment where existing breakers are identified by nameplates and provide new breaker identification in directory where existing breakers are identified in a directory.

- R. Where new breakers are indicated to be installed in existing switchboard or panel, but insufficient space exists, provide enclosed circuit breakers externally and tap existing bussing. Tap conduit and wire sizes shall be same as breaker line side conduit and wire.
 - S. Main breakers, where specified as part of a combination main and distribution section or panel, shall be located above or below distribution bussing and be connected such that normal load side of breaker is disconnected when breaker is in open position. Backward connections are prohibited.
 - T. Where spaces are indicated on the Drawings, all required hardware and trim shall be provided to allow for future installation of breaker, switch, or combination starter of size shown.
 - U. Bussing ampacity requirements indicated on drawings shall be applied to all bussing in equipment. Bussing ampacity at distribution sections of switchboards shall not be reduced.
 - V. The available fault current shall be obtained from the serving utility. Overcurrent protective devices, busses, and other components shall be selected and coordinated to clear faults and protect the system and all elements. This requirement is a minimum requirement and supersedes equipment selections which do not meet this requirement, and which may be shown or specified elsewhere. The frame designations shown in schedules on drawings establish minimum AIC requirements. Proposed substitutions must meet or exceed the AIC rating of the specified frame. Series rating of components is not acceptable.
 - W. Panelboards: Shall be Square D, Eaton Electrical, or equal, of type and arrangement as indicated on Drawings. Layout of equipment on Drawings is based on Square D unless indicated otherwise in details on drawings. Manufacturers who cannot meet the requirements specified or shown will not be acceptable.
 - X. All access covers, plates, dead front panels, etc., of motor control centers shall be hinged and fitted with captive knurled fasteners and alignment tabs.
 - Y. All multi-wire circuits must have multiple pole breakers per CEC.
- 2.2 CONTACTORS AND RELAYS
- A. Shall be Zenith, Square D, Asco, or equal, as indicated on Drawings.
- 2.3 DISCONNECT SWITCHES
- A. For 208V, 277V and 480V Equipment: Square D, GE, or equal, safety switches, heavy duty with cover/handle interlock, fused or non-fused as required. Furnish with enclosure suitable for application.

- B. For 120V Equipment: Square D, GE, or equal, horsepower rated with manual starters with properly sized overloads, handle guard and lock-off, and suitable enclosure.
- C. Instantaneous Water Heater (IWH) Disconnects: Branch circuit breaker shall be provided with padlocking device.

2.4 TERMINAL AND CONTROL EQUIPMENT CABINETS

- A. Shall be of panelboard type construction and finish.
- B. Trim shall be fitted with hinged door and flush metallic latch (National Cabinet Lock #C8070 or equal).
- C. Doors shall provide maximum size openings to cabinet interior.
- D. Signal and telephone shall be provided with 5/8" backboard having a three-coat fire retardant white paint finish.
- E. Top of cabinet shall be 6'6" above finished floor.
- F. Control equipment cabinets shall be provided with suitable barriers to isolate devices in accordance with Codes.
- G. Provide ground bus at each backboard similar to panelboard ground bus, attached with screws.

2.5 SIGNAL TERMINAL BACKBOARDS

- A. Backboards for Signal, Telephone, TV, Data, etc. shall be 3/4" Architectural Grade, APA Type A-C, Group 1, exposure 1 plywood, 8' high, and width shown on plans. Install with sanded side exposed.
- B. Each backboard shall be painted with three coats of white fire-retardant paint.
- C. Provide ground bus at each backboard. Where two or more backboards are located in same room, provide one ground bus in room. Ground bus shall be Storm Copper Components Co. #SCGB-8KT (4" x 16" with mounting) unless detailed otherwise on drawings. From bus, provide 1"C-1#1/0 bare copper cable to building ground.

PART 3 - EXECUTION

3.1 EQUIPMENT AND MATERIALS

- A. General Requirements for Panelboards, Switchboards, Control Cabinets, Terminal Cabinets, Etc.:

1. Wall mounted enclosures shall be mounted with top of enclosure 6'6" above finished floor except as otherwise noted.
2. Directories shall be typewritten and conform to circuit assignment at time of occupancy.
3. Recessed enclosures shall be provided with a minimum of three 3/4" empty conduits stubbed into accessible space. Drawings may require additional conduits.
4. Conduits shall enter cabinet through neat hole and perpendicular to entrance face.
5. Conduits shall be fitted with insulated grounding bushing and bonded to ground bus.
6. Only circuit wiring which originates in a panel may be run in the wireway of that same panel. Contractor may not use a panel wireway to run conductors to or from another panel.
7. At adjustable trip breakers, all adjustments shall be set at maximum settings unless instructed otherwise on drawings or elsewhere in these specifications. Where breakers are programmable, contractor shall furnish any equipment required to perform programming per manufacturer's instructions. If manufacturer requires factory authorized service technician to make adjustments or perform programming, include all costs for such in bid.

END OF SECTION

DOCUMENT 27 10 00

DATA COMMUNICATIONS

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Drawings and requirements of Division 01 and Section 26 05 00 apply to all work of this Section.
- B. Furnish and install extensions to existing Data Communications System including all wiring and connections and other materials as shown on Plans and specified herein.
 - 1. Report percentage of work complete on a weekly basis.
 - 2. Completely coordinate with work of all other trades.
 - 3. Provide all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation, whether specifically indicated in the Contract Documents or not.
- C. The work covered by the Contract Drawings and the specifications covers a complete installation, including both basic and channel links, for a Data Communications Network utilizing copper and optical fiber transmission media, including but not limited to:
 - 1. Category 6 horizontal cabling.
 - 2. Category 6a horizontal cabling.
 - 3. Optical fiber cables for data network backbones.
 - 4. Telecommunications outlets and connectors.
 - 5. Equipment mounting racks and cabinets.
 - 6. Category 6 modular patch panels.
 - 7. Category 6a modular patch panels.
 - 8. Optical fiber cabinets.
 - 9. Optical fiber connectors.
 - 10. Category 6 patch cables.
 - 11. Category 6a patch cables.
 - 12. Category 6 station cables.
 - 13. Optical fiber jumpers.
 - 14. Optical fiber and copper cable installation, testing and documentation.
 - 15. One Cat 6 and one Cat 6a data jack at each wireless access point location.
 - 16. All wireless access points will be furnished by the District and installed by the contractor.

1.2 RELATED DOCUMENTS

- A. Code Requirements: Components and installation to meet latest rules and regulations for telecommunications cable systems of the California Building Code and California Code of Regulations, Title 24, Part 3, California Electrical Code.
- B. Applicable Standards (including all addenda, errata, amendments, etc.):
 - 1. TIA-455-78-B, FOTP-78 IEC 60793-1-40 Optical Fibers - Part 1-40: Measurement Methods and Test Procedures – Attenuation
 - 2. ANSI/TIA-568-I.D, Commercial Building Telecommunications Cabling Standard
 - 3. ANSI/TIA-568-C.2, Balanced Twisted-Pair Telecommunication Cabling and Components Standards
 - 4. ANSI/TIA-568-3.D, Optical Fiber Cabling Components Standard
 - 5. ANSITIA-569-D, Telecommunications Pathways and Spaces
 - 6. ANSI/TIA-606-C, Administration Standard for Telecommunications Infrastructure
 - 7. BICSI/NECA-607, Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings
 - 8. ANSI/TIA-758, Customer-Owned Outside Plant Telecommunications Infrastructure Standard
 - 9. IEEE 802.3, Ethernet
 - 10. TIA TSB 62, Informative Test Methods (ITMS) for Fiber-Optic Fibers, Cables Opto-Electronic Sources and Detectors, Sensors, Connecting and Terminating Devices and Other Fiber-Optic Components
 - 11. EIA TSB 63, Reference Guide for Fiber Optic Test Procedures
 - 12. BICSI ITSIMM, Information Technology Systems Installation Methods Manual
 - 13. BICSI TDMM, Telecommunications Distribution Methods Manual

1.3 GENERAL REQUIREMENTS

- A. The owner reserves the right to require the Contractor to remove from the project any such employee the Owner deems to be incompetent, careless or insubordinate.
- B. All clean up activity related to work performed will be the responsibility of the Low Voltage Contractor and must be completed daily before leaving the site.

1.4 CONTRACTOR QUALIFICATIONS

- A. To qualify for installation of the data communications extensions, the Contractor must possess the required license classification, trade certifications, a performance history, experience in the installation and termination of fiber optics cable systems, and proof of time in business.
- B. License Classification: Contractor must possess a valid C-7 or C-10 California State Contractor's License. This license must have been issued two years prior to the date of this bid. No other license classification in acceptable.

- C. BICSI Certifications: Contractor will use personnel certified by the trade organization BICSI. The vendor must have a Registered Communications Distribution Designer (RCDD) on staff which will be ultimately responsible for this project. The RCDD must have sufficient experience in this type of project as to be able to lend adequate technical support to the field forces during installation, during the warranty period, and during any extended warranty periods or maintenance contracts. The vendor must attach a resume of the responsible RCDD to the vendor's submittal for evaluation. Should the RCDD assigned to this project change during the installation, the new RCDD assigned must also submit a resume for review by the District. The vendor must also have BICSI registered installer and technicians on staff and assign them to this project. The project shall be staffed with installers and technicians, who, in the role of lead craftsman, will be able to provide leadership and technical resources for the remaining crafts persons on the project. A minimum of 30% of personnel shall be BICSI registered telecommunications installers.

A factory authorized Leviton Network Installer: The contractor shall have successfully completed the program certification requirements. A copy of the Authorized Network Installer Certificate shall be included in contractor's submittal.

- D. Performance History: Contractor must have successfully performed at least three projects of similar scope, within two years of the date of this bid. Proof of performance shall be in the form of reference sheets which shall include a brief description of the project, the beginning and ending contract price, the project foreman or superintendent's name, and the name, address, and telephone number of a project contact.
- E. Fiber Optics Experience: Contractor must be able to prove to the satisfaction of Owner that they have had significant experience in the installation of fiber optics cable systems. Installation must include installation of fiber optics cable in innerduct, fiber breakout systems, fiber termination, a knowledge of interconnect equipment, and a thorough knowledge of testing procedures. Contractor must provide a minimum of three references supporting its claim of experience for similar projects within the two years prior to this bid. Documentation must be included with the submittal documents.
- F. Time in Business: Contractor must have been in business, and in the business of installing telecommunications/data communications systems, continuously, for a period of at least three years, prior to the date of this bid. Contractor must submit at least one project reference for each of the three years prior to the date of this bid. The contractor must also maintain a full time staff at an established business location having appropriate parts and service facilities and the ability to provide a one-hour response time to Folsom Cordova Unified School District. Any contractor that is not able to meet these requirements will not be considered as an acceptable contractor for this project.

1.5 DEFINITIONS

- A. Main Distribution Facility (MDF): The MDF is the location, within a building or complex of buildings, where the entire data communications system originates.

It may include the physical location, enclosure, wire and cable management hardware, termination hardware, distribution hardware, and equipment racks. The MDF exists where shown on plans.

- B. Intermediate Distribution Facility (IDF): The IDF is the location in a building where a transition between the backbone or vertical riser system and the horizontal distribution system occurs. It may include the physical location, enclosure, wire and cable management hardware, termination hardware, distribution hardware, and equipment racks. In this case, the IDFs are collocated with the CTBs (Computer Terminal Backboards) and provide the interface location between fiber distribution cable (backbone) and station cable (horizontal distribution).
- C. Backbone Pathway: The backbone pathway consists of a series of conduits of chases, which connect the MDF to IDFs or IDFs to IDFs. It generally houses the vertical or backbone system.
- D. Backboard: Backboard generally refers to the plywood sheeting lining the walls of data communications facilities. Backboard may also refer to the entire wall-mounted assembly, including wire management, wiring blocks, and equipment racks. In this case, the term Backboard is fully interchangeable with CTB and the equipment required to fulfill the scope of work below.

1.6 SYSTEM DESCRIPTION

- A. The data and telephone structured cabling communications system shall consist of three components: termination equipment, a fiber optics backbone, and copper twisted-pair Category 6 workstation cabling (voice and data). The central location houses the MDF and each of the other locations shall house an IDF. Each fiber optics cable shall originate in the MDF and shall be terminated in its respective IDF. All fiber optic cables shall be enclosed in innerduct. The combination of innerduct with fiber optic cable shall be routed through a system of conduits and raceway installed by the responsible contractor for that discipline, in accordance with the drawings. The drawings depict a typical conduit layout and fiber cable routing. From each IDF, one or more twisted-pair copper cables shall be routed to each data and telephone outlet location, either via routing established by the installing contractor or provided by Owner, within its respective building or buildings. These cables shall originate in an IDF and terminate in its respective data outlet location.

1.7 SCOPE OF WORK

- A. Contractor shall provide materials for and install complete wiring/cabling and conduit extensions in accordance with this specification and the drawings and include all necessary components, whether included in this specification or not.
- B. The installation shall include cable (fiber optic and twisted-pair copper), innerduct, fiber interconnect equipment, connectors (fiber and copper), jumpers, patch cables, station cables, wiring blocks, and data communications outlets. The necessary material and equipment are depicted throughout the

specifications and applicable drawings. Contractor is responsible to supply Owner with all necessary components, whether included in the specifications and drawings or not.

- C. The work performed under this specification shall be of good quality and performed in a workmanlike manner. In this context, "good quality" means the work shall meet industry technical standards and quality of appearance. The Owner reserves the right to reject all or a portion of the work performed, either on technical or aesthetic grounds.

1.8 MANUFACTURER

- A. Contractor shall furnish and install all equipment, accessories, and materials necessary for a complete, functional fiber optics data distribution system in accordance with these Specifications and Drawings.
- B. Throughout this specification, Leviton and other manufacturers are cited, along with specific part numbers. These products are District standards. Contractor may not provide alternates.
- C. Unless specified otherwise in the following, the equipment furnished shall fall into five classes. Exceptions are annotated [CLASS EXEMPT]. The five classes are as follows:
 - 1. Class One: Fiber optics cable, copper cable (both station and backbone), fiber optic jumpers, copper patch cables, blocking kits, interconnection devices, wiring blocks, connectors (fiber and copper), and telecommunications outlets. Leviton, Optical Cable Corp., Superior Essex.
 - 2. Class Two: Fiber innerduct. Carlon.
 - 3. Class Three: Equipment racks and cabinets. CPI, Great Lakes.
 - 4. Class Four: Wire management panels. Leviton, Panduit.
 - 5. Class Five: Wire ties, printed labels, "D" rings, nuts, bolts, screws, and other miscellaneous hardware [CLASS EXEMPT].

1.9 SUBMITTALS AND SUBSTITUTIONS

- A. Within 14 calendar days after the date of the award of the contract, the Contractor shall submit to the Owner for review one electronic copy in pdf format of a complete submission. The submission shall consist of six major sections with each section separated with sheet showing title of section.
 - 1. The first section shall be the "Index" which shall include the project title and address, name of the firm submitting the proposal, and name of the Architect. Each page in the submission shall be numbered chronologically and shall be summarized in the index.
 - 2. The second section shall include a copy of the Contractor's valid C-7 California State Contractor's License, the contractor qualifications information required in Section 1.4 above, and a list of instrumentation to be used for system testing.

3. The third section shall contain the comparative specification listing of any substitutions and a complete listing of the characteristics of the equipment in the specifications.
 4. The fourth section shall contain samples of proposed cable markers and labeling.
 5. The fifth section shall contain a complete, detailed satellite closet count, proposed floor plan and backboard plan, workstation count, and bill-of-materials.
 6. The sixth section shall contain shop drawings showing front and side elevations of backboard and rack mounted equipment and interconnections. Drawings shall be computer drafted and shall be part of submittals. Drawings shall show layout of all equipment at each location.
- B. Refer also to Section 26 05 00 for other submittal requirements. Any contractor failing to include all required information shall be deemed non-responsive and may be disqualified, at the discretion of the Owner.
- C. For purposes of determining conformity, technical and general information set forth on the respective data sheets by manufacturers named in Section 1.8 for each specified item shall be considered as part of these specifications and binding herein.
- D. Two submittal reviews will be made by the Architect. Subsequent reviews will be charged to the Contractor. A rejection of a submittal or review of a partially presented submittal constitutes one submittal review.
- 1.10 RECORD DRAWINGS
- A. Refer to General Conditions. Final Inspection will not be made until drawings are received and approved. Record Drawings shall include as-built one-line and wiring diagrams, with terminations identified, wire color coding schedule, pull box locations, and conduit routing plans.
- 1.11 PRE-INSTALLATION CONFERENCE
- A. Schedule a conference a minimum of five calendar days prior to beginning work of this Section.
- B. Agenda: Clarify questions related to work to be performed, scheduling, coordination, etc.
- C. Attendance: Communications system installer foreperson, Owner's Representatives, and other parties affected by the work of this Section.
- 1.12 GUARANTEE
- A. One firm to assume full responsibility for performance on all work of this section. Guarantee all equipment against defects in material and workmanship for two years and provide on-the-premises service during normal working hours

for two years, at no cost to purchaser if trouble is not caused by misuse, abuse, or accident, or at current labor rates if so caused. Provide manufacturer's written guarantee for equipment and parts to Owner.

- B. Service shall normally be available within 24 hours from service department of authorized distributor of manufacturer by factory trained servicemen.
- C. On-the-premises service at other than normal working hours to also be available, but labor charges for such calls to be paid by purchaser at current labor rates.

1.13 FUNCTION AND OPERATION

- A. Upon completion of the work outlined in this specification, the system shall be capable of transmitting data at a rate of 1gb/s (Category 6).
- B. The fiber optics cable system shall be capable of transmitting signals with a bandwidth of up to 600 MHz at either 850 or 1300 nm. The cumulative signal loss through connectors, jumpers, couplers, and fiber cable shall be less than 10dB.
- C. Work station cable, commencing at the wiring blocks, shall be installed in accordance with ANSI/EIA/TIA TSB standards and shall be capable of transmitting a signal at Category 6 level with acceptable attenuation losses and cross-talk attenuation. The entire workstation cable system, including wiring blocks, cable, and telecommunications outlets shall be tested for Category 6 compliance. The cabling system shall be channel tested to the standard for Cat 6.

PART 2 - PRODUCT AND INSTALLATION SPECIFICATIONS

2.1 GENERAL

- A. Throughout this Part 2, material quantities and minimum installation practices are given. These quantities and instructions are given for reference purposes only. It is the responsibility of the Contractor to provide appropriate quantities of materials and install them to manufacturer specifications as to provide a complete, functional system.

2.2 FIBER INNERDUCT

- A. Description: From the MDF to each IDF, segments of fiber optics innerduct shall be installed in the conduit system.
 - 1. Product: Carlon Riser-Guard DG4X1C-500, 1-1/4" Outside Plant Fiber Optics Innerduct with pull tape.

2.3 FIBER DISTRIBUTION

- A. Description: From the MDF to each IDF, a continuous segment of fiber cable(s) shall be installed. Routing shall be via conduit in accordance with electrical drawings. The cable shall not be extended more than 50' into the building interior unless enclosed in conduit.
1. Products:
 - a. Single Mode: Optical Cable Corp., DX012DSLS9YR, 12-strand single mode.
 2. All fibers shall be terminated and connected at each computer rack location.
 3. All fibers shall be terminated in type SC connectors (one SC connector for each end of fiber.):
 - a. Single Mode: Leviton SC Fusion Splice Connector, Single Mode, SPSCS-12A.

2.4 COPPER BACKBONE CABLE (EXCHANGE CABLE)

- A. Description: From the MDF to each IDF, a continuous segment 25 or 50 pair (or as required) outside plant cable shall be installed. This cable shall be routed along with the fiber optics cable. The cable shall be suitable for underground installation. Each end of each cable shall be "dammed", at the breakout point, to halt the flow of gel. Refer to Signal Cable Schedule on construction drawings for specified cable.

2.5 WORK STATION CABLE

- A. Description: From each IDF, 4-pair, Category 6 or 6a cables shall be routed to each work station (data outlets) served by the IDF. Cables shall be routed from the MDF to each workstation located in its building. Data outlet locations are depicted on the drawings and in the Outlet Summary.
1. Product:
 - a. Cat 6: Superior Essex NextGain Category 6+ cable, 54-246-2A (riser/blue) and 54-246-9B (plenum/red). Where cable is to be installed in "wet" environments (underground conduit, conduit installed in or under concrete slabs, etc.), utilize Superior Essex OSP Broadband Category-6 BBD6, 04-001-68.
 - b. Cat 6a: Superior Essex 10Gain Category 6a cable, 6A-272-4A (riser/white) and 6A-272-3B (plenum/gray). Where cable is to be installed in "wet" environments (underground conduit, conduit installed in or under concrete slabs, etc.), utilize Superior Essex OSP Broadband Category 6a BBDN6A, 04-001-A4.
 - c. All cables shall be Cat 6 except for wireless access points or where specifically called out as Cat 6a.

2.6 WALL PLATE

- A. Leviton QuickPort 2, 4, or 6-port wall plate with Designation ID Window, Stainless Steel, single-gang faceplate, 43080-1L2, 43080-1L4, or 43080-1L6. Provide blank filler for all unused ports.
- 2.7 MODULAR OUTLETS
- A. Cat 6: Leviton Category-6 eXtreme 6+ Connector, Crimson, 61110-RC6.
 - B. Cat 6a: Leviton Category 6a eXtreme Connector, Green, 6110G-RG6.
- 2.8 WIRELESS ACCESS POINT (WAP) OUTLET
- A. At each wireless access point outlet, provide a 2-port outlet. Each port shall be Cat 6a.
- 2.9 MAIN DISTRIBUTION FACILITY (MDF)
- A. Description: The MDF is existing and no work required at MDF.
- 2.10 INTERMEDIATE DISTRIBUTION FACILITY (IDF)
- A. Description: An IDF shall consist of a "fire-rated" plywood backboard, equipment rack or cabinet, fiber interconnect equipment, wire management, and wiring blocks. Contractor shall submit a floor plan and backboard/cabinet plan to Technology Services for approval prior to installation.
 - 1. Products:
 - a. Dependent upon the amount of equipment necessary in a particular IDF cabinet, the District has three standard sized cabinets:
 - 1) Equipment Cabinets: Great Lakes, GL24WD, 24"H x 24"W x 32.13"D (24-48 data ports).
 - 2) Equipment Cabinets: Great Lakes, GL36WD, 36"H x 24"W x 32.13"D (48-96 data ports).
 - 3) Equipment Cabinets: Great Lakes, GL48WD, 48"H x 24"W x 32.13"D (96-above data ports).
 - b. Fiber Interconnect: Leviton 1000i SDX 1RU Distribution and Splice Enclosure, empty, with sliding tray; accepts up to three SDX adapter plates or three SDX MTP cassettes and accepts up to three splice trays. 5R1UM-S03. One interconnect unit is required for each IDF.
 - c. Modular Patch Panels:
 - 1) Cat 6: Leviton QuickPort Patch Panel, 48-port, 49255-H48. All patch panels shall be fully populated with Cat 6 modular outlets. One port for each Cat 6 workstation served from the IDF with a minimum of 12 spare ports required. If the number of workstation cables, plus required spare count (12) is greater than 48, then an additional 48-port patch panel is required. Supply and install as many patch panels in the IDF as necessary to service all workstation cables plus the required

spare count. Supply and install sufficient modular outlets (see "Workstation Outlets" below) to meet required data outlet count plus six spare.

- 2) Cat 6a: Leviton QuickPort Patch Panel, 24-port, 49255-H24. All patch panels shall be fully populated with Cat 6a modular outlets. One port for each Cat 6a workstation served from the IDF with a minimum of 12 spare ports required. If the number of workstation cables, plus required spare count (12) is greater than 48, then an additional 48-port patch panel is required. Supply and install as many patch panels in the IDF as necessary to service all workstation cables plus the required spare count. Supply and install sufficient modular outlets (see "Workstation Outlets" below) to meet required data outlet count plus six spare.
 - d. Patch Cables:
 - 1) Cat 6: Cat 6 Patch Cables: Leviton Atlas-X1 Cat 6 SlimLine boot patch cable, 5', orange, 6D560-050.
 - 2) Cat 6a Patch Cables: Allen Tel snagless boot patch cable, 7', blue, ATG1007-BU.
 - 3) Contractor shall purchase patch cables. (One patch cable is required for each patch panel termination.)
2. Required Accessories and Quantities:
- a. Coupling Panels/Couplers:
 - 1) Single Mode Coupling Panels/Couplers: Leviton SDX Precision Molded Plate (BLUE), single mode OS2, duplex SC, six fibers, zirconia ceramic sleeve, 5F100-6LC. Two single mode coupling panels are required for each IDF fiber interconnect unit installed.
 - b. Fiber Jumpers: One 2-meter SC/SC duplex single mode fiber jumpers is required for each IDF. CP Technologies, SC/SC laser-optimized OS2 fiber jumper, SC2-SMD-02; or Leviton SC-SC laser-optimized OS2 fiber jumper, UPDSC-S02.
Contact owner prior to purchase of fiber jumpers for exact connector requirements (i.e., SC vs. LC).
 - c. Horizontal Wire Management: Panduit WMPH2E Closed Cover Wire Management Panel (19" covers). (One unit is required for each fiber interconnection).
 - d. "D" Rings: Provide and install sufficient quantities of 2", 3", and 4" metallic "D" rings to conform to the drawings. Allen Tel GB13a (2"), GB13b (3"), and GB13c (4").

2.11 MISCELLANEOUS PRODUCTS

- A. Station Cables: Contractor shall purchase station cables. Station cables shall be 7' in length, blue in color, conforming to Category 6 protocol. (One station cable is required for each patch panel termination.) Leviton eXtreme Cat 6 SlimLine boot patch cable, 6D460-07L.
- B. Data Terminal Backboard: Architectural grade, APA type A-C, Group 1, Exposure 1, with sanded side exposed, and shall be painted with three coats of fire-retardant white paint. It shall be 3/4" in thickness, height/width determined by

location and/or scope of work. Backboards shall be installed at MDF and IDF locations.

- C. Cable Supports: B-Line BCH12: <16 cables, B-Line BCH21: 17-50 cables. Utilize variant of above part numbers to conform to specific installation requirements (e.g., for an I-Beam, use the cable-to-beam variant, BCHxx-C2; for steel rod, use BCHxx-W2, etc.).
- D. Hook and Loop Cable Ties: Panduit Tak-Tape hook and loop cable ties, .75", TTS-20R0.
- E. Miscellaneous Hardware: Furnish and install all wire ties, D-rings, cable hangers, labels, nuts, bolts, screws, cable ties, etc. for a complete and functioning system.

PART 3 - EXECUTION

3.1 DIVISION OF WORK

- A. Contractor shall install the data communications system as described in this section. Installation shall result in a functional system pursuant to Section 3.3 below. The scope of work includes: (1) All necessary data components; (2) Repair of damage to structures incidental to installation; (3) Supply and install all material discussed in this specification; (4) Test and document system, upon completion; (5) Supply and install all material necessary, whether or not discussed in this specification, to result in a complete and functional system (except for electronic components, unless otherwise specified).

3.2 GENERAL

- A. Equipment shall be installed in accordance with drawings. General installation provisions are as follows:
 - 1. Fiber Innerduct:
 - a. Quantities Required: Innerduct runs do not have to be continuous throughout, breaks are expected at the pullboxes. Contractor is responsible for determination of actual lengths of innerduct required. Enough innerduct shall be provided and installed to extend from the fiber service loop in the MDF to the fiber service loop in each IDF. If the route passes through a pullbox, the segments of innerduct shall extend 12" into the pullbox. If the route passes through an in-route IDF, each segment of innerduct shall extend at least 12" beyond the end of the service conduit. Seal all ends of the innerduct after the installation of the fiber is complete.
 - b. Fiber innerduct shall be installed in conduit in accordance with manufacturer's instructions and industry standards. Within the equipment rooms, the innerduct shall extend from the end of conduit to 4' above the floor or 2' from the ceiling and shall be affixed to the backboard by means of clamps designed for that

- purpose or 4" D-rings. Care shall be taken to avoid kinking the innerduct or applying excessive tension during the installation process.
2. Fiber Distribution: Installation shall be conducted following guidelines established by the product manufacturer and industry standards. Installation includes complete assembly.
 - a. Fiber Optic Cable:
 - 1) All fiber optic cable shall be installed in innerduct.
 - 2) Installation shall be conducted following guidelines established by the product manufacturer and industry standards. Installation includes complete assembly.
 - 3) The optical fiber backbone shall be installed in a single, unbroken run, without splices or breaks. If splices are required, fusion splicing must be used. District must approve use of splices.
 - 4) There shall be no more than two 90° bends in any run of conduit for a single pull.
 - a) Conduits shall enter into pullboxes at 45° (no 90° bends).
 - b) Provide a 10' service loop at each pullbox.
 - c) Cable shall be pulled independently down each conduit segment between pullboxes.
 - 5) During installation of the fiber optic cable segments into the conduit system, special care shall be taken to avoid damage to the cable. While under pulling tension, the cable shall not be bent into a curve with a radius of less than 20 times the cable diameter. Pulling tension shall not exceed manufacturer's recommended maximum tensile load.
 - 6) Contractor shall utilize a winch with tension control or a "break-away" link designed to break away at or below the recommended maximum tension.
 - 7) The fiber optic cable shall be routed through the conduit and innerduct and onto the appropriate IDF backboard. Routing on the backboard shall be straight and plumb. A minimum 15' service loop shall be provided at each terminal location. Cable shall be routed on the backboard D-rings and secured to D-rings with cable ties. All cable shall be neatly bundled, combed, and tied.
 3. Wiring Blocks and Wire Management Components: Should copper exchange cable be required by the drawings, it shall be terminated on rack mounted patch panels located on a dedicated equipment rack in such a manner that allows for neat and orderly cross connections. Standard 568 will be used for all terminations.
 4. Fiber Optics Interconnect Equipment: Interconnect equipment shall be mounted in the equipment racks. Interconnect equipment mounted in racks shall be affixed to the rack by at least four screws. The screws shall be of the correct size and thread configuration for the holes in the rack. They shall be tightened to the extent that they hold the equipment firmly to the rack, without distorting the equipment or stripping the threads. All fiber optics interconnect devices shall be assembled and installed in accordance with the manufacturer's instructions and recommendations.

5. Patch Panels and Wire Management Components: Patch panels and wire management components shall be mounted on the equipment rack. Each device shall be mounted such that its horizontal dimension is level. Each device shall be affixed by means of screws suitable for fastening to the rack. The screws shall be of the correct size and thread configuration for the holes in the rack. A minimum of four of the mounting holes provided shall be utilized for fastening. Screws shall be tightened to the extent that they hold the device snug to the rack, but not so tight as to distort or damage the device. Patch panels shall be terminated in accordance with the manufacturer's instructions and recommendations. Installation of accessories shall also be conducted in accordance with the manufacturer's instructions and recommendations.
6. Labeling:
 - a. Patch panel terminations shall be labeled sequentially (i.e. First patch panel shall be numbered 1-48, second panel shall be numbered 49-96, etc.).
 - b. With the exception of work station cables, hand written labels are not acceptable. All labels shall be machine printed on clear or opaque tape, stenciled onto adhesive labels, or typewritten onto adhesive labels. The font shall be at least 1/8" in height, block characters, and legible. The text shall be of a color contrasting with the label such that it may be easily read. If labeling tape is utilized, the font color shall contrast with the background. Patch panels shall exhibit workstation numbers, per District labeling scheme, for all workstations served by the MDF or IDF.
 - c. Each fiber optics cable segment shall be labeled at each end with its respective IDF identifier on both the cable ends and interconnect device coupling panel. Each fiber interconnect device shall be labeled with its respective IDF identifier as well as fiber optic cable type (62.5µm or 50µm). Fiber-optic interconnects shall be labeled utilizing template provided by owner.
 - d. Each data communications outlet shall be labeled with its respective workstation number (machine labels only). Workstation numbers shall be comprised of the IDF designator-station number (e.g., 1.3-12). Communication outlet labels shall be applied using pressure-sensitive adhesive under the faceplate ID window. Labels shall not be affixed on top of the window.
 - e. Each workstation cable shall be neatly hand labeled, using permanent ink or other permanent labeling medium, at each end with its respective workstation number. Each copper backbone cable shall be machine labeled at each end with its respective IDF number. Each binder group shall be tied off with its respective identifying ribbon at each break out point.
 - f. Data outlets terminated in an accessible ceiling space for wireless access points shall have a label affixed to both the data outlet box as well as the T-bar grid proximal to the data outlet.
 - g. There is to be no difference in the designation of data outlets used for wireless access, video surveillance systems, or voice over IP applications.
7. Warning Tags: At each location where the fiber cable is exposed to human intrusion, it shall be marked with warning tags. These tags shall be yellow or orange in color, and shall contain the warning: "CAUTION FIBER OPTIC

CABLE." The text shall be permanent, black, block characters, and at least 3/16" high. A warning tag shall be permanently affixed to each exposed cable or bundle of cables, at intervals of not less than 5'. Any section of exposed cable which is less than 5' in length shall have at least one warning tag affixed to it. In pullboxes, affix tag to innerduct. All tags should be labeled noting type of cable (i.e. 12-strand 62.5µm) and end points (i.e. MDF 1.1 to IDF 1.2).

8. In-ground Pullboxes and Vaults: All low-voltage cabling shall be neatly bundled, coiled, labeled, and affixed to the sides of in-ground pullboxes and vaults. Services should be separated and labeled as such (e.g., CATV, fire, clock/speaker, etc.) Attach J-hooks, spaced every 2' below the inside rim of the box such that the cable is protected from damage by the box cover. Hooks should be fastened with appropriately-sized concrete lag bolts or anchors. Bend radii precautions shall be observed for cables entering and existing boxes as well as for service loops. No cable should touch the bottom of the box or vault.
9. Workstation Cable and Outlets: Installation shall be conducted in accordance with guidelines established by the product manufacturer and industry standards. Category-6 compliant cable hangers shall be utilized for accessible ceiling space installations. Wall plates shall be mounted such that their vertical dimension is plumb. Each wall plate shall be labeled with its respective workstation number. Each modular mounting frame shall be labeled with its respective workstation number. Workstation cable shall be terminated to the patch panel in accordance with manufacturer's recommendations and EIA TSB-40.
 - a. Install cables in consistent consecutive order. Arrangement of cables on patch panels shall be in ascending order of outlet numbers. This includes cables installed for video surveillance, digital message boards, wireless access, etc. They should be installed on the patch panel at the next available termination point.
 - b. Do not bind cables tightly together with wraps. Wraps shall slip loosely around cable. The Contractor shall replace or rework cables showing evidence of improper handling including stretches, kinks, short radius bends, over-tightened bindings, loosely twisted and over twisted pairs at terminals, and sheath removed too far (> 1").
 - c. Do not crimp or bend cables into a tighter radius than recommended by the manufacturer.
 - d. Do not support cables from ceiling suspension system.
 - e. Provide 36" service loop for cables at each IDF. Locate loop at ceiling or on wall above IDF cabinet.
 - f. Provide 12" service loop at each telecommunications outlet/connector, above drop location.
 - g. Label each cable on both ends using a Sharpie Ultra-Point Series 37000 marker pen, on a self-laminating cable labels. Labels shall match the outlet and patch panel identification labels, and shall be located on the jacket not less than 3" nor more than 10" back from the point where the jacket is cut and stripped for cable termination.
 - h. Vertical runs of cable in the MDF/IDF should be routed on the backboard via D-rings and secured to D-rings with cable ties. D-rings should be placed 12" O.C. Cable should be neatly bundled, combed, and tied.

- i. When utilizing new or existing conduit, do not exceed 40% fill. If new conduit is required, provide minimum 1" EMT, bushings, and all necessary appurtenances. Pull string or rope shall be installed/re-installed in all conduits utilized for this project.
 - j. Data outlets identified for wireless access points and located above the T-bar ceiling grid shall be terminated and installed in a two-port surface-mount block and mounted such that the outlet is no more than 2' above the T-bar grid. Data outlets identified for wireless access and located in inaccessible, hard ceilings shall be terminated in a single-gang backbox and standard 2-port faceplate.
 - k. The trade contractor shall make every effort possible to avoid running cables in "wet" environments. Should be limited to floor boxes and other locations where overhead routing is not practical. "Wet" environment is defined as cable routed through underground conduit, conduit installed in or under concrete slabs (on grade slabs, above the first floor, are not to be considered "wet," etc.).
10. Fiber optic and workstation cable shall be continuous without splices, breaks, or connectors, between equipment racks (MDF and IDF) and equipment rack to outlets.
 11. Pull string or rope shall be installed/re-installed in all conduits utilized for this project, excluding intra-building conduit sleeves, 3' to 4' in length installed in accessible ceiling spaces.
 12. Open Cable/Free-Air Support and Installation Pathways:
 - a. For purposes of this section, an "accessible ceiling" open-air pathway is defined being accessible from the finished floor directly below the cable pathway. This includes T-bar ceilings, provided the cable pathway doesn't run above HVAC ducting or other large obstructions. It excludes all attic-type spaces in which access is provided above a "hard" ceiling through a hatch. Cable runs through inaccessible ceilings (e.g. attic spaces) shall be in minimum 3/4" EMT conduit, sized such that the fill does not exceed 40%.
 - b. Where cables are indicated to be installed as 'Open Cabling' or 'Free-Air,' cable supports shall be installed to allow cabling to be grouped and run along a common path. Cables shall run parallel or at right angles to the building structure, and shall not be looped diagonally across the ceiling space. Cables shall be loosely bundled with cable ties at 30" on center. Provide Panduit Tak-Tape hook and loop cable ties at workstation and closet. No cable ties are to be use in the closet, or at the workstation. Provide plenum rated Panduit Tak-Tape hook and loop cable ties in spaces used to handle environmental air.
 - c. Where new cable shares a common path with existing cable, route both new and existing through cable supports. All workstation cable should be combined to provide a "clean" installation above accessible ceiling spaces. This includes replacing non-compliant hangers (e.g., D-rings) with appropriately sized and rated cable supports.
 - d. Do not support cables from ductwork, ceiling grids, sprinkler piping, water piping, waste piping, electrical conduit, etc. Do not utilize D-rings or other non-compliant supports for horizontal runs of Category 6 cable. D-rings may be used for vertical runs of cable (i.e., in the MDF between conduit and cable runway). Cable supports shall be permanently anchored to building structure or substrates.

Provide attachment hardware and anchors designed for the structure to which attached, and that are suitably sized to carry the weight of the cables to be supported.

- e. All cable installed under this section shall have dedicated supports. No other low-voltage cabling may share cable supports with data cabling.
 - f. Maximum size cable bundles shall be 50 cables per J-Hook.
 - g. Maximum spacing for supports for open cable runs shall be 48".
 - h. Where MDF or IDF cable count exceeds 50 cables, provide cable pathway tray through center of buildings or hallways, or as shown on plans. Pathway supports shall be attached to building structure (wall or ceiling) using manufacturer-recommended bracket and spacing. Cut and bend pathway per manufacturer's instructions to avoid obstructions. Workstation cable will exit tray and be supported by J-hooks to conduit feeding workstation outlets.
 - i. All data, video, communication cable bundles shall utilize an enclosed fire-rated pathway device wherever cables penetrate fire-rated walls. Install the devices in strict accordance with the approved shop drawings and the equipment manufacturer's recommendations. Apply the factory supplied gasketing material prior to the installation of the wall plates. Secure wall plates to devices per the equipment manufacturer's recommendations.
 - j. Fire seal around all conduits running through rated floors and walls in accordance with Section 26 05 00. Does not apply to free-air installations, utilized fire-rated pathway for such installations.
13. Active Distribution Equipment (hubs, switches, etc.): Contractor shall install owner-provided active distribution equipment at MDF and IDF locations. Contractor will be responsible for mounting equipment on relay rack or in communications cabinet and providing necessary power. Owner shall be responsible for purchasing, configuring, and providing equipment to contractor as needed.
- In addition, contractor shall be responsible for patching in all active patch panel drops and fiber connections (one pair per IDF) to active distribution equipment. Connections to be sequential (i.e., patch panel port #1 to switch port #1), dressed, and routed through horizontal and vertical wire management units. Neatly bundle cable at the MDF/IDF utilizing Panduit Tak-Tape hook and loop cable ties. No cable zip ties are to be used in the IDF. Patch cables, fiber jumpers, and wire management units provided by contractor, as specified under Part 2 of this document.

3.3 TESTING AND DOCUMENTATION

- A. After all equipment specified herein has been installed and is in operating condition, performance tests shall be conducted to determine that installation and components comply with these specifications. Contractor shall furnish competent personnel for these tests. Tests shall be conducted through the entire copper pathway, including workstation cable and data outlets.
- B. Testing: Contractor shall test each fiber strand and each pair of each twisted pair copper cable. The Owner reserves the right to have a representative present during all or a portion of the testing process. If the Owner elects to be

present during testing, test results will only be acceptable when conducted in the presence of the Owner.

C. Testing UTP Cable and Links:

1. All UTP cabling will be certified to meet and or exceed the specifications as set forth in ANSI/TIA-568-C.2, for permanent links. Certifications shall include the following parameters for each pair of each cable installed:
 - a. Wire map (pin to pin connectivity)
 - b. Length (in feet)
 - c. Attenuation
 - d. Near End Crosstalk (NEXT)
 - e. Far End Crosstalk (FEXT)
 - f. Equal-Length Far End Crosstalk (ELFEXT)
 - g. PowerSum Equal-Length Far End Cross Talk (PSELFEXT)
 - h. Attenuation/Crosstalk Ratio (ACR)
 - i. Return Loss
 - j. Propagation Delay
 - k. Delay Skew

Owner reserves the right to spot check the test results (either by owner or by hiring an independent testing company). If the results vary more than 10% from the results provided by the Contractor, the Contractor will be required to prove his results are correct or retest the entire system.

D. Optical Fiber Testing:

1. Acceptance Testing: Test each strand of every optical fiber cable on the reel with an OTDR, to verify length and continuity. Fiber cables that have been damaged in transit must be replaced. Contractor-installed fiber cable that proves to be defective will be replaced at the contractor's expense.
2. Final Testing: After terminating optical fiber cables one of the individual fibers of each cable segment will be tested using an OTDR, both to determine the installed length and continuity. All individual fibers of each cable segment will be tested using a power meter to determine the actual loss. These readings will be taken at the 850 nm and 1300 nm windows for multimode and 1310 nm and 1550 nm windows for single mode (if applicable). Testing will be in both directions. The final readings will be listed on the Optical Fiber Test Form. These readings must not be higher than the "Optimal Attenuation Loss". The OAL will be calculated using the manufacturer's factory certified test results, (dB/km) converted to the actual installed lengths plus the manufacturer's best published attenuation losses for the connector and/or splice installed on this project. (0.20 for connectors and 0.10 for splices.) The OAL shall be used for comparison with the end to end power loss test results prior to acceptance by the Owner.

E. Documentation: Contractor shall provide documentation to include test results and as-built drawings. All test results shall be submitted via CD-ROM, formatted as PDF files from the test equipment. Summary reports are not acceptable.

1. Fiber Test Results: The results of the fiber optic cable tests shall be provided in the form of print-outs from the test equipment. Only original

signed copies will be acceptable. Test results to include at least: date/time of test, test type, number of connectors, number of splices, fiber type, fiber length (feet), loss (in dB for both fiber and connectors) at all tested windows (see above), and margins (dB and/or percentages).

2. Workstation Cable: The results of the workstation cable tests shall be provided in the form of print-outs from the test equipment as PDF documents.
3. As-Built Drawings: As-Built one-line and wiring diagrams, with terminations identified, wire color coding schedule, pullbox locations, and full conduit/cable routing plans shall be provided as electronic AutoCAD .dwg file markups.
4. All documentation in this section must be provided to the Owner's IT department within 14 calendar days of substantial job completion. This timeline is independent of other contract sections.

3.4 OWNER FURNISHED CONTRACTOR INSTALLED (OFICI) ITEMS

- A. All wireless access points, MDF and IDF switches shall be furnished by the Owner and installed by the contractor.
- B. All classroom wireless access points shall be installed on the ceiling, in the center of the room, unless noted otherwise on the drawings.

3.5 ACCEPTANCE

- A. Acceptance of the Data Communications System, by Owner, shall be based on the results of testing, functionality, and the receipt of documentation. With regard to testing, all fiber segments and all work station data cables must meet the criteria established in Section 3.3 above. With regard to functionality, Contractor must demonstrate to Owner that 1 Gbps data signals can be successfully transmitted, bi-directionally, from the MDF to and from some number of individual data outlets. The number of outlet locations to be tested shall be determined by Owner. With regard to documentation, all required documentation shall be submitted to Owner.
- B. Owner will not consider system complete and ready for use until all backbone and horizontal cable is terminated and successfully tested, all patch cables have been provided and installed, and all station cables turned over to owner.

END OF SECTION

DOCUMENT 28 46 00

FIRE ALARM SYSTEM

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Requirements of Divisions 00 and 01 and Section 26 05 00 apply to all work of this Section.
- B. Furnish and install a new voice evacuation fire alarm system and tie into the existing addressable fire alarm system on campus including all wiring and connections and other materials as shown on Plans and specified herein. It is the intent that a complete operating system conforming to all applicable codes be installed and that any power supplies, relays, resistors, cards, modules, programming, or other items required to achieve this end result shall be furnished whether or not such item or items are specified herein.
- C. Site and System Investigation: Fire Alarm System bidder shall visit site prior to bid and become thoroughly knowledgeable about existing system and work required to perform work of this section. Failure to discover the equipment, materials, and labor required to complete the extensions will not relieve the contractor from completing the work at no additional cost.

1.2 GENERAL REQUIREMENTS

- A. Code Requirements: System and all its components to meet requirements for local alarm system of National Fire Protection Association Standard 72, 2019 Edition, Americans with Disabilities Act (ADA), and Article 760, California Electrical Code, and to be approved by Division of the State Architect.
- B. System Requirements: All of various equipment components to be complete with all appurtenant accessories required to provide specified facilities and perform specified functions throughout presently planned construction and space; and provisions for expanding system to provide same facilities, and perform same functions in all future planned construction, including space and mountings in control panels and terminal cabinets.

1.3 ACTION SUBMITTALS

- A. Installation of the fire alarm system and equipment shall not be started until submittals, including State Fire Marshal listing numbers for each component of the system, have been submitted to and approved by the Architect. Fire alarm submittals must be provided.

- B. Submittals: Engineer's drawings and specifications are presented to define the general scope of the work. Contractor's submittal shall not be a duplication of the engineer's drawings but shall be a result of site and system investigation and shall show all the work required to complete the requirements of this section. Submittals shall be complete and include catalog data, shop drawings, one-line diagrams, and scaled plan drawings. Building plans shall be 1/8"=1'-0", and site plans shall be no smaller than 1"=40'. Minimum text height shall be 3/32" high. Contractor shall also submit name of firm he proposes to do work under this Section, addresses, phone numbers, and name of firm's contact, for approval. Such firms shall be factory authorized representatives of the existing system and submittal shall include manufacturer's letter of confirmation. Proposed firm shall furnish all equipment and specialty cables, make all connections to same, and place the systems in operation. Such firms shall have offices and service departments within a 100-mile radius of project and shall have been in business of this type for at least five years. The contractor installing the fire alarm system must have NICET Certified Technicians on staff. There shall be at least one NICET Level III or IV fire alarm systems certified technician on staff at the local office to review the submittals and plans prior to submission. In addition, the on-site job supervisor for the installing contractor must be a Level II (or higher) NICET certified in fire alarm systems. Certificates of all individuals must be included with the submittals. Failure to provide proof of certification will be cause for rejection of the submittals without further review. The rejection of the submittals for this reason will count as a submittal review/rejection.

Also, refer to requirement for shop drawings, substitutions, materials, and submittals in Section 26 05 00. Two submittal reviews will be made by the Architect's representative. Subsequent reviews will be charged to the Contractor. A rejection of a submittal or review of a partially presented submittal constitutes one submittal review. Incomplete submittals (such as product data submitted without shop drawings, etc.) will be returned without review.

1. Fire alarm system design and products have been reviewed and approved by DSA. Alterations to design and/or substitutions proposed by the contractor shall require the following to be included with the fire alarm submittal:
 - a. Riser diagram.
 - b. Point-to-point diagram.
 - c. Mounting detail showing elevations of wall mounted devices.
 - d. List of system components, equipment, and devices, including manufacturer's model number(s) and California State Fire Marshal listing numbers.
 - e. Copies of manufacturer's specification sheets for equipment and devices indicated.
 - f. Voltage drop calculations -- include the following information for the worst case:
 - 1) Point-to-Point or ohms law calculations.
 - 2) Zone used in calculations.

- 3) Voltage drop percent [not to exceed manufacturer's requirements].
Note: If voltage drop exceeds 10%, indicate manufacturer's listed operating voltage range(s) for equipment and devices.
- g. Battery type(s), amp hours, and load calculations -- include the following information:
 - 1) Normal Operation: 100% of applicable devices for 24 hours = control panel amps plus list of amps per device which draw power from the panel during standby power condition -- i.e.:
 - a) Zone modules.
 - b) Detectors.
 - c) Other devices [identify].
 - 2) Alarm Condition: 100% of applicable devices for 5 minutes (15 minutes for voice evacuation) = control panel amps plus list of amps per device which draw power from the panel during alarm condition -- i.e.:
 - a) Zone modules.
 - b) Signal modules.
 - c) Detectors.
 - d) Signal devices
 - e) Annunciator.
 - f) Other devices [identify].
 - 3) Normal Operation + Alarm Condition:
 - a) Total amp hours required.
 - b) Total amp hours provided.

1.4 CLOSEOUT SUBMITTALS

A. Manuals:

1. Equipment supplier of systems to furnish Owner three wiring schematics for all items of equipment, installation instructions, and details of all routine maintenance and servicing which must be given systems by Owner. Manuals shall be provided in 3-ring binders, with title page, list of contents, and conspicuous label on cover and shall be delivered to District. Refer to Section 26 05 00 for additional requirements. Submit copy to Architect for approval before delivering to Owner.
2. Furnish to District a printed copy of the fire alarm control panel programming upon completion of final system programming.

1.5 RECORD DOCUMENTATION

- ##### A. Record Drawings: Refer to General Conditions. Final Inspection will not be made until drawings are received and approved. Record Drawings shall include "As-Built" one-line and wiring diagrams, with terminations identified, wire color coding schedule, pullbox locations, and conduit routing plans. Record drawings shall include FINAL addresses for all devices.

1.6 QUALIFICATIONS

A. Contractor Certification:

1. Fire alarm system installer shall be State certified as a Fire/Life Safety Technician by the Division of Apprenticeship Standards.
2. The contractor installing the fire alarm system must have NICET Certified Technicians on staff. There shall be at least one NICET Level III or IV fire alarm systems certified technician on staff at the local office to review the submittals and plans prior to submission. In addition, the on-site job supervisor for the installing contractor must be a Level II (or higher) NICET certified in fire alarm systems. A minimum of 30% of personnel on-site must be NICET certified.
3. Certificates of all individuals must be included with the submittals. Failure to provide proof of certification will be cause for rejection of the submittals without further review. The rejection of the submittals for this reason will count as a submittal review/rejection.

1.7 GUARANTEE

A. Guarantee:

1. One firm to assume full responsibility for performance on all work of this section. Guarantee all equipment against defects in material and workmanship for two years and provide on-the-premises service during normal working hours for two years, at no cost to Owner if trouble is not caused by misuse, abuse, or accident, or at current labor rates if so caused. Provide manufacturer's written guarantee for equipment and parts.
2. Service shall normally be available within 24 hours from service department of authorized distributor of manufacturer by factory trained servicemen.
3. On-the-premises service at other than normal working hours to also be available, but labor charges for such calls to be paid by purchaser at Owner labor rates.

PART 2 - PRODUCTS

2.1 SYSTEM OPERATION

- A. Activation of any manual station or automatic detector shall cause the operation of all audible and visual signals. In addition to sounding local alarm signals, operation of manual stations or automatic detectors shall activate a digital communicator for two (2) methods of communication reporting per NFPA 72, Section 26.6.4.1.4 to remote SB575 compliant supervisory station. Remote station monitoring shall be coordinated by the Contractor with the Owner.

- B. The system shall be electrically supervised against open circuits and grounds on the wiring to the alarm and initiating devices.
- C. Contractor shall ensure synchronization of visual devices where required by NFPA 72.

2.2 STANDARD PRODUCTS

- A. Equipment and accessories furnished under the terms of these specifications shall be the standard products of the manufacturers specified or required. All equipment shall be listed by U.L. and State Fire Marshal. New equipment shall be Edwards EST3 to match and tie into existing campus system.
- B. Refer to drawings for devices used.
- C. Manual alarm-initiating devices shall be for semi-flush mounting, double action, non-break glass type, located as shown on plans. Each manual station shall have its own address. Manual stations shall conform to DSA Access Compliance requirements. Operation of the manual station shall not require grasping of the handle. See fire alarm equipment schedule on plans.
- D. Heat Detectors (Addressable, 200°F): Shall be fixed temperature, 190°F. See fire alarm equipment schedule on plans.
- E. Smoke Detectors: Shall be addressable, photoelectric type with test switch, LED status indicator, and tamperproof locking base, See fire alarm equipment schedule on plans.
- F. Monitor Modules: Shall provide an address for a group of normally open initiating devices. See fire alarm equipment schedule on plans.
- G. Control Modules: Shall provide a single Form-C (SPDT) dry contact. See fire alarm equipment schedule on plans.
- H. Audible/Visual Devices: All fire alarm devices shall be UL listed and meet ADA requirements. All devices shall have a red finish. All fire alarm audible devices shall have the same basic sound and "temporal" pattern (ANSI S3.41). Piezo horns and mini-horns are not acceptable. Strobes shall be synchronized.
- I. Voice Evacuation Combination Speaker/Visual Alarm Indicating Devices:
 - 1. Wall Mounted Speaker/Strobe: Shall be semi-flush mounted. Speaker shall have field selectable 25V or 70V input and power taps from 1/8 watt to 2 watts. Strobe shall be LED flasher type. Refer to drawings for Candela settings. See fire alarm equipment schedule on plans.
 - 2. Ceiling Mounted Speaker/Strobe: Shall be semi-flush mounted. Speaker shall have field selectable 25V or 70V input and power taps from 1/8 watt to 2 watts. Strobe shall be LED flasher type. Refer to drawings for Candela settings. See fire alarm equipment schedule on plans.

- J. Sync Module: See fire alarm equipment schedule on plans.
- K. Voice Evacuation Audio Booster: See fire alarm equipment schedule on plans.

PART 3 - EXECUTION

3.1 INSTALLATION REQUIREMENTS

- A. Electrical Contractor shall retain the services of the duly appointed representative as specified hereinbefore, who shall furnish all equipment, make all connections to same, and place system in operation. Technician and workman employed shall be particularly skilled in this type of work. Technicians and workmen must have NICET certification as required hereinbefore. Fire alarm system contractors shall possess a valid C10 California Electrical Contractors license. Only contractors holding a valid license may perform any fire alarm work.
- B. Detector locations shown on drawings are approximate only. Exact locations shall be coordinated with lighting and mechanical equipment and shall be placed in accordance with manufacturer's recommendations (with respect to supply air diffusers, etc.).
- C. Detectors, strobes, speakers, and speaker/strobes in student toilet rooms and multipurpose room shall be provided with wire guards.
- D. Fire alarm circuits shall be terminated on screw terminals. Terminal blocks shall be Allen-Bradley Bulletin 1492 with 600V screw terminals for #22 to #10 conductors, mounted to type N22 channel, or approved equal. Submittal shall show internal elevation of terminal cabinets or backboards with equipment laid out.
- E. All cables entering terminal cabinet shall be identified with Brady or E-Z Code wire markers. Upon completion of installation, six copies of one-line "as-built" wiring diagram shall be furnished to Architect.
- F. Each cable run on wiring diagram shall be identified with exact wire marker code (numerical or alphabetical) as appears in terminal cabinets.
- G. Station locations shall be identified by school's actual room numbers and system shall be programmed accordingly. Coordinate actual room numbers with District. Coordinate final programming with District. Contractor shall furnish a printed copy of final programming to District.
- H. End-of-line resistors shall be installed in terminal cabinets.
- I. Color code wiring for the system to match existing color coding scheme.

- J. No splices shall occur in underground pullboxes. Fire alarm system wiring shall be continuous, without splices, from terminal cabinet to signal cabinet and signal cabinet to devices. All interior pullboxes shall be accessible and locations shall be recorded on "As-Built" drawings.

3.2 CONSTRUCTION MEETINGS

- A. The Contractor shall schedule construction meetings at the jobsite as follows:
 - 1. Pre-rough-in meeting shall occur before installation of any boxes, raceways, etc. Exact locations of all detectors and strobes shall be established as recommended by Fire Alarm System subcontractor.
 - 2. Prewire meeting shall occur after raceways are installed and prior to pulling of any wire or cable.
 - 3. Pre-termination meeting shall occur after wire and cable has been installed and prior to termination.
- B. Meetings shall be scheduled by the Contractor on a building by building basis and shall include the Project Inspector, School's Representative, the electrical subcontractor, and the Fire Alarm System subcontractor as a minimum.

3.3 TESTS

- A. After all equipment specified herein has been installed and is in operating condition, performance tests shall be conducted by the Contractor in accordance with, but not limited to, Table 14.4.3.2, NFPA 72 to verify that installation and components comply with these specifications. Contractor shall furnish competent personnel for these tests. Testing shall be scheduled with the Owner and shall occur after receipt by Architect of Contractor's written certification of completion, record one-line diagram, wiring diagrams, maintenance and operation manuals, and other "As-Built" data required by these specifications.
- B. Upon completion of the installation of the fire protective signaling equipment and after satisfactory performance tests have been conducted, a satisfactory demonstration of the entire system shall be made in the presence of the Project Inspector. Contractor shall coordinate with Project Inspector and School. Demonstration shall be completed prior to occupancy by School and prior to final testing with the Owner.
- C. After system has been completely tested, the Contractor shall take the following actions with the Owner:
 - 1. The Contractor will schedule a meeting with the Alarm Sub-contractors and Owner's Representatives to determine alarm zone and device nomenclature. The Contractor shall insure that the alarm zone and device nomenclature matches the actual building and room numbers used by the school. Architectural numbering shall not be used. Once confirmed, the Contractor shall demonstrate this to Owner's Representatives.

- D. The equipment and systems referenced in this section are to be formally commissioned per Division 01 Commissioning Section. The formal commissioning process requires the active participation and cooperation of all contractors performing work and/or supplying materials for this project. The contractor may have specific contract requirements for scheduling, coordination, startup, test development, testing, demonstration, training, and related documentation. The contractor shall review Division 01 of the bid documents to determine specific contract requirements related to commissioning. The contractor shall coordinate all commissioning activities with the Commissioning Authority.

3.4 FIRE ALARM SYSTEM CERTIFICATION

- A. Fire Alarm System Certification: Written certification on the forms found in Figures 7.8.2(a) through 7.8.2(l), NFPA 72 shall be submitted by the Contractor to Project Inspector stating for himself and the equipment manufacturer that component parts are as LISTED AND APPROVED BY State Fire Marshal, that the installation conforms in all respects to requirements as set forth in the California Electrical Code, that acceptance testing has been performed in the presence of the Project Inspector. Contractor shall complete and sign form and submit to Project Inspector.

3.5 DEMONSTRATION

- A. Equipment supplier of systems to demonstrate operation of systems to satisfaction of Owner.
- B. Supplier shall demonstrate operation of systems and provide training to all end users, administrative staff, and system administrator. Coordinate times of instruction with District, at District's convenience. Supplier shall provide a minimum of two hours of user instructions to clerical staff and four hours of user/maintenance instructions to District maintenance personnel. Instruction periods shall not coincide and shall be scheduled with District, not school staff. District shall provide list of authorized personnel for training sessions.

END OF SECTION

DOCUMENT 31 00 00

EARTHWORK

PART 1 - GENERAL

1.01 INCLUSION OF OTHER CONTRACT DOCUMENTS

- A. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01 57 13, Erosion Control
- B. Section 31 23 33, Trenching and Backfilling.
- C. Section 32 16 00, Site Concrete.
- D. Section 32 80 00, Irrigation.
- E. Section 32 90 00, Landscaping.
- F. Section 33 40 00, Site Drainage.

1.03 QUALITY ASSURANCE

- A. Use only new materials and products, unless existing materials or products are specifically shown otherwise on the Drawings to be salvaged and re-used.
- B. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.
- C. The representatives of the Owner's testing lab will not act as supervisor of construction, nor will they direct construction operations. Neither the presence of the Owner's testing lab representatives nor the testing by the Owner's testing lab shall excuse the contractors or subcontractors for defects discovered in their work during or following completion of the project. Correcting of inadequate compaction or moisture content is the sole responsibility of the contractor.
- D. Tests (See Part 3 for Compaction Testing).
- E. Contractor shall be solely responsible for all subgrades built. Failures resulting from inadequate compaction or moisture content are the responsibility of the contractor. Contractor shall be solely responsible for any and all repairs.

1.04 SUBMITTALS

- A. Refer to Section 01 33 00.

- B. Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.

1.05 WARRANTY

- A. Refer to General Conditions and Section 01 78 36.

1.06 REFERENCES AND STANDARDS

- A. General: Site survey, included in the drawings, was prepared by Warren Consulting Engineers and is the basis for data regarding current conditions. While the survey is deemed generally accurate, there exists discrepancies and variations due to elapsed time, weather, etc.
- B. Geotechnical Engineering Report was prepared by Ninyo & Moore Geotechnical Consultants. Report is entitled New Modular Building Solano Community College and is on file with Architect. Recommendations of the Geotechnical report were used to develop the contract plans and specifications. The Geotechnical report shall be used as a reference for the soil condition of the project site. The design information contained in the contract plans and specifications shall govern over the recommendation of the Geotechnical report.
- C. Site Visitation: All bidders interfacing with existing conditions shall visit the site prior to bid to verify general conditions of improvements. Discrepancies must be reported prior to the bid for clarification.
- D. ANSI/ASTM D698-e1 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
- E. ANSI/ASTM D1556-e1 - Test Method for Density of Soil in Place by the Sand-Cone Method.
- F. ANSI/ASTM 698-12e2 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
- G. ANSI/ASTM D 3017-05 Test Methods for Moisture Content of Soils and Soil-Aggregate Mixture by Nuclear Methods (Shallow Depth).
- H. ANSI/ASTM D 4318-10e1 Test Method for Liquid Limit, Plastic Limit, and Plasticity Limit.
- I. CALTRANS Standard Specifications Section 17.
- J. CAL-OSHA, Title 8, Section 1590 (e).

- K. Any work within the street, highway or right-of-way shall be performed in accordance with the requirement of the governmental agencies having jurisdiction, and shall not begin until all of those governing authorities have been notified.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Transport, store and handle in strict accord with the local jurisdiction.
- B. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

1.08 PROJECT CONDITIONS

- A. Existing civil, mechanical and electrical improvements are shown on respective site plans to the extent known. Should the Contractor encounter any deviation between actual conditions and those shown, he is to immediately notify the Architect before continuing work.
- B. Excavation dewatering may be necessary. Contractor shall provide any and all tools, equipment and labor necessary for excavation dewatering no matter what the source. Dewatering shall be continuous until all site utilities are installed and backfilled.

1.09 EXISTING SITE CONDITIONS

- A. Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.

1.10 ON SITE UTILITY VERIFICATION AND REPAIR PROCEDURES

- A. Ground-breaking requirements:
 - 1. All underground work performed by a Contractor must be authorized by the District's Construction Manager or the Low Voltage Consultant prior to start of construction.
 - 2. The Contractor is to obtain and keep the original School's construction utility site plans on site during all excavation operations. Contractor can contact the District's Construction Manager, Facilities Manager, or the Low Voltage Consultant to procure the drawings.
- B. Underground Utility Locating:
 - 1. The contractor shall hire an Underground Utility Locating Service to locate existing underground utility pathways in areas affected by the scope of work for excavation.
 - 2. Contractor must use an underground utility locator service with a minimum of 3 years' experience. The equipment operator must have

- demonstrated experience.
3. The Underground Utility Locator Service must have the use of equipment with the ability to locate by means of inductive clamping, induction, inductive metal detection, conductive coupling, or TransOnde (Radio detection) to generate signals, passive locating (free scoping) for "hot" electric, and metal detector.
 4. The Underground Utility Locator Service must be able to locate existing utilities at a depth of at least 72".
 5. The Underground Utility Locator Service must be able to locate but are not limited to locating the following types of utility pathways:
 - a) All conduit pathways containing 110 volt or greater 50-60Hz electrical wire.
 - b) All conduit pathways containing an active cable TV system.
 - c) All conduit pathways containing wire or conductor in which a signal can be attached and generated without damaging or triggering the existing systems.
 - d) All empty conduit pathways or pipe in which a signal probe or sonde (miniature transmitter) can be inserted.
 - e) All conduit pathways containing non-conductive cables or wires in which a signal probe or sonde (miniature transmitter) can be inserted.
 - f) All plastic and other nonconductive water lines in which a TransOnde (Radio detection) or other "transmitter" can be applied to create a low frequency pressure wave (signal) without damaging or triggering the existing systems.
 - g) All copper or steel waterlines and plastic or steel gas lines
 6. All markings made by the Underground Utility Locator Service or other shall be clear and visible.
 7. The contractor shall maintain all markings made by Underground Utility Locator Service or other throughout the entire length of the project.
 8. The Underground Utility Locator Service shall provide the contractor with two sets of maps showing the location of utilities and average depth. They will be referenced to permanent buildings. Contractor will deliver one copy to the district at no additional charge.
 9. Contractor is responsible to contact Underground Service Alert (U.S.A. 800/227-2600) and receive clearance prior to any excavation operations.
 10. Contractor shall inform the (District's Construction Manager) (Architect) (Owner) no later than five (5) days prior to the date scheduled for the utility locator service to be on site.

1.11 PROTECTION

- A. Adequate protection measures shall be provided to protect workmen and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.

- B. In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.
- C. Any construction review of the Contractor's performance conducted by the Geotechnical Engineer is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.
- D. Provide shoring, sheeting, sheet piles and or bracing to prevent caving, erosion or gullying of sides of excavation.
- E. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to keep all excavations and the site free from water during entire progress of work, regardless of cause, source, or nature of water.
- F. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.
- G. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.

1.12 SEASONAL LIMITS

- A. No fill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by rains, fill operations shall not be resumed until field tests indicate that moisture content and density of fill are satisfactory.
- B. Excessively wet fill material shall be bladed and aerated per section 3.08, B.

1.13 TESTING

- A. General: Refer to Section 01 45 00 – Quality Requirements.
- B. Geotechnical Engineer: Owner is retaining a Geotechnical Engineer to determine compliance of fill with Specifications, and to direct adjustments in fill operations. Costs of Geotechnical Engineer will be borne by Owner; except those costs incurred for re-tests or re-inspection will be paid by Owner and back charged to Contractor.
 - 1. If Contractor elects to process or mine onsite materials for use as Suitable Fill, Aggregate Sub Base, Aggregate Base, Rock, Crushed Rock or sand the cost of all testing of this material shall be paid for by the Contractor.
 - 2. Testing of import fill for compliance with Department of Toxic Substance Control (DTSC) shall be paid for by the Contractor.

1.14 ARCHEOLOGICAL AND CULTURAL RESOURCES

- A. If archeological or cultural resources are discovered during the Work, the Contractor must cease all construction operations in the vicinity of the discovery until a qualified archeologist can assess the value of these resources and make recommendations to the State Historic Preservation Officer. Archeological and cultural resources include artifacts, large amounts of bone, shell, or flaked stone, and other evidence of human activity. If the State Historic Preservation Officer or the Owner directs that work be temporarily ceased at the location of an archeological or cultural find, the Contractor must temporarily suspend work at the location.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Engineered Fill Materials: All fill shall be of approved local materials supplemented by imported fill if necessary. "Approved" local materials are defined as local soils tested and approved by Geotechnical Engineer free from debris, and concentrations of clay and organics; and contain rocks no larger than 3-inches in greatest dimension. The soil and rock should be thoroughly blended so that all rock is surrounded by soil. This may require mixing of the soil and rock with a dozer prior to placement and compaction. Clods, rocks, hard lumps or cobbles exceeding 3-inches in final size shall not be allowed in the upper 12 inches of any fill.
- B. Imported Engineered Fill Material: Imported fill may be required to complete work. Proposed import fill material shall meet the above requirements; shall be similar to the native soils. Import fill shall meet the above requirements; shall have plasticity index of 12 or less; an Expansion Index of 50 or less; be free of particles greater than 3-inches in largest dimension; be free of contaminants and have corrosion characteristics within the acceptable limits. All import fill material shall be tested and approved by Soils Engineer prior to transportation to the site. Proposed fill material shall comply with DTSC guidelines to include Phase 1 environmental site assessment and related tests. Refer to the October 2001 DTSC Information Advisory for clean imported fill material.
1. DTSC TESTING: Site work contractor is to coordinate testing with an analytical lab, hired by the owner, licensed by the State of California for the DTSC testing. The costs associated with the testing will be paid by the contractor.
 2. DTSC testing shall include documentation as to the previous land use, location, and history. Soils shall be analyzed for all compounds of concern to ensure the imported soil is uncontaminated and acceptable. Testing shall be performed per the recommendations included in DTSC Imported Fill Advisory (http://www.dtsc.ca.gov/Schools/upload/SMP_FS_Cleanfill-Schools.pdf). Soils shall be tested prior to import to the project site.
Lab shall determine geographically which tests and analysis comparison will be appropriate for the testing. (CAM 17 / Title 22);

(RWQCB) Regional Water Quality Control Board; or (OEHHA) Office of Environmental Health Hazard Assessment.

- 3. Frequency of testing shall be conducted in accordance with DTSC’s Imported Fill Advisory as follows;

Fill Material Sampling Schedule

Area of Individual Borrow Area	Sampling Requirements
2 Acres or less	Minimum of 4 samples
2 to 4 Acres	Minimum of 1 sample every ½ Acre
4 to 10 Acres	Minimum of 8 Samples
Greater than 10 Acres	Minimum of 8 locations with 4 subsamples per location

Volume of Borrow Area Stockpile

Up to 1,000 Cubic Yards	1 sample per 250 cubic yards
1,000 to 5,000 Cubic Yards	4 samples for the first 1000 cubic Yards + 1 sample per each additional 500 cubic yards
Greater than 5,000 Cubic Yards	12 samples for the first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards

- 4. Reports/ Documentation
 - a. Results of the testing analysis shall be sent to the Owner; Architect; Project Inspector, Project Civil Engineer, DTSC, and DSA. Letter shall reference DSA file and application numbers.

- C. Landscape Backfill Material:
 - 1. The top 2” of native topsoil stripped from the site may be used for landscape backfill material provided it meets the requirements as specified in Section 329000.
 - 2. Imported Topsoil may be required to complete work. See Section 329000 for requirements. Proposed Topsoil material shall comply with DTSC guidelines to include Phase 1 environmental site assessment and related tests. Refer to the October 2001 DTSC Information Advisory for clean imported fill material.
- D. Water: Furnish all required water for construction purposes, including compaction and dust control. Water shall be potable.
- E. Aggregate Base: Provide Class 2 3/4” Aggregate Base conforming to standard gradation as specified in Cal Trans Standard Specifications, Section 26,-1.02A.
- F. Decomposed Granite: Decomposed Granite shall be well graded mixture of fine to 1/8” particles in size with no clods. The material shall be free of vegetation, other soils, debris and rock. The material shall be reddish-tan to tan in color.

- G. Decomposed Granite Solidifier: PolyPavement or equal.

PART 3 – EXECUTION

3.01 INSPECTION LAYOUT AND PREPARATION

- A. Prior to installation of the work of this Section, carefully inspect and verify by field measurements that installed work of all other trades is complete to the point where this installation may properly commence
- B. Layout all work, establish grades, locate existing underground utilities, set markers and stakes, setup and maintain barricades and protection facilities; all prior to beginning actual earthwork operations. Layout and staking shall be done by a licensed Land Surveyor or Professional Civil Engineer.
- C. Verify that specified items may be installed in accordance with the approved design.
- D. In event of discrepancy, immediately notify Owner and the Architect. Do not proceed in discrepant areas until discrepancies have been fully resolved.

3.02 PERFORMANCE

- A. GENERAL:
 - 1. General: Do all grading, excavating and cutting necessary to conform finish grade and contours as shown. All cuts shall be made to true surface of subgrade.
 - 2. Archaeological Artifacts: Should any artifacts of possible historic interest be encountered during earthwork operations, halt all work in area of discovery and immediately contact the Architect for notification of appropriate authorities.
 - 3. Degree of Compaction: Percentage of maximum density, hereinafter specified as degree of compaction required, means density equivalent to that percentage of maximum dry density determined by ASTM D1557 Compaction Test method, and such expressed percentage thereof will be minimum acceptable compaction for specified work.
 - 4. Moisture Content: Moisture content shall be as noted below and as called for on the plans. Moisture content shall be maintained until subgrade is covered by surfacing materials.

3.03 DEMOLITION, DISPOSAL AND DISPOSITION OF UNDESIRABLE MAN-MADE FEATURES

- A. All other obstructions, such as abandoned utility lines, septic tanks, concrete foundations, and the like shall be removed from site. Excavations resulting from these removal activities shall be cleaned of all loose materials, dish shaped, and widened as necessary to permit access for compaction equipment. Areas exposed by any required over-excavation should be scarified to a depth of 12", moisture-conditioned to 2% above optimum

moisture content, and recompact to at least 90% of the maximum dry density.

3.04 TESTING AND OBSERVATION

- A. All grading and earthwork operations shall be observed by the Geotechnical Engineer or his representative, serving as the representative of the Owner.
- B. Field compaction tests shall be made by the Geotechnical Engineer or his representative. If moisture content and/or compaction are not satisfactory, Contractor will be required to change equipment or procedure or both, as required to obtain specified moisture or compaction. Notify Geotechnical Engineer at least 48 hours in advance of any filling operation.
- C. Earthwork shall not be performed without the notification or approval of the Geotechnical Engineer or his representative. The Contractor shall notify the Geotechnical Engineer at least two (2) working days prior to commencement of any aspect of the site earthwork.
- D. If the Contractor should fail to meet the compaction or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory, as determined by the Geotechnical Engineer or Architect/Engineer.
- E. After each rain event Geotechnical Engineer shall test fill material for optimum moisture. Do not place any fill material until desired moisture is achieved.

3.05 CLEARING AND GRUBBING

- A. Prior to grading, remove all debris off-site. Remove trees and brush including the root systems. Holes resulting from tree and brush removal should be prepared and backfilled in accordance with paragraphs 3.07, 3.08, 3.09, and 3.10. This may require deepening and/or widening the holes to adequately remove disturbed soil and provide room for compaction equipment. Strip the surface of all organics. Stripping's meeting the requirements of Section 32 90 00 may be used in landscape areas only.

3.06 CUTTING

- A. Building pads that are located within a cut/fill transition area will have to be overexcavated to provide a semi-uniform fill beneath the building pad. The portions of building pads located in cut areas shall be overexcavated to provide no more than 1 foot difference in fill placed in the same building pad.
- B. Do all cutting necessary to bring finish grade to elevations shown on Drawings.
- C. When excavation through roots is necessary, cut roots by hand.
- D. Carefully excavate around existing utilities to avoid unnecessary damage.

The contractor shall anticipate and perform hand work near existing utilities as shown on the survey, without additional claims or cost.

3.07 STRUCTURAL EXCAVATION

- A. General: Excavate to bear on firm material at contract depth shown on Structural Drawings.
- B. Footings: All footing excavations shall be of sufficient width for installation of formwork, unless earth will retain its position during concreting. All portions of footings above grade must be formed.
- C. Unsuitable Ground: Any errors in structural excavation, soft ground, or clay soils found when excavating shall be reported to Architect. In no case shall work be built on any such soft or clayey unsuitable surface without direction from the Architect. Restore excavations to proper elevation with engineered fill material compacted to 90% of dry density.

3.08 SUBGRADE PREPARATION

- A. Grade compact and finish all subgrades within a tolerance of 0.10' of grades as indicated on Drawings and so as not to pool water. Subgrade within building pads and concrete walks shall be within 0.05' of grades indicated.
- B. After clearing, grubbing and cutting, subsurface shall be plowed or scarified to a depth of at least 12", until surface is free from ruts, hummocks or other uneven features and uniform and free from large clods. Moisture condition to 2% above optimum moisture content and recompact to at least 90% of the maximum dry density as determined by ASTM Test Method D1557. If the existing soils are at a water content higher than specified, the contractor shall provide multiple daily aerations by ripping, blading, and/or disking to dry the soils to a moisture content where the specified degree of compaction can be achieved. After seven consecutive working days of daily aerations, and the moisture content of the soil remains higher than specified, the contractor shall notify the architect. If the existing soils have a moisture content lower than specified, the contractor shall scarify, rip, water and blade existing soil to achieve specified moisture content. The contractor shall make proper allowance in schedule and methods to complete this work.
- C. Subgrade in areas to receive landscaping shall be compacted to 90%.
- D. Where Contractor over-excavates building pads through error, resulting excavation shall be recompact as engineered fill at Contractor's expense.

3.09 PLACING, SPREADING AND COMPACTING FILL MATERIAL IN BUILDING PAD AND PAVEMENT AREAS

- A. Selected fill material shall be placed in layers which, when compacted, shall not exceed 6 inches in compacted thickness. Each layer shall be spread evenly and thoroughly mixed to insure uniformity in moisture content.
- B. Selected fill material shall be moisture-conditioned to specified moisture

content. Selected fill material shall be unfrozen. When moisture content of fill material is below that specified, add water until proper moisture content is achieved. When moisture content is above that specified, aerate by blading or other methods mentioned in 3.08 B until moisture content is satisfactory.

- C. After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to a minimum of 90% as determined by the ASTM D1557 Compaction Test. Compact each layer over its entire area until desired density has been obtained.
- D. Recompaction of Fill in Trenches and Compaction of Fill Adjacent to Walls: Where trenches must be excavated, backfill with material excavated. Place in lifts that when compacted do not exceed 8", moisture conditioned to 2% above optimum moisture content, and compact to a minimum of 90% relative compaction in building pad and paved areas, and to 90% relative compaction in landscape areas.
- E. Jetting of fill materials will not be allowed.

3.10 FINAL SUBGRADE COMPACTION

- A. Building Pads: Upper 12" of all final building pad subgrades shall be uniformly compacted at specified moisture content to at least 90% of maximum dry density, as determined by ASTM D1557 Compaction Test, regardless of whether final subgrade elevation is attained by filling, excavation, or is left at existing grade. After acceptance of final compaction test, contractor shall maintain the required moisture content of subgrade until concrete flatwork is placed.
- B. Other Fill and Backfill: Upper 12" of all other final subgrades or finish grades shall be compacted to 90% of maximum dry density.
- C. Gravel Fill: Do not place compacted gravel fill until after underground work and foundations are in place. Compact gravel fill with vibratory plate or similar equipment to preclude settlement.

3.11 PLACING, SPREADING, AND COMPACTION OF LANDSCAPE BACKFILL MATERIALS

- A. All landscaped areas shall receive topsoil. After subgrade under landscape area has been scarified and brought to 90% maximum dry density, top soil shall be placed evenly to depth of 12" at 85% of maximum dry density.
- B. Project Inspector must verify that materials are uniformly spread to minimum depth specified.

3.12 DECOMPOSED GRANITE COMPACTION AND STABILIZATION

- A. Decomposed granite paving, paths or track shall be placed uniformly to the required depth and treated with PolyPavement or approved equal. Apply PolyPavement using Application Method 1 or a mixed application method.

3.13 SLOPE CONSTRUCTION

- A. Cut slopes shall be constructed to no steeper than 2:1 (horizontal:vertical). Fill slopes shall be constructed to no steeper than 2:1 (horizontal:vertical). Prior to placement of fill on an existing slope the existing slope shall be benched. The benches shall be in a ratio of 2 horizontal to 1 vertical. The face of the fill slopes shall be compacted as the fill is placed, or the slope may be overbuilt and then cut back to the design grade. Compaction by track walking will not be allowed.

3.14 FINISH GRADING

- A. At completion of project, site shall be finished graded, as indicated on Drawings. Finish grades shall be "flat graded" to grades shown on the drawing. Mounding of finish grades will not be allowed unless otherwise directed on the landscape drawings. Tolerances for finish grades in drainage swales shall be $\pm 0.05'$. Tie in new and existing finish grades. Leave all landscaped areas in finish condition for lawn seeding. Landscaped planters shall be graded uniformly from edge of planter to inlets. If sod is used for turf areas the finish grade on which it is placed shall be lowered to allow for sod thickness.
- B. All landscape areas shall be left free of rock or foreign material as specified in Section 32 90 00.
- C. All landscape areas shall be approved by Architect prior to any planting.

3.15 SURPLUS MATERIAL

- A. Excavated material not required for grading or backfill shall be removed from site at contractor's expense.

3.16 CLEANING

- A. Refer to Section 01 74 00.
- B. Remove from fill all vegetation, wood, form lumber, casual lumber, and shavings, in contact with ground; buried wood will not be permitted in any fill.

END OF SECTION

DOCUMENT 31 23 33

TRENCHING AND BACKFILLING

PART 1 – GENERAL

1.01 INCLUSION OF OTHER CONTRACT DOCUMENTS

- A. The general conditions, supplementary conditions and Division 1 are fully applicable to this section as if repeated herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 31 00 00, Earthwork.
- B. Section 31 32 00 Soil Stabilization
- C. Section 33 40 00, Site Drainage.
- D. Section 33 00 00, Site Utilities.
- E. Section 32 80 00, Irrigation.

1.03 QUALITY ASSURANCE

- A. Use only new materials and products, unless existing materials or products are specifically shown otherwise on the Drawings to be salvaged and re-used.
- B. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.
- C. Contractor / Installer shall have been in business for five (5) years providing/finishing similar size projects and complexity.

1.04 SUBMITTALS

- A. Submit Manufacturers data and shop drawings.

1.05 WARRANTY

- A. Submit fully executed warranty for work and materials in this section per 01 78 36.

1.06 REFERENCES AND STANDARDS

- A. California Building Code current edition.
- B. California Plumbing Code current edition.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Transport, store and handle in strict accord with the local jurisdiction.
- B. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

1.08 PROJECT CONDITIONS

- A. Contractor shall acquaint himself with all existing site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.
- B. Field verify that all components, backing, etc. by others are installed correctly to proceed with installation of products as herein specified.
- C. Trench dewatering may be necessary. Contractor shall provide any and all tools, equipment and labor necessary for trench dewatering no matter what the source. Dewatering shall be continuous until all site utilities are installed and backfilled.

1.09 PROTECTION

- A. Adequate protection measures shall be provided to protect workers and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations. Repair all trenches in grass areas with new sod (seeding not permitted) and "stake-off" for protection.
- B. Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.
- C. Any construction review of the Contractor's performance conducted by the Architect or Owner is not intended to include review of the adequacy of the Contractor's safety measures, in, on or near the construction site.
- D. Provide shoring, sheeting, sheet piles and or bracing to prevent caving, erosion or gulying of sides of excavation.
- E. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. Keep all excavations free from water during entire progress of work, regardless of cause, source or nature of water.
- F. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.

- G. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance.
- H. Trees: Carefully protect existing trees which are to remain.

1.10 TRENCH SAFETY PROVISIONS

- A. General Contractor shall be solely responsible for safety design, construction and coordination with agencies having jurisdiction. If such plan varies from shoring system standards established by Construction Safety Orders, plan shall be prepared by registered civil or structural engineer.
- B. Nothing herein shall be deemed to allow use of shoring, sloping or protective system less effective than that required by Construction Safety Orders of California State Division of Industrial Safety.
- C. When trenching through paved surface, provide steel trench plates to cover open trenches daily until trenches are backfilled.

1.11 SEASONAL LIMITS

- A. No backfill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by heavy rains, full operations shall not be resumed until field tests indicate that moisture content and density of fill are satisfactory.
- B. Material above optimum moisture shall be processed per section 310000, 3.08, B.

1.12 TESTING

- A. General: Refer to Section 01 45 00 – Quality Requirements.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Backfill materials: Pipeline and conduit trench backfill as shown on the plans and as specified below.
 - 1. $\frac{3}{4}$ inch crush rock.
 - 2. Native Materials: Soil native to Project Site, free of wood, organics, and other deleterious substances. Rocks shall not be greater than ___-inches.
 - 3. Sand: Fine granular material, free of organic matter, mica, loam or clay.
 - 4. Lean Mix Concrete/Controlled Density Backfill: 2 sacks cement slurry.
 - 5. Class 2 aggregate base, $\frac{3}{4}$ " rock, per Caltrans section 26-1.02B
- B. Water: Furnish all required water for construction purposes, including compaction and dust control. Water shall be potable.

- C. Provide other bedding and backfill materials as described and specified in Section 31 00 00, Section 33 40 00 and Divisions 15 and 16.

PART 3 – EXECUTION

3.01 INSPECTION

- A. Verification of Conditions:
 - 1. Examine areas and conditions under which work is to be performed.
 - 2. Identify conditions detrimental to proper or timely completion of work and coordinate with General Contractor to rectify.

3.02 COORDINATION

- A. General Contractor shall coordinate work as herein specified, in accordance with drawings and as required to complete scope of work with all related trades.

3.03 INSTALLATION

- A. Perform work in accordance with pipe manufacturer’s recommendations, as herein specified and in accordance with drawings.

3.04 TRENCHING

- A. Make all trenches open vertical construction with sufficient width to provide free working space at both sides of trench around installed item as required for caulking, joining, backfilling and compacting; not less than 12 inches wider than pipe or conduit diameter, unless otherwise noted.
- B. Carefully excavate around existing utilities to avoid unnecessary damage. The contractor shall anticipate and perform hand work near existing utilities as shown on the survey, without additional claims or cost.
- C. Trench straight and true to line and grade with bottom smooth and free of edges or rock points.
- D. Where depths are not shown on the plans, trench to sufficient depth to give minimum fill above top of installed item measured from finish grade above the utility as follows:
 - 1. Sewer pipe: depth to vary
 - 2. Storm drain pipe: depth to vary
 - 3. Water pipe - Fire Supply: 36 inches
 - 4. Water pipe – Domestic Supply: 30 inches
- E. Where trench through existing pavement saw cut existing pavement in straight lines. Grind existing asphalt on each side of trench 3” wide x ½ the depth of the section. Apply tack coat to vertical surfaces before installing new asphalt. Replace asphalt and concrete pavement sections to match existing conditions. In concrete pavement provide expansion and control joints to match existing joint layout.

3.05 BACKFILL

- A. Pipe Trench Backfill is divided into three zones:
 - 1. Bedding: Layer of material directly under the pipe upon which the pipe is laid.
 - 2. Pipe Zone: Backfill from the top of the bedding to 6 inches (compacted) over the top of the pipe.
 - 3. Upper Zone: Backfill between top of Pipe Zone and to surface of subgrade.

- B. Bedding: Type of material and degree of compaction for bedding backfill shall be as defined in the Details and Specifications.

- C. Pipe Zone and Upper Zone Backfill:
 - 1. Type of material and degree of compaction Pipe Zone and Upper Zone Backfill shall be as required by Drawings, Details, & Specifications.
 - 2. Upper Zone Backfill shall not be placed until conformance of Bedding and Pipe Zone Backfill with specified compaction test requirements has been confirmed.
 - 3. Backfill shall be brought up at substantially the same rate on both sides of the pipe and care shall be taken so that the pipe is not floated or displaced. Material shall not be dropped directly on pipe.

- D. Backfill Compaction:
 - 1. Backfill shall be placed in layers which, when compacted shall not exceed 6 inches in thickness. Each layer shall be spread evenly and thoroughly mixed to insure uniformity. Do not backfill over, wet, frozen or soft subgrade surfaces. Employ a placement method that does not disturb or damage foundation walls, perimeter drainage, foundation damp-proofing, waterproofing or protective cover.
 - 2. When moisture content of fill material is below that required to achieve specified density, add water until proper moisture content is achieved. When moisture content is above that required, aerate by blading or other methods until specified moisture content is met, see section 310000, 3.08, B.
 - 3. After each layer has been placed, mixed and spread evenly, it shall be thoroughly compacted to 90% of maximum dry density while at specified moisture content. Compact each layer over its entire area until desired density has been obtained.
 - 4. The top 12 inches of subgrade compaction under pavement or building shall be per Earthwork section 31 00 00.
 - 5. Compaction: All backfill operations shall be observed by the Inspector of Record and/or Geotechnical Engineer. Field density tests shall be made to check compaction of fill material. If densities are not satisfactory, Contractor will be required to change equipment or procedure or both, as required to obtain specified densities. Notify Inspector and Architect at least 24 hours in advance of any operation.

3.06 TRENCH AND SITE RESTORATION

- A. Finished surface of trenches shall be restored to a condition equal to, or better than the condition as existed prior to excavation work.

3.07 PROTECTION

- A. Protect existing surfaces, structures, and utilities from damage. Protect work by others from damage. In the event of damage, immediately repair or replace to satisfaction of Owner.
- B. Repair existing landscaped areas to as new condition. Replant trees, shrubs or groundcover with existing materials if not damaged or with new materials if required. Replace damaged lawn areas with sod, no seeding will be permitted.
- C. Replace damaged pavement with new compatible matching materials. Concrete walks to be removed to nearest expansion joint and entire panel replaced. Asphalt to be cut neatly and replaced with new materials.
- D. Any existing materials removed or damaged due to trenching to be returned to new condition.

3.08 SURPLUS MATERIAL

- A. Remove excess excavated material, unused materials, damaged or unsuitable materials from site.

3.09 CLEANING

- A. Refer to Section 01 74 00.
- B. Contractor will keep the work areas in a clean and safe condition so his rubbish, waste, and debris do not interfere with the work of others throughout the project and at the completion of work.
- C. After completion of work in this section, remove all equipment, materials, and debris. Leave entire area in a neat, clean, acceptable condition.

END OF SECTION

DOCUMENT 32 16 00

SITE CONCRETE

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. The Section describes the requirements for providing portland cement concrete paving, including accessibility ramps, sidewalks, accessible routes of travel, vehicular travel, drain structures, sewer structures, thrust blocks and for other non-structural or non-vehicular applications.

1.02 INCLUSION OF OTHER CONTRACT DOCUMENTS

- A. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 31 00 00, Earthwork.

1.04 QUALITY ASSURANCE

- A. Use only new materials and products.
- B. Use materials and products of one manufacturer whenever possible.
- C. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.
- D. Sieve analysis from testing laboratories identifying rock/sand percentages within the concrete mix; or class 2 aggregate base shall have the current project name and project location identified on the report. Outdated analytical reports greater than 90 days old will not be accepted

1.05 SUBMITTALS

- A. Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.
- B. Materials list: Submit to the Architect a complete list of all materials proposed to be used in this portion of the work. Submitted items should include but are not limited to sand, gravel, admixtures, surface treatments, coloring agents, sealers, fibers, cast-in-place accessories, forming and curing products and concrete mix designs.
- C. With concrete submittal, provide documented history of mix design performance.

1.06 WARRANTY

- A. Refer to General Conditions.

1.07 REFERENCES AND STANDARDS

- A. California Building Code, latest edition.
- B. ACI Standards, ACI 211.1, ACI 318-14, ACI 302, IR-04, ACI 301-16, ACI 305R-10, ACI 306R-16, ACI 308-16.
- C. ASTM C-94, Specification for Ready-Mixed Concrete.
- D. Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice (latest edition).
- E. ASTM – American Society for Testing and Materials.

1.08 DELIVERY, STORAGE AND HANDLING

- A. Deliver undamaged products to job in manufacturer's sealed containers and/or original bundles with tags and labels intact.
- B. Store materials in protected, dry conditions off of ground and in areas so as to not interfere with the progress of the work.
- C. Transport, store and handle in strict accord with the manufacturer's written recommendations.
- D. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.
- E. Store cement in weather tight building, permitting easy inspection and identification. Protect from dampness. Lumpy or stale cement will be rejected.
- F. Aggregates: Prevent excessive segregation, or contamination with other materials or other sizes of aggregate. Use only one supply source for each aggregate stock pile.

1.09 TESTING

- A. General: Refer to General Conditions.
- B. Cement and Reinforcing shall be tested in accordance with CBC Section 1910A. Testing of reinforcing may be waived in accordance with Section 1910A.2 when approved by the Structural Engineer and DSA.

1.10 ADEQUACY AND INSPECTION

- A. Design, erect, support, brace and maintain formwork and shoring to safely support all vertical and lateral loads that might be applied until such loads can

be carried by concrete.

- B. Notify Inspector, Architect and DSA at least 48 hours prior to placing of concrete.

1.11 PROTECTION

- A. Finish surfaces shall be protected at all times from concrete pour. Inspect forming against such work and establish tight leak-proof seal before concrete is poured. Finish work damaged, defaced or vandalized during the course of construction shall be replaced by contractor at contractor expense.

1.12 FIELD MEASUREMENTS

- A. Make and be responsible for all field dimensions necessary for proper fitting, slopes and completion of work. Report discrepancies to Architect before proceeding.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cement: Portland cement, ASTM C150, Type II, per ACI 318-14 Section 26.4.
- B. Concrete Aggregates: Normal weight aggregates shall conform to ASTM C33, except as modified by this section. Combined grading shall meet limits of ASTM C33. Lightweight aggregate shall conform to ASTM C330, suitably processed, washed and screened, and shall consist of durable particles without adherent coatings.
- C. Water: Clean and free from deleterious amounts of acids, alkalis, scale, or organic materials and per ACI 318-14 Section 26.4.1.3.1.
- D. Fly Ash: Western Fly Ash, conforming to ASTM C618 for Class N or Class F materials (Class C is not permitted). Not more than 15% (by mass) may be substituted for portland cement.
- E. Water Reducing Admixture: Admixture to improve placing, reduce water cement ratio, and ultimate shrinkage may be used. Provide WRDA 64 by Grace Construction Products or approved equal. Admixture shall conform to ASTM C494 and ACI 318-14 Section 26.4.1.4.19(a). Such admixture must receive prior approval by the Architect, Structural Engineer, and the Testing Lab, and shall be included in original design mix.
- F. Air-entraining Admixture: Daravair 1000 by Grace Construction Products or approved equal. Admixture must conform to ASTM C260 and ACI 318-14, section 26.4.1.4.
- G. Surface Retarder (for exposed aggregate finishes): Rugasol-S by Sika Corporation or approved equal.
- H. Form Coating: Material which will leave no residue on concrete surface that

will interfere with surface coating, as approved by the Architect.

- I. Reinforcement Bars: New billet steel deformed bars conforming to requirements of ASTM A615 or ASTM A706; Grade 60. Dowels for installation through expansion joints or construction joints to existing sidewalks or concrete features shall be smooth or shall be sleeved on one end for slippage.
- J. Reinforcing supports: Galvanized metal chairs or spacers or metal hangers, accurately placed 3'-0" O.C.E.W. Staggered and each support securely fastened to steel reinforcement in place. Bottom bars in footings may be supported with 3" concrete blocks with embedded wire ties. Concrete supports without wire ties will not be allowed.
- K. Truncated Domes: Vitrified Polymer Composite (VPC), Cast-In-Place Detectable/Tactile Warning Surface Tiles; "Armor-Tile", "Access Tile Tactile Systems", or approved equal. Tiles shall comply with Americans with Disabilities Act and the California Code of Regulations (CCR) Title 24, Part 2, Chapter 11B (dome spacing shall be 2.35"). Install tiles as recommended by manufacturer. Color, federal yellow (FS 33538).
- L. Curing Compound (for exterior slabs only): Burke Aqua Resin Cure by Burke by Edoco, 1100 Clear by W.R. Meadows or accepted equal. Water based membrane-forming concrete curing compound meeting ASTM C 309 and C1315.
- M. Concrete Bonding Agent: Weld-Crete by Larson Products Corp., Daraweld C by Grace Construction Products or accepted equal.
- N. Patching Mortar: Meadow-Crete GPS, one-component, trowel applied, polymer enhanced, shrinkage-compensated, fiber reinforced, cementitious repair mortar for horizontal, vertical and overhead applications as manufactured by W.R. Meadows or accepted equal.
- O. Non-shrink Grout: Masterflow 713 Plus by Master Builders or approved equal. Premixed, non-metallic, no chlorides, non-staining and non-shrinking per CRD-C621, Corps of Engineers Specification and ASTM C 1107, Grades B and C.
- P. Aggregate Base: Class 2 AB per Caltrans specification section 26-1.02A.
- Q. Expansion Joint Material: Preformed 3/8" fiber material, full depth of concrete section, with bituminous binder manufactured for use as concrete expansion joint material, as accepted by the Architect.
- R. Joint sealant for expansion joints: Single component silicone sealant, Type S, ASTM D5893.
 - 1. Reference Standard: ASTM C920, Grade P, Class 25, Use T.
 - 2. Dow Corning 890-SL (self-leveling) Silicone, or accepted equal.
 - 3. Dow Corning 888-NS (non-sagging) Silicone, at slopes exceeding 5%. May not be used at asphalt surfaces.
 - 4. Color: Custom color as selected by Architect.

- S. Pre- Formed plastic Expansion Joint; W.R. Meadows 3/8" "Snap Cap", Tex-Trude expansion joint cap, or an approved equal.
- T. Adhesive Anchoring (Epoxy): Hilty HIT-HY 200 Safe Set, or approved equal.

2.02 CONCRETE DESIGN AND CLASS

- A. Class "B": Concrete shall have 1" max. size aggregate, shall have 3000 psi min. at 28 day strength with a maximum water to cementitious ratio no greater than 0.50. Use for exterior slabs, including walks, vehicular paved surfaces, manhole bases, poured-in-place drop inlets, curbs, valley gutters, curb & gutter and other concrete of like nature.
- B. Slump Limits: Provide concrete, at point of final discharge, of proper consistency determined by Test Method ASTM C143 with a slumps of 4" plus or minus 1".
- C. Mix Design: All concrete used in this work will be designed for strength in accordance with provisions of ASI 318-14 Section 26.4. Should the Contractor desire to pump concrete, a modified mix design will need to be submitted for review. Fly ash may be used in concrete to improve workability in amounts up to 15% of the total cementitious weight.
- D. Air Entrainment; Per the Local Jurisdiction minimum requirements, or 3% minimum.

2.03 MIXING OF CONCRETE

- A. Conform to requirements of CBC, Chapter 19A.
- B. All concrete shall be mixed until there is uniform distribution of material and mass is uniform and homogenous; mixer must be discharged completely before the mixer is recharged.
- C. Concrete shall be Ready-mixed Concrete: Mix and deliver in accordance with the requirements set forth in ASTM C94 and ACI 301. Batch Plant inspection may be waived in accordance with CBC Section 1705A.3.3.1, when approved by Structural Engineer and DSA.
 - 1. Approved Testing Laboratory shall check the first batching at the start of the work and furnish mix proportions to the Licensed Weighmaster.
 - 2. Licensed Weighmaster to positively identify materials as to quantity and to certify to each load by ticket.
 - 3. Ticket shall be transmitted to Project Inspector by truck driver with load identified thereon. Project Inspector will not accept load without load ticket identifying mix and will keep daily record of pours, identifying each truck, its load and time of receipt and will transmit two copies of record to DSA.
 - 4. At end of project, Weighmaster shall furnish affidavit to DSA on form satisfactory to DSA, certifying that all concrete furnished conforms in every particular and to proportions established by mix designs.
 - 5. Placement of concrete shall occur as rapidly as possible after

batching and in a manner which will assure that the required quality of the concrete is maintained. In no case may concrete be placed more than 90 minutes from batch time.

6. Water may be added to the mix only if neither the maximum permissible water-cement ratio nor the maximum slump is exceeded. In no case shall more than 10 gallons of water shall be added to a full 9 yard load, or 1 gal. per yard on remaining concrete within the drum providing load tag indicates at time of mixing at plant will allow for additional water.

2.04 MATERIALS TESTING

- A. Materials testing of concrete and continuous batch plant inspection may be waived in accordance CBC Sections 1704A.4.4 when approved by Structural Engineer and DSA.
- B. Testing of concrete shall be performed per article 3.12 of this specification.

2.05 EQUIPMENT

- A. Handling and mixing of concrete: Project Inspector may order removal of any equipment which in his opinion is insufficient or in any way unsuitable.

PART 3 - EXECUTION

3.01 APPROVAL OF FORMS AND REINFORCEMENTS

- A. Forms and reinforcements are subject to approval by the Project Inspector, and notice of readiness to place first pour shall be given to DSA, Architect and Structural Engineer 48 hours prior to placement of concrete. Before placing concrete, clean tools, equipment and remove all debris from areas to receive concrete. Clean all reinforcing and other embedded items off all coatings oil, and mud that may impair bond with concrete.
- B. All reinforcing steel shall be adequately supported by approved devices on centers close enough to prevent any sagging.
- C. All reinforcing bar lap splices shall be staggered a minimum of 5 ft.
- D. Additional reinforcing steel shall be placed around all utility boxes, valve boxes, manhole frames and covers that are located within the concrete placements.
 1. The bars shall be placed so that there will be a minimum of 1 ½" clearance and a maximum of 3" clearance. The reinforcing steel shall be placed mid-depth of concrete slab.
- E. At all right angles or intersections of concrete walks, additional 2'x2' #5, 90 degree bars shall be added at all inside corners for additional crack control. The bars shall be placed 2" from concrete forms and supports at mid-depth of slab.

3.02 PROTECTION

- A. Protect work and materials of this Section prior to and during installation, and protect the installed work and materials of other trades.
- B. In the event of damage, make all repairs and replacements necessary to the approval of the Architect at no additional cost to the Owner.
- C. Sub-Grade in vehicular concrete paved areas: Subgrade shall be clean, shaped and compact to hard surface free from elevations or depressions exceeding 0.05' in 10' from true plan. Compact per Section 31 00 00. Compaction and moisture content shall be verified immediately prior to placement of concrete. Proof roll subbase in presence of geotechnical engineer prior to placement of aggregate base.

3.03 CLEANING

- A. Reinforcement and all other embedded items at time of placing concrete to be free of rust, dirt oil or any other coatings that would impair bond to concrete.
- B. Remove all wood chips, sawdust, dirt, loose concrete and other debris just before concrete is to be poured. Use compressed air for inaccessible areas. Remove all standing water from excavations.

3.04 FORMING

- A. Form material shall be straight, true, sound and able to withstand deformation due to loading and effects of moist curing. Materials which have warped or delaminated, or require more than minor patching of contact surfaces, shall not be reused.
- B. Build forms to shapes, lines, grades and dimensions indicated. Construct form work to maintain tolerances required by ACI 301. Forms shall be substantial, tight to prevent leakage of concrete, and properly braced and tied together to maintain position and shape. Butt joints tightly and locate on solid backing. Chamfer corners where indicated. Form bevels, grooves and recesses to neat, straight lines. Construct forms for easy removal without hammering, wedging or prying against concrete.
- C. Space clamps, ties, hangers and other form accessories so that working capacities are not exceeded by loads imposed from concrete or concreting operations.
- D. Build openings into vertical forms at regular intervals if necessary to facilitate concrete placement, and at bottoms of forms to permit cleaning and inspection.
- E. Build in securely braced temporary bulkheads, keyed as required, at planned locations of construction joints.
- F. Slope tie-wires downward to outside of wall.
- G. Brace, anchor and support all cast-in items to prevent displacement or distortion.

- H. During and immediately after concrete placing, tighten forms, posts and shores. Readjust to maintain grades, levels and camber.
- I. Concrete paving, Curbs, Curb and Gutters, Ramps:
 - 1. Expansion Joints: Install at locations indicated, and so that maximum distance between joints is 20' for exterior concrete unless otherwise shown. Expansion joint material shall be full depth of concrete section. Recess for backer rod and sealant where required. Expansion joints shall not exceed ¼ inch depth measured from finish surface to top of felt or sealant, and ½ inch width.
 - 2. Curbs, Valley Gutter, and Curb & Gutter: Install expansion joints at 60' on center, except when placing adjacent to concrete walks, the expansion joints shall align with the expansion joints shown for the concrete walks. Expansion joint material shall be full depth of concrete section. Recess for backer rod and sealant will be required.
 - 3. Isolation Joints: 3/8" felt between walls and exterior slabs or walks so that paved areas are isolated from all vertical features, unless specifically noted otherwise on plans.
 - 4. Exterior Concrete Paving: Install expansion joints at 20' on center maximum, both directions, unless shown otherwise on plans.
 - 5. Ramps; whether shown or not all ramps shall have control joints and expansion joints.
 - a. Control joints on ramps shall be aligned and be placed in between with the vertical posts for the handrails. The curbs, if required shall have control joints that align with the handrail posts.
 - b. Expansion joints shall be placed at the upper, intermediate, and bottom landings.

3.05 FORM COATING

- A. Before placement of reinforcing steel, coat faces of all forms to prevent absorption of moisture from concrete and to facilitate removal of forms. Apply specified material in conformance with manufacturer's written directions.
- B. Before re-using form material, inspect, clean thoroughly and recoat.
- C. Seal all cut edges.

3.06 INSTALLATION

- A. General: Reinforcement shall be accurately placed at locations indicated on the drawings within required tolerances and providing required clearances. Reinforcement shall be secured prior to placement of concrete such that tolerances and clearances are maintained. Coverage shall be in accordance with Section 1907A.7 of the CBC. Keep a person on the job to maintain position of reinforcing as concrete is placed. Reinforcement must be in place before concreting is begun. Install dowels as shown on drawings. Give notice whenever pipes, conduits, sleeves, and other construction interferes with placement; obtain method of procedure to resolve interferences. All expansion and construction joints in concrete shall have dowels of size and spacing as shown, or as approved by Architect.

- B. Placing Tolerances:
 - 1. Per ACI 301 or CRSI/WCRSI Recommended Practice for Placing Reinforcing Bars, unless otherwise shown.
 - 2. Clear distance between parallel bars in a layer shall be no less than 1", the maximum bar diameter not 1 ½ times the maximum size of coarse aggregate.

- C. Splices:
 - 1. General: Unless otherwise shown on drawings, splice top reinforcing at midspan between supports, splice bottom reinforcing at supports and stagger splices at adjacent splices 5 foot minimum. Bar laps shall be wired together. Reinforcing steel laps shall be as follows:
 - a. Lap splices in concrete: Lap splice lengths shall not be less than 62 bar diameter for No. 5 bar, 56" minimum for No. 6 bars. No. 4 bar shall have a minimum of 24" splice. 93 bar diameters for No. 7 bars and larger.
 - b. All splices shall be staggered at 5 feet minimum.

3.07 INSPECTION

- A. Approval of reinforcing steel, after installation, must be received from Inspector. Architect, Structural Engineer and DSA must be notified 48 hrs. in advance of beginning of concrete placement operations.

- B. Slope of concrete forms and finish condition shall be checked with a two foot (2') digital level.

3.08 PLACING OF CONCRETE

- A. Adjacent finish surfaces shall be protected at all times during the concrete pour and finishing. Verify that all formwork is tight and leak-proof before concrete is poured. Finish work defaced during the concrete pour and finishing shall be replaced at no extra cost to the owner.

- B. Transport concrete from mixer to place of final deposit as rapidly as practicable by methods which will prevent separation or loss of ingredients. Deposit as close as practicable in final position to avoid re-handling or flowing. Partially hardened concrete must not be deposited in work. Concrete shall not be wheeled directly on top of reinforcing steel.

- C. Placing: Once started, continue concrete pour continuously until section is complete between predetermined construction joints. Prevent splashing of concrete onto adjacent forms or reinforcement and remove such accumulation of hardened or partially hardened concrete from forms or reinforcement before work proceeds in that area. Free fall of concrete shall not to exceed 4'-0" in height. If necessary, provide lower openings in forms to inject concrete and to reduce fall height.

- D. Remove form spreaders as placing of concrete progresses.

- E. Place footings as monolithic and in one continuous pour.

- F. Keep excavations free of standing water, but moisture condition sub-grade before concrete placement.
- G. Compacting: All concrete shall be compacted by mechanical vibrators. Concrete shall be thoroughly worked around reinforcement and embedded fixtures and into corners of forms. Vibrating shall not be applied to concrete which has already begun to initially set nor shall it be continued so long as to cause segregation of materials.
- H. Concrete Flatwork:
 - 1. All flatwork shall be formed and finished to required line and grades. Flatwork shall be true and flat with a maximum tolerance of 1/8" in 10' for flatness. Flatwork which is not flat and are outside of the maximum specified tolerances shall be made level by the Contractor at no additional expense to the Owner.
 - 2. Thoroughly water and soak the flatwork subgrade as required to achieve required moisture content prior to the concrete pour. Provide damming as required to keep water within the formed area and to allow for proper saturation of the subgrade.
 - 3. Concrete vibrator shall be used to assist concrete placement. Contractor shall have spare concrete vibrator on site during concrete placement.
- I. Placing in hot weather: Comply with ACI 305R-10. Concrete shall not exceed 85 degrees F at time of placement. Concrete shall be delivered, placed and finished in a sufficiently short period of time to avoid surface dry checking. Concrete shall be kept wet continuously after tempering until implementation of curing compound procedure in accordance with this specification.
- J. Placing in cold weather: Comply with ACI 306R-16. Protect from frost or freezing. No antifreeze admixtures are permitted. When deposited concrete during freezing or near-freezing weather, mix shall have temperature of at least 50 degrees F but not more than 90 degrees F. Concrete shall be maintained at temperature of at least 50 degrees F for not less than 72 hours after placing or until it has thoroughly hardened. Provide necessary thermal coverings for any flat work exposed to freezing temperatures.
- K. Horizontal construction joint: Keep exposed concrete face of construction joints continuously moist from time of initial set until placing of concrete; thoroughly clean contact surface by chipping entire surface not earlier than 5 days after initial pour to expose clean hard aggregate solidly embedded, or by approved method that will assure equal bond, such as green cutting. If contact surface becomes contaminated with soil, sawdust or other foreign matter, clean entire surface and re-chip entire surface to assure proper adhesion.

3.09 CONCRETE FINISHES

- A. Concrete Slab Finishing: Finish slab as required by ACI 302.1R. Use manual screeds, vibrating screeds to place concrete level and smooth. Use "jitterbugs" or other special tools designed for the purpose of forcing the course aggregate below the surface leaving a thick layer of mortar 1 inch in thickness. Surface shall be free from trowel marks, depressions, ridges or

other blemishes. Tolerance for flatness shall be 1/8" in 10'. Provide final finish as follows:

1. Flatwork, medium broom finish: Typical finish to be used at all exterior walks and stairs.
 2. Ramps, heavy broom finish: Concrete surfaces with slope greater than 5% including all ramps. Brooming direction shall run perpendicular to slope to form non-slip surface
 3. Under no circumstances can water be added to the top surface of freshly placed concrete.
- B. Curb Finishing: Steel trowel.
- C. Joints and Edges: Mark-off exposed joints, where indicated, with ¼" radius x 1" deep jointer or edging tool. Joints to be clean, cut straight, parallel or square with respect to concrete walk edge. Tool all edges of exposed expansion and contraction joints, walk edges, and wherever concrete walk adjoins other material or vertical surfaces.
1. The expansion joints shall be full depth as shown in the plan details. Failure to do so will result in non-compliance and shall be immediately machine cut by the contractor at his expense.
- D. Exposed Concrete Surface Finishing (not including top surface of flatwork): Remove fins and rough spots immediately following removal of forms from concrete which is to be left exposed. Damaged and irregular surfaces and holes left by form clamps and sleeves shall be patched with grout. Tie wires are to be removed to below exposed surface and holes pointed up with neat cement paste similar to procedure noted under "Patching" below. Removal of tie wires shall extend to distance of 2" below established grade lines. Ends of tie wires shall be cut off flush at all other, unexposed locations. Care shall be taken to match adjacent finishes of exposed concrete surface. After patching, all concrete that is to remain exposed, shall be sacked with a grout mixture of 1-part cement, 1 1/2- parts fine sand and sufficient water to produce a consistency of thick paint. After first wetting the concrete surface, apply mixture with a brush and immediately float entire surface vigorously using a wood float. Keep damp during periods of hot weather. When set, excess grout shall be scraped from wall with edge of steel trowel, allowed to set for a time, then wiped or rubbed with dry burlap. Entire finishing operation of any area shall be completed on the same day. This treatment shall be carried to 4" below grade, and all patching and sacking shall be done immediately upon removal of the forms.
- E. Stair Treads and Risers: Tool exterior stair tread nosing per ADA requirements and as detailed. Paint or stain tooled area at every stair tread nosing or as detailed. Stair tread nosing shall contain no pockets, voids or spalls. Patching is not allowed. Damaged nosing shall be replaced.

3.10 CURING

- A. Cured Concrete in Forms: Keep forms and top on concrete between forms continuously wet until removal of forms, 7 days minimum. Maintain exposed concrete in a continuous wet condition for 14 days following removal of forms.
- B. Flatwork/Variable Height Curbs, Curb and gutter, Valley Gutter: Cure utilizing

Curing Compound. If applicable, the Contractor shall verify that the approved Curing Compound is compatible with the approved colorant system. Upon completion of job, wash clean per manufacturer's recommendations.

1. Curing compound shall be applied in a wet puddling application. Spotty applications shall be reason for rejection and possibly concrete removal and replacement at the contractor's expense with no compensation from the owner.
- C. No Curing Compound shall be applied to areas scheduled to receive resilient track surface including, curbs, ramps, run ways, etc.

3.11 DEFECTIVE CONCRETE

- A. Determination of defective concrete shall be made by the Architect or Engineer. His opinion shall be final in identifying areas to be replaced, repaired or patched.
- B. The Owner reserves the right to survey the flatwork, if it is determined to be outside of the maximum tolerance for flatness. If the flatwork is found to be out of tolerance, then the Contractor will be required to replace concrete. The Contractor will be responsible for reimbursing the Owner for any surveying costs incurred. Determination of flatwork flatness, surveying and any remedial work must be completed far enough in advance so that the project schedule is maintained, delays are avoided and the new flatwork or flatwork repairs are properly cured.
- C. As directed by Architect, cut out and replace defective concrete. All defective concrete shall be removed from the site. No patching is to be done until surfaces have been examined by Architect and permission to begin patching has been provided.
- D. Permission to patch any area shall not be considered waiver of right, by the Owner, to require removal of defective work, if patching does not, in opinion of Architect, satisfactorily restore quality and appearance of surface.
- E. Defective concrete is:
1. Concrete that does not match the approved mix design for the given installation type.
 2. Concrete not meeting specified 28-day strength.
 3. Concrete which contains rock pockets, voids, spalls, transverse cracks, exposed reinforcing, or other such defects which adversely affect strength, durability or appearance.
 4. Concrete which is incorrectly formed, out of alignment or not plumb or level.
 5. Concrete containing embedded wood or debris.
 6. Concrete having large or excessive patched voids which were not completed under Architect's direction.
 7. Concrete not containing required embedded items.
 8. Excessive Shrinkage, Traverse cracking, Crazeing, Curling; or Defective Finish. Remove and replace if repair to an acceptable condition is not feasible.
 9. Concrete that is unsuitable for placement or has set in truck drum for longer than 90 minutes from the time it was batched.

10. Expansion joint felt that is not isolating the full depth of the concrete section, and recessed as required for backer rod and sealant where required.
 11. Concrete that is excessively wet or excessively dry and will not meet the minimum or maximum slump required per mix design.
 12. Finished concrete with oil stains from equipment use, and or rust spots that cannot be removed.
 13. Control joints (weakened planed joints) that do not meet the required minimum depth shown on the drawings.
- F. Patching: Install specified Patching Mortar per manufacturer's recommendations. REPAIRS TO DEFECTIVE CONCRETE WHICH AFFECT THE STRENGTH OF ANY STRUCTURAL CONCRETE MEMBER OR COMPONENT ARE SUBJECT TO APPROVAL BY THE ARCHITECT AND DSA.

3.12 CONCRETE TESTING

- A. Comply with CBC Section 1903A, 1905A.1.16, 1910A and 1705A.3 and as specified in B. below. Costs of tests will be borne by the Owner.
- B. Four identical cylinder samples for strength tests of each class of concrete placed each day shall be taken not less than once a day, or not less than once for each 50 cubic yards of concrete, or not less than once for each 2,000 square feet of surface area for slabs or walls. In addition, samples for strength tests for each class of concrete shall be taken for seven-day tests at the beginning of the concrete work or whenever the mix or aggregate is changed.
- C. Strength tests will be conducted by the Testing Lab on one cylinder at seven (7) days and two cylinders at twenty-eight (28) days. The fourth remaining cylinder will be available for testing at fifty-six (56) days if the 28-day cylinder test results do not meet the required design strength.
- D. On a given project, if the total volume of concrete is such that the frequency of testing required by paragraph B. above would provide less than five strength tests for a given class of concrete, tests shall be made from at least five randomly selected batches or from each batch if fewer than five batches are used.
- E. Cost of retests and coring due to low strength or defective concrete will be paid by Owner and back-charged to the Contractor.
- F. Each truck shall be tested for slump before concrete is placed.

3.13 REMOVAL OF FORMS

- A. Remove without damage to concrete surfaces.
- B. Sequence and timing of form removal shall insure complete safety of concrete structure.
- C. Forms shall remain in place for not less than the following periods of time. These periods represent cumulative number of days during which

temperature of air in contact with concrete is 60 degrees F and above.

1. Vertical forms of foundations, walls and all other forms not covered below: 5 days.
 2. Slab edge screeds or forms: 7 days.
 3. Concrete columns and beam soffits: 28 days.
- D. Concrete shall not be subjected to superimposed loads (structure or construction equipment) until it has attained its full design strength and not for a period of at least 21 days after placing. Concrete systems shall not be subjected to construction loads in excess of design loads.

3.14 CLEANING

- A. Refer to Section 01 74 00.
- B. Upon completion of work of this Section promptly remove from the working area all scraps, debris and surplus material of this Section.
- C. Clean excess material from surface of all concrete walks and utility structures.
- D. Power wash all concrete surfaces to remove stains, dried mud, tire marks, and rust spots.

END OF SECTION

DOCUMENT 32 31 00

CHAIN LINK FENCES AND GATES

PART 1 – GENERAL

1.01 REQUIREMENTS, CODES

- A. All applicable portions of Division 1, including the Drawings and General Provisions of the Contract, the General and Supplementary Conditions and Division 1 Specification Sections apply to Work of this Section as if printed herein.
- B. The following are minimum requirements and shall govern except all Federal, Local and/or State Codes and Ordinances shall govern when their requirements are In excess hereof.
- C. Related Sections:
 - Section 01 33 00: Submittals
 - Section 32 16 00: Site Concrete

1.02 Description

- A. Provide all labor, materials and equipment incidental to the completion of all Site Fencing as shown on the drawings and as specified herein.
- B. Work Included consists of but is not limited to the following:
 - (1) Permanent site chain link fencing, gates, locking hardware, Knox locks per fire department and accessories.
 - (2) All necessary excavation, concrete foundation work, etc.
 - (3) Temporary/ relocatable chain link fencing and gates to enclose and secure site.

1.03 Quality Assurance

- A. Fabric, fence and pate posts, gate frames including all erection accessories, fittings and fastenings shall be in accordance with the following standards.
 - (1) Zinc fabric coating shall be 2.0 ounce per square foot conforming to ASTM A-392.
 - (2) Aluminum fabric coating shall be .40 ounce per square foot conforming to ASTM A-491.
 - (3) Roll formed steel sections shall conform to ASTM A-570, Grade 45 with 2.0 ounce per square foot zinc - aluminum coating conforming to ASTM

A-525 or 2.0 ounce per square foot zinc coating conforming to ASTM A-123.

- (4) Type I steel pipe shall be standard weight, Schedule 40, with 2.0 ounce per square foot zinc coating conforming to ASTM A-1 20.
 - (5) Type II steel pipe shall be cold rolled welded steel conforming to ASTM A-569 and having a minimum yield strength of 50,000 psi. Coating shall be a triple coating of 1.0 ounce of zinc, 30 micrograms of chromate and 2 mils clear polyurethane coating. Interior of pipe shall be coated with a corrosion resistant zinc based coating containing 80% minimum zinc powder.
 - (6) All fittings shall be hot dipped galvanized conforming to ASTM A-153.
- B. Bending strengths under an eight foot (8') above finished grade cantilever load for posts and a vertical banding strength on a ten foot (10) span for rails shall not be less than specified below.
- (1) Corner and terminal post bending strength shall be 486 pounds minimum.
 - (2) Intermediate post bending strength shall be 201 pounds minimum.
 - (3) Gate post bending strength shall be 486 pounds minimum.
 - (4) Top, bottom and intermediate rail bending strength shall be 250 pounds minimum.

1.04 Submittals

- A. Submit fence and gate shop drawings for approval, See Division 1 of the Specifications.
 - (1) Shop drawings shall indicate fence layout, dimensions and details of fence and gates including fence height, size of posts, top and bottom rails, footings and related loading accessories, and concrete mow strip at all permanent fence locations as per details.
 - (2) Shop drawings shall be accompanied with written evidence of compliance with ASTM standards and specified bending strengths.

PART - 2 - PRODUCTS

2.01 Materials

- A. Unless noted otherwise on plans, fabric shall be 6'-0 high, #9 gauge, chain link open hearth steel wire, hot-dipped galvanized after weaving or hot-dipped aluminum coated before weaving, woven in a 2" diamond mesh. Top and bottom salvage to be twisted and bent to prevent sharp barbs.

- B. Comer and terminal posts shall be 3.5" x 3.5" roll formed steel section, weight 4.8 lbs. per foot, 2.5" x 2.5" square steel tube, weight 5.59 lbs, per square foot or 3" O.D., Type 11 steel pipe, weight 4.64 lbs. per foot, hot-dipped galvanized.
- C. Intermediate posts shall be 2.25" x 1.70" roll formed Steel "C" section, weight 2.64 lbs. per foot, 2-1/2" O.D., Type I steel pipe, weight 3.65 lbs. per foot or 2-1/2" O.D., Type II steel pipe, weight 3.12 lbs. per foot. All posts shall be capped and shall be hot-dipped galvanized.
- D. Top, intermediate and bottom rails shall be 1.625" x 1.25" roll formed steel "C" sections weight 1.37 lbs. per foot, 1-5/8" O.D., Type I steel pipe, weight 2.27 lbs, per foot or 1-5/8" O.D., Type II steel pipe, weight 1.84 lbs. per foot, hot-dipped galvanized.
- E. Gate posts shall be 3.5" x 3.5" roll formed steel section, weight 4.8 lbs. per foot, 3" O.D., Type I steel pipe, weight 5.79 lbs, per foot or 3" O.D., Type II steel pipe, weight 4.64 lbs. per foot. Posts shall be capped and hot-dipped galvanized.
- F. Post tops shall be pressed steel or malleable iron designed as a weathertight closure cap. Tops of line posts shall be designed to permit passage of top rail. Provide one cap for each post.
- G. Stretcher bars shall be one piece lengths equal to full height of fabric with a minimum cross section of 3/16" x 3/4". Provide one stretcher bar for each gate post, terminal post and vertical gate frame and two for each corner post.
- H. Stretcher bars bands, truss rods, tie wires, hog rings, couplings, nuts, bolts, locking devices and miscellaneous fastening devices shall be manufacturer's standard for heavy duty construction fence and gate.
- I. Swing gate shall be fabricated from the following components:
 - 1. Fabric shall be identical to fence fabric.
 - 2. Gate frame shall be 2" O.D., Type I steel pipe, weight 2.72 lbs. per foot or 2" O.D., Type II steel pipe, weight 2.28 lbs. per foot, hot-dip galvanized.
 - 3. Hinges shall be pressed steel or malleable iron to suit gate size, non-lift off type. Hinges shall be offset to permit 180 degree opening. Provide three (3) pair of hinges per leaf.
 - 4. Latch shall be panic type as shown on drawings.
 - 5. Contractor shall verify the size and configuration of all swing gates per the drawings. Gates shall include single and/or double man gates and vehicle gates, dimensioned openings per the plans.

- J. Coating for welds shall be liquid zinc based coating, containing 80% minimum zinc powder, specifically formulated for galvanize touch-up.
- K. Concrete for setting posts shall be Portland Cement complying with ASTM C-150, aggregates complying with ASTM C-33, and clean water. Mix materials to obtain concrete with a minimum 28-day compressive strength of 2500 psi, using at least 4 sacks of cement per cu. yd., 1" maximum size aggregate, maximum 3" slump, and 2% to 4% entrained air. Preparation to conform to ASTM C-94.
- L. Knox padlocks per local fire authority. (Provide at gates as shown on the drawings, key to school master.)

PART 3 -EXECUTION

3.01 Installation

- A. Installation shall be made in a workmanlike manner by skilled mechanics experienced in erection of this type of fence. The fence shall be erected on line and to grade as indicated on the drawings. Complete rough and required finished grades prior to installation of the permanent fencing.
- B. Fence and gate posts shall be spaced as Indicated on the drawings, but fence posts shall not exceed (10'-0") ten feet on center, unless noted otherwise.
 - (1) Drill holes for post footings as shown on the drawings. Excavate deeper as required for adequate support in soft and loose soils.
 - (2) Place concrete around posts in a continuous pour, tamp for consolidation. Check each post for vertical and top alignment, and hold position during placement and finishing operations. Concrete shall cure a minimum of three (3) days prior to installing fabric.
- C. Rails are to be securely fastened to line, terminal, gate, corner and sign posts. Rails shall be maximum length. Rails shall be fitted with couplings to form continuous lengths. Couplings shall be formed to configuration of rail and be six inches (6") minimum in length.
 - (1) Position intermediate rail midway between top and bottom rail
 - (2) Provide self centering sleeve rail couplings for intermediate and bottom rail. Top rail shall be continuous and pass through line post cap.
- D. The chain link fence fabric shall be securely fastened to all corner, terminal and gate posts using stretcher bars and heavy gauge stretcher bar bands. There shall be (1) band for each foot in the height of fence. The fabric shall be fastened to all intermediate posts with 9 gauge minimum tie wires, spacing not to exceed fifteen inches (15"). Fabric shall be tied to rails with 9 gauge minimum tie wires, spacing not to exceed twenty-four Inches (24").
 - (1) Knuckle all fabric to eliminate sharp barbs.

- E. Fabricate gate frames of pipe members, as specified. Provide additional horizontal members and truss rods to resist sag and twist, ensure proper gate operation and for attachment of fabric, hardware and accessories.
- (1) Assemble gate frames by welding or by fittings and rivets for rigid connections. All welds shall be coated with liquid zinc. Provide 3/8" minimum diameter adjustable truss rods on all gate frames with riveted fitting connections.
 - (2) Install fabric with stretcher bars at vertical edges, and tie wires at top and bottom edges. Attached stretcher bars to gate frame at not more than 15" o.c. Attach hardware with rivets or by other means which will provide security against removal or breakage.
 - (3) Install gates plumb, level and secure, provide full opening without interference. Install all ground set items in concrete, as a portion of this work.

3.02 Adjust and Clean

- A. Adjust and align all operating hardware for smooth operation. Lubricate where necessary. Leave in perfect working order.
- B. Upon the completion of the installation all debris created by the installation shall be removed from the site.

3.03 Completion

- A. Contractor shall repair any damage to fence occurring during this Increment of the job to like new condition.

END OF SECTION

DOCUMENT 32 80 00

IRRIGATION

PART 1 - GENERAL

Construction Documents and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.01 DESCRIPTION

- A. Scope of Work: Furnish all labor, materials, tools, equipment, and transportation required to perform and complete the installation of an automatic sprinkler irrigation system, including all piping, sprinkler heads, controls, connections, testing, etc. as shown on the Drawings and as specified herein. The water source for this project is non-potable ditch water.
- B. Utilize and accept as standards manufacturer's recommendations and/or installation details for any information not specifically detailed on the Drawings.

1.02 RELATED SECTIONS

- A. SUBMITTAL PROCEDURES: Section 01 33 00.
- B. CLOSEOUT PROCEDURES: Section 01 77 00.
- C. EARTHWORK: Section 31 00 00.
- D. LANDSCAPING: Section 32 90 00.

1.03 GUARANTEE

- A. Guarantee all workmanship and materials hereunder against defective workmanship and materials, including damage by leaks and settlement of irrigation trenches, for the duration specified in Division 01 of these Specifications. (The Contractor is not responsible for vandalism or theft after date of final acceptance.)

1.04 QUALITY CONTROL

- A. Qualifications of Contractor: Work must be completed by a licensed Landscape Contractor. Provide proof of five years of continuous experience in landscaping and irrigation of projects of similar size (+\ - 20% of the construction cost) and scope for education campuses. Contractor to have a minimum of two projects either completed or in construction in the last five years.
- B. Work Force: Ensure that an experienced foreman is present at all times during installation. Keep the same foreman and workers on the job from commencement to completion.

- C. Reviews: Specifically request reviews of all items listed below in "Inspection Requirements" prior to progressing to the next level of work.
- D. Certification: Ensure that the contractor installing the Central Control System is trained and certified in the installation of the Central Control System. The training and certification must have been completed within two years prior to the installation date.
- E. Standards:
 - 1. Provide work and material in full accordance with the rules and regulations of the California Electric Code; the California Plumbing Code; and other applicable state or local laws or regulations.
 - 2. Furnish, without extra charge, additional material and labor required to comply with these rules and regulations, though the work may not be specifically indicated in the Specifications or Drawings.
 - 3. Where the Specification requirements exceed those of the above-mentioned codes and regulations, comply with the requirements in the Specifications.
- F. Delivery, Storage, and Handling:
 - 1. Use all means necessary to protect irrigation system materials before, during, and after installation and to protect related work and material.
 - 2. Handle plastic pipe carefully, especially protecting it from prolonged exposure to sunlight. Store pipe on beds that are the full length of the pipe, and keep pipe flat and off the ground with blocks.
- G. Required Start-up Procedures:
- H. Comply with the requirements of Section 01 77 00 – CLOSEOUT PROCEDURES.

1.05 INSPECTION REQUIREMENTS

- A. Request and hold a pre-construction meeting prior to beginning the work of this Section. Parties required to be in attendance are the Landscape Contractor, Project Inspector, Owner's Representative, and the Landscape Architect.
- B. Prior to commencement of the work of this Section, obtain written verification from the project Civil Engineer that the rough grade in landscape areas is in conformance with Section 31 00 00 - EARTHWORK.
- C. Obtain verification from Project Inspector for the following at the appropriate times during construction and prior to further progression of work in this Section:
 - 1. Pressure testing of all mainlines and lateral lines (See "Hydrostatic Tests – Open Trench" in Part 3.13 of this Section),

2. Trench depth,
 3. Sleeves under pavement,
 4. Flushing of all mainlines and lateral lines,
 5. Backfill and pipe bedding,
 6. Layout of heads,
 7. Operation of system and coverage adjustments (with Landscape Architect) after system is fully automated and operational, backfill of trenching is completed, and surface has been restored to original grades.
- D. In case of failure to obtain any verification by the Project Inspector as required above, remove and replace work as necessary to obtain the verification at no additional cost to the Owner.

1.06 SUBMITTALS AND SUBSTITUTIONS

- A. Comply with requirements of Section 01 33 00 – SUBMITTAL PROCEDURES.
- B. Product names are used as standards; provide proof as to equality of any proposed material and do not use other materials or methods unless approved in writing by the Owner's Representative. Submit no more than one request for substitution for each item. The decision of the Owner's Representative is final.
- C. Use equipment capacities specified herein as the minimum acceptable standards.
- D. List materials in the order in which they appear in Specifications; include substitutions. Submit the list for approval by the Owner's Representative.
- E. Make any mechanical, electrical, or other changes required for installation of any approved, substituted equipment to satisfaction of Owner's Representative and without additional cost to Owner. Approval by Owner's Representative of substituted equipment and/or dimensional drawing does not waive these requirements.
- F. Do not construe approval of material as authorization for any deviations from Specifications unless attention of Owner's Representative has been directed to specified deviations.

1.07 PROJECT CONDITIONS, AND PROTECTION

- A. Information on Drawings relative to existing conditions is approximate. During progress of construction, make deviations necessary to conform to actual conditions, as approved by Owner's Representative, without additional cost to Owner. Accept responsibility for any damage caused to existing services. Promptly notify Owner's Representative if services are found which are not shown on Drawings.

- B. Protect existing trees-to-remain as specified in "Existing Tree Protection" in Part 3.02 of this Section.
- C. Protect existing utilities within construction area. Repair damages to utility lines that occur as a result of operations of this work.
- D. Verify dimensions at building site and check existing conditions before beginning work. Make changes necessary to install work in harmony with other crafts after receiving approval by Owner's Representative.

1.08 MAINTENANCE AND OPERATING INSTRUCTIONS

- A. Furnish three complete sets of operating maintenance instructions bound in a hardback binder and indexed. Start compiling data upon approval of list of materials. Do not request final inspection until booklets are approved by Owner's Representative.
- B. Incorporate the following information in these sets:
 - 1. Complete operating instructions for each item of irrigation equipment.
 - 2. Typewritten maintenance instructions for each item of irrigation equipment.
 - 3. Manufacturer's bulletins which explain installation, service, replacement parts, and maintenance.
 - 4. Service telephone numbers and/or addresses posted in an appropriate place as designated by Owner's Representative.

1.09 RECORD DRAWINGS

Upon completion of work, and as a precedent to final payment, deliver to Owner's Representative one complete set of reproducible originals of Drawings showing work exactly as installed. (See "Record Drawings" in Part 3.16 of this Section)

PART 2 - PRODUCTS

2.01 GENERAL

Use materials as specified; any deviation from the Specifications must first be approved by the Owner's Representative in writing. All material containers or certificates shall be clearly marked by manufacturer as to contents for inspection.

2.02 MATERIALS

- A. Automatic Control Valves: As indicated on Drawings.
- B. Gate Valve: As indicated on Drawings.

- C. Pipe and Fittings:
 - 1. PVC pipe: As indicated on Drawings.
 - 2. PVC fittings three-inch (3") size and smaller: High impact, standard weight, Schedule 40, molded PVC as manufactured by George Fischer, Lasco, Spears, or approved equal.
 - 3. All plastic pipe and fittings: Continuously and permanently marked with manufacturer's name, type of material, IPS size, schedule, NSF approval, and code number.
 - 4. Threaded PVC pipe and nipples: IPS Schedule 80 when necessary to use threaded connections to gauges, valves, or control valves. Threaded adapters may be used in place of nipples when making pipe to valve connections.
 - 5. Use 45-degree fittings for changes in depth of pipe, and at transition from main line to automatic control valves.
 - 6. Piping above ground: Schedule 40 galvanized steel with cast-iron fittings.
 - 7. Piping used for electrical purposes to be Schedule 40 PVC Rigid Nonmetallic Conduit electrical conduit.
- D. PVC Primer: Weld-On P-70 Purple Primer or approved equal.
- E. PVC Glue: Weld-On 711 Gray heavy bodied PVC Cement or approved equal.
- F. Sprinkler Heads: As indicated on Drawings.
- G. Quick Coupler Valves: As indicated on Drawings.
- H. Sleeves: As indicated on Drawings.
- I. All Valve Boxes and Covers: Manufactured, green with "Irrigation – Non-Potable" permanently embossed on cover. Carson, Rainbird or approved equal.
- J. Automatic Sprinkler Control Wire:
 - 1. Connections between remote control valves and controller: UF-14 direct burial plastic polyethylene (PE) insulated wire, Paige Electric P7079D or approved equal. Common wire to be white, and lead wire to be colored. If multiple controllers are used, a different color is to be used for each controller's lead wire. (Use red for the first controller). Spare wires are to be yellow.
 - 2. UL Listed waterproof sealing pack for wire connections: 3M DBR/Y-6, or approved equal.

3. Provide adequate working space around electrical equipment in compliance with local codes and ordinances.
 4. Electrical, other than low voltage, such as power wiring, conduit, fuses, thermal overloads and disconnect switches, is included under Division 26 of these Specifications.
- K. Unions And Flanges:
1. Steel unions and flanges two inches (2") and smaller: 150 lb. screwed black (brass to iron seat) or galvanized malleable iron (ground joint).
 2. Steel unions and flanges two and one-half inches (2 ½") and larger: 150 lb. black flange union, flat-faced, full gasket.
 3. Gaskets: One-sixteenth inch (1/16") thick rubber Garlock No. 122, Johns-Manville or approved equal.
 4. Flange Bolts: Open-hearth bolt steel, square heads with cold pressed hexagonal nuts, cadmium plated in ground. Provide copper-plated steel bolts and nuts or brass bolts and nuts for brass flanges.
- L. Valve Identification Tags: Christy's irrigation ID tags, standard yellow color or approved equal.
- M. Sand for Trench Backfill: Natural sand, free of roots, bark, sticks, rags, or other extraneous material.

PART 3 - EXECUTION

3.01 SITE CONDITIONS

Locations of existing utilities and other improvements shown on the Drawings are approximate. Verify existing conditions and, should any utilities be encountered that are not indicated on the plans, notify the Owner's Representative immediately. Accept responsibility for any damages caused to existing services.

3.02 PREPARATION

- A. Scheduling: Notify the Project Inspector prior to commencing and/or continuing the work of this Section. Remove and replace, at no cost to Owner, any work required as a result of failure to give the appropriate notification.
- B. Examination: Examine conditions of work in place before beginning work; report defects.
- C. Measurements: Take field measurements; report variance between plan and field dimensions.

- D. Protection: Maintain warning signs, shoring and barricades as required. Prevent injury to, or defacement of, existing improvements. At no additional cost to Owner, repair or replace items damaged by installation operations.
- E. Existing Tree Protection:
 - 1. Avoid unnecessary root disturbance, compaction of soils within drip line, or limb breakage.
 - 2. Do not store material or dispose of any material other than clean water within the drip line.
 - 3. Provide adequate irrigation during construction.
 - 4. Replace any tree damaged during construction with a tree of equal size and value at no additional cost to Owner.
 - 5. Adjust trench locations in field to minimize damage to existing elements and plant roots of trees-to-remain at no additional cost to Owner.
- F. Surface Preparation: Prior to beginning sprinkler irrigation work, complete placement of topsoil as specified in Section 31 00 00 – EARTHWORK. Notify Project Inspector of irregularities if any.

3.03 AUTOMATIC CONTROLLER

- A. Connect automatic control valves to controller(s) in sequence as shown on Drawings.
- B. Install all exposed wires to a minimum of twenty-four inches (24”) beyond controller within a UL approved rigid conduit.

3.04 GRADING

Install all irrigation features to their finished grade and at depths indicated. Complete and /or accommodate all rough grading and/or finish grading before commencing with trenching.

3.05 LAYOUT

- A. Lay out work as accurately as possible to Drawings. Drawings are generally diagrammatic to extent that swing joint offsets and fittings are not shown. Record all changes on the Record Drawings.
- B. Do not willfully install the irrigation system as shown on Drawings when it is obvious, in the field, that obstructions or other discrepancies exist which may not have been considered in the design. Notify Owner’s Representative of discrepancies before proceeding.

3.06 EXCAVATING AND TRENCHING

- A. General: Perform excavations as required for installation of work included under this Section, including shoring of earth banks to prevent cave-ins. Restore surfaces, existing underground installations, etc., damaged or cut as result of this work to their original condition and in a manner approved by the Landscape Architect.

- B. Width:
 - 1. Make trenches wide enough to allow a minimum of six inches (6") between parallel pipelines and three inches (3") between side of pipe and side of trench. Do not allow stacking of pipe within trench.
 - 2. Allow a minimum clearance of twelve inches (12") in any direction from parallel pipes of other trades.

- C. Preparation of Excavations: Remove rubbish and rocks from trenches. Bed pipe on a minimum of three inches (3") of clean, rock-free soil to provide a firm, uniform bearing for entire length of pipeline. Cover pipe with a minimum of three inches (3") of clean, rock-free soil. If clean, rock-free soil is not available, use sand for pipe bedding and three inches (3") of backfill above the pipe. The remainder of the trench backfill material can be native soil. Do not allow wedging or blocking of pipe.

- D. Minimum depth of cover: Unless shown otherwise, provide the following minimums:
 - 1. Mainline: twenty-four inches (24") cover.
 - 2. Lateral line: twelve inches (12") cover.

- E. Conflicts with other trades:
 - 1. Hand-excavate trenches where potential conflict with other underground utilities exist.
 - 2. Where other utilities interfere with irrigation trenching and piping work, adjust the trench depth as instructed by Owner's Representative.

3.07 BACKFILL AND COMPACTING

- A. General: Do not begin until hydrostatic tests are completed. When system is operating and after required tests and inspections have been made, backfill trenches under paving areas to the compaction rate specified in Section 31 00 00 – EARTHWORK.

- B. Place backfill in six-inch (6") layers and compact with an acceptable mechanical compactor.
 - 1. Compact backfill material in landscape areas to eighty-five percent (85%) maximum dry density of the soil.

2. If settlement occurs along trenches, make adjustments in pipes, valves, and sprinkler heads, soil, sod or paving as necessary to bring the system, soil, sod or paving to the proper level or the permanent grade, without additional cost to the Owner.
- C. Excess Soil: Remove all rocks, debris, and excess soil that results from sprinkler irrigation trenching operations, landscape planting, and soil preparation operations off site at no additional cost to the Owner. If soil meets topsoil requirements in Section 31 00 00 – EARTHWORK, it may be used for finish grading.
- D. Finishing: Dress-off areas to eliminate construction scars.

3.08 CONTROL WIRES

- A. General: Install control wires beneath sprinkler main line whenever possible; tape wires to mainline pipe. Provide one spare wire for each controller.
- B. Slack Wire: Provide eighteen inches (18”) of slack wire for each wire connected to automatic control valve. Slack wire shall be coiled and left in the valve box. Tape wires in bundles every ten feet (10’); do not tape wires in sleeves.
- C. Expansion and Contraction: Snake wire in trench to allow for contraction of wire.
- D. Wire Passing Under Existing or Future Paving or Construction: Encase in PVC Schedule 40 or galvanized steel conduit extending at least twelve inches (12”) beyond edges of paving or construction.
- E. Wire Connections: Install wire connections in a waterproof sealing pack.
- F. Wire Splicing: Permit splicing only on runs exceeding 500 feet. Locate all splices within valve boxes.
- G. Wire Termination: Install wire in a valve box with eighteen inches (18”) of slack wire coiled and individually capped with approved waterproof sealing pack.
- H. Spare Wire: Install two (2) spare wires along each wire path. If there is more than one wire path from the controller, the contractor to install two (2) spare wires per path. Provide eighteen inches (18”) of slack wire at each automatic control valve.

3.09 FLUSHING LINES

Thoroughly flush lines prior to installing valves, performing hydrostatic testing, or installing sprinklers. Divert water to prevent washouts.

3.10 AUTOMATIC CONTROL AND QUICK COUPLER VALVES

- A. Install where shown and where practical; place no closer than twelve inches (12") to walk edges, building walls, or fences. Refer to detail for example.
- B. Thoroughly flush mainline before installing valve.
- C. Install valves in ground cover areas where possible.

3.11 PIPING

- A. General: Install in conformance with reference standards, manufacturer's written directions, as shown on Drawings and as herein specified.
- B. Workmanship:
 - 1. General: Install sprinkler irrigation equipment in planted areas throughout the site.
 - 2. Coordination: Organize location of sleeves with other trades as required.
- C. Pipe Line Assembly:
 - 1. General:
 - a. Cutting: Cut pipe square; remove rough edges or burrs.
 - b. Solvent-welded Connections: Use materials and methods recommended by the pipe manufacturer.
 - c. Brushes: Use non-synthetic brushes to apply solvents and primer.
 - d. Cleaning: Clean pipe and fittings of dirt, moisture, and debris prior to applying solvent or primer.
 - e. Assembly: Allow pipe to be assembled and welded on the surface or in the trench.
 - f. Expansion and Contraction: Snake pipe from side to side of trench to allow for expansion and contraction.
 - g. Location: Locate pipes as shown on Drawings except where existing supply valves, utilities or obstructions prohibit or where slight changes are approved to better suit field conditions.
 - 2. Connections:
 - a. Threaded Plastic Pipe Connection:
 - 1.) Use Teflon tape or pipe joint compound.

- 2.) When assembling to threaded pipe, take up joint no more than one full turn beyond hand-tight.
 - b. Metal Valves and Plastic Pipe: Use threaded plastic male adapters.
 - c. Metal to Metal Connections:
 - 1.) Use specific joint compound or gasket material for type of joint made. Where pipe of dissimilar metals are connected, use dielectric fittings.
 - 2.) Where assembling, do not allow more than three full threads to show when joint is made up.
 - d. Where assembling soft metal (brass or copper) or plastic pipe, use strap-type friction wrench only; do not use a metal-jawed wrench.
 - e. Threading:
 - 1.) Do not permit the use of field-threading of plastic pipe or fittings. Use only factory-formed threads.
 - 2.) Use factory-made nipples wherever possible. Permit the use of field-cut threads in metallic pipe only where absolutely necessary. When field-threading, cut threads accurately on axis with sharp dies.
 - 3.) Use pipe joint compound for all threaded joints. Apply compound to male thread only.
 3. Sleeves and conduits:
 - a. Use sleeves of adequate size to accommodate retrieval for repair of wiring or piping and extend a minimum of twelve inches (12") beyond edges of walls or paving.
 - b. Provide removable, non-decaying plug at end of sleeve to prevent entrance of soil.
 4. Unions: Locate unions for easy removal of equipment or valve.
 5. Capping: Plug or seal opening as lines are installed to prevent entrance materials that would obstruct pipe. Leave in place until removal is necessary for completion of installation.
- D. Drip Irrigation Tubing: Install as per Drawings.

3.12 SPRINKLER HEADS

- A. Sprinkler heads: Locate as shown on the Drawings except where existing conditions prohibit, or slight changes are approved to achieve as good or better coverage under the same conditions. Do not allow sprinkler head spacing to exceed the maximum shown on the Drawings. Plumb heads.
- B. Handling, Assembly of Pipe, Fittings, and Accessories: Allow only skilled tradesmen to handle and assemble pipe, fittings and equipment. Keep interior of pipes, fittings and accessories clean at all times. Close ends of pipe immediately after installation; leave closure in place until removal is necessary for completion of installation. Do not permit bending of pipe.
- C. Flushing: Remove end heads and operate system at full pressure until all rust, scale, and sand is removed. Divert water to prevent ponding or damage to finished work.
- D. Coverage: Accept responsibility for full and complete coverage of irrigated areas to satisfaction of Landscape Architect and make necessary adjustments to better suit field conditions at no additional costs to Owner.

3.13 FIELD QUALITY CONTROL

- A. Visual Inspection: Verify that all pipe is homogenous throughout and free from visual cracks, holes, or foreign materials. Inspect each length of pipe. All materials are subject to impact test at the discretion of the Landscape Architect.
- B. Hydrostatic Tests – Open Trench:
 - 1. Center-load piping with a small amount of backfill to prevent arching or slipping under pressure.
 - 2. Request the presence of the Project Inspector in writing at least forty-eight hours in advance of testing.
 - 3. At no additional cost to Owner, test in the presence of the Project Inspector.
 - 4. Apply continuous static water pressure of 100 psi when welded plastic joints have cured at least twenty-four hours, and with the risers capped, as follows: test main lines and submains for four hours; test lateral lines for two hours.
 - 5. Repair leaks resulting from tests; and repeat tests.
 - 6. Test to determine that all sprinkler heads function according to manufacturer's data and give full coverage according to intent of Drawings. Replace any sprinklers not functioning as specified with ones that do, or otherwise correct system to provide satisfactory performance.

- C. Continuity Testing: Test locating device and control wires for continuity prior to and after back-filling operations.

3.14 CLEAN-UP

Remove debris resulting from work of this Section.

3.15 ADJUSTMENTS AND MAINTENANCE

- A. Adjusting System: Prior to acceptance, satisfactorily adjust and regulate entire system. Set watering schedule on controller appropriate to types of plants and season of year. Adjust remote control valves to operate sprinkler heads at optimum performance based on pressure and simultaneous demands through supply lines.
- B. System Layout: Provide reduced prints of Record Document irrigation plans, laminated in four (4) mil. plastic, of size to fit controller door. Enlarge remote-control valve designations as necessary for legibility. Color-code areas covered by each station. Affix plans to inside of controller door.
- C. Instructions: Upon completion of work, instruct maintenance personnel on operation and maintenance procedures for entire system.
- D. Flow Charts: Record and prepare an accurate flow-rate chart for each automatic control valve.

3.16 RECORD DRAWINGS

- A. Regularly update plans of the system and any changes made to the system throughout the project. Record all changes on this plan before trenches are back-filled.
- B. Record the as-built information on reproducible plans provided by the Architect. Complete and submit the Record Drawings to the Architect before applying for payment for work installed.
- C. As-built drawings are to be completed electronically with a pdf editing software or computer aided drafting software. As-built drawing done by hand will not be accepted for final submittal.
- D. Show the following on the Record Drawings accurately to scale and dimensioned from two permanent points of reference:
 - 1. Distance of mainline from nearby hardscape.
 - 2. Location of automatic control valves, quick couplers, and gate valves.
 - 3. Location and size of all sleeves.
 - 4. Location of automatic control wires and spares.

3.17 OPERATION MANUALS

Deliver two complete sets of manufacturer's warranties, Contractor guarantees, instruction sheets, parts lists and operation manuals to the Architect before requesting final acceptance of the project. Do not request final inspection until the sets are approved.

END OF SECTION

DOCUMENT 32 90 00

LANDSCAPING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Scope of Work: Furnish all labor, materials, tools, equipment, and transportation required to perform and complete the following work as specified herein:
 - 1. Soil Preparation and Fertilization
 - 2. Planting
 - 3. Sodding
 - 4. Weed Control
 - 5. Decomposed Granite
 - 6. Mulch
 - 7. Clean-up
 - 8. Landscape Maintenance Period
 - 9. Guarantee
- B. Work not included in this Section: Landscape elements such as concrete walks, fencing, outdoor lighting, rough grading, and clearing are not a part of this Section unless shown on the landscape Drawings.
- C. Construction Documents and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specifications sections, apply to this section.

1.02 RELATED SECTIONS

- A. SUBMITTAL PROCEDURES: Section 01 33 00.
- B. CLOSEOUT PROCEDURES: Section 01 77 00.
- C. EARTHWORK: Section 31 00 00.
- D. IRRIGATION: Section 32 80 00.

1.03 GUARANTEE

- A. The guarantee period for lawn and plant material shall be the duration of the landscape maintenance period, from commencement until final acceptance of the work of this Section. See Division 01 for other applicable guarantee requirements.
- B. During the guarantee period, repair and/or replace plants and lawn not in satisfactory growing condition, as determined by Owner's Representative, without additional cost to Owner. Plants are to be replaced as per "Landscape Maintenance" in Part 3.10 of this Section, using plants of the same kind and size specified in plant list.

1.04 QUALITY CONTROL

- A. **Qualifications:** Work must be completed by a licensed Landscape Contractor. Provide proof of five years of continuous experience in landscaping and irrigation of projects of similar size (+\ - 20% of the construction cost) and scope for education campuses. Contractor to have a minimum of two projects either completed or in construction in the last five years.
- B. **Work Force:** Ensure that an experienced foreman is present at all times during installation. Keep the same foreman and workers on the job from commencement to completion.
- C. **Reviews:** Specifically request reviews of all items listed below in "Inspection Requirements" prior to progressing to the next level of work. The Owner's Representative reserves the right to inspect and reject material, both at place of growth and at site, before and/or after planting, for compliance with requirements for name, variety, size and quality.
- D. **Reference Standards:** Meet or exceed Federal, State and County laws requiring inspection of all plants and planting materials for plant disease and insect control.
- E. **Delivery, Storage, and Handling:**
 - 1. **Packaged Materials:** Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.
 - 2. **Bulk Materials:**
 - a. Do not dump or store bulk materials near structures, utilities, walkways or pavements, or on existing turf areas or plants.
 - b. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.

- c. Accompany each delivery of bulk fertilizers and soil amendments with appropriate certificates.

F. Plant Material:

1. Conform to the current edition of Horticultural Standards for quality of Number 1 grade nursery stock as adopted by the American Association of Nurserymen. Conform to sizes specified on plant legend. Select plants which have a natural shape and appearance.
2. Select only plants that are true to name, and tag one of each bundle or lot with the name of the plant in accordance with the standards of practice of the American Association of Nurserymen. In all cases, botanical names shall take precedence over common names.
3. Tag each plant of a patented variety with the variety and identification number, where applicable, as it is delivered to the job site.
4. Select only plants which have been nursery-grown in accordance with good horticultural practices and which have been grown under climatic conditions similar to those in the locality of the project for at least one year.
5. Select only plants which are typical of their species or variety; have normal habits of growth; are sound, healthy, vigorous, well-branched and densely-foliated when in leaf; are free of disease, insect pests, eggs or larvae; and have a healthy and well-developed root system.
6. Select only container stock that has been grown in the containers in which delivered for at least six (6) months, but not over two (2) years. Provide samples to show that there are no root-bound conditions.
7. Do not use plants that are severely pruned or headed-back to meet size requirements.
8. Do not plant container-grown plants that have cracked or broken balls of earth when taken from the container. Remove canned stock carefully from cans after containers have been cut on two sides with tin snips or other approved cutter.
9. Coordinate a time for the Landscape Architect to inspect the plants upon their delivery to the project site.
10. At any time prior to final acceptance, be prepared to replace any plants that are rejected by the Owner's Representative because of physical damage to the plant.
11. Do not remove container-grown stock from containers before time of planting.

12. Be prepared to replace plants which are rejected by the Owner's Representative for the following reasons:
 - a. Trunk bark damage caused by sunburn,
 - b. Trunk bark wounds caused by rubbing stakes or ties,
 - c. Trunk bark damage caused by ties that have girdled the tree,
 - d. Tree head development that is lopsided and not symmetrical in form,
 - e. Tree branches that cross or touch,
 - f. Tree branches with double leaders (unless multi-trunk trees are specified).
 13. Stake shrubs with one-inch by one-inch by eighteen-inch (1"x1"x18") stakes in such manner that the stakes are not visible, and tie to upright position if they lean and/or are not growing in a vertical position.
 14. Furnish quantities necessary to complete the work as shown on the Drawings and, if necessary, make up for any discrepancies in the quantities given in the Plant List at no additional cost to Owner.
- G. Decomposed Granite with Binder Mock-up:
1. Install 4 ft wide x 10 ft long mock-up of decomposed granite with Stabilizer additive at location as directed by owner's representative for review and acceptance prior to placement of decomposed granite.
- H. Comply with the requirements of Section 01 77 00 – CLOSEOUT PROCEDURES.

1.05 INSPECTION REQUIREMENTS

- A. Landscape Architect reserves the right to examine and reject plant material both at place of growth and at site, before and after planting, for compliance with requirements of name, variety, size, and quality.
- B. Request and hold a pre-construction meeting prior to beginning the work of this Section. Parties required to be in attendance are the Landscape Contractor, Project Inspector, Owner's Representative, and Landscape Architect.
- C. Obtain verification from Project Inspector for the following at the appropriate times during construction and prior to further progression of work in this Section:
 1. Rough grading is to tolerances specified in Section 31 00 00 – EARTHWORK.
 2. The placement of landscape backfill material is as specified in this Section.

3. Prior to the commencement of the work specified in this Section, the coverage and operation of the sprinkler irrigation system are as specified in Section 32 80 00 - IRRIGATION.
 4. The soil amendment does not include any metal fragments. (Obtain a letter from the manufacturer stating that the material submitted for use on this project has no metal or foreign objects. Submit this letter as part of the Data Sheet submittal package [see "Submittals and Substitutions" in this Section])
 5. Required Test: For each load of soil amendment delivered to the site, spread at least two cubic yards (2 cy) of material onto a paved surface approximately two inches (2") deep. Pass a magnetic rake over the material in two directions. If any metal is found, test the entire load in the same manner. Perform all testing in the presence of the Project Inspector.
 6. Soil amendments, fertilizer, bark mulch and materials used for hydroseeding have been delivered to the site by the supplier, the invoices from the supplier indicate the project name and quantities delivered, and the Project Inspector has received copies of all such documents.
 7. Prior to planting, amendments and conditioners have been incorporated as per pre-planting recommendations, and planting areas have been made ready to receive planting.
- D. In case of failure to obtain any verification by the Project Inspector as required above, remove and replace work as necessary to obtain the verification at no additional cost to the Owner.
- E. Beginning of Maintenance Period: Verify all work is complete, then request and hold a meeting to include the Landscape Architect, Project Inspector, Architect and Owner's Representative for authorization to begin the landscape maintenance period.
- F. End of Maintenance: Verify that all work is complete and acceptable, and that the maintenance has been completed per specifications; and continue to provide landscape maintenance until the Owner's Representative has accepted the work.
- 1.06 SUBMITTALS AND SUBSTITUTIONS
- A. See Section 01 33 00 – SUBMITTAL PROCEDURES for additional requirements.

- B. Plant Material: Within fifteen (15) days after award of contract, locate plant materials required for construction. Ensure that trees and shrubs are contract-grown from a certified nursery. Notify Owner's Representative of plant material "tied off" for review at selected nursery. If specified material is not obtainable, submit the following to Owner's Representative: proof of non-availability, proposal for use of equivalent material, photographs of alternative choices of plant material. Include clear, written description of type, size, condition, and general character of plant material.
- C. Data Sheets: Provide product data for each type of landscape material indicated in the Drawings and Specifications.
- D. Samples: Submit samples of the following materials to Landscape Architect for approval:
 - 1. Soil amendment: (3) one-quart zip-locked plastic bags.
 - 2. Bark Mulch: (3) one-quart zip-locked plastic bags.
 - 3. Imported Topsoil: (3) one-quart zip-locked plastic bags. (if needed)
 - 4. Decomposed Granite: (3) one-quart zip-locked plastic bags.
- E. Provide soils analysis reports prepared by a qualified soils laboratory in compliance with the Soil Testing Requirements under "Soil Testing" in Part 3.02 of this Section.
- F. Prior to planting, submit copies of all trucking or packaging tags for all soil amendment, fertilizer and other additives to Landscape Architect so the quantities can be verified.

1.07 PROTECTION AND CLEAN-UP

- A. Provide protection for persons and property throughout progress of work. Use temporary barricades as required. Proceed with work in such manner as to minimize spread of dust and flying particles and to provide safe working conditions for personnel. Store materials and equipment where directed.
- B. Existing Construction: Execute work in an orderly and careful manner to protect paving, work of other trades, and other improvements.
- C. Existing Utilities: Provide protection for existing utilities within construction area. At no additional cost to Owner, repair any damages to utility lines that occur as a result of this work.
- D. Landscaping: Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods.

- E. Paving: Maintain cleanliness of paving areas and other public areas used by equipment, and immediately remove spillage; remove rubbish, debris, and other material resulting from landscaping work, leaving site in a safe and clean condition.

1.08 PLANTING SCHEDULE / ENVIRONMENTAL REQUIREMENTS

- A. Install, establish, and maintain all lawn areas for a minimum of ninety (90) days prior to date of substantial completion. Coordinate schedule with other work and overall project schedule. Failure to install lawn areas by this date shall result in assessment of liquidated damages.
- B. Proceed with work in an orderly and timely manner to complete installation of landscaping within contract limits.
- C. Planting Season Limits: Do not plant when grounds are wet or temperature is below 25° F. Do not proceed with any soil preparation and fertilization if all planting cannot be completed within Planting Season Limit.

1.09 LANDSCAPE MAINTENANCE PERIOD REQUIREMENTS

- A. Beginning of Landscape Maintenance Period:
 - 1. General: Landscape Maintenance Period does not begin until all work is installed, as determined by Landscape Architect, in writing.
 - 2. On-site Inspection: When all work is complete, request and hold a meeting to include the Landscape Architect, Project Inspector, Architect and Owner's Representative who must together authorize and determine the start date for the landscape maintenance period. Coordinate and give notice of the date and time of the on-site meeting to all parties at least forty-eight (48) hours in advance.
 - 3. Acceptability: In cases where the lawn has reached adequate fullness and germination in some areas but not all, and authorization has not been given to begin the maintenance period, proceed with mowing, trimming, spraying, etc., as necessary prior to the beginning of the maintenance period.
- B. Duration of Landscape Maintenance Period:

The Landscape Maintenance Period shall continue for a minimum of ninety (90) calendar days. During this time, continuously maintain all areas involved until final acceptance of the work by the Owner's Representative. See Landscape Maintenance Period procedure in Part 3.10 of this Section.
- C. Final Acceptance of the Landscape Maintenance Period:

Request the final inspection forty-eight (48) hours in advance. If items require attention, hold on-site meetings until Landscape Architect can certify, in writing, and in concurrence with the Owner's Representative, the successful completion of the Landscape Maintenance Period.

1.10 RECORD DRAWINGS

Upon completion of work, and as a precedent to final payment, deliver to Owner's Representative one complete set of reproducible originals of Drawings showing work exactly as installed.

PART 2 - PRODUCTS

2.01 GENERAL

Use material in new and perfect condition as specified. Any deviations or substitutions from the Specification and Drawings must first be approved by Owner's Representative in writing prior to use.

2.02 SOIL PREPARATION MATERIALS

- A. Topsoil: Fertile; friable; natural loam surface soil; reasonably free of subsoil, clay lumps, brush, weeds and other litter; and free of roots, stumps, stones/rocks, and other extraneous or toxic matter harmful to plant growth.
- B. Soil Amendment: One-percent nitrogen-impregnated bark product with a ninety-percent (90%) bark base and zero to one-quarter inch (0-1/4") particle size, or approved equivalent. Do not spread until testing requirements have been satisfied.
- C. Fertilizer/Soil Conditioner: Gro-Power Plus or approved equal.
- D. Fertilizer for Trees and Shrubs: Seven-gram Gro-Power Planting Tablets (12-8-8 NPK) or approved equal.
- E. Vitamin B-1: "Superthrive", "Liquinox Start", "Cal-Liquid", or approved equal.

2.03 MISCELLANEOUS LANDSCAPE MATERIALS

- A. Bark Mulch: Untreated, shredded cedar.
- B. Tree-staking System: As indicated on Drawings.
- C. Pre-Emergent Weed Control: Oxadiazon, "Treeflan", "Ronstar 2G", "Surflan" (Elano Products Company), or approved equal.
- D. Decomposed Granite:
 - 1. Reddish-brown in color.
 - 2. A mixture of fines to three-eighths inch (3/8") size particles with no clods.
 - 3. Free of vegetation, other soils, debris and rocks, and of such nature that it can be compacted readily under watering and rolling.

- E. Decomposed Granite Binder: Shall be Stabilizer by Stabilizer Solutions.
- F. Fieldstones: As indicated on Drawings.
- G. Root Barrier: As indicated on Drawings.

2.04 PLANT MATERIAL:

- A. Nursery Plant Stock:
 - 1. As indicated on Drawings. Do not remove container-grown stock from containers until planting time. Plants shall be true to name.
 - 2. Healthy, shapely, well-rooted, not pot-bound, free from insect pests or plant diseases and properly "hardened off" before planting. Replace plants that are not alive or are not in satisfactory growing condition, as determined by the Landscape Architect, without additional cost to Owner. The Landscape Architect may reject plants before and/or after planting.
 - 3. Labeled. Label at least one tree and one shrub of each species with a securely-attached, waterproof tag bearing legible designation of botanical and common name.
- B. Lawn Sod: Ninety percent (90%) Dwarf Fescue and ten percent (10%) Kentucky Bluegrass.

PART 3 - EXECUTION

3.01 SITE CONDITIONS

- A. Examine the site, verify grade elevations, and observe conditions under which work is to be performed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Owner's Representative.
- B. Proceed with complete landscape work as rapidly as portions of the site become available, working within seasonal limitations for each kind of landscape work required.
- C. Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand-excavate, as required, to minimize possibility of damage to underground utilities. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.
- D. When conditions detrimental to sod or plant growth are encountered, such as rubble fill, adverse drainage condition, or other obstructions, notify the Owner's Representative before planting.

3.02 SOIL TESTING

- A. Coordinate soil testing in an expeditious and timely manner as required for on-site topsoil materials. Contract with a soil laboratory and include cost of sampling and testing in contract price. Take one (1) sample for every 5,000 square feet of landscape area up to a maximum of six (6) samples under the direction of and in the presence of the Owner's Representative.
- B. Submit each sample, according to the quantity of soil required by testing laboratory, to a competent laboratory approved by the Owner's Representative.
- C. Provide analysis of soil samples for pH, salinity, ammonia, phosphate, potassium, calcium, magnesium, boron, and sodium levels. Provide appraisal of chemical properties, including particle size determination, and recommendations for types and quantities of amendments and fertilizers.

3.03 PREPARATION

- A. Clearing of Vegetation:
 - 1. If live perennial weeds exist on site at the beginning of work, spray with a non-selective systemic contact herbicide as recommended and applied by an approved licensed landscape pest control advisor and applicator. Leave sprayed plants intact for at least 15 days.
 - 2. Clear and remove existing weeds by mowing or grubbing off all plant parts at least one-quarter inch ($\frac{1}{4}$ ") inch below surface of soil over entire areas to be planted.
- B. Soil preparation:
 - 1. Loosen soil in all planting areas, and on slopes flatter than 3:1 gradient, to a depth of six to eight inches (6" - 8") below finish grade. All debris, foreign matter, and stones shall be removed prior to the placing of any fertilizers or conditioners. Soil preparation is for all shrub planting beds, lawn hydroseeded areas and sodded lawn areas.
 - 2. Conduct the required soil tests and instruct the lab to include a minimum of the following soil improvements in the recommendation on the soils report.
 - a. Soil Amendment: Two cubic yards (2 cy) per 1,000 square feet.
 - b. Gro-Power Plus: One hundred fifty pounds (150 lbs) per 1,000 square feet.
 - c. If the lab recommends less than six cubic yards (6 cy) of soil amendment, the excess bid amount shall be applied to the cost of any additional recommended soil improvements, or returned to the Owner as a credit

3. Apply amendments as follows, using rates recommended by the soils testing laboratory (the rates of amendments shown below are for bidding purposes only):
 - a. Fertilizer/Soil Conditioner: Broadcast 150 pounds of Gro Power Plus per 1,000 square feet in all planting areas and rototill to a depth of six to eight inches (6" - 8"). Remove from the site any rock and debris brought to the surface by cultivations. "Cultipack" all areas to receive sod or hydroseed.
 - b. Apply soil amendment to all planting areas at the rate of six cubic yards (6 cy) per 1,000 sf and rototill into the top six to eight inches (6" - 8").
 4. Upon completion of finish grading, request a review and obtain approval of Landscape Architect prior to commencement of planting or hydroseeding.
- C. Finish Grading for all Planting areas
1. Refer to Earthwork Specification Section for Rough Grading.
 2. Grade to elevations and contours shown on Drawings. Fill low spots with landscape backfill material and grade to surface drain in manner indicated on Drawings.
 3. Finish-grade so that the entire area within the contract lines has a natural and pleasing appearance as specified and as directed by Landscape Architect.
 4. Adjust sprinkler heads flush to finish grade in preparation to receive hydroseeding or one-half inch above finish grade in preparation to receive sod. Reset sprinkler heads flush to grade after turf has germinated.
 5. Flag the sprinkler heads and valve markers.
- D. Planting Pits for Trees:
1. Excavate pits with vertical sides and with bottom of excavation slightly raised at center to provide proper drainage.
 2. Set container-grown stock in center of pit on earth pedestal. Separate roots and/or prune roots as directed by Landscape Architect. In hot weather, pre-wet pit. Loosen outside roots from sides and bottom of root ball. When set, place additional backfill around base and sides of root ball. Work each layer to settle backfill and eliminate voids and air pockets. Water after placing final layer of backfill.
 3. Loosen hard subsoil in bottom of excavation. Extend excavation as required to insure proper drainage from plant pits.

4. Fill excavated planting pits with water to half the depth of pit. Pits should drain within four hours (4 hrs). If planting pits do not drain, notify Project Inspector immediately. Do not proceed with planting until Landscape Architect has resolved a method to provide drainage.
- E. Planting Pits for Shrubs/Groundcover:
1. Excavate pits and trenches with vertical sides and with bottom of excavation slightly raised at center to provide proper drainage.
 2. Loosen hard subsoil in bottom of excavation. Extend excavation as required to insure proper drainage from plant pits.
 3. Fill excavated planting pits with water to half the depth of pit. Pits should drain within four hours (4 hrs). If planting pits do not drain, notify Project Inspector immediately. Do not proceed with planting until Landscape Architect has resolved a method to provide drainage.

3.04 ROOT BARRIER INSTALLATION

- A. Root barriers location are specifically shown on the plan. If a tree is moved during construction to a location where root barrier is not shown on the plan, the following minimum requirements are to be met:
1. Install root barrier where trees are planted within sixty inches (60") of paving or other hardscape elements, such as walls, curbs, and walkways.
 2. Install root barrier continuously for a distance of five feet (5') in each direction from the tree trunk, for a total distance of ten feet (10') per tree. If trees are spaced closer, use a single continuous piece of root barrier.
- B. Align root barrier vertically and run it linearly along and adjacent to the paving or other hardscape elements to be protected from invasive roots.
- C. Position top of root barrier just below the top of adjacent hardscape element but above finish grade of the soil so that is visible.
- D. If there are concrete spoils or overpour that is impeding the root barrier from being installed directly adjacent to the hardscape element, the contractor is to remove the extra concrete in a manner that does not damage the integrity of the hardscape element.
- E. Do not distort or bend root barrier during construction activities.
- F. Do not install root barrier surrounding the root ball of tree.

3.05 PLANTING

A. Lawn Sod:

1. Cultivate all lawn areas to a depth of six inches (6"). If cultivation does not break lumps, pull a spike-toothed harrow over the area behind the tractor.
2. Give all lawn areas that are to be sodded a smooth finish to prevent pockets. Do not allow any abrupt changes of surface. Prior to installation of sod, roll the grade with a 200-pound water-ballast roller. Request that the lawn grade be inspected and approved by the Landscape Architect prior to sodding to determine its suitability for planting. Obtain such approval prior to commencing sodding operations.
3. Do not take heavy objects (except lawn rollers) over lawn areas after they have been prepared for planting.
4. Completely lay the sod within twelve hours (12 hrs.) of delivery. Do not leave sod on pallets in the hot sun longer than necessary.
5. Unroll sod carefully. Lay sod tight without any visible open joints, and without overlapping; stagger end joints twelve inches (12") minimum. Do not stretch or overlap sod pieces. Do not place sod in pieces smaller than twenty-four inches (24") in length by width of roll.
6. When new sod is to match existing turf, cut the edge of the existing turf in a series of straight lines that will accept new sod rolls in full width of the sod roll. Make the transition of grade between existing turf and new sod to be seamless with no change in elevation.
7. Immediately after laying sod, roll lawn areas with a 200-pound water-ballast roller.
8. Trim sod to conform to lawn shapes designated in Drawings.
9. On slopes of six inches (6") per foot and steeper, lay sod perpendicular to slope and secure every row with wooden pegs at a maximum of two feet (2') on center. Drive pegs flush with soil portion of sod.
10. Ensure that finished appearance is that of one continuous lawn.
11. Do not lay whole lawn before watering. When a conveniently large area has been sodded, water lightly to prevent drying. Continue to lay sod and to water until installation is complete.
12. All sod areas must be approved by Landscape Architect.

13. Water the complete lawn surface thoroughly. Moisten soil at least eight inches (8") deep. Repeat sprinkling at regular intervals to keep sod moist at all times until rooted. After sod is established, decrease frequency and increase amount of water per application as necessary.

B. Trees, Shrubs, and Groundcover:

1. Lay out individual tree and shrub locations and areas for multiple plantings. Stake the locations, outline the areas, and secure the Owner's Representative's acceptance before beginning the planting work. Make minor adjustments as requested.
2. Scarify root ball prior to planting. Plant in holes twice the diameter of the root ball and to a depth equal to the container's height. Place the shrub and/or groundcover so the top of the root ball is one inch (1") higher than the surrounding grade; place the tree so that the crown of the trunk is two inches (2") higher than the surrounding grade. Set container-grown stock in center of pit. In hot weather, pre-wet the pit. When set, place additional backfill around base and sides of root ball. Work each layer to settle backfill and eliminate voids and air pockets. Thoroughly compact lower half of backfill in plant pit. See staking or guying detail. Water after planting. Provide a berm or watering basin for each tree. Add Vitamin B-1, in the proper solution as recommended by the manufacturer, to the second watering of the basin.
3. Place fertilizer planting tablets in root zone and alongside each plant. Follow manufacturer's instructions for number of tablets to use for each container size.
4. See Drawings for additional information.
5. Grooming and Staking of Trees:
 - a. Prune, thin-out and shape trees in accordance with standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise directed by Landscape Architect, do not cut tree leaders, and remove only injured or dead branches from flowering trees.
 - b. Paint cuts over one-half inch (1/2") in size with standard tree paint or compound, covering exposed, living tissue. Use paint that is waterproof, antiseptic, adhesive, elastic and free of kerosene, coal tar, creosote, and other substances harmful to plants. Do not use shellac.
 - c. Stake or guy trees immediately after planting, as indicated on Drawings.

- 6. Grooming of Shrubs:
 - a. Prune, thin-out and shape shrubs in accordance with standard horticultural practice. Prune shrubs to retain natural character and to accomplish their use in landscape design. The required plant size is its size after pruning.
 - b. Remove and replace excessively pruned or malformed new plants resulting from improper pruning.
- C. Request review by the Landscape Architect after locating, but prior to planting all trees. Under the direction of the Landscape Architect, make slight adjustments to plant material location as necessary to reflect original intention of Drawings.

3.06 WEED CONTROL

Apply pre-emergent weed control to all planting areas (except lawn) after completion of all planting and one complete watering. Follow manufacturer's directions. To prevent washing away of weed control, do not over-water after its application. Do not allow any weed control into lawn areas. Treat any existing noxious weeds, such as Johnson grass, with Roundup in successive treatments until all roots are destroyed, then remove all grass and roots. Notify Owner's Representative of time of installation for verification of application.

3.07 BARK MULCH

Apply mulch at the rate of three inches (3") deep to all planting areas, exclusive of lawn, after the planting and weed control are completed. Twelve inches (12") from planter edges, taper full depth of mulch to meet adjacent grades. Do not place mulch within three inches (3") of trunk or stems.

3.08 DECOMPOSED GRANITE WITH BINDER

- A. General: Prepare all areas to receive decomposed granite and treat sub-grade with weed control.
- B. Placement:
 - 1. Do not install during rainy conditions or below 40-degree Fahrenheit and falling.
 - 2. After pre-blending, place the Stabilized decomposed granite on prepared sub-grade. Level to desired grade and cross section.
 - 3. Water heavily for full-depth moisture penetration of the Stabilized pathway profile, 25 to 45 gallons of water per 1-ton must be applied. During water application randomly test for depth using a probing device, which reaches full depth.

C. Compaction:

1. Upon thorough moisture penetration, compact aggregate screening to 85% relative compaction by equipment such as; a 2 to 4-ton double drum roller or a 1,000-lb. single drum roller. The roller size will depend on the depth of the pathway. DO NOT use a vibratory plate compactor or vibration function on roller as vibration separates large aggregate particles. Do not begin compaction for 6 hours after placement and up to 48 hours.
2. If surface aggregate dries significantly quicker than subsurface material, lightly mist surface before compaction.
3. Take care in compacting decomposed granite when adjacent to planting and irrigation systems. Hand tamping with an 8" or 10" hand tamp recommended.

D. Inspection:

1. Finished surface of pathway shall be smooth, uniform and solid. There shall be no evidence of chipping or cracking. Cured and compacted pathway shall be firm throughout profile with no spongy areas. Loose material will not be present on the surface after installation but may appear after use and according to environmental conditions. Pathway should remain stable underneath the loose granite on top. Any significant irregularities in path surface shall be repaired to the uniformity of entire installation.

E. Repairs:

1. Excavate damaged area to the depth of the stabilized decomposed granite and square off sidewalls.
2. If area is dry, moisten damaged portion lightly.
3. Pre-blend the dry required amount of Stabilizer powder with the proper amount of decomposed granite in a concrete mixer.
4. Add water the pre-blended decomposed granite and stabilizer. Thoroughly moisten mix with 25 to 45 gallons per 1-ton of pre-blended material or to approximately 10% moisture content.
5. Apply moistened pre-blended decomposed granite to excavated area to finish grade.
6. Compact with an 8"-10" hand tamp or 250 to 300-pound roller. Keep traffic off area for 12 to 48 hours after repair has been completed.

F. Upon end of landscape maintenance period, all weed/grass shall have been removed and surface re-compacted.

3.09 CLEAN-UP

- A. During construction, keep the site free of rubbish and debris, and clean up the site promptly when notified to do so. Take care to prevent spillage on streets from hauling and immediately clean up any such spillage and/or debris deposited on streets due to the work of this Section.
- B. During all phases of the construction work, take all precautions to abate dust nuisance by clean-up, sweeping, sprinkling with water, or other means as necessary.

3.10 LANDSCAPE MAINTENANCE

- A. The Landscape Maintenance Period will begin when all the Landscape Maintenance Period Requirements have been met (See Part 1 of these Specifications).
- B. Cleaning: Maintain cleanliness on paving areas and other public areas used by equipment and immediately remove all spillage. Remove from project site all rubbish and debris found thereon and all material and debris resulting from landscaping work, leaving the site in a safe and clean condition.
- C. Maintenance:
 - 1. Sprinkler Irrigation System:
 - a. Check system weekly for proper operation. Flush lateral lines out after removing last sprinkler head or two at each end of lateral. Adjust all heads as necessary for unimpeded coverage.
 - b. Set and program automatic controllers for seasonal water requirements. Provide the Owner's Representative with keys to the controllers and instructions on how to turn off system in case of emergency.
 - c. Repair all damages to sprinkler irrigation system as part of the contract work. Make repairs within one watering period or one week, whichever is the least amount of time.
 - 2. Turf Areas:
 - a. Begin mowing turf when grass has reached a height of three inches (3") and cut to a height of one and one-half inches to two inches (1 ½" - 2"). Mow at least weekly after the first cut. Turf must be well-established and free of bare spots and weeds, to satisfaction of Landscape Architect, prior to final acceptance. Do not mow lawns when the soil is not able to support maintenance equipment. Repair wheel marks and ruts caused by the maintenance equipment at no additional cost to the Owner.
 - b. Pick up grass clippings and remove from the site and premises.

- c. Trim edges at least twice monthly for neat appearance. Vacuum or blow clippings off walks.
 - d. Water the lawns at such frequency as weather conditions require to replenish soil moisture below the root zone. Normally, a total of one and one-half inches (1 ½") of water is needed weekly in hot weather.
 - e. Fertilize the lawn areas at the beginning of the Landscape Maintenance Period and at the completion of the Landscape Maintenance Period. Use a fertilizer with the following characteristics:
 - 1.) Slow release, Best 16-6-8, or approved equal, at the rate of 6.25 lbs per 1,000 square feet from March through October.
 - 2.) Calcium Nitrate (15-0-0) at the rate of 6.5 lbs per 1,000 square feet from November through February.
 - f. Broadcast fertilizer using a mechanical spreader; do not apply by hand-broadcasting. Sweep all fertilizer off hardscape into adjacent planters.
 - g. Weekly as needed and as directed, re-sod lawn areas with material that matches previously installed material. Use sod to repair any bare areas. Repair areas to receive sod as follows:
 - 1.) Mark out areas to receive new sod repair.
 - 2.) Cut straight lines that will accept sod the full width of the roll and a minimum of twenty-four inches (24") in length.
 - 3.) Transition the grade between existing turf and new sod seamlessly, with no change in elevation.
3. Trees and Shrubs:
- a. Water enough that moisture penetrates throughout root zone and only as frequently as necessary to maintain healthy growth.
 - b. Construct and/or remove water basins around each plant, depending on the time of the year and as directed.
 - c. Do not prune unless directed by the Landscape Architect.
 - d. Re-stake and re-tie trees as needed and as directed by the Landscape Architect. Do not allow tops of tree stakes to protrude into head of tree.
 - e. Replace any dead, dying or vandalized plant material on a weekly basis throughout the Landscape Maintenance Period.

4. Insecticide and Herbicide Application:
 - a. If needed, control weeds with selective herbicides and sprays. In areas where crabgrass has infested the lawn, apply pre-emergent herbicides such as Dacthal by Amvac, Balan, or Betasan by Gowan for control prior to crabgrass germination. Control insect pests if necessary.
 - b. Use only a licensed Pest Control Operator to apply herbicides and sprays and to maintain a log for applications indicating material, timing, and rate.
5. Decomposed Granite with Binder:
 - a. Remove debris, such as paper, grass clippings, leaves or other organic material by mechanically blowing or hand raking the surface as needed.
 - b. During the first year, a minor amount of loose aggregate will appear on the paving surface (1/16" to 1/4"). If this material exceeds a 1/4", redistribute the material over the entire surface. Water thoroughly to the depth of 1". Compact with power roller of no less than 1,000 lbs. This process should be repeated as needed.
 - c. If cracking occurs, sweep fines into the crack, water thoroughly and hand tamp with an 8"-10" hand tamp plate.
6. Pre-scheduled On-site Meetings: Hold regularly-scheduled (monthly or bimonthly as determined by the Landscape Architect) on-site meetings with the Landscape Architect, Project Inspector and Owner's Representative. Dates and times will be jointly agreed upon.
7. Request, forty-eight hours (48 hrs.) in advance, on-site visits by the Landscape Architect to determine the end of the Landscape Maintenance Period.

END OF SECTION

DOCUMENT 33 00 00

SITE UTILITIES

PART 1 - GENERAL

1.01 INCLUSION OF OTHER CONTRACT DOCUMENTS

- A. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.

1.02 SCOPE OF WORK

- A. The work includes, but is not necessarily limited to, the following:
 - 1. Domestic water piping system.
 - 2. Fire protection piping systems.
 - 3. Sewer piping system.
- B. Other items that may be specified or shown on the Drawings.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 31 23 33, Trenching and Backfilling.
- B. Section 32 16 00, Site Concrete.
- C. Section 31 00 00, Earthwork.

1.04 QUALITY ASSURANCE

- A. Use only new materials and products, unless existing materials or products are specifically shown otherwise on the drawings to be salvaged and re-used.
 - 1. Sun damaged or discolored PVC pipe will be rejected.
- B. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.
- C. The representatives of the Owner's testing lab will not act as supervisor of construction, nor will they direct construction operations. Neither the presence of the Owner's testing lab representatives nor the testing by the Owner's testing lab shall excuse the contractors or subcontractors for defects or deficiencies discovered in their work during or following completion of the project. Correcting inadequate compaction is the sole responsibility of the contractor.
- D. Contractor shall be solely responsible for all subgrades built. Any repairs resulting from inadequate compaction or incorrect grades will be the responsibility of the contractor.
- E. Per 2016 NFPA 13 provide Contractor's material and test certificate to the Owner, Architect, Project Inspector and Local Fire Authority.

1.05 SUBMITTALS

- A. Refer to Section 01 33 00.
- B. Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.
- C. Provide sieve analysis from accredited testing lab on pipe bedding material. Analysis shall have a current date not older than project contract signing date.
- D. Substitution: Provide all data of proposed material being submitted as a substitution. Provide comparison with specified product data and identify all differences. Failure to provide comparison will be reason for rejection.

1.06 FEES, PERMITS, AND UTILITY SERVICES

- A. Obtain and pay for permits and service charges required for installation of Work. Arrange for required inspections and secure written approvals from authorities having jurisdiction.
- B. Upon completion of work within right-of-way, provide copies of written final approval to the Architect.

1.07 WARRANTY

- A. Refer to General Conditions and Section 01 78 36.

1.08 REFERENCES AND STANDARDS

- A. ANSI/ASTM D698-00 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb (2.49 Kg) Rammer and 12 inch (304.8 mm) Drop.
- B. ANSI/ASTM D1556-00 - Test Method for Density of Soil in Place by the Sand-Cone Method.
- C. ANSI/ASTM D1557-02 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb. (4.54 Kg) Rammer and 18 inch (457 mm) Drop.
- D. ANSI/ASTM D 3017-05 Test Methods for Moisture Content of Soils and Soil-Aggregate Mixture by Nuclear Methods (Shallow Depth).
- E. ANSI/ASTM D 4318-05 Test Method for Liquid Limit, Plastic Limit, and Plasticity Limit.
- F. CALTRANS Standard Specifications.
- G. CAL-OSHA, Title 8, Section 1590 (e).

- H. Any work within the street, highway or right-of-way shall be performed in accordance with the requirement of the governmental agencies having jurisdiction, and shall not begin until all of those governing authorities have been notified.
- I. NFPA 13, 24 and 25, latest editions.
- J. California State Health and Safety Code Section 116875, Lead Free Public Water Systems.
- K. California Plumbing Code, latest edition.

1.09 DELIVERY, STORAGE AND HANDLING

- A. Transport, store and handle in strict accord with the local jurisdiction.
- B. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

1.10 PROJECT CONDITIONS

- A. Existing civil, mechanical and electrical improvements are shown on respective site plans to the extent known. Should the Contractor encounter any deviation between actual conditions and those shown, he is to immediately notify the Architect before continuing work.

1.11 EXISTING SITE CONDITIONS

- A. Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such unknown active utilities.

1.12 PROTECTION

- A. Adequate protection measures shall be provided to protect workmen and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.
- B. In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.
- C. Any construction review of the Contractor's performance conducted by the Geotechnical Engineer is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.

- D. Provide shoring, sheeting, sheet piles and or bracing to prevent caving, erosion or gulying of sides of excavation.
- E. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to provide pumps and all equipment necessary to keep all excavations and the site free from water during entire progress of work, regardless of cause, source, or nature of water.
- F. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.
- G. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.
- H. Trees: Carefully protect existing trees that are to remain. Provide temporary irrigation as necessary to maintain health of trees.

1.13 SEASONAL LIMITS

- A. No fill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by rains, fill operations shall not be resumed until field tests indicate that moisture content and density of fill are satisfactory.

1.14 RECORD DRAWINGS

- A. Keep a daily record of all pipe placed in ground, verified by Project Inspector.
- B. Upon completion of this Contract, furnish one tracing showing all outside utility lines, piping, etc., installed under this Contract. Locate and dimension all work with reference to permanent landmarks.
- C. All symbols and designations used in preparing "RECORD" drawings shall match those used in Contract drawings.
- D. Properly identify on as-builts and provide dimensions for all stubs for future connections. Provide concrete markers 6" dia. 12" deep, flush with finish grade at the ends of all stubbed pipes.

PART 2 – PRODUCTS

2.01 MATERIALS - GENERAL

- A. Provide each item listed herein or shown on drawings of quality noted or approved equal. All material shall be new, full weight, standard in all respects and in first-class condition. Insofar as possible, all materials used shall be of same brand or manufacture throughout for each class of material or equipment. Materials shall be of domestic manufacture and shall be tested within Continental United States.

- B. Grade or quality of materials desired is indicated by trade names or catalog numbers stated herein.
- C. Dimensions, sizes, and capacities shown are minimum and shall not be changed without permission of Architect.
- D. All materials in this section used for any public water system or domestic water for human consumption shall be lead free.
 - 1. For the purposes of this section, "lead free" means not more than 0.2 percent lead when used with respect to solder and flux and not more than 8 percent when used with respect to pipes and pipe fittings.
 - 2. All pipe, pipe or plumbing fitting or fixtures, solder, or flux shall be certified by an independent American National Standards Institute (ANSI) accredited third party, including, but not limited to, NSF International, as being in compliance with this section.
- E. All materials used for fire system piping shall be UL and FM approved.

2.02 VALVE BOXES

- A. Provide at each valve or cock in ground a Christy, Brooks, or equal to Christy G05CT, concrete valve box with cover marked for service, domestic water shall be marked "Water" and fire supply shall be marked "Fire". Furnish extension handles for each size square nut valve, and provide "fork" handle for each size of "wheel handle" valve as required. Do not locate valve boxes in walk, or covered passages, curbs, or curb & gutters, unless necessary. If valve location is within concrete or asphalt paved surface valve box shall be as detailed on plans for such condition. Provide valve box extensions as required to set bottom of valve box to bottom of piping in which valve is installed. Provide Owner with set of special wrenches and/or tools as required for operation of valves.

2.03 PIPES AND FITTINGS

- A. Sanitary Sewer: PVC sewer pipe and fittings with Ring-Tite joints, ASTM D3034 SDR35.
- B. Domestic water Lines 3 1/2" and smaller: Type K copper tubing, hard temper, with wrought copper fittings. Schedule 80 PVC.
- C. Water lines 4" and larger: AWWA C-900 Class 150/DR18 with rubber gasket joints.
- D. Fire lines 4" and larger: AWWA C-900 Class 200/DR14 with rubber gasket joints.
- E. Solder: Lead Free. 95/5; 95% Tin / 5% Antimony.
- F. Ductile Iron Pipe; Class 350, Cement Lined
- G. Ductile Iron Pipe Fittings; AWWA C110, C153, Ebba Iron, Star Romac, Sigma, or approved equal.

- H. Mechanical Fitting Bolts; Bolts and nuts shall be carbon steel with a minimum 60,000 psi tensile strength conforming to ASTM A 307, Grade A. Bolts shall be standard ANSI B1.1 Class 2A course threads. Nuts shall conform to ASTM A 563 and be standard ANSI B1.1, Class 2A course thread. All bolts and nuts shall be zinc coated.
- I. Fasteners Anti-Rust Coatings; After assembly, coat all fasteners with an Asphaltic Bituminous coatings conforming to latest edition NFPA 24.
- J. Ductile Iron Pipe Wrap; 8 mil polyethylene pipe wrap conforming to ANSI/AWWA C105/A21.5 standards.
- K. Pipe Insulation; Pipe exposed to atmospheric conditions ½" thru 4" NPT; Johns Manville rigid fiberglass insulation, Micro Lok HP; Owens Corning Fiberglas SSL II; Conforming to ASTM C 612, Type 1A or type 1B.
- L. Aluminum field applied pipe insulation jacket; comply with ASTM B209, ASTM C1729, ASTM C1371 Manufacturers; Childers Metals; ITW Insulation Systems Aluminum Jacketing; or an approved equal.
 - 1. Finish shall be flat mill finish
 - 2. Factory Fabricated Fitting Covers; 45 and 90 degree elbows, tee's, valve covers, end caps, unions, shall be of the same thickness and finish of jacket.
 - 3. The fittings shall be composed of 2-pieces
 - 4. Adhesives; per the manufacturers requirements
 - 5. Joint Sealant; shall be silicone, and shall be aluminum in color.
- M. Sewer Forced Main; HDPE, DR 11, color gray with green stripe by JM Eagle or approved equal.

2.04 SANITARY SEWER MANHOLES

- A. Shall be constructed as shown on plan details.

2.05 CLEANOUTS

- A. Cleanouts of same diameter as pipe up to 8" in size shall be installed in all horizontal soil and waste lines where indicated and at all points of change in direction. Cleanouts shall be located not less than 18" from building so as to provide sufficient space for rodding. No horizontal run over 100 feet shall be without cleanout whether shown on drawings or not.
- B. All cleanout boxes shall be traffic rated with labeled lid, Christy G05CT or approved equal. Lid shall be vandal proof with stainless steel screws

2.06 UNIONS

- A. Furnish and install one union at each threaded or soldered connection to equipment and 2 unions, one on each side of valves on pipes ½" to 3".
- B. Locate unions so that piping can be easily disconnected for removal of equipment or valve. Provide type specified in following schedule:

Type of Pipe Union

Steel Pipe:	150 lb. Screwed malleable ground joint, brass, brass-to-iron seat, black or galvanized to match pipe.
Copper tubing:	Brass ground joint with sweat connections.
PVC Sch 80 pipe:	PVC union, FIPT X FIPT

2.07 VALVES

- A. Provide valves as shown and other valves necessary to segregate branches or units. Furnish valves suitable for service intended. Valves shall be properly packed and lubricated. Valves shall be non-rising stem. Place unions adjacent to each threaded or sweat fitting valve. Install valves with bonnets vertical. All valves shall be lead free.
- B. Valves ½" thru 2"; shall be made of bronze, full size of pipe and lead free. Nibco S-113-FL Series; American G-300 Series; Matco 511 FL Series; Apollo 102T-FL Series. Brass valves of brass parts within valves will not be accepted.
- C. Valves, 2 ½" thru 3" shall be class 150; Shall be made of bronze, full size of pipe; Jenkins Fig. 2310 J; Lunkenheimer Fig. 2153; Crane Fig. 437; Stockham Fig. B-128.
- D. Valves, Flanged; 4" thru 12" Ductile Iron Resilient Wedge Gate Valve; Nibco F 609 RW; American 2500 Series; Kennedy 8561; Mueller 2360 Series.

2.07 FIRE HYDRANTS

- A. Clow 960 Factory Painted or per Local Jurisdiction Requirements, or an approved equal, 36" minimum bury, two 2-1/2" hose nozzles, one 4-1/2" pumper nozzle, and break-off check valve, Clow LBI 400A or approved equal . Hydrant shall conform to, and installation shall comply with the Local Jurisdiction.

2.08 POST INDICATOR

- A. Post Indicator shall be Mueller Co. A-20806 (adjustable) with tamper switch or an approved equal.

2.09 BACKFLOW PREVENTERS

Double Check Valve, Double Check Detector and Reduced Pressure Backflow Preventers

- A. Backflow preventers shall be as approved by the local agency and by the State of California's Department of Health Services most recent list of approved reduced pressure backflow preventers. All approved backflow preventers shall have ductile iron bodies.
 - 1. Provide Backflow preventer blankets with locking device. Weatherguard R-30 insulated or equal.

2. Provide ball valve at all test ports with brass plug in valve.
3. Provide a minimum of 2 valve tamper switches on fire prevention Backflows.

2.10 TAPPING SLEEVE

- A. Shall be used on pipe sizes 6" thru 12" and shall be made with stainless steel material including stainless steel bolts. Flanges shall be ductile iron or high carbon steel. Gaskets shall seal full circumference of pipe. Shall be manufactured for operating pressure of 200 psi, and shall pass test pressure of 300 psi. Romac SST series; Smithblair 662; Mueller H304; Ford "FAST" tapping sleeve.

2.11 SERVICE SADDLES

- A. Shall be used on pipe size 2" thru 4". Body shall be made from ductile iron with epoxy coating or bronze. Cascade Style CSC-1; A.Y. McDonald model 3891 AWWA/3892 FNPT; Smith-Blair #317; Ford S70, S71, S90, (style B).

2.11 TRACER WIRE

- A. No. 10 THW solid copper wire. Solder all joints

PART 3 - EXECUTION

3.01 DRAWINGS AND COORDINATION

- A. General arrangement and location of piping, etc., are shown on Drawings or herein specified. Install work in accord therewith, except for minor changes that may be necessary on account of other work or existing conditions. Before excavation, carefully examine other work that may conflict with this work. Install this work in harmony with other craft and at proper time to avoid delay of work.
- B. Verify invert elevations at points of connection to existing systems prior to any excavation. If invert elevations differ from that shown on drawings, notify Architect immediately.
- C. In advance of construction, work out minor changes if conflicts occur with electrical or mechanical. Relocate services to suit actual conditions and work of other trades to avoid conflict therewith. Any adjustments or additional fittings to make adjustments shall not be cause for additional costs to the owner.
- D. Execute any work or apparatus shown on drawings and not mentioned in specifications, or vice versa. Omission from Drawings or Specifications of any minor details of construction, installation, materials, or essential specialties does not relieve Contractor of furnishing same in place complete.
- E. Graded pipes shall take precedence. If conflict should occur while placing the domestic water and fire service piping, the contractor shall provide any and all fittings necessary to route the water lines over or under such conflicting pipes at no additional costs to the owner.

3.02 ACCESS

- A. Continuously check for clearance and accessibility of equipment or materials specified herein to be placed. No allowance of any kind shall be made for negligence on part of Contractor to foresee means of installing his equipment or materials into proper position.

3.03 EXCAVATING AND BACKFILLING

- A. Excavation and Bedding:
 - 1. General: Trench straight and true to line and grade with bottom smooth and free of irregularities or rock points. Trench width to be a minimum of 12" wider than outside diameter of pipe. Follow manufacturer's recommendations for use of each kind and type of pipe.
 - 2. Bedding: Provide a bedding as noted on drawing details for the full length of the pipe. Bedding shall have a minimum thickness beneath the pipe of 4" or 1/8 the outside diameter of the pipe, which ever is greater. Provide bell holes and depressions for pipe joints only of size required to properly make joint.
- B. Laying of Pipe:
 - 1. General: Inspect pipe prior to placing. Sun damaged pipe will be rejected. Set aside any defective or damaged material. Do not place pipe in water nor place pipe when trenches or weather are unsuitable. Lay pipe bell up grade, true to line and grade.
 - a. Sewer pipe shall be laid in strict conformity to the prescribed line and grade, with grade bars set and each pipe length checked to the grade line. Three consecutive points on the same rate of slope shall be used at all times to detect any variation from a straight grade. In any case of discrepancy, work shall be stopped and the discrepancy immediately reported to the Owner's Representatives. In addition, when requested by the Owner's Representative, a string line shall be used in the bottom of the trench to insure a straight alignment of the sewer pipe between manholes. The maximum deviation from grade shall not be in excess of 1/4 inch. In returning the pipe to grade, no more than 1/4" depression shall result.
 - b. The Contractor shall expose the end of existing pipe to be extended, for verification of alignment and elevation, prior to trenching for any pipe which may be affected. All costs of such excavation and backfill shall be included in the price paid for the various items of work.
 - c. A temporary plug, mechanical type shall be installed on sewer pipe at the point of connection to existing facilities. If connecting to a public facility the plug shall conform to the requirements of the local jurisdiction. This plug shall remain in place until the completion of the balling and flushing operation.
 - 2. Bell and Spigot Joints: Lubricate inside of bells and outside of spigots with soap solution. Wedge joints tight. Bell of bell and spigot pipe to be pointed up grade.

- C. Backfilling:
 - 1. General: Do not start backfill operations until required testing has been accomplished.
 - 2. Compaction and Grading: Remainder of backfill shall be in accordance with Section 31 23 33 – TRENCHING AND BACKFILLING.
 - 3. If trenching in area previously lime or cement treated backfill top of trench section, same depth as lime or cement treatment with Class 2 Aggregate Base compacted to 95% minimum relative compaction.

3.04 INSTALLATION OF WATER PIPING

- A. The contractor shall be responsible for determining the installed depth of all water piping, based on surfaces grades and minimum required depth of cover.
- B. Immediately cap or plug ends of, and opening in, pipe and fittings to exclude dirt until final connections made. Use reducing fittings where any change in pipe size occurs. Bushings shall not be used.
- C. General: Should existing conditions or other work prevent the running of pipes or the setting of equipment at the points indicated by drawings, changes as authorized by the Architect shall be made without additional cost to the Owner.
- D. All bolts used on mechanical fittings shall be thoroughly coated with an asphaltic bituminous coating conforming to 2016 NFPA 24, 10.4.1.1.
- E. All buried metal shall be incased with 8 mil polyethylene wrap so that no soil is in contact with metal. Ends of polyethylene wrap shall be taped to provide seal with pipe.
- F. Do not install water lines in same trench with non-metallic sewer lines unless bottom of water pipe at all points is at least 12" above top of sewer line and water line is placed on solid shelf excavated at one side of common trench with a minimum of 12 inch horizontal separation.
- G. Under no circumstance shall a fitting be located directly under a structural footing without prior approval from the Architect.
- H. In locations where existing domestic pipe is rerouted, the new pipe shall be assembled using restrained fittings at all joints including factory pipe joints. Tapped restrained blind flanges shall be temporarily installed at each end of the assembled pipes until testing and chlorination is completed and approved.

3.05 CLOSING IN OF UNINSPECTED WORK

- A. Do not allow or cause work installed to be covered up or enclosed before it has been inspected, tested, and approved. Should work be enclosed or covered up before it has been approved, uncover work at own expense. After it has been inspected, tested and approved, make repairs necessary to restore work of other contractors to condition in which it was found at time of cutting.

3.06 CARE AND CLEANING

- A. Repair or replace broken, damaged, or otherwise defective parts, materials, and work. Leave entire work in new condition satisfactory to Architect. At completion, carefully clean and adjust equipment, fixtures and trim that are installed as part of this work. Leave systems and equipment in satisfactory new operating condition.
- B. Drain and flush piping to remove grease and foreign matter.
- C. Sewer piping shall be balled and flushed.
- D. Clean out and remove surplus materials and debris resulting from the work, including surplus excavated material.
- E. Flush fire service piping in the presence of the project inspector. Flushing shall be continued for a sufficient time as necessary to ensure all foreign material has been removed. Flow rate shall be equal to site fire flow requirements.

3.07 SEWER INTERNAL INSPECTIONS

- A. Upon completion of construction and prior to final inspection, the Contractor shall clean the entire new pipeline of all dirt and debris. Any dirt or debris in previously existing pipes or ditches in the area, which resulted from the new installation, shall also be removed. Pipes shall be cleaned by the controlled balling and flushing method. Temporary plugs shall be installed and maintained during cleaning operations at points of connection to existing facilities to prevent water, dirt, and debris from entering the existing facility.

3.08 TEST OF PIPING

- A. Pressure Test piping at completion of roughing-in, in accord with following schedule, and show no loss in pressure or visible leaks after minimum duration or four (4) hours at test pressures indicated.
- B. Chlorination tests shall be performed after all fixtures and any required mechanical devices are installed and the entire system is complete and closed up.
- C. In cases where new domestic water piping is assembled for re-routing of existing domestic water pipe, the contractor shall perform the following testing prior to connecting the new water pipe to the existing system.
 - 1. The pipe shall be pressure tested and per the test schedule.
 - 2. The pipe shall be pressure tested down within the trench.
 - 3. The contractor shall dig a temporary ditch below the existing pipe to drain to a sump that is lower than the bottom of the trench and to the side of the trench. The sump shall be 30% larger than the total volume of water within the testing pipe assembly.
 - 4. After pressure testing and chlorination has taken place and accepted, the contractor shall drain the pipe into the sump and pump the sump out as it is filling.
 - 5. The temporary test fittings at each end of the pipe assembly shall be

- removed and the final restrained couplings installed.
6. The existing piping shall be cut and the water within the pipe shall drain below the pipe to the temporary sump. Pump the sump as it is being filled up. Take extreme caution not to contaminate the existing pipe with any contaminates within the trench.
 7. Before making the final coupling connections, the restrained couplings at each end of the new pipe shall be thoroughly swabbed inside the fitting with a solution of chlorine mixed with water at a rate of 1part chlorine to 4 parts potable water.
 8. After final connections are made, a visual inspection shall be made after fittings are wiped off. If after 1 hr, no noticeable drips are noted the pipe can be backfilled.
 9. The contractor shall flush all water piping affected by chlorination until it is within acceptable levels approved by certified testing lab.

TEST SCHEDULE

<u>System Tested</u>	<u>Test Pressure PSIG Test With</u>
Public water mains	Per local jurisdiction requirements.
Private domestic water piping and fire mains serving fire hydrants:	150 Lbs. Water 4 hrs.
Fire Protection Piping from PIV to fire riser:	200 Lbs. Water pressure, 4 hrs duration with no pressure loss.
Sanitary Sewer Piping:	Sewer system shall be tested for leakage per local jurisdiction requirements.

- D. Testing equipment, materials, and labor shall be furnished by contractor.

3.09 WATER SYSTEM STERILIZATION

- A. Public Water Mains: Shall be flushed and disinfected per the local jurisdiction requirements
- B. Clean and disinfect all site water systems connected to the domestic water systems in accordance with AWWA Standard C651 and as required by the local Building and Health Department Codes, and EPA.
 1. Clean and disinfect industrial water system in addition to the domestic water system.
 2. Disinfect existing piping systems as required to provide continuous disinfection upstream to existing valves. At Contractors option, valves may be provided to isolate the existing piping system from the new piping system.
- C. Domestic water sterilization shall be performed by a licensed "qualified applicator" as required by CAL-EPA Pesticide Enforcement Branch for disinfecting and sterilizing drinking water.

- D. Disinfecting Agent: Chlorine product that is a registered product with Cal-EPA for use in California potable water lines, such as Bacticide, CAL-EPA Registration No. 37982-20001.
- E. Contractor to provide a 1" service valve connected to the system at a point within 2'-0" of its junction with the water supply line. After sterilization is complete Contractor to provide cap at valve.
- F. Sterilization Procedure to be as follows:
 - 1. Flush pipe system by opening all outlets and letting water flow through the system until clear water flows from all outlets.
 - 2. Inject disinfecting agent to provide a minimum chlorine residual concentration of at least 50 parts per million (ppm) of free chlorine at each outlet.
 - 3. Provide sign at all outlets which reads "Water Sterilization in Progress – Do not operate". Remove signs at conclusion of test.
 - 4. Close all outlets and valves, including valve connecting to water supply line and 1" service valve. Retain treated water in pipe for a minimum of twenty-four hours. Should chlorine residual at pipe extremities be less than 50 PPM at this time, pipe shall be re-chlorinated. As an option, the water systems may be filled with a water-chlorine solution containing a minimum of 200 PPM of chlorine and allowed to stand for three hours.
 - 5. After chlorination, flush lines of chlorinated water and refill from domestic supply. Continue flushing until residual chlorine is less than or equal to 0.2 ppm, or a residual the same as that of the test water.
- G. Chemical and bacteriological tests shall be conducted by a state-certified laboratory and approved by the local authorities having jurisdiction.
- H. Submit written report to Health Department as required by State Regulations. Provide a copy of report to Architect prior to completion of project.
- I. The costs of sterilization and laboratory testing shall be paid for by the contractor.

3.10 CLEANING

- A. Refer to Section 01 74 00.
- B. Upon completion of work of this Section promptly remove from the working area all scraps, debris and surplus material of this Section.

END OF SECTION

DOCUMENT 33 40 00

SITE DRAINAGE

PART 1 - GENERAL

1.01 INCLUSION OF OTHER CONTRACT DOCUMENTS

- A. The General Conditions, Supplementary Conditions and Division 1 are fully applicable to this Section, as if repeated herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 31 23 33, Trenching and Backfilling.
- B. Section 32 12 00, Asphalt Concrete Paving.
- C. Section 32 16 00, Site Concrete

1.03 QUALITY ASSURANCE

- A. Use only new materials and products, unless existing materials or products are specifically shown otherwise on the Drawings to be salvaged and re-used.
- B. All materials, components, assemblies, workmanship and installation are to be observed by the Owner's Inspector of Record. Work not so inspected is subject to uncovering and replacement.
- C. The representatives of the Owner's testing lab will not act as supervisor of construction, nor will they direct construction operations. Neither the presence of the Owner's testing lab representatives nor the testing by the Owner's testing lab shall excuse the contractors or subcontractors for defects discovered in their work during or following completion of the project. Correcting inadequate compaction is the sole responsibility of the contractor.
- D. Contractor shall be solely responsible for all subgrades built. Any repairs resulting from inadequate compaction are the responsibility of the contractor.

1.04 SUBMITTALS

- A. Refer to Section 01 33 00.
- B. Manufacturer's Data: Submit list and complete descriptive data of all products proposed for use. Include manufacturer's specifications, published warranty or guarantee, installation instructions, and maintenance instructions.

1.05 WARRANTY

- A. Refer to General Conditions and Section 01 78 36.

1.06 REFERENCES AND STANDARDS

- A. ANSI/ASTM D698-00 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb (2.49 Kg) Rammer and 12 inch (304.8 mm) Drop.
- B. ANSI/ASTM D1556-00 - Test Method for Density of Soil in Place by the Sand-Cone Method.
- C. ANSI/ASTM D1557-02 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb. (4.54 Kg) Rammer and 18 inch (457 mm) Drop.
- D. ANSI/ASTM D 3017-05 Test Methods for Moisture Content of Soils and Soil-Aggregate Mixture by Nuclear Methods (Shallow Depth).
- E. ANSI/ASTM D 4318-05 Test Method for Liquid Limit, Plastic Limit, and Plasticity Limit.
- F. CALTRANS Standard Specifications.
- G. CAL-OSHA, Title 8, Section 1590 (e).
- H. Any work within the street, highway or right-of-way shall be performed in accordance with the requirement of the governmental agencies having jurisdiction, and shall not begin until all of those governing authorities have been notified.
- I. California Plumbing Code current edition.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Transport, store and handle in strict accord with the local jurisdiction.
- B. Make delivery to job when notified by Contractor verifying that the job is ready to receive the work of this Section and that arrangements have been made to properly store, handle and protect such materials and work.

1.08 PROJECT CONDITIONS

- A. Existing civil, mechanical and electrical improvements are shown on respective site plans to the extent known. Should the Contractor encounter any deviation between actual conditions and those shown, he is to immediately notify the Architect before continuing work.

1.09 EXISTING SITE CONDITIONS

- A. Contractor shall acquaint himself with all site conditions. If unknown active utilities are encountered during work, notify Architect promptly for instructions. Failure to notify will make Contractor liable for damage to these utilities arising from Contractor's operations subsequent to discovery of such

unknown active utilities.

1.10 PROTECTION

- A. Adequate protection measures shall be provided to protect workmen and passers-by on and off the site. Adjacent property shall be fully protected throughout the operations. Blasting will not be permitted. Prevent damage to adjoining improvements and properties both above and below grade. Restore such improvements to original condition should damage occur. Replace trees and shrubs outside building area disturbed by operations.
- B. In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for working conditions at the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and shall not be limited to normal working hours.
- C. Any construction review of the Contractor's performance conducted by the Geotechnical Engineer is not intended to include review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.
- D. Provide shoring, sheeting, sheet piles and/or bracing to prevent caving, erosion or gulying of sides of excavation.
- E. Surface Drainage: Provide for surface drainage during period of construction in manner to avoid creating nuisance to adjacent areas. The contractor shall make a reasonable effort on a daily basis to provide pumps and all equipment necessary to keep all excavations and the site free from water during entire progress of work, regardless of cause, source, or nature of water.
- F. Adjacent streets and sidewalks shall be kept free of mud, dirt or similar nuisances resulting from earthwork operations.
- G. The site and adjacent influenced areas shall be watered as required to suppress dust nuisance. Dust control measures shall be in accordance with the local jurisdiction.
- H. Trees: Carefully protect existing trees that are to remain.

1.11 SEASONAL LIMITS

- A. No fill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by rains, fill operations shall not be resumed until field tests indicate that moisture content and density of fill are satisfactory.

1.12 TESTING

- A. General: Refer to Section 01 40 00 – Quality Requirements.
- B. Geotechnical Engineer: Owner is retaining a Geotechnical Engineer to

determine compliance of fill with Specifications, and to direct adjustments in fill operations. Costs of Geotechnical Engineer will be borne by Owner; except those costs incurred for re-tests or re-inspection will be paid by Owner and backcharged to Contractor.

1.13 RECORD DRAWINGS

- A. Keep a daily record of all pipe placed in ground, verified by Project Inspector.
- B. Upon completion of this Contract, furnish one tracing showing all outside utility lines, piping, etc., installed under this Contract. Locate and dimension all work with reference to permanent landmarks.
- C. All symbols and designations used in preparing "RECORD" drawings shall match those used in Contract drawings.
- D. Properly identify all stubs for future connections, as to location and use, by setting of concrete marker at finished grade in the manner suitable to Architect.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Pipe: Use one of the following, unless noted on the Drawings otherwise.
 - 1. Polyvinyl Chloride Pipe (PVC): SDR35 conforming to ASTM D3034 with elastomeric joints conforming to ASTM D3212. Sun damaged pipe will be rejected.
 - 2. High density polyethylene pipe (HDPE): The pipe shall be corrugated exterior/smooth interior pipe and water tight per ASTM D3212 with dual wall water tight gasket fittings.
- B. Perforated Pipe (for subdrains): Shall be ADS N12 pipe, 3 hole, ASTM F 405, AASHTO M 252; PVC ASTM D3034 SDR-35 storm drain pipe
- C. Manhole: Shall be as shown on the drawing details.
- D. Drop Inlet: Shall be as shown on the drawing details.
- E. Curb Inlet: Shall be as shown on the drawing details.
- F. Mortar: For pipe connections to concrete drainage structures, conform to ASTM C270 type N mortar. Place within one half hour after adding water.
- G. Crushed Rock: Imported washed crushed rock. Minimum 100% passing 3/4 inch sieve.
- H. Trench drain: Polycast, Polydrain or equal and as shown on drawings.
- I. Area Drains: Shall be as shown on the drawing details.

- J. Floor Drains: Shall be as shown on the drawing details.
- K. Clean-outs: Shall be as shown on the drawing details.
- L. Planter drains: Shall be as detailed on the drawing details.
- M. Filter Fabric: Mirafi 140N.

PART 3 - EXECUTION

3.01 INSPECTION LAYOUT AND PREPARATION

- A. Prior to installation of the work of this Section, carefully inspect and verify by field measurements that installed work of all other trades is complete to the point where this installation may properly commence
- B. Layout all work, establish grades, locate existing underground utilities, set markers and stakes, setup and maintain barricades and protection facilities; all prior to beginning actual earthwork operations. Layout and staking shall be done by a licensed Land Surveyor or Professional Civil Engineer.
- C. Verify that specified items may be installed in accordance with the approved design.
- D. In event of discrepancy, immediately notify Owner and the Architect. Do not proceed in discrepant areas until discrepancies have been fully resolved.

3.02 INSTALLATION

- A. General: Installation shall be in strict conformance with referenced standards, the manufacturer's written directions, as shown on the drawings and as herein specified.
- B. Verify invert elevations at points of connection to existing systems prior to any excavation. If invert elevations differ from that shown on drawings, notify Architect immediately.
- C. Excavation and Bedding:
 - 1. General: Trench straight and true to line and grade with bottom smooth and free of irregularities or rock points. Trench width in accordance with pipe manufacturer's recommendations and as per the drawings. Follow manufacturer's recommendations for use of each kind and type of pipe.
 - 2. Bedding: Provide bedding as detailed on plans for the full length of the pipe. Bedding shall have a minimum thickness beneath the pipe of 4" or 1/8 the outside diameter of the pipe, whichever is greater. Provide bell holes and depressions for pipe joints only of size required to properly make joint.
 - 3. If the trenches for the site drainage fall within areas to be lime treated, the piping shall be installed prior to any lime treatment operations.

- a. If additional piping is added to previously lime treated areas, the contractor shall backfill the trench with class 2 aggregate base and compact to 95%.
- D. Laying of Pipe:
1. General: Inspect pipe prior to placing. Set aside any defective or damaged material. Do not place pipe in water nor place pipe when trenches or weather are unsuitable. Lay pipe upgrade, true to line and grade.
 2. Bell and Spigot Joints: Lubricate inside of bells and outside of spigots with soap solution or as recommended by manufacture. Wedge joints tight. Bell of bell and spigot pipe to be pointed upgrade.
 3. Pipe shall be bedded uniformly throughout its length.
 4. Pipe elevation shall be within 0.02 feet of design elevation as shown on plans.
 5. Off Site Work: All work beyond the property lines shall be done in strict conformance with the requirements of the governing agency.
- E. Backfilling:
1. General: Do not start backfill operations until required testing has been accomplished.
 2. Trenches and Excavations: Backfill with material as detailed on plans, filling both sides of the pipe at the same time, carefully tamping to hold pipe in place without movement. Refer to Section 31 23 33 – TRENCHING AND BACKFILLING for fill above this layer.
- F. Grouting of Pipes: Grout pipes smooth and water tight at drop inlet, manholes, and curb inlets. Grout back side of hood at curb inlets all grouting shall be smooth and consistent.
- G. Off Site Work: All work beyond the property lines shall be done in strict conformance with the requirements of the local agency.
- H. Cutting and Patching: Remove and replace existing surface features per applicable specification section (i.e. asphaltic concrete or concrete paving) where pipe is installed in areas of existing improvements.

3.03 TOLERANCES

- A. Storm Drain structure grates
1. In landscape and lawn areas +/- 0.05'.
 2. In sidewalk and asphalt pavement +/-0.025'.
 3. In curb and gutter application +/-0.0125'.
- B. Cleanout Boxes and Lids
1. In landscape areas; 0.10 higher than surrounding finish grade, +/- 0.05'.
 2. In sidewalks and asphalt pavement; Flush with surrounding finish grade, +/-0.025'.

3.03 DEWATERING

- A. Contractor to provide trench dewatering as necessary, no matter what the source is, at no additional cost to the owner.
- B. If the previously excavated material from trenching is too wet to achieve trench backfill compaction the contractor shall make a reasonable effort to aerate and dry the material per section 31 00 00, 3.08, B

3.04 FLUSHING

- A. The Contractor shall thoroughly ball and flush the storm drain system to remove all dirt and debris. Discharge water to an approved location.

3.05 CLEANING

- A. Refer to Section 01 74 00.
- B. Upon completion of work of this Section promptly remove from the working area all scraps, debris and surplus material of this Section.
- C. Clean the dirt, rocks, and debris from all storm drain inlets, structures, and connecting pipes.

END OF SECTION

